

St. Croix Communities Clean Water Project

Integrating Minimal Impact Design Standards into local ordinances



Middle St. Croix Watershed Management Organization

December, 2016



Executive Summary

In 2014, Middle St. Croix Watershed Management Organization (MSCWMO) was awarded a Clean Water Fund Accelerated Implementation Grant through the Minnesota Board of Water and Soil Resources in order to help communities in Washington County update their existing ordinances to incorporate Minnesota's Minimal Impact Development Standards (MIDS).

Using a Community Assistance Package developed by the Washington Conservation District, MSCWMO was able to review communities' existing ordinances, identify necessary updates, and provide model ordinance language for consideration. MSCWMO staff and other project team members also met one-on-one with city and township staff, attended council and planning commission meetings, and provided ongoing education for community staff and leaders to guide the ordinance update process.

Through this project, a total of eight communities updated their ordinances to include MIDS: Bayport, Baytown Twp., Lake St. Croix Beach, Lakeland Shores, Oak Park Heights, St. Mary's Point, and West Lakeland Twp.. Four additional communities participated in the project but have not yet updated their ordinances: Afton, Forest Lake, Stillwater and Washington County.

Pre and post project evaluation measures indicate several factors contributing to the success of this project:

- Strong education programming for local communities before and during the project
- Ample support provided to city/township staff during the ordinance update process
- A multi-community approach; and
- An existing conservation ethic within the participating communities.



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Background

Minimal Impact Design Standards

(MIDS) represent the next

generation of stormwater

management in Minnesota. The emphasis today is on keeping the raindrop where it falls in order to minimize stormwater runoff and pollution and preserve natural resources. Low Impact Development (LID) is an approach to stormwater management that mimics a site's natural hydrology as the landscape is developed and preserves and protects environmentally-sensitive site features such as riparian buffers, wetlands, steep slopes, valuable (mature) trees, floodplains, woodlands and highly permeable soils.

The MIDS project began in 2009 when the Minnesota Legislature directed the Minnesota Pollution Control Agency (MPCA) to develop MIDS deliverables through Minnesota Statute 115.03, subdivision 5c, paragraph c. This statute reads:

"The agency shall develop performance standards, design standards, or other tools to enable and promote the implementation of low impact development and other storm water management techniques. For the purposes of this section, "low impact development" means an approach to storm water management that mimics a site's natural hydrology as the landscape is developed. Using the low impact development approach, storm water is managed on site and the rate and volume of predevelopment storm water reaching receiving waters is unchanged. The calculation of predevelopment hydrology is based on native soil and vegetation".

Upon passage of the legislation, the Minnesota Pollution Control Agency collected input and established a steering committee of representatives for developers, municipal staff, local and state organizations, and public works, and others to prioritize the most important structural and nonstructural best management practices needed for stormwater management. The work group met monthly for three years to review the science and work products of MIDS.

The MIDS products developed through the stakeholder process:

- Performance Goals
- Credit Calculator
- Community Assistance Package (model ordinances)

The strengths of MIDS from a local unit of government perspective:

- Simple volume calculation methodology that provides protection for water resources.
- Flexible and well defined alternatives process for sites with restrictions that either reduce the potential for infiltration or prohibit infiltration.
- Consistent credit calculator

MIDS along the St. Croix

In 2010, a federal 319 grant was awarded to the Washington Conservation District to develop and pilot the MIDS Community Assistance Package (CAP) in the St. Croix Basin. Four pilot



Minimal Impact Design Standards
for enhancing stormwater management in Minnesota

communities were selected in the St. Croix Basin-Centre City, Chisago, Lindstrom and East Bethel. These communities received free education, training and consulting services to update plans, ordinances and codes to protect their local water resources and ultimately the St. Croix River. The package includes performance goals, a calculator for determining stormwater credits for best management practices and ordinance guidance for communities. Read or download the Community Assistance Package at:

https://stormwater.pca.state.mn.us/index.php?title=Community_Assistance_Package.

Ongoing Education for Local Elected Leaders

The Middle St. Croix Watershed Management Organization (MSCWMO) is part of the East Metro Water Resource Education Program (EMWREP), which is a public education partnership hosted by the Washington Conservation District. Through EMWREP, partners are able to provide education for the public, as well as municipal staff and local elected officials.

Since 2006, EMWREP has provided ongoing education for local communities, through two primary programs:

- **Stormwater U** – technical training for city staff, consultants, and contractors conducted in partnership with University of Minnesota Extension, U of MN Erosion and Sediment Control Program, and Minnesota Erosion Control Association (MECA). Training topics have included:
 - Stormwater best management practices (BMPs)
 - Infiltration design, installation, and maintenance
 - Incorporating water protections into comprehensive plan updates
 - Inventory and maintenance of stormwater ponds and outfalls
 - Construction site erosion and sediment control; and
 - Illicit discharge detection and elimination (IDDE).
- **Northland NEMO** – Non-point source Education for Municipal Officials, hosted locally by Minnesota Extension and Sea Grant. Education activities have included:
 - St. Croix Workshop-on-the-Water, held annually 2009-2016 for city, county, and watershed decision makers in Minnesota and Wisconsin; and
 - Presentations and special workshops for individual cities.

The St. Croix Workshops on the Water have been well attended by communities throughout Washington County, and particularly within the Middle St. Croix Watershed. Average attendance is about 100 people per workshop. EMWREP education programs have provided support for local communities so that they are better able to meet watershed rules and requirements and better able to protect their local surface and groundwater resources. These education efforts also helped to pave the way for ordinance changes during the MIDS St. Croix Communities Clean Water Project.

Project Description

The goal of the St. Croix Communities Clean Water Project was for the Middle St. Croix Watershed Management Organization (MSCWMO) to use the Minimal Impact Design Standards (MIDS) Community Assistance Package (CAP) to assist St. Croix communities in adopting MIDS into local ordinance and codes.



The work was guided and executed by the Project Steering Committee:

- Mike Isensee, Middle St. Croix Watershed Management Organization
- Jay Riggs, Washington Conservation District
- Angie Hong, East Metro Water Resources Education Program
- Anne Gelbmann, Minnesota Pollution Control Agency
- John Bilotta, University of Minnesota Extension / Sea Grant
- Jay Michels, Emmons and Olivier Resources
- Spencer Peck, Emmons and Olivier Resources

Method and Timeline

Beginning in 2013 the MSCWMO initiated outreach to communities interested in incorporated MIDS into local ordinances and code. This effort included multiple presentations, a workshop, and meetings with planning commission and council members. The outreach efforts focused on building awareness and understanding of MIDS and gauging support and concerns through brief presentations and question answer sessions. This information was utilized to identify the scope of the application and the ordinance update process.

In 2014, the MSCWMO was awarded a Clean Water Fund Accelerated Implementation Grant to work with up to 13 communities to integrated MIDS into local ordinance. After the grant was awarded and the work plan was signed, the steering committee met and identified a process for introducing and integrating MIDS into local ordinances. The stakeholder group's goal was to further refine the process to include multiple opportunities for input from community staff, elected officials, and appointed officials.

One of the key components identified at the meeting was the necessity to integrate a legal preview of MIDS to address legal concerns early in the process. Past efforts to integrated MIDS into local ordinance encountered multiple revisions at the end of the process when the Community Attorney reviewed the draft ordinance. This led to delays and concerns. To address this, the steering committee developed a Legal Preview workshop for community attorneys at the beginning of the process. The team allocated funding to each community to reimburse the fees charged to attend the meeting. The Legal Preview Workshop proved very beneficial when introducing MIDS to city councils and town boards. Frequently during those meetings local

elected leaders had legal questions and they were easily answered by their community's attorney. In a few circumstances, the attorney was asked if the community should participate in the process to update their ordinances. In each of those circumstances the attorney's expressed support for the update process.

In the fall of 2014, letters were sent to communities announcing the grant award (**Appendix A**), requesting an opportunity to introduce St. Croix Communities Clean Water Project -MIDS to the planning commission and council, and requesting the attendance of their Attorney at a 2 hour "Legal Preview" workshop.

Concurrently, the MSCWMO began meeting with community staff to provide an overview of MIDS and answer questions prior to meeting with local elected leaders. These one to two hour meetings were typically held with the Administrator, Engineer and Planner.

In December 2014 the Legal Preview Workshop (**Appendix B**) was conducted by Jean Coleman, MPCA, and covered the following topics:

- Overview and benefits of MIDS and the Community Assistance Package.
- Key components of the MIDS CAP: statutory authority, purpose statement, permit review process, MIDS performance goal and calculator, enforcement, fees, financial assurances, subdivision and design review, and review timeline.

After the Legal Preview Workshop and meetings with community staff, the MSCWMO began presenting to planning commissions and councils. The presentations included a brief overview of MIDS, the grant award to update local ordinances, and an overview of the proposed ordinance update process. The presentation ended with a request council pass a resolution (**Appendix C**) to participate in the ordinance update process and adopt MIDS at the end of the process.

Upon receipt of the resolution, the community ordinance was audited to identify existing stormwater requirements and identify potential insertions, modification and deletions to integrate the components of the MIDS Community Assistance Package into the local ordinance. The results of the audit and recommended modifications were reviewed with Community staff at a 1-3 hour work session. Each community had a slightly different make up of staff, but typically the community staff meeting consisted of the Administrator or Clerk, Engineer and Planner. In many smaller communities, there was also one town board or council member that participated in the staff level work sessions and meetings. Based on community staff input, the first draft community ordinance was developed. The draft ordinance was then reviewed at a second, and sometimes at a third meeting with Community staff where further modifications were made.

Most communities along the St. Croix had few ordinances or codes directly related to stormwater management. By working with multiple communities of similar size, structure and in many cases, overlapping staff, a common model ordinance evolved that was crafted to meet the specific needs of the St. Croix Communities (**Appendix D**).

Draft ordinances were transmitted to community staff in October 2015. The transmission included a request for a formal engineering, planning, and legal review. Once review results were received and any minor edits completed, the draft ordinances were presented to planning commission and city council. The ordinance team offered a variety of formats and time frames

to review the final draft ordinance with each community's elected leaders. Most communities opted for a 30-45 minute planning commission and council joint workshop during the normal Planning Commission scheduled meeting. Other communities requested a brief 5-10 minute overview followed by a 5 -10 minute question answer session. Due to the extensive community staff input, few changes were made at the planning commission and council workshops and presentations.

Early in February 2016, MSCWMO and EMWREP also held a workshop to train city engineers on how to use the new MIDS calculator (**Appendix E**).

Factors for Success

The MIDS Steering Committee identified three key factors that they felt contributed to the success of this project.

The first is the long-term education efforts for local elected leaders. Annual NEMO Workshops on the Water evaluations demonstrate the cumulative success of the ten of water resource education for local elected leaders.

Next, the early Legal Preview Workshop and multiple meetings to review and discuss MIDS with community staff prior to presentations to council and planning commission added credibility to the proposed work. Often, council and planning commission members would request an opinion from the City Attorney, Planner, Engineer, or Administrator during the introductory presentation. When staff were knowledgeable and supportive of the work, planning commission and council members resolve to conduct the ordinance work was strengthened.

Finally, conducting multiple meetings with staff to review draft ordinance language in addition to formal review and comment of the final draft. Since staff crafted the draft ordinance, they could knowledgeably discuss details and considerations with planning commission and council. To help offset the fees from engineering, planning and legal, communities were reimbursed up to \$1,100, for additional consulting staff time.

Outcomes

The MIDS St. Croix Community Assistance Package provides quantifiable standards, clear processes, and defensible enforcement tools for stormwater management. The first step in the ordinance update process was to audit existing ordinances. These audits revealed most communities had stormwater ordinances from previous decades that lacked quantitative standards and well-defined processes for stormwater quality. Table 1 identifies a host of common issues identified the local controls of communities along the St. Croix. Additionally, stormwater ordinances were typically dispersed across multiple chapters and sections and were inconsistent with neighboring communities. All of these issues identified during the audit were reviewed with community staff.

Table 1: St. Croix Communities Stormwater Ordinance Summary

Community	Ordinance Regulates Stormwater	Quantifiable Performance Standards	Alternatives Process	Standardized Process	Financial Securities	Clear Enforcement Authority
Afton	Yes	No	No	No	No	No-generally, under zoning code, but not for stormwater
Bayport	Yes	Yes – limited to 2-year and 100-year storm	No	No	No –only required for subdivisions	No – under zoning and subdivision codes, but not specific to stormwater
Baytown Township	Yes	Yes – limited to 1-year, 10-year, and 100-year storm	No	No	No –only required for subdivisions	No – under zoning code, but not specific to stormwater
Lakeland	Yes	No	No	No	No	No-generally, under zoning code, but not for stormwater
Lakeland Shores	Yes- but vaguely	No	No	No	No	No-only for zoning and subdivision
Lake St. Croix Beach	Yes – but vaguely	No	No	No	No	No
Oak Park Heights	Yes-with outdated practices (ponds, NURP)	No- multiple, confusing categories	No	No	No-only required for subdivisions	No-only for zoning and subdivision
St. Mary's Point	Yes- ordinance is 3 pages long	No	No	No	No-only part of County subdivision ordinance	No-only for zoning and subdivision
West Lakeland Township	Yes-but very minimally	No	No	No	No-only part of subdivision ordinance	No-only for zoning and subdivision

Quantifiable Performance Standards

Audits of community ordinances revealed all communities lacked quantifiable standards for stormwater quality and many lacked quantifiable standards for rate control. For example, one community's stormwater standard was six sentences which contained qualitative statements such as "qualified individual" must "document" that stormwater facilities are properly designed and installed. Another development must "minimize the extent of disturbed area" and be stabilized "as soon as possible."

The Final St. Croix MIDS Model Ordinance **Appendix D** incorporates quantitative measures into each community's ordinance. These include stormwater rate control for the 1-year, 2-year, 10-year, and 100-year, 24-hour storm events (Section 6.e.), volume control of 1.1 inches of runoff from all new or reconstructed impervious surfaces or 0.55" from new or fully reconstructed linear projects, or 1.1 inches of runoff volume from the net increase in impervious surfaces from the site (Section 6 a.-c.), and State of Minnesota NPDES Erosion and Sediment Control timeframes (Section 6.f.2.). The update ordinance also set consistent triggers for when performance standards must be met (Section 2).



Jay Michels talks about working with local communities

Standardized Process

All eight community ordinances lacked clarification of a standardized process. During meetings with community staff, this was identified as a high priority. In many communities along the St. Croix, there are multiple overlapping authorities that may require reviews based on the parameters of the project. The Permit Review Process (Section 4) clarifies the authority of the Zoning Administrator to facilitate a pre-application meeting prior to a landowner undertaking design. This step reduces the economic risk of the applicant and allows multiple review authorities the opportunity to clearly identify and discuss components of a potential project that may not meet existing standards.

Alternative Process

Since community ordinances lacked quantitative standards for water quality, they also lacked a clear alternatives process for projects that could not meet the standards. This is an important component for communities considering volume control requirements since there are a number of legitimate factors that may inhibit or preclude infiltration on a development site. For communities along the St. Croix, restrictions such as high surficial groundwater, karst, setbacks from wells or septic systems, shallow bedrock, and projects located within in the Emergency Response Area of a Communities Drinking Water Supply Management Area will occasionally impact the ability to infiltrate stormwater on a site. In these and other clearly defined circumstances, flexible treatment options (Section 6 d.) provide clear and orderly process and

for developers to demonstrate achievable volume and phosphorous load reductions utilizing the MIDS calculator.

The MIDS calculator (Section 5 b.) estimates the stormwater runoff volume reductions for various BMPs based on the MIDS performance goal (1.1 inches of runoff from impervious surfaces) and annual pollutant load reductions for total phosphorus (including a breakdown between particulate and dissolved phosphorus) and total suspended solids (TSS).

Standardizing stormwater Best Management Practices (BMPs) credits simplifies the development review process for community staff and developers. It also allows all non-technical stakeholders to visualize and understand the positive impacts of a particular stormwater best management practice. The objective and verifiable results of the MIDS Calculator improves predictability and reduces community staff workload for stormwater management review, while protecting or improving the quality of local water resources.

Financial Securities and Enforcement Authority

Most communities' ordinances contained general enforcement provisions in zoning, subdivision, or other regulations. As part of the MIDS ordinance update communities now have enforcement provisions and financial securities that are specific to stormwater and erosion control activities (Sections 9 and 10). The securities provisions allow multiple ways for permittees to provide a security and allow flexibility for the community for setting the securities. An important provision of the securities is the requirement that they are replenished within 7 days of notification if they fall below 50% of the required deposit (Section 9 f.). This allows the community to set a lower initial security amount, but have the ability to with-hold inspections or revoke permits if securities are used and need to be replenished.

Stormwater Management Chapter

Community ordinance audits also found that stormwater provisions typically appear in various places, including zoning, subdivision, land development, environmental, and building standards. Some code sections, especially zoning codes, were hundreds of pages long, with several dozen subchapters, sections and subsections. During the update process most communities chose to have stormwater management ordinances integrated into the existing codes as a standalone chapter, or as an addition to an existing chapter. All conflicting or supplemented sections were referenced to the stormwater chapter or deleted. The stand-alone stormwater management ordinance sections create clarity and simplify the review process and requirements for new and redevelopment.

Communities that Did Not Adopt MIDS

Through this project, a total of eight communities updated their ordinances to include MIDS: Bayport, Baytown Township, Lake St. Croix Beach, Lakeland Shores, Oak Park Heights, St. Mary's Point, and West Lakeland Township.

Four additional communities participated in the project but had not yet updated their ordinances at the writing of this final report: Afton, Forest Lake, Stillwater and Washington County. Of the four communities, only Afton passed a resolution to participate in the grant and adopt MIDS, but all four are making progress toward potential adoption in the future.

The City of Afton has two watersheds that have jurisdiction within the municipal boundaries: the Middle St. Croix Watershed Management Organization and Valley Branch Watershed District. Both watersheds have adopted MIDS. The City passed a resolution to participate in the Clean Water Communities Project and adopt MIDS. They have been moving the draft revisions forward and it is anticipated the final ordinance will be adopted in early 2017.

The City of Stillwater has three watersheds that have jurisdiction within its municipal boundaries: the Middle St. Croix Watershed Management Organization, Brown's Creek Watershed District (BCWD) and Carnelian-Marine-St. Croix Watershed District (CMSCWD). The City of Stillwater completed draft revisions of their engineering standards to incorporate MIDS in 2015, but did not adopt those revisions because BCWD did not adopt MIDS. During the BCWD 2016 Watershed Management Plan Update, the Board of Managers requested the Watershed Engineer to conduct a comparison of MIDS with the current watershed standards. The comparison revealed that in most new development scenarios the MIDS new development standard provided less volume control than the current Brown's Creek Watershed standards. This is because the BCWD standards were developed to protect and restore the Brown's Creek cold water fishery. However, a large portion of BCWD no longer flows into Brown's Creek due to a diversion structure installed in the 2000's. In 2017 Brown's Creek will be updating their rules. During this process they, and the City of Stillwater, will consider MIDS standards for the portion of the watershed not discharging directly to Brown's Creek and re-evaluate their redevelopment standards for the entire watershed.

The City of Forest Lake is located within the jurisdiction of the Comfort Lake - Forest Lake Watershed District (CLFLWD). The CLFLWD currently has volume control standards. In 2015 the St. Croix Communities Clean water Program team initiated discussions with the CLFLWD regarding MIDS and equivalency to their existing standards. These discussions have continued and in 2017 the CLFLWD will consider portions of MIDS for some components of the stormwater rules while maintaining more stringent standards as needed to meet the water quality goals for specific lakes. Once the watershed completes the rule update process they will provide assistance to the City of Forest Lake to integrate MIDS and revised watershed standards into the local ordinance.

Historically Washington County has maintained official controls to regulate physical land development in collaboration with unincorporated areas of the County. Minimum stormwater controls, last revised in 1998, are located in Chapter 3 Subdivision Regulations, Section 10 Engineering Standards. During initial discussions with the County to update Section 10, it was discovered the County had initiated a process to transfer land use regulation back to the local units of government in unincorporated areas, with the exception of shoreland areas which will remain a collaborative process between the County and Local Unit of Government. That process is currently ongoing. Washington County is considering adopting MIDS as the stormwater control criteria in shoreland areas. Additionally, they will encourage unincorporated areas to adopt the St. Croix MIDS Community Assistance Package as part of their local ordinance updates to regulate physical development of their community.

Evaluation

Pre-Project Evaluation Measures

Prior to initiating this grant project, MSCWMO and the Washington Conservation District had conducted numerous workshops for community leaders in Washington County in partnership with the East Metro Water Resource Education Program, Minnesota NEMO (Non-point Source Education for Municipal Officials), and other organizations. Evaluations collected during these workshops provided rich information to guide us in developing the St. Croix Communities Clean Water Project.



Leaders discuss local water concerns and priorities.

Reviewing relevant evaluation metrics from St. Croix Workshops on the Water held annually from 2009-2015 provided us with the following insights:

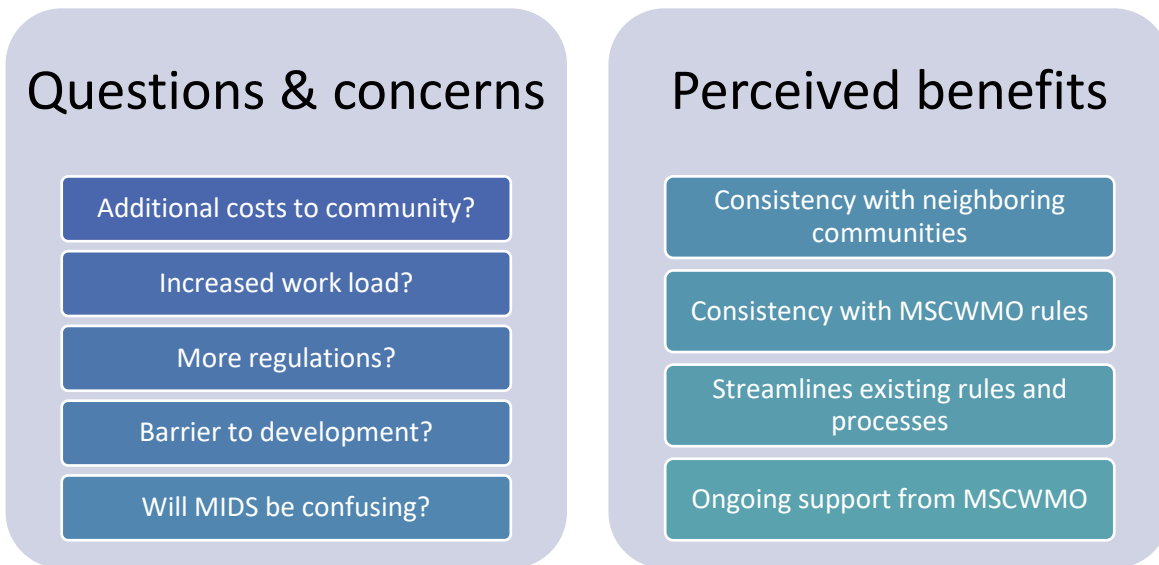
1. Most Washington County communities participating in the St. Croix Communities Clean Water Project had attended most or all of the St. Croix workshops (the only exception was Oak Park Heights).
2. Workshop evaluations demonstrated that local community leaders had grown steadily more knowledgeable about water quality issues affecting the St. Croix River, connections between land use and water quality, stormwater best management practices (BMPs), MIDS, and the importance of local planning, policies, ordinances and zoning codes in protecting water resources.
3. Communities repeatedly expressed an interest in learning about MIDS and updating their ordinances, policies, and zoning codes to improve stormwater management.

For more info, see **Appendix F**: Summary of relevant evaluation metrics from 2009-2015 St. Croix NEMO Workshops.

Mid-Project Evaluation Measures

During the ordinance update process, MSCWMO staff provided ample opportunities for community staff, councils, and planning commissions to ask questions and discuss their concerns about adopting MIDS. These questions and concerns are listed in **Appendix G**: MIDS Feedback Summary. During these meetings, communities also discussed potential benefits to adopting MIDS. The most commonly cited benefits and concerns are summarized in Table 2. The project team used feedback from these meetings to tailor the MIDS Model Ordinance for each community and focus future conversations about the ordinance update process.

Table 2: Adopting MIDS - Benefits and concerns



Communities shared a variety of concerns about the proposed MIDS ordinances but also recognized benefits to updating their ordinances.

Post-Project Evaluation Measures

The primary measure of success for this project was the number of communities that adopted MIDS into their ordinances and zoning code. As of December 2016, eight St. Croix communities have updated their ordinances to include MIDS: Bayport, Baytown Township, Lake St. Croix Beach, Lakeland Shores, Oak Park Heights, St. Mary's Point, and West Lakeland Township.

In addition, the project team used two strategies to gather feedback from participating communities at the end of the project. First, a survey was developed and sent to city staff and officials. Unfortunately, however, there was a very low response rate and so the survey proved to be an ineffective method for evaluating the project's success. Instead, EMWREP educator Angie Hong conducted phone interviews with five people who had been involved in the ordinance update process as city staff, council members, or planning commission members.

In these interviews people mentioned a number of factors that contributed to this project's success, including:

- 1) Ample support provided by MSCWMO for the project
 - Mike Isensee and Jay Michels met with staff, attended multiple council meetings, and spent time identifying the specific changes needed for each community's ordinances to incorporate MIDS.
- 2) A multi-community approach
 - Because this project worked with multiple adjoining cities within the MSCWMO, cities knew that their updated ordinances would be consistent with watershed rules and ordinances in neighboring communities. Communities felt that this consistency would make it easier for citizens and businesses to understand and follow rules and it alleviated fears that they would be seen as more or less friendly to development than neighboring communities.

- 3) Existing conservation ethic and knowledge about issues impacting the river
 - This project built upon several years of previous outreach and education for St. Croix communities. As a result, most staff and many council members were already familiar with stormwater management issues and had a genuine desire to protect the St. Croix River.

During post project interviews, people also mentioned some of the concerns that were shared during the ordinance update process. For example, many of the cities were initially reluctant to modify their ordinances because they didn't want to make development projects more complicated and didn't want to create additional rules. Once council members realized that MIDS would actually streamline the existing process and rules, they were supportive.

Because participating cities did not update their ordinances until the end of 2016, it is still too soon to evaluate how well the updated ordinances are working or what support communities might need in the future. However, projects partners, including MSCWMO, EMWREP and the Washington Conservation District will continue to work with communities on a variety of efforts related to stormwater pollution prevention and water resources protection beyond this grant project.

Appendix A Sample Invitation Letter



St. Croix Communities Clean Water Project

Technical Assistance and Funding to Update Ordinances



Honorable Mayor Randy Kopesky
City of Lakeland Shores
P.O. Box 246
Lakeland Shores, MN 555043

November 12, 2014

Honorable Mayor Kopesky,

Over the years, Washington Conservation District and the Middle St. Croix WMO have worked closely with local communities to protect and manage water resources. Now, thanks to grant funding from the Minnesota Board of Water and Soil Resources, we have an exciting opportunity to provide assistance to select St. Croix Communities to:

1. Better protect water resources in your community;
2. Promote consistency between communities and watersheds;
3. Streamline the stormwater review process for new development and redevelopment; and
4. Allow for a more flexible approach to stormwater management.

Grant funding is available to review and recommend community ordinance revisions based on the Minimal Impact Design Standards (MIDS) Community Assistance Package for stormwater management; piloted with St. Croix Basin communities in 2012.

Local government match is not required; however local governments must designate a key staff or a council member to be a liaison with the consulting team and commit to participating in the project and consider adoption of provide a commitment to changes in your local ordinances. Your liaison will assist the consulting team as we work with city staff, planning commission and council to revise and adopt ordinances appropriate for your community.

When adopted, your community will have a state approved, science based process for achieving load reductions required for the St. Croix River Total Maximum Daily Load (TMDL) and a framework to meet new and changing regulatory requirements. Many other cities in Minnesota are making similar changes to their ordinances to protect water resources as well.

To schedule a meeting or presentation to learn more about this opportunity and process, please contact Jay Riggs (ext. 20) or Mike Isensee (ext. 22) at 651-330-8220 or by email at jay.riggs@mnwcd.org and misensee@mnwcd.org.

Appendix B Legal Preview Attorney Workshop Flyer

St. Croix Communities Clean Water Project

Technical Assistance and Funding to Update Ordinances



Minimal Impact Design Standards Attorney Legal Preview Workshop

This workshop, developed and lead by MPCA Attorney Jean Coleman is specifically designed for attorneys whose communities are considering integrating Minimal Impact Design Standards (MIDS) into local ordinance. Please join us for this legal preview of the MIDS Community Assistance Package in preparation for your community's potential ordinance update process.

The following communities qualify for attorney fee reimbursement up to \$300: Afton Bayport, Baytown Twp., Forest Lake, Lake Elmo, Lake St. Croix Beach, Lakeland, Lakeland Shores, Marine on St. Croix, May Twp., Oak Park Heights, St. Mary's Point, Stillwater, Stillwater Twp., West Lakeland Twp.

Date: December 16, 2014

Time: 8:30 a.m.-12:00 p.m.

Location: Washington Conservation District, 455 Hayward Ave., Oakdale, MN 55128

MIDS Legal Preview Tentative Agenda

- I. Overview of MIDS
- II. Questions/Discussion
- III. Review of the MIDS Community Assistance Package and Application by Communities of Different Capacities
- IV. Legal Aspects of the Long Form Ordinance Provisions
 - a. Legal Authority
 - b. Purpose Statement
 - c. Subdivision and Design Review
 - d. Enforcement
 - e. Financial Assurances
 - f. Fees
 - g. 60 Day Review Period
- V. Community Attorney Feedback and Discussion

To register simply email Mike Isensee at the Middle St. Croix Watershed Management Organization at misensee@mnwcd.org or call 651-330-8220 x22

Appendix C MIDS Participation Resolution



**CITY OF SMALLVILLE
RESOLUTION NO. _____**

**RESOLUTION REGARDING THE REVIEW AND REVISIONS OF ORDINANCE TO
INTEGRATE MINIMAL IMPACT DESIGN STANDARDS**

WHEREAS, The Middle St. Croix Watershed Management Organization has secured a Clean Water Fund Grant to assist communities to integrate Minimal Impact Design Standards (MIDS) into local ordinance and

WHEREAS, The City of Smallville will follow the MIDS standards and provisions in the development of the policy or ordinance changes and

WHEREAS, these changes will achieve protection of our local water resources; and

WHEREAS, Minnesota Statutes 2009, Chapter 115.03 Subdivision 5c. authorized the Minnesota Pollution Control Agency (MPCA) to develop performance standards, design standards, and other tools to enable and promote the implementation of low-impact development and other storm water management techniques; and

WHEREAS, pursuant to the authority in Minnesota Statutes, Chapter 115.03 Subdivision 5c, MPCA developed a set of performance goals, design standards, and policy development guidance provisions known as the Minimal Impact Design Standards (MIDS); and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF SMALLVILLE, MINNESOTA, AS FOLLOWS:

The City of Smallville has declared its commitment to adopt MIDS standards into the Smallville City Code of Ordinance to achieve protection of our local water resources with funding provided by the MSCWMO by a Clean Water Fund Grant

WHEREUPON, said Resolution was declared and duly passed and signed by the Mayor and attested by the City Administrator. Passed by City Council, City of Smallville, Lakeview County, Minnesota, this 34th day of July 2019.

Approved:

Mayor, City of Smallville

Attested:

Staff Name, Position Title

Appendix D Final St. Croix MIDS Model Ordinance



Minimal Impact Design Standards
for enhancing stormwater management in Minnesota

Washington County St. Croix River Communities Assistance Package



December 2016

Long Form MIDS Stormwater Ordinance Provisions

1. Authorization, Findings, Purpose, Scope, and Interpretation

a. Statutory authorization

- i. This ordinance is adopted pursuant to the authorization and policies contained in Minnesota Statutes §§ 103B, 103D, and 462; Minnesota Rules, Parts 6120.2500- 6120.3900; and Minnesota Rules Chapters 8410 and 8420.
- ii. This ordinance is intended to meet the construction site erosion and sediment control and post-construction stormwater management regulatory requirements for construction activity and small construction activity (NPDES Permit) as defined in 40 CFR 122.26(b)(14)(x) and (b)(15), respectively.
- iii. This ordinance is intended to meet the Minimal Impact Design Standards (MIDS) developed under Minnesota Statutes § 115.03 subd. 5c.

b. Purpose

The purpose of this ordinance is to establish regulatory requirements for land development and land disturbing activities aimed at minimizing the threats to public health, safety, public and private property and natural resources within the City from construction site erosion and post-construction stormwater runoff. Specifically, the ordinance establishes regulatory requirements that:

- i. Meet MIDS performance standards;
- ii. Assist in meeting NPDES/SDS Construction Stormwater General Permit requirements;
- iii. Assist in meeting Total Maximum Daily Load (TMDL) plan wasteload allocations for impaired waters through quantification of load reductions;
- iv. Assist in meeting policies and performance standards of the Middle St. Croix Water Management Organization (MSCWMO) and Valley Branch Watershed District (VBWD);
- v. Protect life and property from dangers associated with flooding;
- vi. Protect public and private property and natural resources from damage resulting from stormwater runoff and erosion;
- vii. Ensure site design minimizes the generation of stormwater runoff and maximizes pervious areas for stormwater treatment within the context of the allowable use;

Alphabet Soup: MIDS, Antidegradation, ORVW, and TMDL

While antidegradation requirements are aimed at maintaining non-impaired waters, total maximum daily load (TMDL) plans are designed to improve impaired waters. In Minnesota, National Pollutant Discharge Elimination System (NPDES) stormwater permits include requirements related to wasteload allocations under an approved TMDL for MS4 permittees (Minn. R Chapter 7090). Adoption and implementation of MIDS components can assist MS4 communities in compliance with MS4 TMDL requirements, particularly through use of the MIDS Calculator for quantification of stormwater load reductions.

Water Quality/Quantity Treatment Beyond NPDES/SDS & MIDS Standards

The requirements of NPDES/SDS permits and MIDS may be inadequate for meeting local water quality or quantity goals. Communities, counties, watershed organizations and others may set customized standards in response to the condition of waters within their jurisdiction. Designing customized ordinances and rules may be necessary to meet TMDL and water quality protection and improvement goals.

- viii. Provide a single, consistent set of performance goals that apply to all developments;
- ix. Protect water quality from pollutant loadings of sediment, suspended solids, nutrients, heavy metals, toxics, debris, bacteria, pathogens, biological impairments, thermal stress and other pollutants;
- x. Promote infiltration and groundwater recharge;
- xi. Provide vegetated corridors (buffers) to protect water resources from development;
- xii. Protect functional values of all types of natural waterbodies (e.g., rivers, streams, wetlands, lakes, seasonal ponds); and
- xiii. Sustain or enhance biodiversity (native plant and animal habitat) and support riparian ecosystems.

c. Scope

Land shall not be developed for any use without providing stormwater management measures and erosion and sediment control measures that control or manage stormwater runoff from such developments.

d. Greater restrictions

- i. Relationship to WD/WMO Requirements - All stormwater management and erosion and sediment control activities shall comply with all applicable requirements of the relevant Watershed Management Organization or Watershed District. In the case of conflict between provisions of this ordinance and other stormwater regulations, the strictest provisions shall apply to land development and/or land disturbing activities.
- ii. Relationship to Existing Easements, Covenants, and Deed Restrictions – The provisions of this ordinance are not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions the provisions of this ordinance shall prevail.

e. Severability

The provisions of this ordinance are severable, and if any provision of this ordinance, or application of any provision of this ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this ordinance must not be affected thereby.

Why do some projects require permanent stormwater management and erosion and sediment control while others require only erosion and sediment control?

Most developments will require either an ESC Plan or a SWPPP. The ESC Plan covers the site preparation and construction period of time and includes erosion and sediment control practices. Erosion and sediment control problems can be caused by stormwater runoff as well as other causes such as wind and the movement of water through natural streams and lakes.

A SWPPP covers stormwater runoff impacts during and after construction. A SWPPP includes erosion prevention measures, sediment controls and permanent stormwater management systems that, when implemented, will decrease soil erosion and sediment transport on a parcel of land and decrease off-site pollution.

An ESC plan provides a baseline level of protection during site disturbance and stabilization for small projects. Larger projects, where a SWPPP would be required, also require erosion and sediment control to avoid soil loss during construction. However, due to the larger size of these projects they tend to result in more significant long-term impacts if stormwater management is not conducted during and after

2. Applicability

a. Stormwater management permit

Unless otherwise exempted by Section 3, an approved Stormwater Management Permit shall be required prior to any proposed land development activity that meets any of the criteria in 1. through 5. immediately below. All stormwater management permits shall include an erosion and sediment control plan or a Stormwater Pollution Prevention Plan (SWPPP)

- i. Any project that creates or fully reconstruct 6,000 square feet or more of impervious surface.
- ii. All major subdivisions or minor subdivisions that are part of a common plan of development.
- iii. Projects within the St. Croix Riverway that add 500 square feet or more of additional impervious surface.
- iv. Any project requiring a variance from the current local impervious surface zoning requirements for the property.
- v. Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property.

b. Erosion and sediment control plan

Unless otherwise exempted by this ordinance in Section 3, a Grading and Filling Permit including an Erosion and Sediment Control Plan shall be required prior to any proposed land disturbing activity that meets any of the criteria in 1. through 3. below.

- i. Any project undertaking grading, filling, or other land alteration activities which involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land.
- ii. Any project with wetland impacts, grading within public waters, grading within buffers or within 40-feet of the bluff line.
- iii. A land disturbing activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set forth in this ordinance.

c. Buffers

A buffer of unmowed natural vegetation shall be required upslope of wetlands, lakes and streams prior to any proposed land development that meets any of the criteria below, unless otherwise exempted in this ordinance in Section 3.

- i. Sites that have been (a) subdivided or split or (b) subject to a new primary use for which a necessary rezoning, special use permit or variance has been approved.

3. Exemptions

The following activities shall be exempt from all of the requirements of this ordinance:

- a. Emergency work necessary to protect life, limb, or property.
- b. Routine agricultural activity such as tilling, planting, harvesting, and associated activities. Other agricultural activities are not exempt including activities such as construction of structures.
- c. Silvicultural/forestry activity.

4. Permit Review Process

a. Pre- application meeting

At the discretion of the Zoning Administrator, the City shall facilitate a pre-application meeting with the applicant, City staff (or their authorized representative), and staff of relevant partner agencies (e.g. WCD, MSCWMO, MDNR, etc.). The purposes of the meeting are to understand the general parameters of the proposed project and to convey the requirements of meeting the provisions of the ordinance.

b. Application completeness review

The City shall make a determination regarding the completeness of a permit application and notify the applicant in writing if the application is not complete including the reasons the application was deemed incomplete.

c. Application review

The applicant shall not commence any construction activity subject to this ordinance until a permit has been authorized by the City.

d. Permit authorization

If the City determines that the application meets the requirements of this ordinance, the City may issue approval authorizing the project or activity. The approval shall be valid for one year.

e. Permit denial

If the City determines the application does not meet the requirements of this ordinance the application must be denied. If the application is denied, the applicant will be notified of the denial in writing including reasons for the denial. Once denied, a new application must be resubmitted for approval before any activity may begin.

f. Plan information requirements

The minimum information requirements of the application shall be consistent with the requirements in the most recent version of the NPDES/SDS Construction Stormwater General Permit and Middle St. Croix WMO or Valley Branch Watershed District performance standards. The application information must also include permanent treatment information showing the proposed

The importance of the Pre- Application Meeting

The pre-application meeting allows the community staff to understand the proposed project and allows the potential applicant the chance to discuss site requirements with community staff. Pre-application meetings reduce economic risk for the applicant because the basic requirements are understood prior to initiating an application. The meetings also smooth the application review process because community staff and applicants all understand the project and requirements. If possible, it is best to include all reviewing agencies in this meeting as well as state and local transportation departments and utilities.

project meets the MSCWMO or VBWD performance goals.

g. Modification of permitted plans

The applicant must amend an approved ESC Plan or SWPPP to include additional requirements such as additional or modified BMPs designed to correct problems whenever:

- i. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface water or underground water.
- ii. Inspections or investigations by site operators, local, state or federal officials indicate the plans are not effective in eliminating or significantly minimizing the discharge of pollutants to surface water or underground water or that the discharges are causing water quality standard exceedances.
- iii. The plan is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity.

h. Permit completion

Before work under the permit is deemed complete, the permittee must submit as-builts, a long term maintenance plan and information demonstrating that the stormwater facilities conform to design specifications.

5. Site Design and MIDS Calculator

a. Better Site Design

Whenever possible, development projects shall be designed using the Better Site Design Techniques of the current version of the Minnesota Stormwater Manual.¹

b. MIDS calculator

Final site design and choice of permanent stormwater volume reduction practices shall be based on outcomes of the MIDS Calculator (or other model that shows the performance goal can be met) and shall meet the performance goals in Section 7 of this ordinance.

c. Buffer requirement

Buffer locations and widths must comply with the State of Minnesota, Minnesota Pollution Control Agency, and Middle St. Croix Watershed Management Organization or Valley Branch Watershed District standards.

6. Stormwater Volume Reduction Performance Standards

Any applicant for a Stormwater Management Permit as defined in Section 2 of this ordinance must meet all of the following performance goals:

- a. **New development volume control:** For new, nonlinear developments on sites without restrictions, stormwater runoff volumes will be controlled and the post-construction runoff volume shall be retained on site for 1.1 inches of runoff from all impervious surfaces on the site.
- b. **Redevelopment volume control:** Nonlinear redevelopment projects on sites without restrictions that create or fully reconstruct impervious surfaces shall capture and retain on site 1.1 inches of runoff from the new and/or fully reconstructed impervious surfaces.
- c. **Linear development volume control:** Linear projects on sites without restrictions that create new and/or fully reconstructed impervious surfaces, shall capture and retain the larger of the following:
 1. 0.55 inches of runoff from the new and fully reconstructed impervious surfaces on the site
 2. 1.1 inches of runoff from the net increase in impervious area on the site. Mill and overlay and other resurfacing activities are not considered fully reconstructed.

Better Site Design

A major difference between the traditional development process and the MIDS development process is the use of Better Site Design Techniques and site design using low impact development (LID) best management practices.

Traditional development typically treats raindrops as waste products to be conveyed elsewhere. The “traditional” development process relies on NURP and ponding as its major tool of stormwater management. Over the years we’ve found that ponding alone is not as effective as desired for comprehensive stormwater management.

Better Site Design focuses on utilizing and treating rainfall as soon as it hits the ground. The focus is not on conveying runoff, but on reducing and controlling runoff volume and mimicking natural hydrology using a wide variety of stormwater management and treatment methods. Better Site Design methods may include reducing impervious surface, conserving natural areas, and treating stormwater close to where it

¹ Available at http://stormwater.pca.state.mn.us/index.php/Better_site_design.

d. Flexible treatment alternatives for sites with restrictions:

1. Applicant shall attempt to comply fully with the appropriate performance standards described in Section 7 (A-C) above.
2. Alternatives considered and presented shall examine the merits of relocating project elements to address, varying soil conditions and other constraints across the site.
3. If full compliance is not possible due to any of the factors listed below, the applicant must document the reason. If site constraints or restrictions limit the full treatment goal, the following flexible treatment alternatives shall be used:
 - i. Applicant shall document the flexible treatment alternatives sequence starting with Alternative #1.
 - ii. If Alternative #1 cannot be met, then Alternative #2 shall be analyzed. Applicants must document the specific reasons why Alternative #1 cannot be met based on the factors listed below.
 - iii. If Alternative #2 cannot be met then Alternative #3 shall be met. Applicants must document the specific reasons why Alternative #2 cannot be met based on the factors listed below.
 - iv. When all of the conditions are fulfilled within an alternative, this sequence is completed.
4. Volume reduction techniques considered shall include infiltration, reuse & rainwater harvesting, and canopy interception & evapotranspiration and/or additional techniques included in the MIDS calculator and the Minnesota Stormwater Manual.
5. Higher priority shall be given to BMPs that include volume reduction. Secondary preference is to employ filtration techniques, followed by rate control BMPs.
6. Factors to be considered for each alternative will include:
 - i. Karst geology
 - ii. Shallow bedrock
 - iii. High groundwater
 - iv. Hotspots or contaminated soils
 - v. Drinking Water Source Management Areas or within 200 feet of drinking water well
 - vi. Zoning, setbacks or other land use requirements
 - vii. Poor soils (infiltration rates that are too low or too high, problematic urban soils)
7. **Alternative #1**
 - i. Applicant attempts to comply with the following conditions:
 - ii. Achieve at least 0.55" volume reduction from all impervious surfaces if the site is new development or from the new and/or fully reconstructed impervious surfaces for a redevelopment or linear development site.
 - iii. Remove 75% of the annual TP load from all impervious surfaces if the site is new development or from the new and/or fully reconstructed impervious surfaces for a redevelopment site.
 - iv. Options considered and presented shall examine the merits of relocating project elements to address, varying soil conditions and other constraints across the site.

8. Alternative #2

- i. Applicant attempts to comply with the following conditions:
- ii. Achieve volume reduction to the maximum extent practicable.
- iii. Remove 60% of the annual TP load from all impervious surfaces if the site is new development or from the new and/or fully reconstructed impervious surfaces for a redevelopment site.
- iv. Options considered and presented shall examine the merits of relocating project elements to address, varying soil conditions and other constraints across the site.

9. Alternative #3: off-site treatment.

- i. Mitigation equivalent to the performance of 1.1 inches of volume reduction for new development, linear development or redevelopment as described above in this section, (including banking or cash) can be performed off-site to protect the receiving water body. Off-site treatment shall be achieved in areas selected in the following order of preference:
- ii. Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
- iii. Locations within the same Department of Natural Resource (DNR) catchment area (Hydrologic Unit 08) as the original construction activity.
- iv. Locations within the next adjacent DNR catchment area upstream.
- v. Locations anywhere within the City's jurisdiction.
- vi. The MIDS Design Sequence Flowchart can be found in the Minnesota Stormwater Manual²

e. Stormwater management rate control

For new development, redevelopment and linear development sites the site design shall provide on-site treatment during construction and post-construction to ensure no increase from existing conditions in offsite peak discharge for the 1-year, 2-year, 10- year, and 100-year,

24-hour storm events based on the standards defined by the MSCWMO or VBWD. For single family residential building lots not part of a common plan of development site rate control requirements do not apply.

f. Other site design standards

- 1. Minnesota Stormwater Manual: All volume control for water quality and quantity and site design specifications shall conform to the current version of the Minnesota Stormwater Manual.
- 2. NPDES/SDS Construction Stormwater General Permit: All volume control and water quality and quantity Best Management Practice design specifications shall conform to the current version of the NPDES/SDS Construction Stormwater General Permit.
- 3. Site erosion and sediment control requirements: All erosion and sediment control requirements shall conform to the current requirements of NPDES/SDS Construction Stormwater General Permit.

² Available at http://stormwater.pca.state.mn.us/index.php/Flexible_treatment_options

4. Watershed District/WMO requirements: All stormwater management and erosion and sediment control activities shall comply with all applicable requirements of the Watershed Districts or Watershed Management Organizations in which the project is located. In case provisions in this ordinance and requirements of watershed district or watershed management organizations overlap or conflict, the strictest provisions shall apply to the activities.
5. Where applicable, a minimum of 20' shall be provided on all sides of all publicly owned stormwater facilities for facility maintenance.

7. Inspections and Maintenance

a. Inspections and record keeping

1. Applicant responsibilities

The applicant is responsible for inspections and record keeping during and after construction for all privately-owned stormwater treatment practices on the site.

2. City inspections

The City reserves the right to conduct inspections on a regular basis to ensure that both temporary and permanent stormwater management and erosion and sediment control measures are properly installed and maintained prior to construction, during construction, and at the completion of the project.

b. Right of entry and inspection

1. Powers - The issuance of a permit constitutes a right-of-entry for the City or its authorized representative to enter upon the construction site. The applicant shall allow the City and its authorized representatives, upon presentation of credentials, to:
 - i. Enter upon the permitted site for the purpose of obtaining information, examining records, and conducting investigations or surveys;
 - ii. Bring such equipment upon the permitted development as is necessary to conduct such surveys and investigations;
 - iii. Examine and copy any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of the permit;
 - iv. Inspect the stormwater pollution control measures;
 - v. Sample and monitor any items or activities pertaining to stormwater pollution control measures; and
 - vi. Correct deficiencies in stormwater and erosion and sediment control measures.

c. Fees

Fees will be applied per City Fee Schedule

d. Enforcement tools/stop work orders

The City reserves the right to issue construction stop work orders when cooperation with inspections is withheld or when a violation has been identified that needs immediate attention to protect human health and/or the environment.

- i. **Construction stop work order:** The City may issue construction stop work orders until stormwater management

measures meet specifications and the applicant repairs any damage caused by stormwater runoff. An inspection by the City must follow before the construction project work can resume.

- ii. **Other actions to ensure compliance:** The City can take any combination of the following actions in the event of a failure by applicant to meet the terms of this ordinance:
 1. Withhold inspections or issuance of certificates or approvals.
 2. Revoke any permit issued by the City to the applicant.
 3. Conduct remedial or corrective action on the development site or adjacent site affected by the failure.
 4. Charge applicant for all costs associated with correcting the failure or remediating damage from the failure; if payment is not made within thirty days, payment will be made from the applicant's financial securities.
 5. Bring other actions against the applicant to recover costs of remediation or meeting the terms of this ordinance.
 6. Any person, firm or corporation failing to comply with or violating any of these regulation, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both. Each day that a separate violation exists shall constitute a separate offense.

e. Long term inspection and maintenance of stormwater facilities

1. Private stormwater facilities

- i. **Maintenance Plan Required:** No private stormwater facilities may be approved unless a maintenance agreement is provided that defines who will conduct the maintenance, the type of maintenance necessary to ensure effective performance, and the maintenance intervals. All private stormwater facilities shall be inspected by the property owner and maintained in proper condition by the owner consistent with the performance goals for which they were originally designed.
- ii. **Facility Access:** The applicant shall obtain all necessary easements or other property interests to allow access to the facilities for inspection or maintenance for both the responsible party and the City or authorized representative.
- iii. **Removal of Settled Materials:** All settled materials including settled solids, shall be removed from ponds, sumps, grit chambers, and other devices as necessary and disposed of properly.
- iv. **Inspections:** All stormwater facilities within the City shall be inspected by the property owner at a frequency consistent with the maintenance plan. Inspection reports shall be provided to the City upon request.

2. Public stormwater facilities

- i. **Acceptance of Publicly Owned Facilities:** Before work under the permit is deemed complete; the permittee must submit as-builts and a Maintenance Plan demonstrating at the time of final stabilization that the stormwater facilities conform to design specifications. A final inspection shall be required before the City accepts ownership of the stormwater facilities.
- ii. **Maintenance:** The City shall perform maintenance of publicly owned stormwater facilities in accordance with their comprehensive stormwater management plan and other regulatory requirements.

9. Financial Securities

a. Amount

At the discretion of the City, the City may require a Financial Security from the Applicant in an amount sufficient to cover the entirety of the estimated costs of permitted and remedial work based on the final design as established in a set financial security schedule determined by the City.

b. Release

The Financial Security shall not be released until all permitted and remedial work is completed.

c. Use by City

The Financial Security may be used by the City to complete work not completed by the Applicant.

d. Form of security

The form of the Financial Security shall be one or a combination of the following to be determined by the City:

- 1. Cash deposit** - A Financial Security for erosion and sediment control, as determined by the City, shall be by cash deposit to the City. The cash will be held by City in a separate account.
- 2. Security deposit** - Deposit, either with the City, a responsible escrow agent, or trust company, at the option of the City, either:
 - i. An irrevocable letter of credit, negotiable bonds of the kind approved for securing deposits of public money, or other instruments of credit from one or more financial institutions, subject to regulation by the state and federal government wherein said financial institution pledges funds are on deposit and guaranteed for payment.
 - ii. Cash in U.S. currency.
 - iii. Other forms and securities (e.g., disbursing agreement) as approved by the City.

e. City indemnity

This Financial Security shall hold the City free and harmless from all suits or claims for damages resulting from the negligent grading, removal, placement or storage of rock, sand, gravel, soil or other like material within the City.

f. Maintaining the financial security

If at any time during the course of the work the balance of the Financial Security falls below 50% of the total required deposit, the Applicant shall make another deposit in the amount necessary to restore the cash deposit to the required amount. If the Applicant does not bring the financial security back up to the required amount within seven (7) days after notification by the City that the amount has fallen below 50% of the required amount the City may:

- 1. Withhold inspections** - Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.
- 2. Revoke permits** - Revoke any permit issued by the City to the Applicant for the site in question or any other of the Applicant's sites within the City's jurisdiction.

g. Action against the financial security

The City may access the Financial Security for remediation actions if any of the conditions listed below exist. The City shall use the Financial Security to pay for remedial work undertaken by the City, or a private contractor under contract with the City, or to reimburse the City for all costs incurred in the process of remedial work including, but not limited to, staff time and attorney's fees.

- 1. Abandonment** - The Applicant ceases land disturbing activities and/or filling and abandons the work site prior to completion of the grading plan.
- 2. Failure to implement the SWPPP or ESC Plan** - The Applicant fails to conform to the grading plan and/or the SWPPP as approved by the City.
- 3. Failure to perform** - The BMPs utilized on the project fail within one year of installation.
 - i. Failure to reimburse City - The Applicant fails to reimburse the City for corrective action taken.

h. Proportional reduction of the financial security

When more than one-third of the applicant's maximum exposed soil area achieves final stabilization, the City can reduce the total required amount of the financial security by one-third. When more than two-thirds of the applicant's maximum exposed soil area achieves final stabilization, the City can reduce the total required amount of the financial security to two-thirds of the initial amount. This reduction in financial security will be determined by the City.

i. Returning the financial security

The security deposited with the City for faithful performance of the SWPPP or the ESC Plan and any related remedial work shall be released one full year after the completion of the installation of all stormwater pollution control measures, including vegetation establishment, as shown on the SWPPP or ESC Plan.

j. Emergency action

If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by the City, the City may take emergency preventative action. The City shall also take every reasonable action possible to contact and direct the applicant to take any necessary action. Any cost to the City for emergency action may be recovered from the applicant's financial security.

10. Enforcement Actions

- a. **Notification of Failure of the Permit:** The City shall notify the permit holder of the failure of the permit's measures.
1. **Initial Contact** - The initial contact will be to the party or parties listed on the application and/or the SWPPP as contacts. Except during an emergency action, forty-eight (48) hours after notification by the City or seventy-two (72) hours after the failure of erosion and sediment control measures, whichever is less, the City at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the City has been unable to establish contact, the City may proceed with corrective work. There are conditions when time is of the essence in controlling erosion. During such a condition the City may take immediate action, and then notify the applicant as soon as possible.
 2. **Erosion Off-site** - If erosion breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of-entry from the adjoining property owner, and implement the cleanup and restoration plan within forty-eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the City, may more than seven (7) calendar days go by without corrective action being taken. If in the discretion of the City, the permit holder does not repair the damage caused by the erosion, the City may do the remedial work required. When restoration to wetlands and other resources are required, the applicant shall be required to work with the appropriate agencies to ensure that the work is done properly.
 3. **Erosion into Streets, Wetlands or Water Bodies** - If eroded soils (including tracked soils from construction activities) enter or appear likely to enter streets, wetlands, or other water bodies, cleanup and repair shall be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.
 4. **Failure to do Corrective Work** - When an applicant fails to conform to any provision of this policy within the time stipulated, the City may take the following actions.
 - i. **Stop Work Order** - Issue a stop work order, withhold the scheduling of inspections, and/or withhold the issuance of a Certificate of Occupancy.
 - ii. **Permit Revocation** - Revoke any permit issued by the City to the applicant for the site in question or any other of the applicant's sites within the City's jurisdiction.
 - iii. **Correction by City** - Correct the deficiency or hire a contractor to correct the deficiency.
 1. The applicant will be required to reimburse the City for all costs incurred in correcting stormwater pollution

Enforcement Actions

It is likely that your community has general enforcement provisions in zoning, subdivision, or other regulations. It is important to include enforcement provisions that are specific to stormwater and erosion control activities. Permitted stormwater and erosion control activities differ in important ways from other land use activities: they respond to rain events that are not predictable; the management activities required differ from those undertaken during construction to those required after construction is complete; control measures continue long into the future; and specific expertise is required by the person conducting inspections.

control deficiencies. If payment is not made within thirty (30) days after costs are incurred by the City, payment will be made from the applicant's financial securities as described in Section 9 above.

2. If there is an insufficient financial amount in the applicant's financial securities as described in Section 9 above, the City may assess the remaining amount against the property. As a condition of the permit, the owner shall waive notice of any assessment hearing to be conducted by the City, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of assessment.
- iv. Misdemeanor. Any person, firm or corporation failing to comply with, or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both.
1. All land use and building permits may be suspended until the applicant has corrected the violation.
 2. Each day that a separate violation exists shall constitute a separate offense.

Appendix A: Definitions

Words or phrases used in this ordinance shall have the meanings as defined by Appendix B of the Minnesota Construction Stormwater Permit No: MN R100001 (Construction Permit)

If not defined in the Construction Permit, then words or phrases shall be interpreted to have the meaning they have in common usage.

Words or phrases shall be interpreted so as to give this ordinance its most reasonable application.

For the purpose of this ordinance, the words “must”, “shall”, and “will” are mandatory and not permissive.

- i. **Applicant.** The owner of land submitting an application under the provisions of this ordinance for a stormwater and/or erosion control permit to be issued by the community.
- j. **Best Management Practices (BMPs).** The most effective and practicable means of erosion prevention and sediment control, and water quality management practices that are the most effective and practicable means to control, prevent, and minimize degradation of surface water, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, pollution prevention through good housekeeping, and other management practices published by state or designated area-wide planning agencies.
- k. **Better Site Design.** The control and management of stormwater quantity and quality through the application of Better Site Design Techniques as outlined in the current version of the Minnesota Stormwater Manual. Better Site Design includes: preservation of natural areas; site reforestation; stream and shoreland buffers; open space design; disconnection of impervious cover; rooftop disconnection; grass channels; stormwater landscaping; compost and amended soils; impervious surface reduction; and trout stream protection.
- l. **Common Plan of Development or Sale.** A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.
- m. **Construction Activity.** Includes construction activity as defined in 40 CFR pt. 122.26(b)(14)(x) and small construction activity as defined in 40 CFR pt. 122.26(b)(15) and construction activity as defined by Minn. R. 709.0080, subp. 4. This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling, and excavating. Construction activity includes the disturbance of less than one acre of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more. Construction activity does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. (NOTE – The community may wish to change this to a smaller disturbance area. A smaller area is more restrictive than the state/federal requirements, so it would be allowable for a local government.)
- n. **Development, New.** Any development that results in the conversion of land that is currently prairie, agriculture, forest, or meadow and has less than 15% impervious surface. Land that was previously developed, but now razed and vacant, will not be

considered new development.

- o. Erosion and Sediment Control Plan (ESC Plan).** A plan for projects disturbing less than one acre that is in compliance with the minimum requirements of the MSCWMO and VBWD. The plan identifies erosion prevention and sediment control practices, location and timelines for installation. The plan also includes responsible parties and timelines for inspection and maintenance.
- p. Erosion Prevention.** Measures employed to prevent erosion. Examples include but not limited to: soil stabilization practices, limited grading, mulch, temporary erosion protection or permanent cover, and construction phasing.
- q. Fully Reconstructed Impervious Surface.** Areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and pavement rehabilitation projects that do not alter underlying soil material beneath the structure, pavement, or activity are not considered fully reconstructed impervious surfaces. Reusing the entire existing building foundation and re-roofing of an existing building are not considered fully reconstructed.
- r. Impervious Surface.** A constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.
- s. Land Disturbance.** Any activity that result in a change or alteration in the existing ground cover (both vegetative and nonvegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to, development, redevelopment, demolition, construction, reconstruction, clearing, grading, filling, stockpiling, excavation, and borrow pits. Routine vegetation management, and mill and overlay/resurfacing activities that do not alter the soil material beneath the pavement base, are not considered land disturbance. In addition, other maintenance activities such as catch basin and pipe repair/replacement, lighting, and pedestrian ramp improvements shall not be considered land disturbance for the purposes of determining permanent stormwater management requirements.
- t. Linear Project.** Construction or reconstruction of roads, trails, sidewalks, and rail lines that are not part of a common plan of development or sale. Mill, overlay and other resurfacing projects are not considered to be reconstruction.
- u. Major Subdivision.** All subdivisions not classified as minor subdivisions including, but not limited to, subdivisions of four (4) or more lots, or any size subdivision requiring any new street or extension of an existing street.
- v. Minor Subdivision.** Any subdivision containing three (3) or less lots fronting on an existing street, not part of a common plan of development nor involving any new street or road or the extension of municipal facilities.
- w. National Pollutant Discharge Elimination System (NPDES).** The program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345.
- x. Owner.** The person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the construction activity.

- y. Permanent Cover.** Surface types that will prevent soil failure under erosive conditions. Examples include: gravel, asphalt, concrete, rip rap, roof tops, perennial cover, or other landscaped material that will permanently arrest soil erosion. A uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of 70% of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures. Permanent cover does not include the practices listed under temporary erosion protection.
- z. Permittee.** A person or persons, firm, or governmental agency or other entity that signs the application submitted to the City and is responsible for compliance with the terms and conditions of the permit.
- aa. Predevelopment State.** The rate and volume of stormwater is unchanged. The calculation of predevelopment is based on native soils and vegetation.
- bb. Public Waters.** All water basins and watercourses that are described in Minn. Stat. § 103G.005 subd. 15.
- cc. Redevelopment.** Any development that is not considered new development.
- dd. Retain.** Manage stormwater on site using a low-impact development approach so that the rate and volume of predevelopment stormwater reaching receiving waters is unchanged.
- ee. St. Croix Riverway.** All lands and public waters within the riverway boundary subject to the standards and criteria for the Lower Saint Croix National Scenic Riverway in Minnesota.
- ff. Saturated Soil.** The highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. Saturated soil is evidenced by the presence of redoximorphic features or other information.
- gg. Sediment Control.** Methods employed to prevent sediment from leaving the site. Sediment control practices include: silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, bio rolls, rock logs, compost logs, storm drain inlet protection, and temporary or permanent sedimentation basins.
- hh. Stormwater Facility.** A stationary and permanent BMP that is designed, constructed and operated to prevent or reduce the discharge of pollutants in stormwater.
- ii. Small Construction Activity.** As defined in 40 CFR part 122.26(b)(15). Small construction activities include clearing, grading and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres.

Who is Involved in Reviewing a Permit Application?

The permit application under this ordinance is reviewed by the community. Typically, the community's engineer reviews the site plans and site information to ensure that the proposed project satisfies the requirements of the ordinance.

The proposed project may be reviewed by a number of other soil- or water- related organizations in addition to the community. The requirements for other permits and reviews will depend on the project location, site size, the water resources present, and activities proposed. The other organizations may include:

- County
- Soil & Water Conservation District
- Watershed District or Watershed Management Organization
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- Metropolitan Council
- Army Corps of Engineers

- jj. Stabilized.** Exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Grass, agricultural crop or other seeding alone is not stabilization. Mulch materials must achieve approximately 90 percent ground coverage (typically 2 ton/acre).
- kk. Stormwater.** As defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, stormwater runoff, snowmelt runoff, and any other surface runoff and drainage.
- ll. Stormwater Pollution Prevention Plan (SWPPP).** A plan for stormwater discharge that includes erosion prevention BMPs, sediment control BMPs and permanent stormwater management systems that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.
- mm. Surface Water(s).** All streams, lakes, ponds, marshes, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private, except that surface waters do not include treatment basins or ponds that were constructed from upland.
- nn. Temporary Erosion Protection.** Methods employed to prevent erosion during construction activities. Examples of temporary erosion protection include; straw, wood fiber blanket, wood chips, vegetation, mulch and rolled erosion control products.
- oo. Underground Waters (Groundwater).** Water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term groundwater shall be synonymous with underground water.
- pp. Wetland(s).** As defined in Minn. R. 7050.0130, subp. F and includes those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

 - i. A predominance of hydric soils.
 - ii. Inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition.
 - iii. Under normal circumstances support a prevalence of such vegetation.

Appendix E MIDS Calculator Training Flyer

Stormwater U

An in-depth training series for municipal staff and stormwater professionals



MIDS Calculator Mini-Workshop

Workshop overview:

Cities and Watershed Management Organizations in the east metro are adopting MIDS (Minimal Impact Development Standards).

During this free, short workshop, you will learn:

- *What the MIDS calculator tool is and how to use it
- *How to review development proposals that have used the MIDS Calculator to select stormwater management practices
- *How MIDS can help cities and developers to meet more than just the 1.1 in. volume control standard - MS4 requirements, TMDL goals, and pollution prevention targets
- *How MIDS is related to Low-Impact Development and Better Site Design

Who should attend?

This seminar is for City Engineers, Design Engineers, and Municipal Staff responsible for reviewing stormwater management plans

Date and Time

Thursday, Feb. 16
9-11am

Location

Washington Conservation Center
455 Hayward Ave. N
Oakdale, MN 55128

AGENDA

Thursday, Feb. 16, 9-11am

8:45-9am

Check-in and breakfast

9-9:30am

Intro to MIDS and the calculator tool
When and how to use the calculator

9:30-11am

Practice using the calculator to review two sample development proposals

Register:

<http://tinyurl.com/MIDScalculator>

Additional Information

Please bring a laptop computer to this workshop.
You will need to download the calculator to your computer prior to the class:

http://stormwater.pca.state.mn.us/index.php/MIDS_calculator

*Limit 20 participants

Instructors

Mike Isensee, Watershed Specialist,
Middle St. Croix WMO Admin., & Leader of the
MIDS Calculator Technical Team

Katherine McLellan,
Washington Conservation District

Questions? Contact angie.hong@mnwcd.org or
651-330-8220 x.35

Offered by...



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

Appendix F 2009-2016 St. Croix NEMO Workshop Evaluation Summary

The NEMO Program

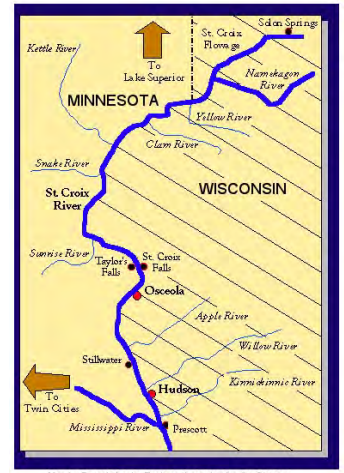
Nonpoint Education for Municipal Officials – Making a difference with local leaders

 UNIVERSITY OF MINNESOTA | EXTENSION



St. Croix River – Preserving a Natural, Recreational, and Economic Amenity

A NEMO Workshop-on-the-Water | September 2016



This educational program was provided for community leaders from the St. Croix River Watershed including city, county, watershed, and organizational leaders from both Minnesota and Wisconsin.

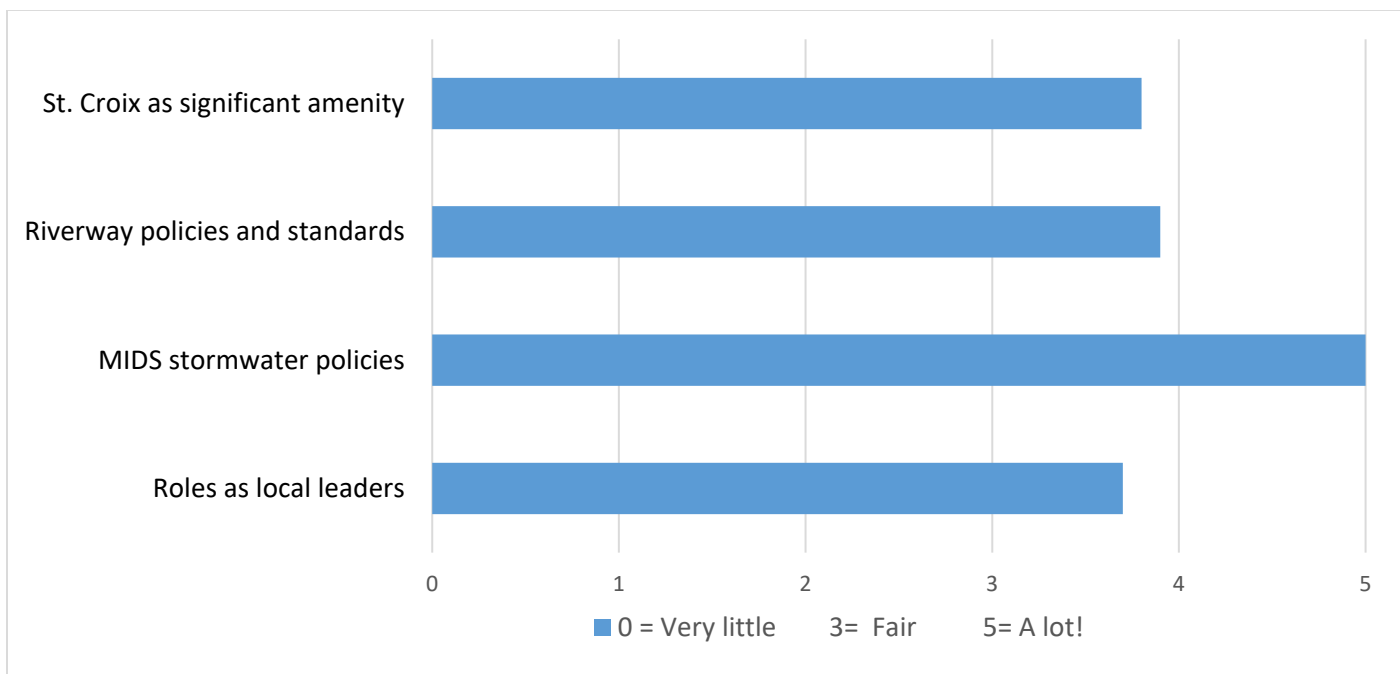
67 leaders participated

including elected and appointed officials and community leaders (city council members, other city leaders, and watershed board and advisory committee members). 40 evaluations were received.



of the participants found a high educational value to the program.

Leaders **increased** their knowledge, understanding, and skills:



Knowledge gained leads to action!

Turn over to discover what leaders will do.



Of the leaders said they would take action!

Top new knowledge gained and actions leaders said they would take:

#1. Minimal Impact Design Standards (MIDS): intent to increase their understanding of and work towards implementing and adopting MIDS in their own community.

"Review the MIDS ordinance for our city; review MIDS ordinance in other St. Croix River Communities to see what changes they've made." Workshop participant



2 Project and permitting process: utilize the checklist process, adopt a pre-application meeting process, and make their own application process more transparent.







"Utilize pre-application meeting! Make application process more transparent."

#3 Sharing information with other leaders who were not present for the program.

Continue to support checklist and other tools to help landowners and staff/city make consistent rulings."

Insights from workshop participants

This NEMO Workshop-on-the-Water Program was made possible through the following partnership:

-  St. Croix River Association
-  East Metro Water Resource Education Program partners
-  Minnesota Department of Natural Resources
-  Wisconsin Department of Natural Resources
-  National Park Service
-  and with additional funding provided by the Clean Water, Land and Legacy Amendment

Resources from this program and information about NEMO is available online. Visit www.northlandnemo.org

For more information regarding this program, contact John Bilotta, Extension Educator, University of Minnesota. Phone 612-624-7708 Email jbilotta@umn.edu

Or contact a representative from any one of the partner organizations listed above.

Appendix F: Summary of relevant evaluation metrics from 2009-2015 St. Croix NEMO Workshops

2009: 104 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Baytown Township, Demark Township, Lake Elmo, Lake St Croix Beach, Lakeland, Marine on St. Croix, Scandia, Stillwater, White Bear Lake and Woodbury.

- **Before the program:**
 - 53% knew much or very much about water quality of the St. Croix River
 - 66% knew much or very much about issues of land use, management, and development along the St. Croix River and in the watershed
 - 29% knew much or very much about the fisheries, mussels, and macroinvertebrates in the river and how they serve as indicators of the river's health.
 - 52% knew much or very much about the roles of local decision makers and local communities in protecting the river
 - 72% knew much or very much about BMPs available to achieve water quality goals
- **After the program:**
 - 79% knew much or very much about water quality of the St. Croix River (31% very much)
 - 92% knew much or very much about issues of land use, management, and development along the St. Croix River and in the watershed
 - 83% knew much or very much about the fisheries, mussels, and macroinvertebrates in the river and how they serve as indicators of the river's health.
 - 87% knew much or very much about the roles of local decision makers and local communities in protecting the river
 - 87% knew much or very much about BMPs available to achieve water quality goals
- **Open-ended responses:**
 - *"This experience has increased my awareness of the various issues and facets of each individual issue. It helps to understand why land use decisions and policies are so critical"*
 - *"I became involved in government because I thought there were too many restrictions on what you could do with your own land. Now I have reversed my opinion. "*
 - *"Work on creating smarter ordinances in our city."*
 - *"New ideas for the CLSC beach planning commission for the management of our city. Information on native vegetation for planting along the river to help with erosion."*
 - *"Making sure setbacks and guidelines are adhered to and thinking through the effect of CUP's on the locale."*
 - *"Use a lot of water quality information and land use issues involving shorelines in decision making."*
 - *"I am more informed and will be able to follow news and information with a better base of knowledge."*
 - *"I'm going to determine how my city's WWTF ranks with other cities along the river."*
 - *"Keep impervious surfaces at a minimum and keep water runoff from going directly into the river. "*
 - *"Look at projects that will reduce phosphorus loading in the river."*
 - *"Be as clear as possible about reasons for decisions."*
 - *"I now have some concrete examples of why protection from erosion is important."*

2010: 95 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Cottage Grove, Hugo, Lake Elmo, Lake St. Croix Beach, Lakeland, Marine on St. Croix, Stillwater, Scandia, Woodbury

- Over 70% of the respondents indicated they increased their level of knowledge about the current status of St. Croix water quality. Of those, 15% indicated an increase in 2 levels of knowledge (much to very much). 21% reported no change.
- Nearly 75% of the participants indicated they increased their level of understanding about monitoring and how data is gathered and used. 41% indicated their level of understanding changed more than 2 levels. Only 18% indicated no change in understanding.
- 46% of the participants increased their level of knowledge about the relationship between land use and water quality. 54% indicated no change.
- 59% increased their knowledge about the potential tools for getting the job done. 19% indicated their level of knowledge grew greatly. 19% had no change.
- 30% increased their level of knowledge about why they should be concerned – why they should care and about 10% increased their knowledge by 2 levels. 60% had no change.

2011: 85 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Baytown, Cottage Grove, Demark Township, Forest Lake, Lake St Croix Beach, Lakeland Township, Marine on St. Croix, Scandia, St. Mary's Point, Stillwater, Stillwater Township, Washington County, West Lakeland Township

- 89% of the participants found good to great value in this workshop and indicated a strong sense of knowledge and skill gain and found the educational approach very effective. This also resulted in a strong indication they will take action as a decision maker or leader in their local community.
- 43% (32) of the local leaders in attendance also indicated they had participated in a previous workshop on-the-water for the St. Croix and as a result of participating, identified the follow actions they have taken:
 - We got a BMP grant and put in 2 rain gardens in our small city. Now residents are interested in putting in their own rain gardens.
 - Enforced river way ordinance
 - Lobbying for restoration on Maple Street going down to river in Marine.
 - Helped install rain gardens in our city, placed a couple rain barrels at our home.
 - Teach others about run off from diverse landscapes (concerns, issues, trade-offs etc.)
 - Talked to others about what I learned.
- Requests for future training and education on:
 - Best management practices (BMPs)
 - Ordinances and policies

2013: 122 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Marine on the St. Croix, Scandia, Baytown Township, Denmark Township, Lakeland, Lake St. Croix Beach, Stillwater, Stillwater Township, Washington County

- 75% of participants indicated they learned much or a lot during the workshop. About:
 - Ordinances –MIDS, the CAP, new model ordinances, importance of communities to review/change their ordinances
 - Rain Gardens –pollution removal, curb cuts, costs, and maintenance needs
 - Phosphorus & Water Quality – status of phosphorus and the need to lower it in the River, ways to reduce P, naturally occurring P and erosion
- Participants said they would:
 - Review and revise current ordinances, explore use of MIDS CAP ordinances, review and revise shoreland ordinances.
- 47% had participated in previous workshops. Some had taken specific actions, such as:
 - Reviewed, updated, enforced, or strengthened ordinances, policy or zoning

2014: 119 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Cottage Grove, Forest Lake, Hastings, Lake Elmo, Lake St. Croix Beach, Lakeland, Marine on the St. Croix, Oakdale, Pine Springs, Scandia, St. Mary's Point, Stillwater, Woodbury, Washington County.

- Participants gained the most increased in knowledge related to actions in urban, developing, and growing communities (average score of 3.8 on a scale of 1-5)
- Individuals learned the most about these topics:
 - MIDS - Minnesota Minimal Impact Design Standards
 - The significance of the first flush. 1.1" represents about 90% of all rainfall events in Minnesota and that events between 0.5-1.5" are responsible for about 75% of runoff pollutants.
 - Stormwater BMPs, specifically stormwater ponds; how they are often not working, operation and management considerations
 - LID – low impact development
- Participants requested more information about:
 - MIDS (most frequent request)
 - Stormwater management and infiltration BMPs, stormwater ponds (second most frequent request)

2015: 77 local elected and appointed leaders

Washington County communities represented: Afton, Bayport, Cottage Grove, Dellwood, Lake St. Croix Beach, Lakeland, Lakeland Shores, Marine on St. Croix, Scandia, Stillwater, St. Mary's Point, Stillwater Twp., Washington County, West Lakeland Twp.

- Evaluation of participants indicates the program greatly enhanced their knowledge and understanding of:
 - The water quality and health of the St. Croix River,
 - Land use impacts along the riverbank and shorelines,
 - Watershed land use changes and impacts from impervious surfaces and stormwater runoff

2015 Forest Lake Workshop

- Local leaders indicated a very high degree of increased knowledge and understanding of stormwater management practices and water quality projects with the city of Forest Lake, their benefits, and the need for investing in these projects (4.5 on a scale of 1-5)
- Local leaders identified the need and interest for more information and training on the following:
 - MIDS (consistency across communities)
 - City comprehensive plan updates, integration of stormwater plan, land use planning, integration with watershed district plans
 - MS4 policies, ordinances, requirements, plan

Appendix G MIDS Clean Water Communities Feedback Summary



Concerns:	Forest Lake	Oak Park Heights	Stillwater	Bayport	Lake St. Croix Beach
Concerns repeated in multiple communities:					
Funding concerns: will MIDS incur additional costs to the community?	X		X	X	X
Staffing concerns: will MIDS put additional burdens on staff members or add to their current workloads?	X	X	X	X	
Regulation concerns: will MIDS create an increase in regulations?	X			X	
Development-related concerns: will MIDS impact, or impose a barrier to, development?		X		X	
Clarity concerns: will MIDS be too confusing to adopt? Will existing employees or commissions struggle with MIDS?			X		X
Concerns voiced in only one community:					
Revision concerns: will MIDS ordinances need to be constantly revised and updated, making them less convenient than an ordinance that references performance standards?				X	
Interest in implementing MIDS and MS4 at the same time				X	
Flexible Treatment Options concerns: will flexible treatment options allow projects to escape their duty to protect stormwater?					X
Uncertainty about what immediate changes need to be made					X
Concerns about ditch maintenance	X				
Concerns about chloride and winter road maintenance	X				
Concerns about abandoning the current standard			X		

Appendix H Notes from Post Project Interviews

APPENDIX E: POST-PROJECT INTERVIEWS - NOVEMBER, 2016*

*Names and community affiliations have been removed to ensure confidentiality for the interviewees

Interview #1 - City engineer

Overall this was a pretty positive experience.

The challenges that arose didn't come from the way Mike Isensee/MCSWMO or Jay Michels handled things. The challenge was more so in how to get local officials to recognize the need to do something like this.

Mike and Jay initially started their conversations at a staff level, though the councils did have to pass a resolution in order to participate. Could there be a way to bring the council members up to speed earlier? That said, things really seemed to go well.

In general, many elected officials are reluctant to change their codes for any reason, especially in the smaller communities. They don't necessarily see the need for change and it can be hard to convince them if there isn't a glaring problem. The communities that did pass MIDS had at least a few council members on board that were supportive and informed enough about the issues to convince the rest of the council to go along with the idea. The process was much easier in Bayport than in the smaller communities further south along the river.

One major benefit of adopting MIDS is that the cities' ordinances are now completely in line with MSCWMO's rules. This is a good thing. It will help to avoid having projects fall through the cracks, especially if there is staff turnover.

This was a very worthwhile effort. I hope that the WMO can continue to serve as an oversight agency for the communities.

Interview #2 – City engineer

Overall the process went very well. The key was to have lots of time available so that the board could review the ordinances multiple times. The board only meets once a month and had many questions.

Another key to success was having good communication between the township and the MSCWMO. When Mike Isensee was out of the office, staff were able to talk to someone else and get their questions answered right away instead of waiting until he came back.

Interview #3 – City planner

The process in our city seemed to go smoothly.

It really helped that Mike Isensee and Jay Michels took the lead in scheduling meetings and making recommendations to the council, rather than relying on city staff to do that. In a small city, the staff are very busy so it helps to have that support.

Some council members were concerned about enacting more regulations and having more permits and fees for their customers. The council is very pro-business and doesn't want to make it hard for

businesses in their community. They changed their minds once Mike and Jay explained that MIDS actually streamlines the existing process, rather than creating additional, new regulations.

Our council does have a conservation ethic. They ask the city planner to attend county water consortium meetings and the NEMO boat workshops. But, it really helped to have WCD/MSCWMO bring them a ready-to-go package that they could adopt so that they didn't have to take the initiative to do something different.

The city is also reluctant to "stick its neck out" and create ordinances that are substantially different or more stringent than other cities in the area. Mike and Jay did a good job of emphasizing the fact that they were working with all of the cities in the MSCWMO and were trying to get more consistent standards for everyone along the river.

The council and elected officials really like getting recognition for doing something good (when they were named during presentations at the water consortium and on the boat, for example). And it's nice to get credit without having to "toot our own horn."

Since we just adopted MIDS, it is too soon to know how it is going and where we might need support.

Interview #4 – Council member / clerk

The process went very smoothly in city #1. The city has a zoning administrator onsite, they have a strong planning commission, they have a good relationship with Mike Isensee, and the council was supportive of the idea. The city also owns the riverfront and is more in tune with the river and water issues.

In city #2, they have larger lots, more private land on the water, and are generally less trusting of government. They are especially leery of allowing government to manage the riverway. Additional problems came up because the city planner got involved and changed some of the draft ordinance language to reference existing code. This was probably a good thing in the long run, but many of the council members weren't familiar with their existing code and realized they didn't necessarily agree with the provisions of the code. The staff had to repeatedly remind council members that they were clarifying existing rules, not making new rules. In addition, because the planner got involved and attended all four of the meetings, it ended up costing them a lot more money than it did in city #1. Once they finally removed some of the language about fines, they were able to pass the updated ordinances.

It is too soon to know what kind of support we might need from the WMO to implement the new rules.

There is a riverfront landowner in city #2 who just got elected to the city council. He had recently worked with the city on a remodeling project and did what he needed to do to meet riverway and city regulations. After coming on the NEMO St. Croix workshop on the water during the summer, he said that he learned a lot and now understands why there are so many regulations in place to protect the area.

Interview #5 - Planning commission member

It was very helpful to have Mike Isensee come and present to the planning commission and council and to learn what adjoining cities are doing with their ordinances. The presentation was excellent and very educational for the planning commission members. Afterwards, they felt like they could make an informed recommendation to the council.

Our city had several reservations on passing these new ordinances but decided that stormwater has gotten so technical that it is best to defer to the experts. I spoke with a mayor from another city who had strong reservations but was overruled by his council. One example of language from the new ordinances that is potentially concerning – 2b1 Erosion and Sediment Control plan applicability. The intent of the ordinance is to regulate projects that remove 10,000 sq ft or more of vegetation, but the wording could be interpreted to mean that an ESC plan is required to remove any vegetation if you own more than 10,000 ft of land. Most residents won't know about the updated ordinances, so things won't get enforced unless their neighbors report them. The city doesn't have a "shrub patrol."

Our city has virtually no undeveloped land so we are primarily looking at reconstruction of cabins into year-round homes. We are trying to determine how onerous these new requirements will be for the average person want to remodel a home.

It seems to be working well to have people sit down for pre-application meetings before submitting permit applications. And the homeowners are understanding of the rules and requirements when they hear them ahead of time.

For our community, the major benefit to adopting MIDS was to have consistency with nearby cities. We have joint powers agreements with 4 or 5 adjoining cities. Also, ever since the "Hubbard debacle", we want to avoid a situation where someone could go "bluff shopping" and find a city with less restrictive standards to build a home in.

We feel comfortable that we can call MSCWMO for support if we are having a public hearing on a project and expect controversy. So far, the new ordinances are too new to know what problems we might have.

My advice for other cities is to make sure that as many people as possible are there for the presentations to council and commissions. "Reading the ordinances in a vacuum, I could nitpick all sorts of problems." Hearing the presentation and being able to ask questions helps people to understand the nature and intent of the ordinances and avoid pushback. If only 3 people are going to come to a meeting – find a different time to give the presentation so that everyone hears it.