

New Options for Watershed Collaboration

An Options Paper for the Water Quality Improvement Plan (Summary)

Introduction

The Water Quality Improvement Plan (WQIP) will recommend Integrated Watershed Management (IWM) approaches for restoring the Greater Milwaukee Watersheds (GMW). This document summarizes a 'WQIP Options Paper'¹ that provides a preliminary analysis from which a set of final WQIP recommendations will be developed following stakeholder reflection, participation, and feedback. The final version of the WQIP will be a reflection of the priorities and interests of the stakeholders and its utility will be directly proportional to the degree to which it draws out continued stakeholder involvement and investment.

This is not the first planning effort for the Greater Milwaukee Watershed community. Prior watershed assessments, plans, and tools have clarified the *what* and *why* of watershed planning. These include, but are not limited to, MS4 Permits, the Milwaukee River Basin TMDL, Regional Water Quality Management Plan Updates, and 9 Key Element Plans. The WQIP, on the other hand, focuses on *how* to make sure the goals and the recommendation in these other plans are put into action in an efficient way while also achieving important co-benefits. This relates directly to *how* work is funded and implemented, *how* work is prioritized, *how* collaboration can work, *how* to leverage the strengths of each sector in this, and *how* the impacts of watershed restoration efforts can be monitored and measured over time. Figuring out these *hows* will allow us to make the strides needed to achieve our lofty collective goals.

The Options Paper describes different implementation lenses or approaches under a broader IWM framework that might lead to more effective water quality improvements and more rapid delisting of stream segments in the GMW. Some of these strategies utilize similar or modified methods used in the GMW in the past, while others suggest new potential solutions for the region. In many cases, these approaches may be combined or merged to address the issues they attempt to address. These lenses address different aspects of implementation challenges, from issues surrounding the scaling-up of practices to issues related to building a culture of appreciation and value surrounding sound watershed management activities. The following pages describe these approaches in a summary fashion to more effectively garner constructive stakeholder input on the WQIP, as the success of the WQIP is entirely dependent upon the buy-in of the stakeholders whose interest, support, and participation will be essential for the successful implementation of these strategies.

As the outreach process for this plan develops, certain strategies defined by the WQIP Options Paper will likely have greater support and will be evaluated to find the potential that these strategies would have in specific areas. It is likely that the application of two or three strategies in a specific area will be necessary to realize significant water quality improvements. As such, the process of prioritization is a process intricately tied to the stakeholder outreach and engagement process. Each will inform the other, with the desired result being a fully supported strategy applied to specific areas where they will have the greatest likelihood of success.

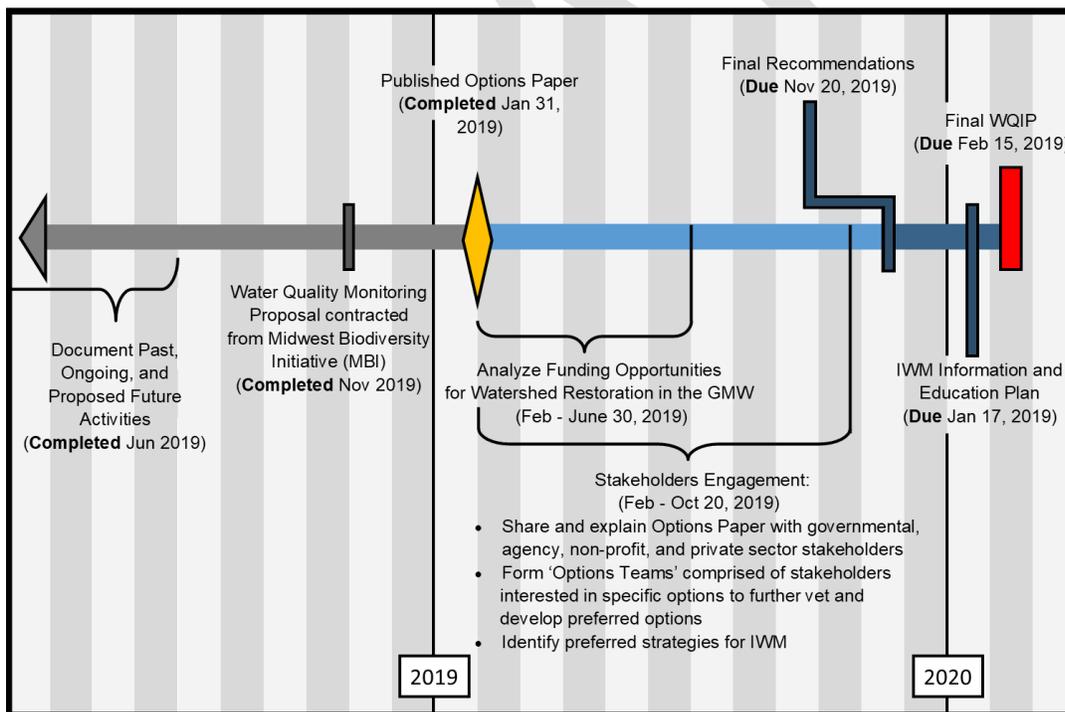
¹ The full version of the WQIP Options Paper is available at <https://www.swwtwater.org/wqip-outreach>.

Process for Developing WQIP

Over the period of February – September 2019, the WQIP Planning Team will convene various groups and individuals to gather feedback on the analysis and options set out in this paper to evolve a set of final WQIP recommendations. Tie-ins to existing plans and future efforts will be part of this discussion. Through this process, it is expected that some ideas will be modified and utilized, while others will be discarded. The WQIP Planning Team also provides a [web platform](#) where stakeholders can remain up-to-date about how the WQIP is evolving, access relevant documents, and learn about stakeholder meetings and other relevant events.

Following the dissemination of the WQIP Options Paper through various forums and channels, Sweet Water will solicit feedback both by bringing the WQIP onto the agenda of existing forums and by scheduling meetings specifically for the WQIP. After a period of ‘temperature-taking,’ Sweet Water will identify which strategies have the greatest interest and will then ask stakeholders to join ‘Options Teams’ to provide guidance to the Planning Team on strategies that interest them. The role of the Options Teams is to draw upon the knowledge of the participants and to work towards an actionable and fully supported process for implementing the desired strategies and defining how these strategies might work in concert. It is anticipated that a 3-4 month time-frame will be sufficient for developing fully vetted strategies (Fig. 1).

Figure 1: WQIP Development Timeline



Funding WQIP Recommendations

One important factor, of course, is the provision of sustainable funding to support watershed restoration work. There is a need to define the processes and partnerships through which funding can be mobilized into action, and this is what the WQIP aims to define. Over the first half of 2019, the WQIP

Planning Team will undertake an analysis and assessment of existing and potential funding to support implementation of WQIP recommendations. Insights from this analysis will be integrated at every stage of the WQIP process to ensure that WQIP recommendations can be supported by realistic and sustainable plans for funding the strategies recommended.

Potential for Integrated Watershed Management

The conditions in MMSD's service area lend themselves to Integrated Watershed Management (IWM), which is what the WQIP aims to achieve. IWM recognizes the need for collaboration amongst a range of stakeholders in an impaired watershed. As an alternative to reducing specific pollutants within each political jurisdiction based upon apportioned TMDL loads, IWM looks to find projects and actions that could result in a segment of a waterbody meeting designated uses in a faster and less expensive manner.

To successfully undertake IWM, an understanding of the impairments within a watershed, the likely causes of the impairment, and the ability of the water segment to show improvement with specific interventions is crucial. In some cases, detailed monitoring of a watershed can point to areas where attainment could be met should specific actions be taken. An understanding of the capital projects planned by important stakeholders as well as of attitudes and desires of the municipalities and residents themselves are also both crucial to conducting successful IWM.

Implementation strategy #1: Funding structures and pathways

How funding for watershed restoration efforts is made available can have major implications for how the work is completed, what types of projects are undertaken, and what information and knowledge is passed on to others over time. The primary question is: can new structures of funding, whether through MMSD or another source, be developed that encourage more cost-effective practices, greater knowledge transfer, and a realization of triple bottom line benefits?

1.1 Proposed funding arrangement for Green Solutions

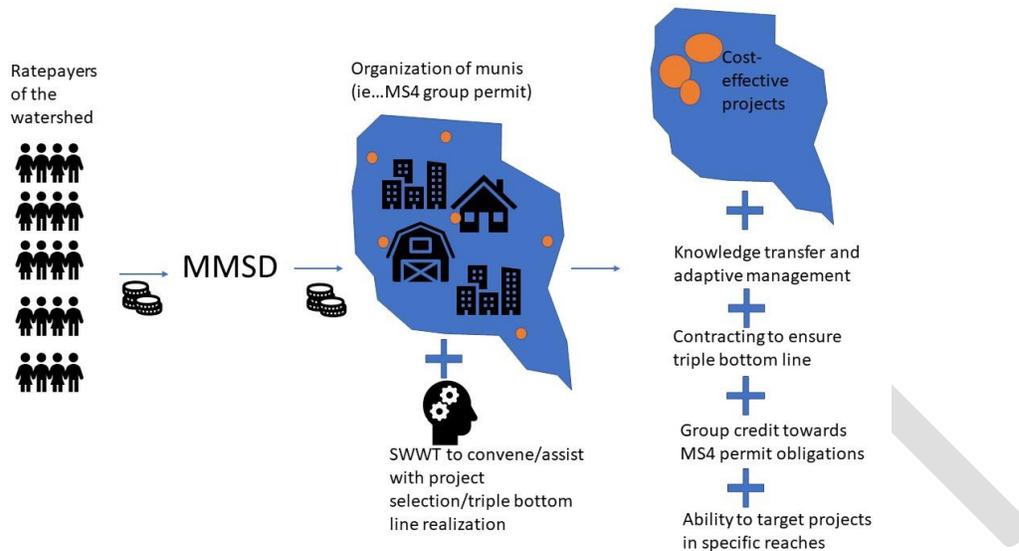
The primary source of local funding for green infrastructure (GI) in the GMW is MMSD's "Green Solutions." This is funding obtained from municipal ratepayers and made available to the municipalities in proportion to their contributions. MMSD provides these funds for projects that meet certain requirements and encourages swift expenditure of these funds through a limit on roll-over funding of \$120,000.

Feedback from some municipal leaders confirms this arrangement puts pressure on municipalities to find projects and therefore adopt GI. However, the limitations of the existing approach can lead to funded projects that are less cost-effective and geographically targeted on an impaired waterbody than high-value projects that may not receive funding. There is also no mechanism for municipalities to share information about solutions to financial and other types of challenges.

One pathway that might yield additional benefits would be the creation of Green Solution funding zones that might align with current group MS4 permit boundaries to encourage cost-effective projects and group sharing of funds (Fig. 2). This approach could be considered a second phase in Green Solutions funding that aims to foster collaboration, identify cost-effective projects, and realize triple bottom-line

benefits. If municipalities were able to obtain credit towards their MS4 permits for work done in other municipalities, this arrangement could be justified to their residents.

Figure 2: Proposed alternate funding structure for Green Solutions



Should this approach be pursued, it is recommended that municipalities work with contractors to identify effective ways of structuring these contracts so that the additional co-benefits (such as hiring SWMBE orgs) that can be delivered through the installation and maintenance of GI are realized. Pooling Green Solutions funds could also increase the possibility of bringing other funds to the projects. Grants might be available to assess issues such as performance, maintenance, or realization of workforce development goals since the larger scale would enable these goals to be adequately tackled. A convening organization may need to assess these potential projects and tie their implementation into other efforts. A nonprofit that facilitates collaboration and fundraising would likely also bring greater visibility to implementation. A collaboration of municipalities would also allow for broader advancement of lessons learned.

How could this strategy benefit me?	
Municipalities	Potential to fine-tune construction, contracting, maintenance
Nonprofits	Potential role to locate projects, add co-benefits, bring additional resources
MMSD	Larger scale, cost-effective projects, potentially realize triple bottom line benefits
Private sector	Could help find cost-effective construction and maintenance approaches
Academic/research	Monitoring needs

1.2 Private Public Partnership model

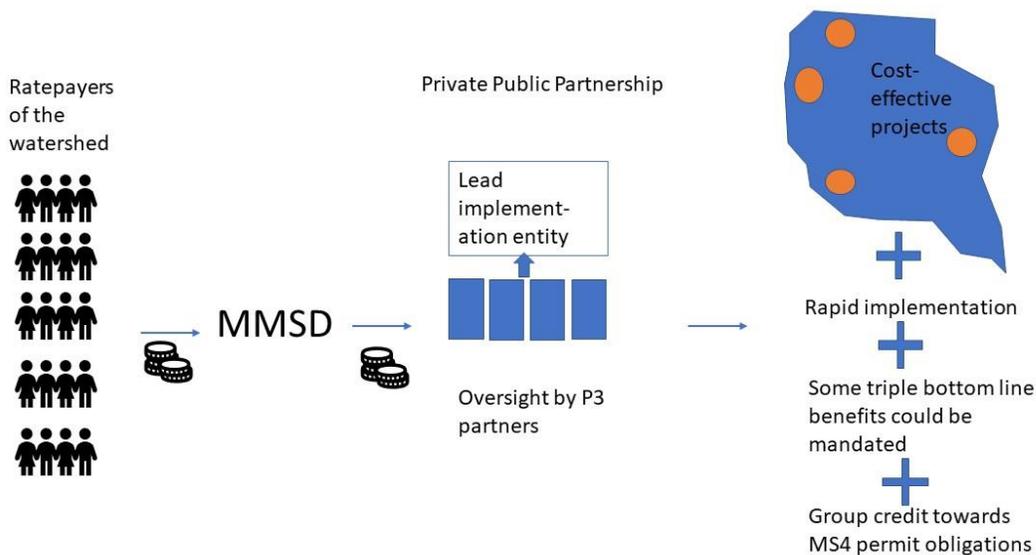
One model that has been used effectively elsewhere² is the Private Public Partnership, or P3 (Fig. 3). This model funds an outside private entity tasked with implementing GI to a set standard. This outside entity has the potential to bring additional private capital to the overall endeavor, and if the private entity can find efficiencies, it can realize greater profit. In many cases, specific financial bonuses are

² A case study describing the successful implementation of this approach in Prince George’s County, Maryland, is provided in the full version of the WQIP Options Paper, available at <https://www.swwtwater.org/wqip-outreach>.

paid for meeting specific preferential contracting goals. Importantly, the long-term maintenance is incorporated into the overall cost. Key questions for this model are:

- What private capital could be leveraged in such a scenario? How much would it be and how would this accelerate implementation?
- What would the long-term costs of paying for this contract management (and maintenance) be?
- Can requirements for SBE and MBE translate to hiring of underserved populations?
- Does the aggregation of project implementation represented by a P3 approach actually lead to lower costs?
- Can such an arrangement be directed towards specific portions of a watershed or an area where a watercourse project is planned?

Figure 3: Private Public Partnership model



The P3 approach holds significant promise for large-scale stormwater retrofitting. The efficiency of contracting and the inclusion of long-term maintenance address long-standing issues. Furthermore, the greater Milwaukee watershed contains thousands of acres that could be retrofitted for stormwater control and capture. Finally, the stimulation of small, minority, and local businesses that has resulted from large-scale application in past applications of this model would be of great interest to most communities in the greater Milwaukee region. The questions listed above suggest additional research is needed to see how well an approach such as this could work in the MMSD planning area.

How could this strategy benefit me?	
Municipalities	Administration simplified, long-term maintenance addressed
Nonprofits	Potential role in outreach
MMSD	Administration simplified, goals achieved in shorter time-frame
Private sector	Small/minority business engagement/training
Academic/research	Need to assess efficiency of model

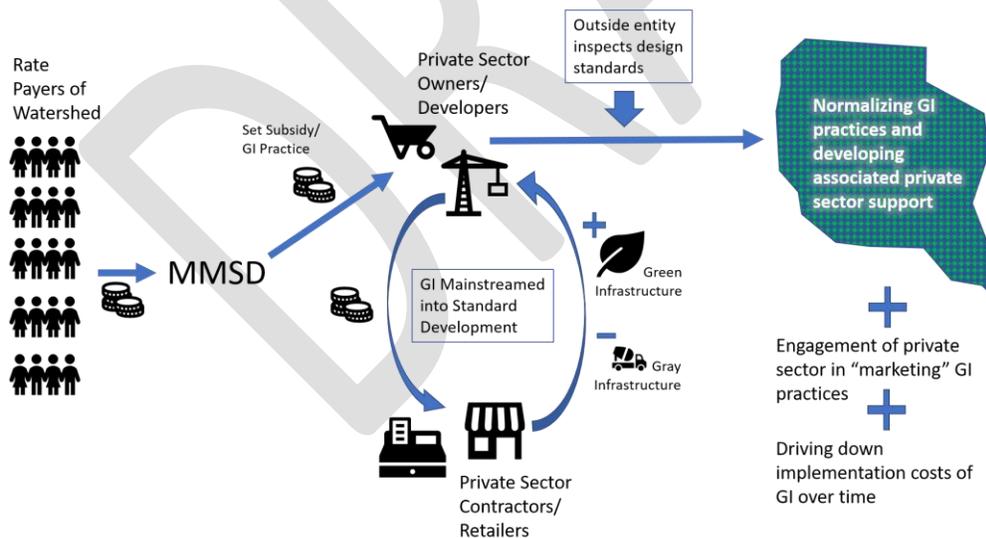
1.3 Watershed-wide price supports

Other sectors use price supports to support a specific set of practices that are beneficial to the broader environment. There are several examples of this approach in the energy sector such as solar energy development, renewable transport fuels, and energy-efficient appliances. In a watershed context, the most likely practices would be ones that capture stormwater runoff. Subsidizing practices such as permeable surfaces, rain water storage (i.e., cisterns), or bioretention systems at a set rate could incentivize installation at a lower cost than if these projects were paid for in standard ways and at current full-market prices.

MMSD currently provides reimbursable funding for GI at set rates per gallon or square foot. Calls for proposals are made once a year and applications are scored based on the applicant’s ability to meet a certain set of criteria. These criteria are understandable; however, applicants can be discouraged by lengthy application processes, review dates that do not fit with project schedules, and the possibility of insufficient available funding.

The model here imagines a more streamlined process for reimbursing the cost of desired GI practices (Fig 4). Any contractor that had convinced a property owner to install this practice could notify MMSD or another delegated entity of the size and installation date of the project. Those responsible for installation would know instantly if funds would be available for that project, pending inspection. MMSD or contracted nonprofits would be tasked with inspecting the installation based upon accepted design standards prior to the transfer of any funds. This simplified process would divert energy from the development of applications and the review of those applications to closer inspection of project installation.

Figure 4: Model of watershed-wide price support implementation



The primary difference in this approach would be the expansion of interested parties and the full utilization of the private sector. All developers, architects, designers, and contractors would be aware of these rebates and would factor them into their designs while communicating the cost-savings to the client. If the demand were greater than the available funding every year, that would only further incentivize participation.

Key questions for this approach would be:

- Who is able to administer this subsidy? Who can keep tabs on the demand and communicate with those interested?
- Which practices are most amenable to this type of approach?
- How can funders be assured that design standards are being met? Who inspects? What percentage of practices need to be inspected?
- Is it important to provide the subsidy in only certain areas prioritized in relation to their provision of greatest social or environmental benefits?

Potential benefits include decreasing implementation costs of these practices as they are mainstreamed, developing associated private sector support, and providing work opportunities for those just entering the GI workforce. Initial feedback from the private sector about this approach is positive. Many contractors have indicated frustration with the current funding arrangements and processes for supporting GI. This approach could engage a wider range of contractors. A limitation would be the need for a level of inspection, however this might provide a tie-in to MMSD’s workforce development efforts.

How could this strategy benefit me?	
Municipalities	Burden of implementation may be lessened
Nonprofits	Potential role in inspection
MMSD	Administration burden reduced/greater adoption of GI
Private sector	Rapid access to subsidies, can work into business model
Academic/research	Need to assess economic impact

1.4 Adaptive management approach

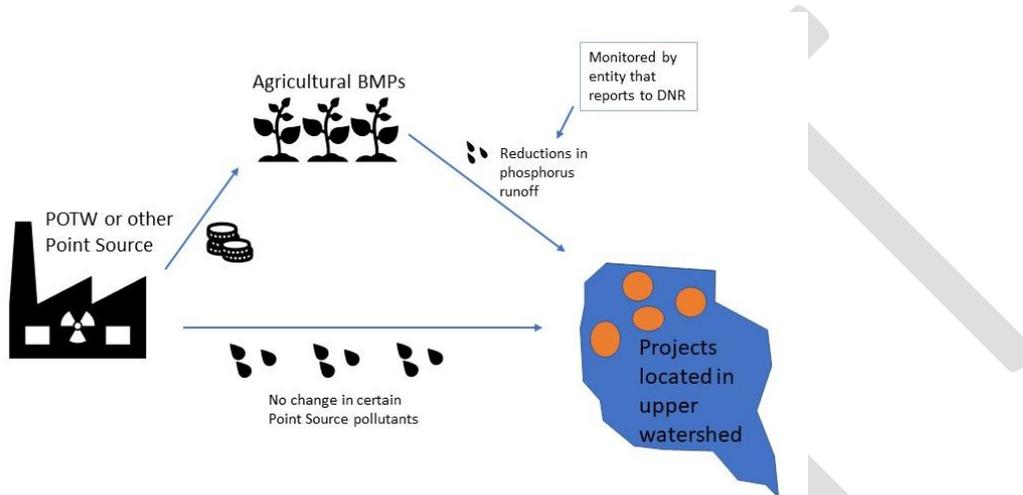
Adaptive management has been used in nearby areas where significant reductions in phosphorous effluent limits on a point source (typically a publicly owned wastewater treatment facility) are regulated. This regulated point source can fund and fund practices (typically nonpoint source agricultural BMPs) in lieu of making some or all of the required point source reductions (Fig. 5). In-stream phosphorous levels are monitored for improvement and (up to) a fifteen-year period of implementation is allowed by WDNR to meet the required in-stream phosphorous water quality standards. The benefit of this approach is lower overall costs for reaching water quality targets. To the extent that the adaptive management framework includes agricultural BMPs, these practices become enforceable upon the point source, a regulatory arrangement not previously seen for nonpoint sources.

In the GMW, the situation is slightly different because there are only a couple of smaller point sources that are subject to new lower effluent limits. Key questions that will determine if an adaptive management approach would be useful in the GMW are:

- Would the practices enacted to control phosphorous also provide sufficient reductions for other pollutants, specifically bacteria and sediments?
- Is there sufficient demand in the agricultural sector for the types of practices that could help meet in-stream phosphorous water quality standards? In the Milwaukee River watershed, there are indications that finding farmers willing to participate in these programs can be challenging.
- What amount of time and effort would be needed to identify willing farmers, define and agree the performance metrics, and verify successful implementation?

- How would additional funding (from a POTW or other point source) supplant existing grant or federal cost-share funding for agricultural BMPs? Would the funds made available in an AM scenario provide clear added benefit beyond the funding that is currently available?
- Would an AM scenario draw attention away from nascent efforts to build GI in the greater Milwaukee watershed?
- Are GMW parties interested in developing an AM-style approach for TSS or other pollutants (other than phosphorus)? How simple, complicated, or cost effective might this be?

Figure 5: Model of adaptive management approach



The answers to the above questions are not fully known but initial feedback indicates that some of the above concerns might make AM a less attractive option, either due to transactional costs or issues of broader efficacy.

How could this strategy benefit me?	
Municipalities	Shift implementation to other sources
Nonprofits	Role TBD
MMSD	TBD
Private sector	Ag producers receive additional funds
Academic/research	Need for monitoring

Implementation strategy #2: Expanding watercourse projects to watershed projects

This strategy looks at issues related to definition and scoping of stream de-channelization projects planned by MMSD. MMSD has completed many miles of these projects already. This section looks at how to build upon these efforts. This approach could fit well with [the Capital Connect initiative](#) supported by the Center for Community Investment. Milwaukee was recently selected to follow a Capital Adsorption Framework that aims to align capital investments with community goals surrounding economic, social, and environmental goals.

MMSD has entered into feasibility studies and other funding partnerships with the Army Corps of Engineers (ACE) as a way of bringing additional expertise and funds to these large capital projects. These ACE funding programs encourage (and in some cases require) that a portion of the overall project costs go towards efforts aimed at reducing peak stormwater flow through methods that include GI.

This ACE funding program provides an opportune template for the expansion of these MMSD/ACE partner projects to include additional stormwater and recreational elements. Because ACE allows for additional partners to be formally engaged, GI components of municipal roadway projects could be partially or entirely funded through these partnerships. Since these ACE funding mechanisms typically have extensive planning stages, municipalities should be brought into project scoping early so that planned municipal capital projects can be staged to fit into the broader schedule.

Another type of project expansion would be the inclusion of certain management efforts in the area of the stream de-channelization project. The management efforts that could be added include coordinated chloride reduction efforts, recreational programming, and habitat/pollinator initiatives.

Although the specifics of this expanded project scoping would be determined by the interest of the adjoining municipalities and residents as well as the specific realities of the project (e.g., existing infrastructure, open space, etc.), the inclusion of other elements relevant to the public would help build support for this work. [The MMSD-led KK River de-channelization project](#) is an excellent local example of this expanded watercourse strategy.

How could this strategy benefit me?	
Municipalities	Leverage federal funds for capital roadway improvements, additional recreational opportunities
Nonprofits	Role in facilitating recreation, engagement
MMSD	Builds upon existing or planned efforts
Private sector	Large projects with numerous contracting needs
Academic/research	Potential to assess impact

Key questions that would determine the utility of this implementation strategy include:

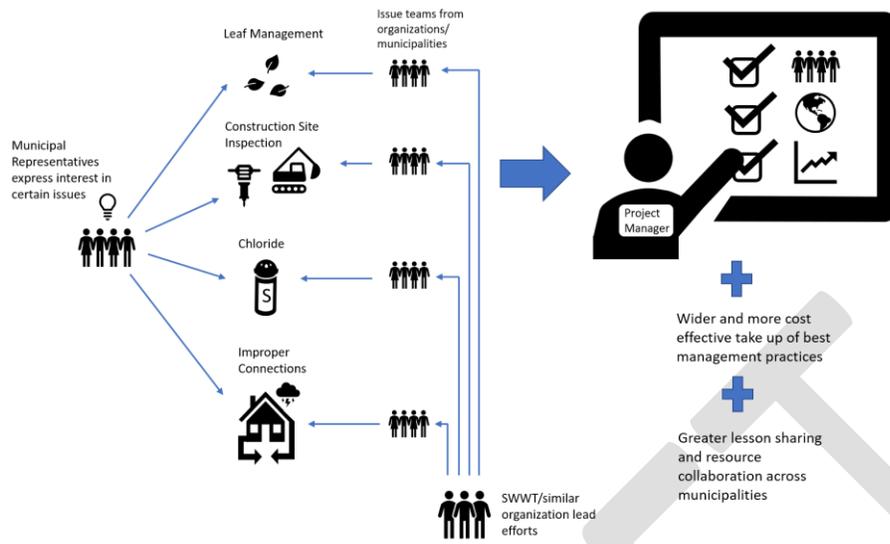
- How challenging would it be to integrate the municipal capital project planning and the ACE /MMSD stream restoration project?
- Can GI projects be identified that can meet the requirements of peak flow reduction? Are these projects desired by the municipalities?
- How can other stakeholders be brought into projects to effectively leverage their contributions?
- Can a holistic project with multiple partners be a model of collaboration duplicated elsewhere?
- To what degree can these additional elements lead to the delisting of impairments?
- How can municipalities receive ‘credit’ towards their MS4 permit obligations for these MMSD-led watershed projects? What are the processes and metrics for assigning ‘credit’?

Implementation strategy #3: Supporting desired management efforts

This strategy looks at the suite of management actions that could be improved or altered to address specific pollutants impairing our waterbodies. The structure of the WQIP holds the potential to support and elevate certain management efforts that, if done successfully, could have major benefits to local waterbodies (Fig. 6).

The types of management efforts that could be the focus of this kind of approach are many and varied. One example is the management of salt applied to public and private roads and parking lots. Some specific approaches that could be pursued to address salt application include organizing a group of willing municipalities and setting comparable standards for application, understanding equipment needs for brine application, examining the results of relevant studies (such as SEWRPC’s current chloride study) to understand hotspots and priority areas, and more.

Figure 6: Model of supporting desired management efforts



Supporting constructive and supported action on these types of interconnected issues can move the needle on tough issues like salt application. Feedback from municipal representatives indicates that although there is interest in taking on some of these issues, there is currently no organization that is leading the charge on these issues. Designating Sweet Water or a similar organization to lead these efforts in coordination with municipalities is a good first step.

The specific approaches that would be needed for other issues (e.g. leaf management, construction site inspection, and illegal sanitary sewer connections) vary and would require examination, an opportunity offered by the WQIP. While they require significant time, coordination and often new approaches to yield results, many don't involve significant capital outlays. The appointment of a lead organization to each issue and development of working teams can provide activation energy.

The key questions that would determine the utility of this approach include:

- What has been missing from past efforts aimed at addressing these challenging issues?
- Can pressure to coordinate result in better delivery while acknowledging limitations (e.g., funding, etc.)?
- What sort of structure would raise commitment levels? A public forum?
- What sources of funding are available to pay staff to lead these issue groups?
- Would targeting of areas (for example those areas near stream de-channelization projects) increase energy and momentum for these issue teams?
- Could one requirement of municipalities wishing to receive credit for MMSD stream projects be a commitment to participate in a workgroup and commit energy to these management issues?

How could this strategy benefit me?	
Municipalities	New support and visibility for challenging management issues
Nonprofits	Coordination roles, addressing long-standing important issues
MMSD	Lower cost efforts, potentially big returns
Private sector	Recognition for taking right measures, TBD
Academic/research	Role TBD

Implementation strategy #4: Partnering with private sector development

One lens that has been used with some success is partnering with private development to realize larger projects that have significant benefits to watershed health. Although private developers are subject to stormwater regulations and therefore new development will meet these minimum standards, there may be situations where the development can go beyond what is required. A local example includes the Drexel Town Square in Oak Creek³, where approximately 17 acres of the 85-acre development site were retrofitted for stormwater control, habitat creation, and recreation. The project is helping the Village of Oak Creek simultaneously meet economic development, watershed restoration, and other community enhancement goals. Importantly, this arrangement has placed the responsibility for installation and maintenance of these GI practices on the private developer.

One strategic way to use this lens is to look at areas open to development and identify incentive packages for practices that would have benefits for the watershed beyond what is required by regulation. Redevelopment of large areas of impervious surface could be another focus for incentives. Providing incentives to cover a portion of stormwater control on vacant parcels would result in a great net watershed benefit while aligning with incentives that municipalities offer to redevelop larger vacant sites. An understanding of existing incentives might reveal what additional level of support would be needed to motivate developers to take on these sites. Combining these sources and finding ways to bring grant funds to these packages could serve both ecological and economic redevelopment goals.

How could this strategy benefit me?	
Municipalities	Lower administration, wq goals marry up with development/economic goals
Nonprofits	Role TBD
MMSD	Leverages private funds for GI work
Private sector	Projects may be larger/more cohesive
Academic/research	Role TBD

The Key questions related to this approach are:

- Are there acceptable standards for these types of projects that would exceed existing stormwater requirements? For example, retention of the 1.0 inch rain event?
- What allowances would entice a development to take on project items that might raise costs?
- Would it be appropriate to market these types of development as partners in watershed restoration? What designation or recognition would be desirable to a development entity?
- Could grant funds be added to these incentive packages to help subsidize some of these stormwater and/or habitat improvements? What funder might be willing to fund a project that showcased a higher bar of stormwater control and realized economic revitalization benefits?

Implementation strategy #5: Creative repurposing of relic properties

The GMW contains many properties that were developed prior to a stormwater retention standard and are currently vacant with large impervious footprints. Often improvements are impossible until the

³ A case study describing the successful implementation of this approach at Drexel Town Square in Oak Creek, is provided in the full version of the WQIP Options Paper, available at <https://www.swwtwater.org/wqip-outreach>.

property is sold, and in some cases, municipalities are not receiving taxes on these properties or the properties are in arrears. However, Milwaukee has many nonprofits and educational institutions that could repurpose these properties, and willing municipalities could solicit ideas for properties it would like to improve over a 5-15-year time horizon. By providing additional recreation, artistic, or agricultural opportunities, watershed restoration can be linked to other issues important to the public. Broadening the base of support ensures a greater resonance with the public at large as well as additional funding possibilities related to support for these co-benefits.

The tax considerations, both from the municipal perspective and the owner’s perspective, would need further consideration. Additionally, finding a way to integrate this temporary use into an urban planning framework that typically looks at long-term final build out, would require new ways of looking at development. There may be experts in the legal field who could bring their knowledge of this sector to identify frameworks for this type of ‘interim’ usage that would not negatively affect any party.

Although the use could vary depending upon the interests of local community groups and the broader public, the common denominator would be the removal of impervious surfaces. Municipalities might be willing to suspend or forgive property taxes on neglected properties in exchange for the removal of imperviousness and short-term leasing to community groups for beneficial use. If nonprofit groups were able to secure grant funding to assist with some of this programming and repurposing, the cost to the municipality might be minimal and the benefits significant. This situation would also ensure that any future building development would

trigger MMSD stormwater regulations for the development of pervious land. The collective challenge of finding low-cost short- to mid-term uses for these properties could inform how municipalities think about these properties. Successful models could potentially be duplicated elsewhere in the greater Milwaukee watershed.

How could this strategy benefit me?	
Municipalities	Address derelict properties, meet residents’ desires, novel repurposing
Nonprofits	Unleashed to find new solutions, create new vision for old landscape
MMSD	Low cost impervious surface removal
Private sector	Adjoining property owners may benefit from addressing eyesores
Academic/research	Role TBD

The key questions for this approach are:

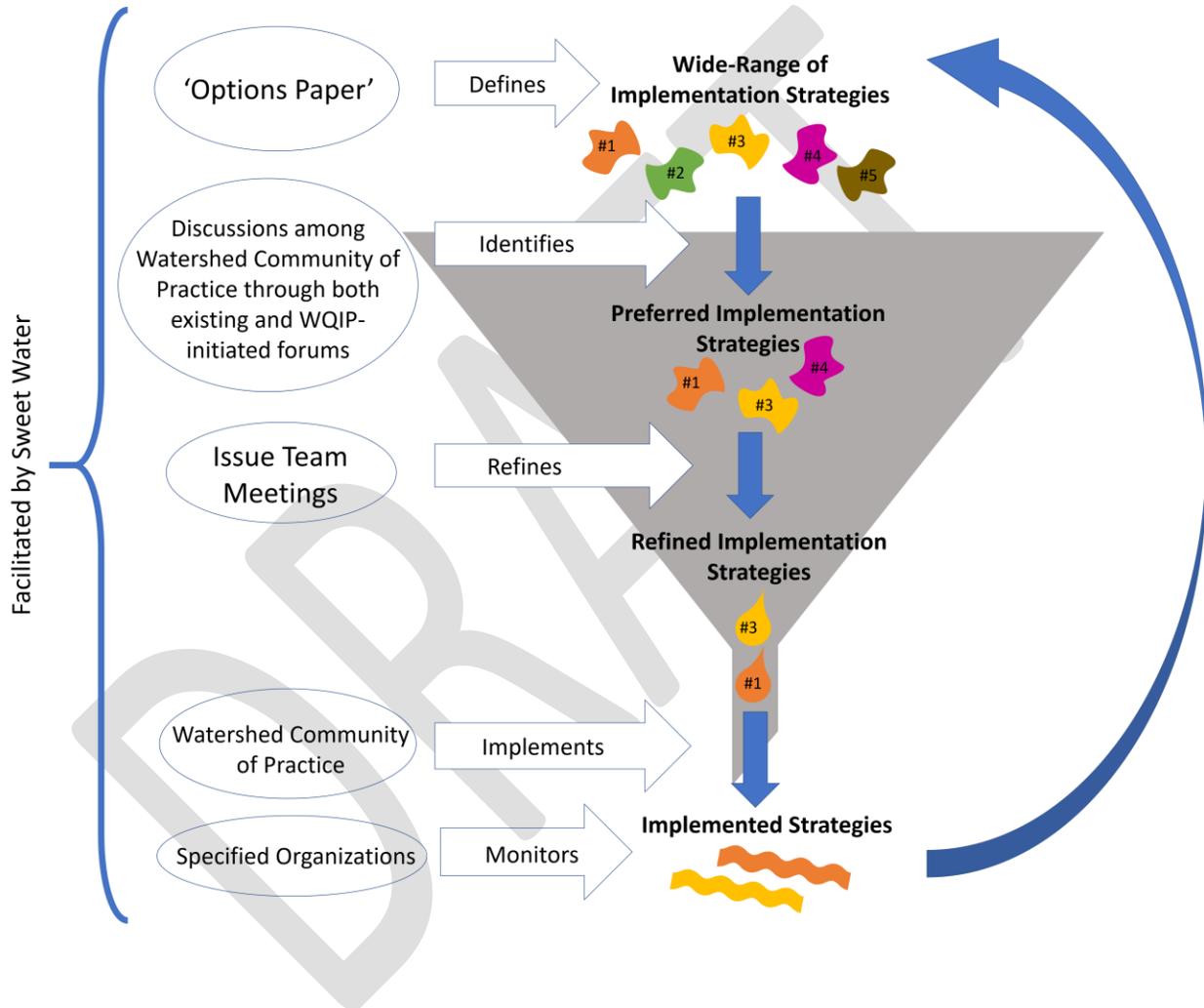
- What types of properties would be most amenable to this type of shorter-term usage?
- Would these short-term uses aid municipalities in dealing with these sorts of properties?
- Are there sources of funding that would be willing to fund projects that may not be permanent but might lead to water quality benefits as well as assist with these alternate short-term uses?
- Could these types of creative uses be an alternative to tax seizure?
- How can the owner avoid liability for activities that may occur on their land?

Next Steps

As emphasized above, the WQIP Options Paper provides a preliminary analysis from which a set of final WQIP recommendations will be developed following stakeholder reflection, participation, and feedback.

It is expected that some of the ideas presented in the Options Paper will be taken up and developed, with further vetting and guidance provided by stakeholders who opt to invest their time and expertise in Options Teams focused on those strategies deemed most viable and worthwhile. Other ideas initially put forward in the Options Paper may fall by the wayside if they fail to generate a sufficient level of stakeholder interest and endorsement. The final version of the WQIP will be a reflection of the priorities and interests of the stakeholders and its utility will be directly proportional to the degree to which it draws out continued stakeholder involvement and investment.

Figure 7: Process for WQIP development



To stay abreast of WQIP-related resources, meetings, and other developments, please visit <https://www.swwtwater.org/wqip-outreach>.

To provide feedback or join an Options Team, or if you have any questions about the WQIP, please contact a member of the WQIP Planning Team:

Janet Pritchard
 Director of Programs, Sweet Water
pritchard@swwtwater.org

Pete Hill
 Principal Consultant, Great Lakes Watershed Opportunities
Pete@GLWatershed.com