

Agenda Report

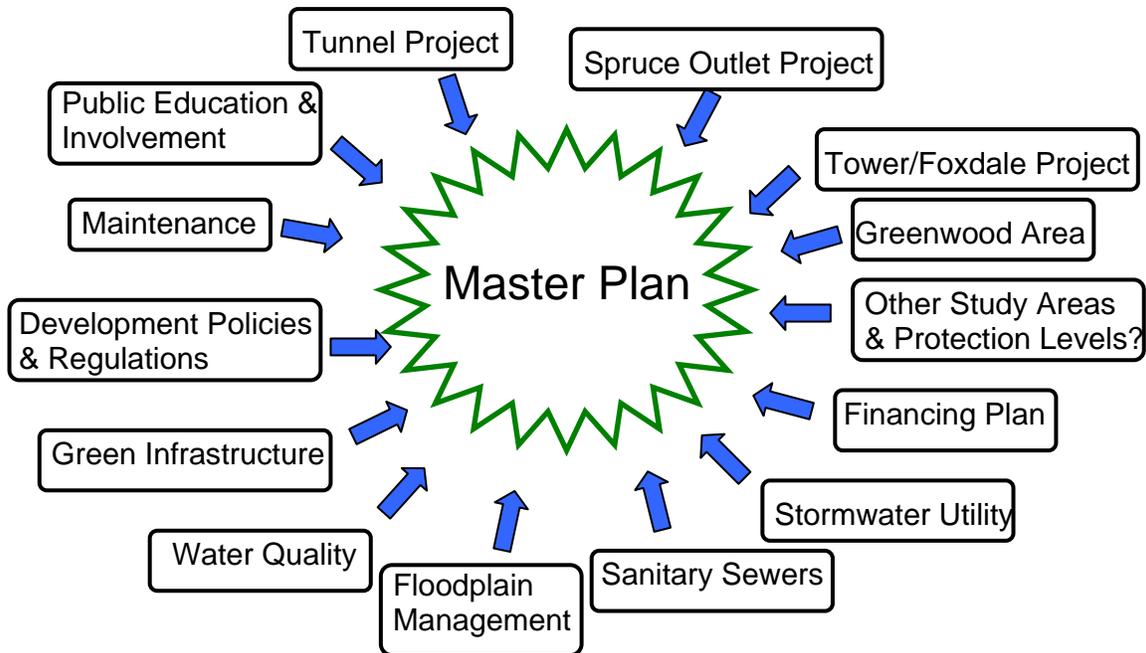
Subject: RFP 12-003: Stormwater Master Plan

Prepared By: Steven M. Saunders, Director of Public Works/Village Engineer

Date: May 29, 2012

In the aftermath of severe flooding in 2007, 2008, and 2011, the Village has embarked on a course of significant improvements to its storm sewer and sanitary sewer systems. Effective stormwater management and flood risk reduction are complex issues, with many individual components that need to be considered for a successful program. The Village has completed flood risk reduction studies that identified several possible beneficial improvements, with a possible capital cost of up to \$38.99 million¹. In addition, the Village has commenced a detailed evaluation of the performance of its sanitary sewer system, and has begun the process of participating in FEMA's Community Rating System for floodplain management. The Village Council has determined that a Stormwater Master Plan process will facilitate concurrent activities being undertaken or proposed, to unify all of these activities in the framework of a Stormwater Master Plan.

The following graphic illustrates this approach:



¹ Source: Village of Winnetka FY 2012-2013 Budget, Tab 13, p. 76

The Village has issued Request for Proposals 12-003, requesting qualifications and proposals from qualified engineering firms for the preparation of a Stormwater Master Plan. The overall objective of this project is to develop a clear, comprehensive, and forward-looking framework that encompasses the Village's existing stormwater management program, presents a detailed investigation into key components of stormwater as it is related to the Village, establishes stormwater management goals for the future, presents tools to meet or exceed established goals and provides a foundation for future policy decisions. The final product will be a document which helps the Village guide the stormwater program for the next five to 10 years and beyond.

RFP Process

The Village received responses from four highly-qualified firms, Baxter & Woodman, Engineering Resources Associates, Hey Associates, and Strand Associates. Based upon the relative strength of their proposals, demonstrating a sound project approach and relevant experience, staff interviewed Baxter & Woodman, Engineering Resource Associates, and Hey & Associates, to further delve into their qualifications and project approach. Strand Associates, while a qualified firm, did not demonstrate as accurate a project understanding as the other three firms, particularly in their understanding of the level and nature of public interaction needed to make the project successful.

Baxter & Woodman

Following these interviews, staff ranked Baxter & Woodman as the most qualified firm to complete this project. Baxter and Woodman has demonstrated expertise via successful past projects in each of the key areas in the proposed scope of work and contemplated to be part of the stormwater master plan including stormwater studies and improvement projects, floodplain management, public engagement and involvement, development policies and regulations, and other areas. Baxter & Woodman has also demonstrated success in managing complex stormwater projects, with a focus on public information and relations. Baxter & Woodman also has a proven record of effective schedule and process management. Finally, Baxter & Woodman has successfully completed rate studies and implementation of stormwater utilities, and has obtained funding from various public sources on behalf of municipalities to complete infrastructure projects. Given this experience, Baxter & Woodman will be an excellent fit for our project.

During the interview, Baxter & Woodman's project team, and in particular, project manager Mark Phipps, demonstrated a very thorough understanding of the Village's desired outcomes for the project, and the necessary activities and approaches to effectively accomplish the Village's goal of integrating all of the concurrent ongoing and proposed activities into a single "Comprehensive Plan" for stormwater. These activities are outlined in the proposed scope of services shown in Exhibit B of Attachment 4.

One very important factor to keep in mind about this project is that while it contains many technical aspects, such as developing hydraulic and hydrologic modeling, identifying and recommending proposed improvements, reviewing and improving ordinances and evaluating water quality, the end product will only be successful if all of the myriad stakeholders are engaged and involved with the project through a well-thought

out and effective public process. Baxter & Woodman has proposed an approach that engages groups in a multiplicity of ways:

- Stormwater Work Group. Baxter & Woodman has proposed creation of a Stormwater Work Group consisting of key Village staff, the Village's Stormwater Manager, and other consultants (CBBEL, Strand), as well as other stakeholders as necessary (for example, Park District staff, regulatory agencies) to collaboratively develop sections of the Draft Master Plan.
- Village Council Updates. Baxter & Woodman has included up to four informal progress updates to the Village Council at appropriate times as draft chapters are being developed, or as policy guidance is needed.
- Town Hall Meetings. Baxter & Woodman has proposed up to four formal "town-hall style" meetings for public input and participation as portions of the Master Plan are being developed. An example of when such a meeting might be scheduled would be to evaluate various aspects of floodplain management, where owners of properties in the floodplain would be invited to participate and comment.
- Social Media. Baxter & Woodman proposes to engage stakeholders in the development of the master plan using a project website, Facebook, and Twitter
- Village Council Presentations. Baxter & Woodman has also proposed two formal presentations to the Village Council – one to present the draft Stormwater Master Plan for official public and Village Council comment (although as can be seen above there will be ample opportunity along the way as well) and a final presentation to the Village Council for adopting the Stormwater Master Plan.

Baxter & Woodman has proposed Mark Phipps, P.E. as Project Manager for this effort. Mr. Phipps has significant experience in both the public and private sector managing stormwater projects. In addition to numerous questions posed to Mr. Phipps during the interview, I also followed up on particular references for Mr. Phipps' previous work. Baxter & Woodman recently updated the Capital Improvement program for the Village of Kenilworth. This consisted of reviewing and assessing Kenilworth's existing infrastructure and previous Long-Term Capital Plans, and developing a Ten Year Capital Improvement Program for the Village. I spoke with Brad Burke, Village Manager, about Mr. Phipps' work on that project, and Manager Burke stated that Mr. Phipps was the most valuable member of the project team, particularly when it came to communicating with the Village Board and the public. Manager Burke also indicated that Baxter & Woodman's approach to their project was that of a project partner, rather than a paid consultant waiting to do what the client asked. This approach led to a collaboration between staff and the consultant that anticipated problems, asked the right questions at the right time, and developed a successful program.

Baxter & Woodman is also engaged with the Village of Glenview on several stormwater projects. I spoke with Joe Kenny, Director of Capital Projects for the Village of Glenview, and Mr. Kenny was also very satisfied with Mr. Phipps' performance. Baxter & Woodman is performing design and construction engineering for several projects in Glenview's long-term capital plan, under the direction of Mr. Phipps. Mr. Phipps is also

responsible for significant public interaction as the engineer performing Glenview's private property drainage assessment program.

The summary of this information is that as Baxter & Woodman's key contact with the Village for this project, Mr. Phipps appears to be very well suited to lead this project, and that the Village will benefit from this relationship.

Project Schedule and Agreement

Baxter & Woodman has proposed a 14-month timeline to complete this project, allowing for completion in August 2013. Baxter & Woodman has developed a draft contract agreement which is being finalized by the Village Attorney. The current draft, in near-final form, is shown in Attachment 4.

Fee and Budget Information

Following the interviews, staff opened the fee proposals of the three interviewed firms, summarized below:

Firm	Est. Hours	Avg. Hourly Rate	Labor Cost	Expenses	Total Fee
Hey & Assoc.	772	\$114.15	\$88,125	\$1,800	\$89,925
Engineering Resources	875	\$109.68	\$95,969	\$2,750	\$98,719
Baxter & Woodman	826	\$117.31	\$96,900	\$4,320 ¹	\$101,220

¹ Water quality sampling and testing

While Baxter & Woodman is not the least expensive firm, they demonstrated the most thorough and effective understanding of the project, and have devised an approach and Scope of Services that will most effectively allow the Village to reach its goals. While price is always a consideration in decision-making, it should perhaps not always be the dominating factor in selecting professional services, where it is usually most important to assure that the correct people are doing the work, all other things being relatively equal.

The Village's FY 2012-2013 Budget contains \$100,000 in the Stormwater Fund (Account 58-75-640-601) for a Stormwater Utility Rate Study and Master Plan². A separate RFP is underway for the Stormwater Utility Rate Study, and a draft RFP will be shared with the Village Council shortly. I anticipate that the Rate Study could commence in August or September of this year.

Recommendation:

Consider authorizing the Village Manager to execute a contract with Baxter & Woodman to provide professional engineering services for developing a Stormwater Master Plan pursuant to their proposal of March 30, 2012, for an amount not to exceed \$101,220. The contract shall be substantially in the form provided herein, subject to final review and approval by the Village Attorney.

² Source: Village of Winnetka FY 2012-2013 Budget, Detail Tab 15, p. 72

Attachments:

1. Village RFP 12-003
2. Baxter & Woodman Proposal
3. Baxter & Woodman Fee Proposal
4. Baxter & Woodman Draft Contract Agreement

ATTACHMENT 1
Request for Proposals 12-003

REQUEST FOR PROPOSALS

VILLAGE OF WINNETKA



STORMWATER MASTER PLAN

RFP 12-003

ISSUED: March, 2012

RESPONSES DUE: March 23, 2012, 11:00 a.m.

PREPARED BY:

Steven M. Saunders, Director of Public Works

Village of Winnetka

1390 Willow Road

Winnetka, IL 60093

Telephone: 847-716-3534

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ssaunders@winnetka.org

I. INTRODUCTION

The Village of Winnetka is requesting qualifications and proposals from qualified engineering firms for the preparation of a Stormwater Master Plan. The overall objective of this project is to compile a document which provides a clear and concise explanation of the Village's existing stormwater management program, presents a detailed investigation into key components of stormwater as it is related to the Village, establishes stormwater management goals for the future, presents tools to meet or exceed established goals and provides a foundation for future policy decisions. The final product should be a document which helps the Village guide the stormwater program for the next five to 10 years.

II. BACKGROUND

It is the intent of this contract to provide professional services for developing a Stormwater Master Plan for the Village of Winnetka. Since 1994, the Village of Winnetka has completed a number of stormwater capacity improvements, including new and replacement storm sewers, stormwater pumping stations, and outfall improvements. The total value of these improvements, which have been funded using General Fund revenues on a pay-as-you-go basis, is approximately \$3,567,000.

While these projects have provided needed improvement to flood prone areas, several extreme weather events in recent years have highlighted a need for additional improvements in these areas, and other areas subject to stormwater flooding. The Village has contracted with Christopher B. Burke Engineering, Ltd. (CBBEL) to evaluate eight different drainage areas and develop recommended improvements to address the 10-, 25-, 50-, and 100-year rain events. The Village plans to begin implementing the first set of these improvements in 2012, however funding source for the full set of improvements, estimated to cost \$38.9 million, remains undetermined.

The Village is also addressing or plans to address several other items related to stormwater or sanitary sewer management. The Village Council has determined that a Stormwater Master Plan process will facilitate concurrent activities being undertaken or proposed. The Village desires to unify all of these activities in the framework of a Stormwater Master Plan. The Village has an ambitious goal to develop a comprehensive, multi-faceted plan to manage stormwater runoff quality and quantity, and sanitary sewer discharges, that protects and enhances property values and promotes a thriving and sustainable community. This master plan is a key component to achieve that goal.

III. PROJECT GOALS

The following is a list of items the Village would like considered in the Stormwater Master Plan:

- Stormwater Capital Improvements. Over the past 3 years, the Village has completed flood risk reduction studies for 8 separate drainage basins that have exhibited significant flooding of streets or property. These studies have resulted in a series of recommended stormwater conveyance improvements to reduce flooding in key areas. Summaries of these recommended improvements are shown in **Attachment 1**. The Village Council has authorized engineering for three of these improvements (the Tower Road Relief Sewer, the Lloyd Place Outlet, and the Greenwood Area Relief Sewer) in 2012, with construction to follow in 2013. The remaining 5 areas (the North Study Area, South Study Area, Provident Study Area, Underpass Study Area, and Cherry Street Outlet Study Area) are anticipated to be served by a single project consisting of a large, 8-foot diameter storm sewer conveying runoff from the western watershed east to Lake Michigan. It is anticipated that work done to date on these recommended improvements will be referenced and restated for inclusion in the proposed Stormwater Master Plan. It is also anticipated that the Master Plan will include an implementation plan for needed improvements.
- Evaluation of other Village areas. While the 8 study areas referenced above account for the most frequent and severe flooding locations, there may be other sections of the Village that are served by undersized storm sewers, or where adequate overland flow routes do not exist. **Attachment 2** illustrates areas of the Village where drainage studies have been undertaken and hydrologic/hydraulic information may be obtainable. The Village anticipates that part of the Stormwater Master Plan will include evaluating areas not addressed by prior studies, and recommending potential improvements to these areas.
- Financing, including a possible stormwater utility. The Village has identified some preliminary methods for funding the improvements currently under consideration, including using cash reserves, using debt, seeking grant or other governmental funding, increasing property tax rates, implementing a stormwater utility, or combinations thereof. The Village intends to conduct a stormwater utility rate study in 2012, concurrent with the Stormwater Master Planning process, to determine feasible and likely rate methodologies and revenue estimates, should the Village choose to implement a stormwater utility. The Village anticipates that the Stormwater Master Planning process will incorporate the results of the stormwater utility rate study and further the financing discussions to develop a financial implementation strategy for funding identified improvements.
- Sanitary Sewer Inflow/Infiltration (I/I). The Village has awarded a contract to Strand Associates, Inc. to perform a flow monitoring study of its sanitary sewer system to identify portions of the system that may be subject to excessive I/I. Upon completion of this flow monitoring study, additional detailed analyses will be undertaken in basins exhibiting the greatest amount of I/I to identify needed public or private improvements. It is expected that the Stormwater Master Plan will include a strategy for identifying and completing needed improvements to reduce I/I in the sanitary sewer system.
- Floodplain Management. The Village of Winnetka is bounded by the Skokie River on the west and by Lake Michigan on the east. The Federal Emergency Management Agency (FEMA) has mapped areas of the Village within the 100-year floodplain of

each of these bodies of water. The Village is a participant in good standing in the National Flood Insurance Program (NFIP) and manages floodplain development accordingly. The Village is also preparing to apply for participation in the Community Rating System (CRS) to improve its floodplain management practices and to potentially reduce flood insurance premiums for property owners within the Village. It is anticipated that the Stormwater Master Plan will address the CRS requirement to develop a Floodplain Management Plan to address repetitive loss properties, as part of a floodplain management program.

- Water Quality. The Village is blessed to be located between two water bodies, the Skokie River and Lake Michigan. These two water bodies provide recreational and environmental benefits to the Village, however they also serve as the receiving waters for the Village's stormwater runoff. Specifics in the Village's NPDES Phase II permit establish the Village's baseline approach to addressing water quality, and should be included in the Stormwater Master Plan. The Stormwater Master Plan should identify additional opportunities to protect or enhance water quality.
- Green Infrastructure. State of the art practices for stormwater management include Best Management Practices (BMP's) such as rain gardens, permeable pavements, infiltration strips, bio-swales, etc., to reduce runoff volumes and improve runoff quality. The Stormwater Master Plan should include a strategy for encouraging the use of BMP's in both private and public improvements to the extent practical as an important component of overall stormwater management.
- Development Stormwater Policies and Regulations. The Village regulates stormwater impacts from commercial and residential development, and it is expected that the Stormwater Master Plan will include recommendations and strategies for reviewing and updating development regulations to ensure that they express the state of the art in stormwater management.
- Operations and Maintenance. Any stormwater management system is dependent on effective preventive and long-term maintenance. The Stormwater Master Plan should provide a strategy for scheduling and funding maintenance activities associated with the storm and sanitary sewer systems.
- Implementation Plan. The Stormwater Master Plan should include a plan and timeline for implementing recommendations contained in the plan.
- Public Education and Involvement. During recent severe floods (2007 windstorm, 2008 hurricane "Ike" remnants, 2011 flash flood) there were a number of properties that experienced flooding caused by issues not connected to the Village's infrastructure or systems. In these cases, implementing private improvements could significantly reduce the risk of flooding. The Stormwater Master Plan should provide a strategy for educating and working with property owners on measures they as individuals can take to protect their properties. In addition Winnetka has a long tradition of public involvement and discussion on matters of public policy. The Stormwater Master Plan should include ample opportunity for public input and involvement.

IV. PROJECT MANAGEMENT

The selected consultant shall work closely with Village staff to develop a product that meets the Village's expectations. Multiple meetings will be required at key intervals to ensure the plan is maintaining the desired focus. Much of the data needed for the analysis is available through the Village's GIS and various other data sources. Other data necessary to provide an accurate report shall be the responsibility of the Consultant.

In addition to meetings with Village staff, the consultant will need to meet and present draft and final reports to the Village Council and the public. These meetings shall require enough visual aids to sufficiently present the report. The Consultant shall also be required to provide meeting minutes for these meetings for the duration of this project. A detailed communication plan shall be developed, approved by the Village, and shall be adhered to throughout the project.

V. PROJECT SCOPE

At the end of this project, the Village desires a Stormwater Master Plan that provides a comprehensive policy to guide efforts in flood management, stormwater drainage (detention, retention and sewers), stormwater quality, floodplain management, green infrastructure, and wastewater. The responding firm shall set forth a detailed work plan indicating how this goal will be accomplished. The responding firm shall also include a schedule which graphically depicts the milestone and benchmark dates for performing each task, for providing reports and presentations and the final recommendations.

General Tasks. The following list is to be considered as a guide to express the Village's understanding of the project. Mere reiterations of the tasks set forth in the general list below are strongly discouraged, as they do not provide insight into the consultant's ability to complete the engagement.

- Project initiation and existing data review. The consultant should plan to hold a project initiation meeting and to review existing data including but not limited to:
 - Sanitary and Storm Sewer System Maps
 - GIS Data (deliverable electronically. A required data sharing agreement is contained in **Attachment 3**)
 - Previous drainage studies
 - Summaries of previous Village Council discussions and meeting materials
 - Flooding reports and records
 - NPDES permit and activities
 - Village Comprehensive Plan "*Winnetka 2020*"
 - Village codes and ordinances as applicable
- Review previous stormwater studies and recommended improvements. The consultant should propose a scope that incorporates these previous drainage studies and recommended improvements into the Master Plan.
- Identify other needed stormwater improvements or areas in need of further study. The scope should include a strategy for addressing areas not covered by previous drainage studies.

- Review sanitary sewer flow monitoring study and recommendations. The scope of work should incorporate the results of the ongoing sanitary sewer flow-metering study and recommended future activities, expected August-September 2012.
- Evaluate regulations. The consultant should include tasks for reviewing the Village's stormwater management regulations and recommending modifications or improvements. The consultant should also evaluate the Village's regulations in light of future regional, state, or Federal regulations that may be enacted, such as the pending county-wide Watershed Management Ordinance being contemplated by the Metropolitan Water Reclamation District of Greater Chicago.
- Identify "Green Infrastructure" opportunities. The scope of work should include evaluating possible opportunities for "Green Infrastructure" projects or regulations.
- Review FEMA regulations and CRS. The consultant should incorporate the Village's FEMA regulations and policies, including requirements and activities associated with the CRS program, into the Master Plan.
- Water quality. The scope of work should address activities the Village could undertake to maintain and improve water quality in stormwater runoff and the receiving waters to which the Village is tributary. This should include activities currently being performed under the Village's NPDES permit.
- Develop recommendations for maintenance. The consultant should develop short- and long-term maintenance recommendations for the Village stormwater and sanitary sewer systems, including any recommended Green Infrastructure improvements.
- Financial plan. The consultant should develop recommendations for financing proposed improvements, as well as ongoing maintenance. The scope of work should include incorporating the results of the proposed stormwater utility rate study into the financial plan.
- Public involvement and education. The scope of work should include strategies for providing information to the public about stormwater and sanitary sewer management, opportunities and strategies that homeowners can use to protect their property, runoff reduction and water quality, and other issues related to stormwater and sanitary sewer management.
- Implementation Plan. The consultant should include an implementation plan and schedule for any recommended improvements contained in the Stormwater Master Plan.
- Plan Document Draft and Final. The scope of work should include sufficient effort to prepare a draft document incorporating existing and new information and plan recommendations, as well as sufficient effort to edit and revise as necessary in response to input from staff, elected officials, and the public.
- Public Presentations. The consultant should plan on sufficient public and Village Council presentations to obtain all necessary input to develop a successful and inclusive Stormwater Master Plan.

Communications and Meetings. The responding firm should develop a communication plan that provides for frequent and effective communication between the consultant, staff, elected officials, and the public, in order to keep all parties apprised of activity and progress on the project. The communication plan should facilitate input and make use of electronic communication via the Village's website or other portals.

Schedule. The Village desires to complete this engagement by adopting a final Stormwater Master Plan by April, 2013. The responding firm should provide a detailed project schedule that meets this desired timeframe.

Deliverables. The responding firm shall provide a list of all intermediate and final deliverables associated with the project. The deliverable list shall include provision of 15 bound copies and one .PDF copy of the final Stormwater Master Plan.

VI. SUBMITTAL REQUIREMENTS

The deadline for submitting proposals is **11:00 a.m. on March 23, 2012**. Three (3) copies of the proposal should be submitted to:

Raymond D. Restarski, Purchasing Agent
Village of Winnetka
1390 Willow Road
Winnetka, IL 60093
(847) 716-3504
(847) 716-3599 (fax)
rrestarski@winnetka.org

Note: Proposal
Deadline was
extended to March
30, 2012.

The Village may elect to conduct interviews prior to Consultant selection and hopes to have the project awarded within 4 weeks of submittal.

To be considered for this project, the Consultant must submit an informative statement of interest to the Village, which also includes the following information, organized in the following manner to facilitate review:

Introduction

- Introductory letter summarizing why your firm should be selected for this project
- Firm name, contact person, address and telephone number
- Table of Contents

Project Understanding

- Understanding of the project purpose and goals
- Critical success factors
- Key challenges

Firm experience and workload

- Related experience on similar projects
- Contact name and phone number for references for the three most recent relevant projects
- List of current projects and percent complete for the office which will be conducting the work

- Firm name, contact person, address and telephone number for each sub-consultant proposed to work on this project

Project Team

- Organizational chart showing the proposed project team and the role of each member
- Description of all personnel in the organizational chart (including subconsultants) including name, location, years of relevant experience, education (school, degree and year of graduation), professional registration, availability to work on this project, and a brief summary of relevant experience

Project Approach

- A detailed scope of work. Specific task methodologies should be proposed where appropriate.
- Description of major tasks assigned to each person or sub-consultant
- Examples of how the firm has used or provided innovative stormwater practices in the past
- Proposed project management and communications approach

Project Schedule

- A proposed schedule from kickoff through completion of the final report for the project
- The firm's procedures and methods for assuring that the schedule will be met
- The person responsible for assuring the schedule, and a record of their proven performance in schedule compliance

Budget

- An itemized, not-to-exceed budget to complete all outlined work items is required. The budget should include the hourly rates of the staff members assigned to the project, any direct costs, and a breakdown of project hours by task to complete the project. **The budget shall be submitted in a separate, sealed envelope clearly marked "Project Budget".**

Compliance Affidavit

- A completed Compliance Affidavit (**Attachment 4**) must be submitted with the proposal.

VII. PROPOSAL EVALUATION

Proposals will be evaluated with regards to all required content. Key areas of focus will be on the project understanding, project approach, experience and demonstrated ability of the project team members who will actually perform substantial amounts of the work on this project, and project schedule. A short-list of engineering consultants may be selected from among those submitting proposals on this project for further presentations and interviews.

Proposals will be evaluated based on the following criteria:

1. Project understanding. Understanding of the purpose and goals of the project, critical success factors and potential obstacles to success.
2. Project approach. Technical approach, management approach, innovative approaches to stormwater management and regulatory understanding, and the ability to present technical data in a user-friendly format with appropriate use of graphics.
3. Firm experience and workload. Experience of the firm in similar stormwater management planning and regulatory work and record of successful results of that work, the firm's ability to take on additional work, demonstration that the firm's organizational structure has sufficient depth for its present workload, and firm's ability to offer the breadth and quality of services required for the project.
4. Project team structure and personnel experience. Project team member's individual experience and qualifications, project manager's experience, sub-consultant's individual experience and qualifications. Proposals will be evaluated primarily on the demonstrated ability of the project team members who will actually perform substantial amounts of the work on this project.
5. Schedule. Proposed schedule for performing the work for the project and how the firm proposes to achieve the project's time goals. Once a contract is awarded, the selected firm must be in a position to begin work immediately and move promptly towards completion.
6. Fee. The Village of Winnetka will consider cost in overall evaluation of the proposals. This project will not necessarily be awarded to the firm with the lowest prices, but cost is one criterion and will be considered among the other factors.
7. Interview (optional). If deemed necessary, short-listed firms may be asked to appear for an informal interview. If an interview is called for, each firm will be given a minimum of three (3) days notice to prepare. The interview will consist of a presentation of the firm's understanding of the critical success factors for the project, experience on similar projects, explanation of any ideas the firm has that have a bearing on overall project success, and a question/answer period.
8. Contract Award. Award of a contract for this work requires approval by the Village Council. The Village President and Board of Trustees reserve the right to reject any and all proposals.

VIII. INDEMNIFICATION

Respondents to this RFP shall understand that the successful proposer shall indemnify and hold harmless the Village of Winnetka, its agents, and its employees against any and all lawsuits, claims, demands, liabilities, losses or expenses, including court costs, and

attorney's fees, for or on account of any injury to any person or any death at any time resulting from such injury, or any damaged property, which may be alleged to have arisen out of the negligent acts, errors, or omissions of the Consultant. It is further understood that this indemnification shall not be construed to cover the negligent acts or omissions of the Village of Winnetka, its agents, or its employees. It is additionally understood that this indemnification shall not be construed to cover the negligent acts or omissions of parties unrelated to this contract.

IX. ATTACHMENTS

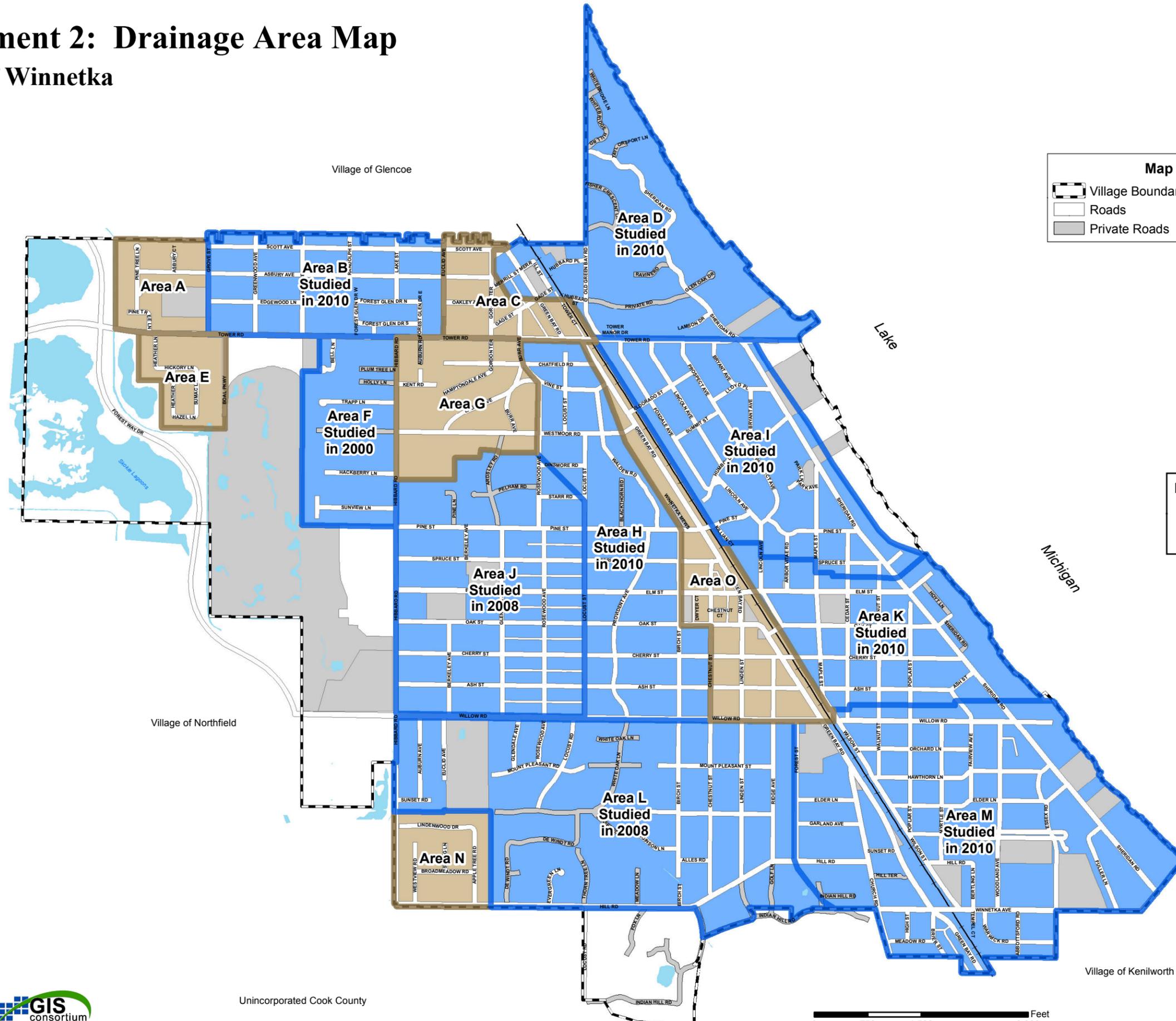
1. October 2011 Christopher Burke Report
2. Study Areas 
3. Data Sharing Agreement for GIS Data
4. Compliance Affidavit

For brevity, only Attachment 2 is reproduced for the Council Agenda Packet. The October 2011 Christopher Burke Report has been previously provided.



Attachment 2: Drainage Area Map

Village of Winnetka



Map Legend

	Village Boundary		Recreation Area
	Roads		Water
	Private Roads		Railroad

Drainage Area Legend

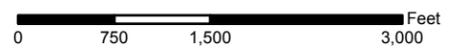
	Studied
	Not Studied



LIMITATION ON LIABILITY: The user agrees that he or she will hold the Village and its officers and employees harmless and free and clear of any liability arising from any use or publication of information. The Village makes no claim as to the accuracy of the data and its derivatives. GIS data and software is provided as is, without warranty of any kind, express or implied. The Village assumes no responsibility for the accuracy of any subsequent copies of this article. The Village assumes no responsibility for the accuracy of any subsequent copies of this article.



Unincorporated Cook County

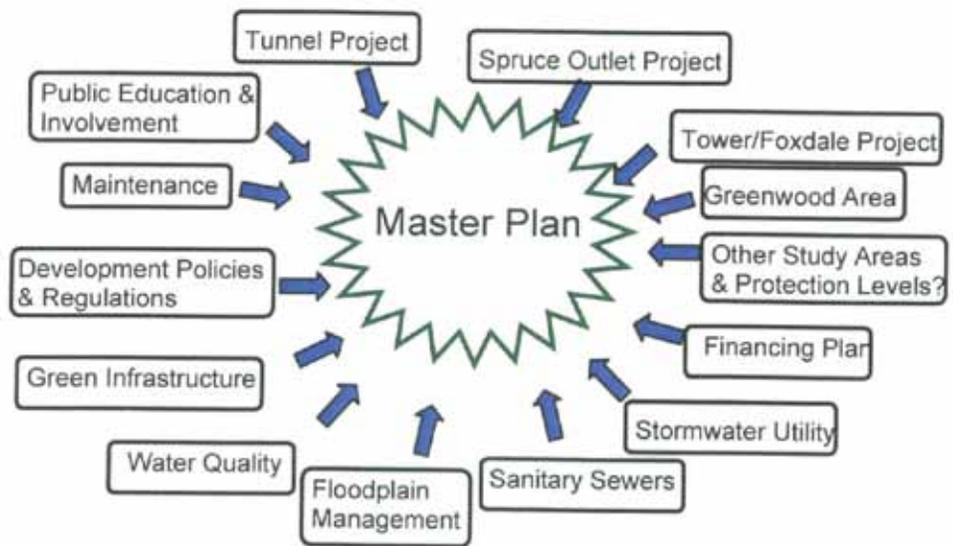


ATTACHMENT 2
Baxter & Woodman Proposal



Village of Winnetka

Stormwater Master Plan RFP# 12-003



PROVEN APPROACH:

- ✓ *STRONG PROJECT MANAGEMENT*
- ✓ *IMPLEMENT THE RIGHT PROJECTS AT THE RIGHT TIME*
- ✓ *WORK COLLABORATIVELY WITH ALL PARTIES*

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Baxter & Woodman, Inc.
Consulting Engineers
Revised May 25, 2012 ~~March 30, 2012~~
www.baxterwoodman.com



Mr. Steve Saunders
Director of Public Works
Village of Winnetka
1390 Willow Road
Winnetka, IL 60093

March 30, 2012

***A Proven Approach to Stormwater Management that will
Optimize Village Funds and Help You Plan for the Future!***

Dear Mr. Saunders:

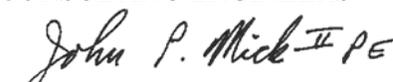
Winnetka has a history of proactively maintaining stormwater infrastructure and addressing drainage issues to minimize impacts on the community. In light of recent extreme storm events, the Village has taken action by conducting a series of drainage and infrastructure studies over the last year. A Stormwater Master Plan will take a “big picture” look at the community by analyzing the findings of other studies, studying field data for areas not yet addressed, identifying system deficiencies, and outlining a schedule of recommended improvements. Identifying sources of funding, Baxter & Woodman’s approach to developing a Stormwater Master Plan will help you to optimize Village funds through successfully delivering the following:

- ✓ Provide the stormwater management expertise needed to address all Village goals including stormwater engineering, management, consensus building, capital improvements and maintenance strategies, funding, scheduling, and municipal regulations.
- ✓ An attentive and proactive project manager, Mark Phipps, who will collaborate with all Village consultants, provide regular status communication, and monitor budget and schedule to produce the most accurate and efficient planning document.
- ✓ Create an effective public relations strategy to educate local residents and businesses. Our team can create web pages, use social media, coordinate public meetings, etc. to help stakeholders get on board with goals.
- ✓ Assist the Village in identifying funding opportunities to implement needed improvements as part of an overall infrastructure rehabilitation program.

If you have any questions please feel free to contact Mark Phipps at (815) 459-1260 or me (312) 578-0050. *Let us put our expertise to work for Winnetka!*

Very truly yours,

BAXTER & WOODMAN, INC.
CONSULTING ENGINEERS


John P. Mick, II, PE
Regional Manager

kes

39 S. LaSalle St., Ste 816
Chicago, IL 60603
312.578.0050
312.578.0053
info@baxterwoodman.com

Main Project Contact:
Mark Phipps, Project Manager
8678 Ridgefield Road
Crystal Lake, IL 60012
(815) 459-1260
mphipps@baxterwoodman.com

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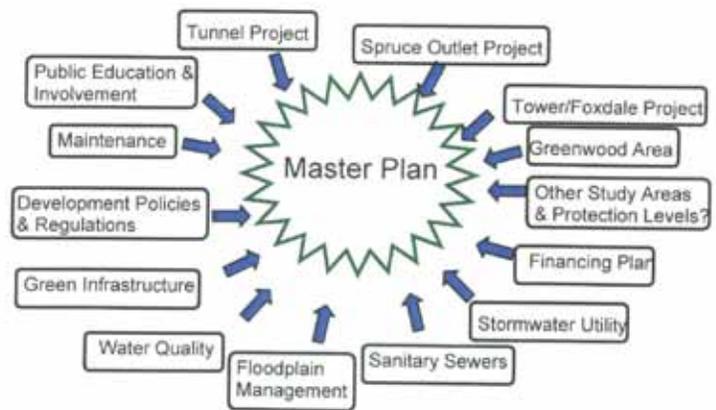
*Appendix A: Team Resumes
 Compliance Affidavit
 Signed Addenda 1, 2*



UNDERSTANDING

UNDERSTANDING

The objective of this project is to compile a Stormwater Master Plan document; but this project aims to accomplish so much more than that. This project must incorporate multiple goals and initiatives into a single comprehensive plan for stormwater management, which will guide the investment of millions of dollars in order to improve the quality of life in Winnetka.



Baxter & Woodman has solutions to the challenges of preparing Winnetka’s Stormwater Master Plan.

- ✓ Strong project management and a team of experts in: stormwater engineering, floodplain management, Best Management Practices, sanitary sewer inflow and infiltration removal, financing for capital improvements, public relations, and GIS.
- ✓ A practical approach proven to implement the right projects at the right time.
- ✓ The ability to work collaboratively with Village staff, other consultants, residents and the Village Council.

The following pages demonstrate that Baxter & Woodman has assembled a team with the skills and experience necessary to make the Village’s Stormwater Master Plan a success. Please review our Approach and Strategy for Your Success for more details on how we envision completing this project and exceeding your expectations.

CRITICAL SUCCESS FACTORS:

Develop a Practical Plan

Baxter & Woodman has over 65 years of experience helping municipalities plan improvements to infrastructure and regulations. Our focus is on practical solutions that avoid unnecessary complexity and cost.

Baxter & Woodman enjoys working with friends who happen to be clients. We’ve served several communities for over 25 years in a relationship based environment, which we believe speaks to the quality of the relationships and our engineering. We appreciate long term involvement in many communities on stormwater plans and improvements that have allowed us and our municipal clients to see

the implementation of many stormwater projects from plans we prepared. We trust that Winnetka appreciates working with consultants who are team players and know how to work with municipal leaders and staff along with involved agencies, neighboring communities and stakeholders.

Example: *Baxter & Woodman has served the Villages of Itasca and Grayslake for a long time. Over the years, we've had the opportunity to perform drainage studies, make recommendations for drainage improvements, design the improvements we recommended, and then see the drainage problems disappear. Our work in those communities, and in others like them, speaks for itself. Several years ago, we completed a Stormwater Master Plan for one part of the City of Lockport. The City was pleased with our Plan and has implemented some of our recommendations. When it came time to prepare a Stormwater Master Plan for another section of town, the City of Lockport again selected Baxter & Woodman to prepare the Plan. We will begin that project soon.*

Work Collaboratively with the Public And Other Firms

Municipal engineering is successful when collaborative. Your project team has been selected based on the specific skills and services required for this project. In order to obtain the necessary input to develop a successful and inclusive Stormwater Master Plan, the project team will work collaboratively not only with Village staff and the Village Council, but also with the public. Your Project Manager, Mark Phipps, has extensive experience building consensus among technical committees and presenting technical information to elected officials.

Example: *In his previous work as the Chief Stormwater Engineer for McHenry County, Mark Phipps re-established the County's Technical Advisory Committee (TAC) and then worked with the TAC to gain support for numerous amendments to the County's Stormwater Management Ordinance. The ultimate adoption of each amendment also required the approval of the State's Attorney's Office, the IDNR, FEMA, the County's Stormwater Committee, the County's Natural and Environmental Resources Committee, and the County Board. This experience has made Mark adept at working collaboratively with technical professionals and elected officials alike.*

Mark Phipps is also skilled at working collaboratively with other engineering firms where a municipal client hires consultants working on separate projects with an overlapping scope. He will be very comfortable as well helping you work with your neighbors – Glencoe, Northbrook, and Wilmette as necessary.

Example: *Project Manager, Mark Phipps, is also the Project Manager for the City of Elgin's NPDES Phase II Stormwater Permit Compliance Project. This project requires coordination with two other city consultants.*

EXPERIENCE/WORKLOAD

RELEVANT PROJECT EXPERIENCE

Recently, flooding, water quality, and overall environmental quality concerns within the watershed have garnered increased attention from local and county government agencies, residents, and other stakeholder organizations. The time is right to develop a comprehensive Stormwater Master Plan that will guide future capital improvements, improve the watershed, and address goals and objectives, such as reducing flooding and improving water quality.

Our team’s stormwater management experience will provide Winnetka with the most accurate and efficient product. Our relevant projects encompass the following important disciplines:

Successful Stormwater Master Planning Requires Expertise in many Disciplines



- Capital Improvement Planning
- Funding Capital Improvements
- Stormwater Planning
- Public Education & Outreach
- Infiltration & Inflow Reduction
- Stormwater Policies & Regulations for Development
- Green Infrastructure
- Water Quality Improvements
- NPDES Phase II
- Maintenance

CAPITAL IMPROVEMENT PLANNING

VILLAGE OF KENILWORTH, IL

Capital Improvement Program 2012-2021

Kenilworth’s community leaders were concerned about maintenance and improvement priorities and wanted to plan for sound infrastructure projects and funding of them throughout the community. The Village retained Baxter & Woodman to review and assess their existing infrastructure and long term Capital Plan, and we used those findings and our experience to develop a Ten Year Capital Improvement Program. They wanted an independent review by an experienced engineering firm that worked regularly with municipalities, infrastructure and Capital Improvement Programs (C I P s) to assist them in determining which infrastructure investments were required, involving what type of work, and when they should be scheduled. The C I P also included a planning level cost estimate for each of the projects or programs, whether capital or maintenance; and existing or potential funding sources. The key product of our work was the Ten Year Capital Improvement Program which will guide the Village in what to do and why, with their infrastructure from 2012 to 2021.

Significant steps / aspects of our services included:

- Review existing Capital Improvement Plans, project scopes, infrastructure reports and Village budgets from 2007 – 2011.
- Review the stormwater and sanitary sewer recommendations in the 2010 Sewer and Watershed Study. This work involved a review of several previous stormwater studies and potential solutions involving MWRDGC and new ways to use existing waterways to collect stormwater for eventual release into Lake Michigan.
- Review and generally assess the Village’s sewer collection system. We worked with Village staff to inventory the sewer assets, and developed a generalized assessment of their existing condition. Previously identified capital improvements and our findings from the asset assessment were used to develop first cut priorities over a ten year timeframe. Portions of the Village have combined sewers and some are separate systems.
- Review and generally assess the Village water treatment and distribution system. We worked with



Baxter & Woodman team, including John Mick, Mark Phipps, and Sean O’Dell discuss Village goals and improvement opportunities at their CIP Development Meeting in 2011.

Village staff to inventory the sewer assets, and developed a generalized assessment of their existing condition. Previously identified capital improvements and our findings from the asset assessment were used to develop first cut priorities over a ten year timeframe.

- Develop a Master Plan for the Village water system. This task included review and recommendations of new links in the water system, analysis of inter-connects with adjacent communities, and possibly not continuing to produce water from Lake Michigan and rather buy water from another source.
- Review and generally assess the Village streets. We conducted a field survey to determine general condition of Village streets and update existing street inventory database information including pavement condition, pavement width, centerline length of segments, and type of cross section – rural or urban. We assigned priorities to each segment and a planning level cost estimate for the applicable improvement recommended. Previously identified capital improvements and our findings from the asset assessment were used to develop first cut priorities over a ten year timeframe.
- Review the effort’s results and ideas with Village staff to confirm the methods and prioritization of the recommendations to prioritize the first three years’ schedule of projects.
- Review the funding capacity of the Village for each funding type and source vs. that infrastructure area to confirm and modify the first three years’ recommendations
- Work with Village staff to combine the work products from all the infrastructure types to develop a Ten Year Capital Improvement Program (C I P) incorporating sewer (stormwater and sanitary), water, and street improvements and maintenance. The C I P identified present and future capital needs, itemized planning level costs for each improvement and prioritized projects across a ten year implementation schedule. The C I P also contained a Primer on infrastructure maintenance Best Practices and information on several funding sources for infrastructure investments.



CITY OF MILTON, WI

Storm Water Utility Development

Like many municipalities, the City of Milton faced the need to comply with increasing storm water regulatory requirements, while at the same time adhere to tight budgetary constraints. In the past, the City had relied on tax-based funding for its storm water management activities. Levy limits and competition from other necessary City services prevented the City from being able to allocate sufficient funds to meet the increasing storm water requirements.

The City decided to pursue development of a storm water utility in order to bridge the funding gap and provide a stable, equitable source of funding for the ever-increasing storm water regulatory requirements.

Baxter & Woodman assisted the City with their Storm Water Utility development, including completion of a Storm Water Utility Feasibility Report, Impervious Area Analysis, Storm Water Utility Ordinance Development, implementation of an extensive public education and participation campaign, and integration of the Storm Water Utility into the City's existing billing system.

The Storm Water Utility Feasibility Report was used to establish a funding mechanism for storm water management activities separate from the general fund. The report explored existing storm water management practices of the City, a proposed future budget, and other funding options. The impervious area on properties (*sample above*) was calculated and analyzed to assist in determining a utility user fee rate structure. The evaluation of property impacts was conducted for different land use classifications and individual property owners based on the user fee rate structure. Baxter & Woodman, Inc provided a draft storm water utility ordinance for the City to modify and adopt.

As with any new fee or cost to the residents, community buy-in was critical to the success. ***The City of Milton launched a comprehensive public information campaign to inform and involve the public in the establishment of the Storm Water Utility.*** To encourage open communication and community feedback, a Storm Water Utility Advisory Team (SUAT) was created consisting of members from a cross section of potential utility users, including residential, commercial, large industrial, non-profit



Baxter & Woodman has the capabilities to identify impervious surfaces within a subject area. Here is an example of parcel with impervious surface overlay (pink color).

IMPLEMENTATION SCHEDULE

November 2008: Council passed the annual budget for 2009 calling for a Stormwater Utility.

January 2009 - June 2009: The Stormwater Utility Advisory Team (SUAT) was formed and conducted meetings to discuss the proposals. The engineering process also took place during this time. Baxter & Woodman was hired to conduct a feasibility study.

July 21, 2009: Proposal was presented to the Common Council.

August 4 and 18, 2009: Continued deliberation with a public hearing on the 18th.

August 18, 2009: Council approval.

September 1, 2009: Utility implementation.

October 2009: First monthly billing to include the Stormwater Utility.

HOW CAN YOU HELP MAINTAIN THE STORMWATER SYSTEM?

- 1) Don't rake leaves and other yard debris into City streets except during designated collection times (refer to your garbage schedule for these dates).
- 2) Take harmful fluids to a hazardous waste collection location instead of pouring them into gutters, drains or ditches.
- 3) Don't let fluids from your vehicle get into the stormwater system. Be sure to check for any leaks.
- 4) Limit the amount of runoff from washing your car at home.
- 5) Don't leave pet waste in your yard. Clean it up and dispose of it properly.
- 6) Report illegal dumping to proper authorities.
- 7) Dispose of cigarette butts and other litter in the proper receptacles.

STORMWATER UTILITY INFORMATION

Volume 1, July 6, 2009
Revised: October 13, 2009

What is it?

How does it effect Milton residents?

STORMWATER UTILITY

BACKGROUND

When water drains from grassy areas or hard surfaces it collects pollutants, such as soil particles, bacteria, pesticides, litter, fertilizer, pet waste, oil, auto fluids, etc. These materials flow with stormwater runoff into the City's storm sewers, which lead mainly into holding basins and seep into the ground water system. These underground systems are interconnected with larger local bodies of water, such as Storms Lake and the Rock River.

CITY OF MILTON'S STORMWATER UTILITY

In addition to the City's current stormwater control practices, the City must now keep even more pollutants from the stormwater runoff because of new federal and state regulations. In other words, the City must change the way it deals with stormwater. The City will need to increase funding to meet these new requirements. That is where a utility comes into play.

Many Wisconsin communities have already implemented the stormwater utility. A stormwater utility fee is seen as the most equitable funding solution. The cost will be based on the amount of impervious surface (driveways, parking lots, roofs, etc.) each property has. These surfaces create the most stormwater runoff. Therefore, all properties (including tax exempt properties, like school buildings, churches and non-profit facilities) will share in the cost of the utility. The fee will be added on each property's water and sewer bill.

An ERU (equivalent runoff unit), or average impervious area, will be used to determine how much each property is charged. Single-family homes and duplexes are charged 1 ERU based on a random sampling of properties. Commercial and multi-family complexes are charged based on actual impervious area and their ERUs vary.

The City must change the way it deals with stormwater.

EXAMPLES:
Single-Family Home: 1 ERU, utility = \$55.00/year
Church: First Congregational, 17,284 sq. ft. of impervious area, 4.3 ERU, utility = \$238.00/year
Small Business: Northold Winery, 7,248 sq. ft. of impervious area, 2.8 ERU, utility = \$99.40/year
Large Business/Industry: Cargill, 200,388 sq. ft. of impervious area, 51.3 ERU, utility = \$2,825.60/year

STORMWATER UTILITY ADVISORY TEAM (SUAT)

The Stormwater Utility Advisory Team met January 2009 - June 2009 to discuss the feasibility study and implementation of the stormwater utility. The team represented a wide range of interests in the community. It was comprised of one alderperson, three Milton Area School representatives, one representative from a city church, one small business representative, one large business/industry representative, and two citizens at large. A variety of documents and exhibits given to the SUAT during their meetings, including the draft feasibility study, are available on the City's website (www.ci.milton.wi.us).

More information is available on the City of Milton's website:
www.ci.milton.wi.us/stormwaterutility.aspx

organizations, churches, schools, and City staff/board members.

The public information campaign also included a public informational meeting presentation, Frequently Asked Questions sheet, informational brochures (*sample left*) an interview with staff and Baxter & Woodman team members that aired on local access television, and a series of informational meetings to separate groups of potential customers (including largest customers, industrial customers, and non-profit customers.)

The 2009 Storm Water Utility initial customer base included over 2,400 individual accounts. The City Council set the initial monthly charge per Equivalent Run-off Unit at \$4.59 (a single family residential home is considered one ERU) and bills are sent in conjunction with water and sewer utility billings on a monthly basis. The City of Milton currently contains a total of 4,043 Equivalent Run-off Units.

Public communication and education are very important when considering implementing a stormwater utility. This is an example of the City of Milton's Storm Water Utility informational brochure that was distributed to residents.

The cost comparison between tax-based funding and fee-based funding of the storm water management system indicates that the **residential portion of the cost was reduced by 31 percent** under the storm water utility fee-based funding. This reduction is a result of the fair and equitable rate structure that charges properties based on the actual impervious area on the lot. Residential units tend to have much less impervious area (and therefore a smaller impact on storm water management) than commercial, industrial and tax exempt properties and are charged less than if the distribution is based on property value only as is done in tax-based funding.

The community has received minimal resistance to the Storm Water Utility because of the extensive public informational campaign. While any new fee or tax to residents of a community will be met with some resistance and hesitation, the general public consensus in the City of Milton is that the end product is a fair, equitable and durable Storm Water Utility that allows the City to fund the activities necessary to maintain regulatory compliance and complete storm water related capital improvement projects.



VILLAGE OF UNION GROVE, WI

Storm Water Utility Development

The Village of Union Grove relies on tax-based funding to comply with increasing storm water regulatory requirements. The Village decided to pursue the development of a storm water utility as levy limits and competition from other necessary Village services was preventing the Village from being able to allocate sufficient funds to meet the increasing requirements.

Baxter and Woodman completed a Storm Water Utility Feasibility Report to establish a funding mechanism for storm water management activities separate from the general fund. The report explored existing storm water management practices of the Village, proposed future budgets via a draft **Capital Improvement Plan**, and other funding options.

The report included an impervious area analysis of individual commercial, industrial, multi-family and tax exempt lots, impervious area analysis of a random representative sample of single family lots, and Storm Water Utility ordinance development. The impervious area on properties were determined and analyzed to assist in establishing a utility user fee rate structure. The evaluation of property impacts was conducted for different land use classifications (*sample above*) and individual property owners based on the user fee rate structure.



We can analyze impervious areas compared to the different land use classifications to help establish a utility user fee rate structure. This is an example of customer class data with impervious area overlay prepared for Union Grove.

We prepared a list of Frequently Asked Questions that were included as an insert in the Village’s quarterly newsletter. This was followed up with a slide presentation at a Public Information Meeting and Public Hearing in Spring 2010. With input from the property owners a final draft of the Storm Water Management Utility ordinance was adopted in August 2010, and the Village intends to implement the utility in January 2011. Baxter & Woodman is coordinating with staff and the Village’s billing software provider to integrate the stormwater utility customers with existing water and sewer utility customers.

The Village of Union Grove had a population of 4,322 at the time of the 2000 census, with 1.7 square miles of land. The Storm Water Utility includes an initial customer base of 1,400 individual accounts,

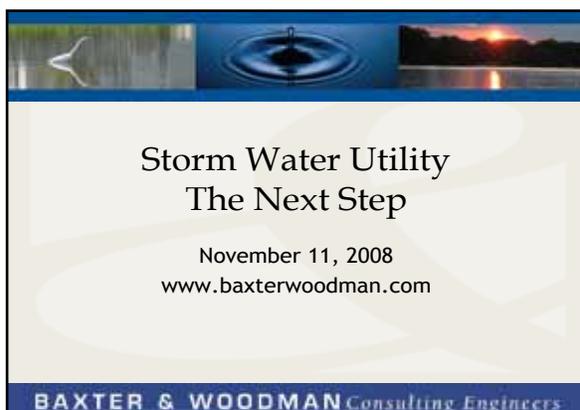
about 85% of them residential. The feasibility study revealed that **residential customers should see a reduction in cost of 36%** under a stormwater utility versus tax-based funding. The end product will be a fair, equitable and defensible Storm Water Utility that allows the Village to fund the activities necessary to maintain regulatory compliance.

Storm Water Utility Presentations/Webinars

In addition to the storm water utility implementation assistance that Baxter & Woodman has provided to our clients, we have also hosted a series of presentations and webinars intended to educate communities about the benefits, challenges and techniques for developing storm water utilities. These presentations included:

- “*Is a Storm Water Utility Right for You*” - September 9, 2008 Webinar
- “*Storm Water Utility – The Next Step*” - November 11, 2008, Baxter & Woodman Madison Office
- “*Innovative GIS Strategies for Jump-Starting Your Storm Water Utility*” - February 5, 2009 Webinar
- “*It’s Easy Being Green*”, American Public Works Association WI Chapter Spring Conference - May 7, 2009

As experienced municipal engineers, we regularly assist our clients with public hearings, stakeholder meetings, board meetings and other public presentations. We understand that controversial topics (such as a new fee) can sometimes generate strong emotions by residents and business owners and can draw harsh criticism during public presentations. Our staff has found that **consistent, accurate communication** and **respectful, compassionate treatment of each resident** (even angry ones) is critical to achieving a positive outcome at these meetings.



Baxter & Woodman’s stormwater experts are dedicated to educating the communities we serve and their public on the benefits, challenges, and techniques for developing storm water utilities.

FUNDING CAPITAL IMPROVEMENTS

PROACTIVELY IDENTIFYING FUNDING OPPORTUNITIES HELPS SUPPORT NEEDED IMPROVEMENTS

Once improvement projects have been identified, our team can assist the Village in matching those projects with potential sources of funding. We have assisted local communities in obtaining over \$210 million in funding during the last 10 years. In 2009 and 2010 we assisted in obtaining in excess of \$30 million in American Reinvestment and Recovery Act (ARRA Stimulus) funds for local capital improvement projects. *One program we have identified as applicable to the Village's stormwater improvements is the Illinois Green Infrastructure Grant Program.*



IKE Disaster Recovery Program

The Village will benefit from a project team experienced with the applicable funding programs such as IKE Disaster Recovery and Illinois Green Infrastructure Grants. IKE grant programs were established through the CDBG to provide relief for communities that were adversely affected by the heavy rains of 2008. Our team has assisted with submittal of the IKE Disaster Recovery Funding Applications for:

- City of Highwood
- City of Oak Forest
- Mazon Township/Claypool Drainage District
- Village of Skokie

Illinois Green Infrastructure Grant Program (IGIG)

IGIG is another program with which we have recent experience. Applications were recently submitted for the following projects:

- IGIG Skokie Green Alley Program
- IGIG Oak Park Green Alley Program and Bio-retention
- IGIG La Grange Permeable Pavement Parking
- IGIG Lakewood Residential Cost Share BMP Program

** Awards will be announced in the summer of 2012.*

CITY OF OAK FOREST, IL

Natalie Subdivision Drainage Study

This study identified methods to alleviate several drainage issues including: storm sewer surcharging in and adjacent to the Natalie subdivision; stormwater ponding in streets which overflows into below-grade garages; and stormwater runoff from Albert and Central Avenues and the Oak Forest Park District parking lot which floods yards and houses in the subdivision.

City records were used to identify the general extent of the complaints and a public meeting was held to gather information directly from the residents. The complaints were screened to separate maintenance, capacity and other concerns. *An XP-SWMM stormwater model of the neighborhood and upstream tributary areas was developed and used to identify system capacity and deficiencies. Cost versus flood reduction benefit was analyzed to help prioritize improvements.* The final report included recommendations to address the problem areas identified.

Based on our report and recommendations, inexpensive changes were made to existing stormwater inlets. These improvements directed runoff to an existing bypass system, significantly reducing overland flooding in the subdivision.

Steve Amann recently assisted the City of Oak Forest in successfully receiving IKE Funding for drainage improvements to Waverly Culvert!



These photos show the completed cost effective drainage improvements such as the trench drain below and improved inlet configuration above!



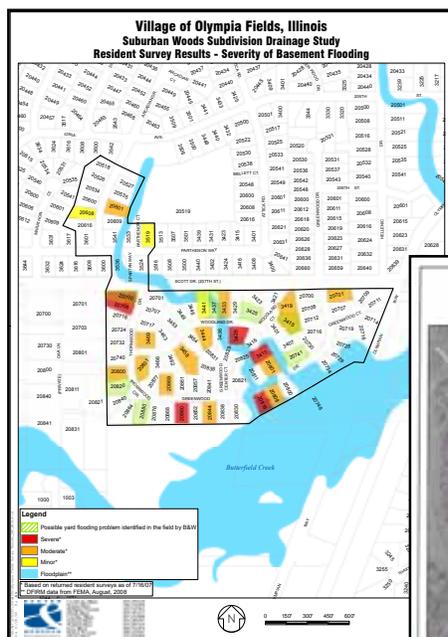
VILLAGE OF OLYMPIA FIELDS, IL

Suburban Woods Neighborhood Drainage Study Fairway Estates Neighborhood Drainage Study Arcadia Subdivision Neighborhood Drainage Study

Baxter & Woodman completed drainage studies for the Village in the Arcadia, Fairway Estates, and Suburban Woods subdivisions to determine the causes of existing drainage problems, such as:

- Storm sewer surcharging in and adjacent to the subdivisions
- Ponding in poorly graded ditches and swales, some of which overflows into at or below-grade foundation openings
- Stormwater in the streets, which floods yards and houses in the subdivisions.

The final reports included results of resident surveys and offered multiple alternatives to address the problem areas identified in order to fit the Village's budget and timeline.



Accurate identification of drainage issues allows the Village to plan for necessary improvements.



VILLAGE OF SHOREWOOD, WI

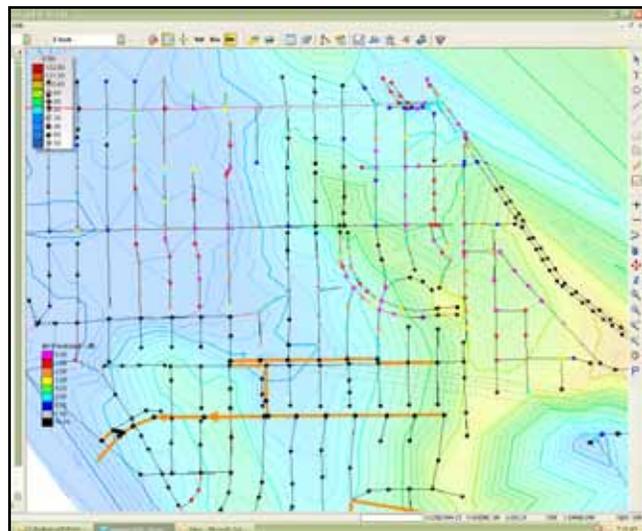
Basin 6 Storm & Sanitary Sewer Improvements

The Village of Shorewood, Wisconsin, experienced basement backups and street flooding during heavy rain events in July of 2010. These large storm events caused excessive infiltration and inflow (I/I) of surface water and groundwater into the sanitary sewer system. The excessive I/I in turn caused severe surcharging of the sanitary sewer system, which backed up into basements through sanitary laterals. Basement backups and street flooding in the northwest portion of the Village have been a chronic problem for many years. Basin 6 consists of nearly 650 existing single family residential homes and duplexes, Lake Bluff Elementary School, as well as commercial businesses along Oakland Avenue.

Baxter & Woodman brainstormed and prepared models of alternative improvements to alleviate street flooding and basement backups. Each alternative improvement was analyzed in the SWMM system model to evaluate performance during the Design Storm. Proposed improvements were revised until the model analysis resulted in adequate protection from street flooding and basement backups during the Design Storm.

The Village submitted a Comprehensive Facility Plan for Sanitary Sewer, Combined Sewer, and Storm Sewer Improvements to the Department of Natural Resources to summarize the investigations completed to date and provide direction on future improvements to alleviate street flooding and chronic basement backups. The proposed sanitary sewer hydraulic improvements will be accompanied by an ongoing effort to reduce I/I throughout Basin 6 from both public and private sources.

The proposed improvements for Basin 6 includes new storm and sanitary sewers, some installed using trenchless methods, and the replacement of 1,200 lineal feet of 6-inch and 8-inch water mains, replacement of 60 catch basins and leads, installation of bioswales for water quality enhancement, and 7,500 lineal feet of street reconstruction. Total project value is an estimated \$5 million.



This is a digital terrain mapping file from their XP-SWMM model where the manhole rims were used to create ground elevation contour lines.

VILLAGE OF ITASCA, IL STORMWATER MANAGEMENT

Record-setting rainfalls in 2008, 2009, and continuing into 2010 have been the cause of major local flooding issues that have wreaked havoc with sewer systems across Illinois. These record-setting rain events and the related problems made local and national news because of the uncontrollable amount of surface and groundwater pouring into the sanitary sewers and occasionally causing basement backups and flooding.

With the help of Baxter & Woodman, the Village of Itasca has been hard at work making improvements to their drainage system. Basement back-ups are not the only rainwater issue challenging the Village. Other issues include addressing the capacity of the sewer system and the need to accommodate excess runoff, finding solutions to mitigate flooding along the Springbrook and Salt Creeks, and determining improvements that are necessary to keep the Village in compliance with the evolving County, State and Federal guidelines.

Beginning downstream and working up, we have successfully completed many projects in order to minimize/eliminate sanitary basement backups, sewer manhole surcharging, roadway flooding, and standing water. This effort is evidenced through success of the following projects:

Stormwater Improvements

- Happy Acres Basin Expansion – This project increased stormwater storage to minimize local roadway and basement flooding.
- Catalpa Street Storm Sewer Expansion – This project increased stormwater storage to minimize local roadway and basement flooding.
- North Hickory Sewer Extension (Phase 1) – This project provided relief for isolated areas of lowland flooding.
- Schiller Basin Expansion and Storm Sewer Extension – This project increased stormwater storage to minimize local roadway and basement flooding.

Future Improvements

Plans for more drainage improvement projects are already in the works for the near future:

- Thorndale Culvert Improvements – These improvements will increase stormwater overland flow capacity for the area north of Bryn Mawr Avenue
- Sanitary Sewer Televising/Repair Program – This is an ongoing program which collects visual data to identify problems with sanitary sewer system and rank the needed repairs for all mainline sewers on an 8 year cycle.
- Increase Sanitary Sewer Crossing Under Rail Road Tracks – This project will increase capacity of

the sewer to accommodate the excess flows during storm events.

- Village Storm Sewer Improvements Program – This is an ongoing program which collects visual data to identify problems with storm sewer system and ranks needed repairs to be made.

Northeast Area Stormwater Drainage Study

Baxter & Woodman, Inc. prepared a computer model of the approximately 700 acre study area. The study area was divided into 19 sub-basins which were further broken down into 330 smaller basins in order to adequately model the storm sewer system. The project identified deficiencies in the existing conveyance system and recommended improvements to the stormwater conveyance system to alleviate flooding in problem areas. Runoff from the study area is tributary to Spring Brook and Salt Creek, which are already overloaded with urban runoff. Therefore, the solutions presented in the report focused on alternatives to increasing conveyance capacity, such as providing in-line storage and additional detention. Improvements were recommended to increase conveyance capacities to a minimum 10-year design event. All improvements constructed to date have exceeded the Village's expectations in reducing flooding in the affected areas.

Sustainable Drainage Improvements Itasca River Walk

The Village of Itasca is constructing a 10-foot wide pedestrian/bike path along Spring Brook Creek. This walkway will provide the downtown area with access to natural areas along the creek. As part of the new riverwalk, Baxter & Woodman incorporated best management practices to reduce the stormwater runoff impacts of the additional pavement and to encourage infiltration of stormwater. The final site design included an infiltration swale, which was uniquely designed with perforated pipes and native plants. The infiltration swale collects and infiltrates stormwater runoff from frequent storms while still being able to account for sediment loads during overbank flooding events of Spring Brook Creek. These will help improve stormwater runoff quality at the site and reduce runoff volume by increasing infiltration within the watershed.



Baxter & Woodman's involvement with this project also included grading design and permitting with DuPage County. The permitting process considered floodplain and floodway regulations, wetlands, and erosion control. Computer modeling updates of Spring Brook were completed in FEQ and HEC-RAS to verify that the improvements had no negative impact on the floodplain throughout the project reach.

VILLAGE OF GRAYSLAKE, IL

Drainage Study & Improvements

Baxter & Woodman was hired by the Village of Grayslake to complete a comprehensive study of Mill Creek to improve overall stormwater conveyance capacity, provide flood benefit to those property owners required to have flood insurance, and provide regulatory relief to a limited number of commercially zoned properties within Village limits.

Various potential regional detention facilities were considered but sufficient storage could not be located so as to significantly reduce the base flood elevation. Other structural improvements were considered including replacement of undersized culverts. Several such structures were identified. Subsequently culvert replacement was added to the Village's Capital Improvement Program, design plans and specifications were prepared and the project was constructed.

Baxter & Woodman was then tasked to prepare a LOMR reflecting the reduction in base flood elevations - which exceeded 2' in some areas - and the overall reduction in regulatory floodway. The study was completed and submitted to IDNR and the Lake County Stormwater Management Commission, and then to FEMA for approval.



Manor Lake Floodplain Map Revision

A flood insurance restudy of Mill Creek through central Lake County resulted in a reduction of the flood profile by several feet. The Village of Grayslake sought to update floodplain elevations on the adjacent Manor Lake and its tributary to Mill Creek to more accurately define flood risk in the area. The Manor Lake sub watershed has approximately 100 acres tributary to it. ***An XP-SWMM model was developed to analyze floodplain elevations because of the combination of sewers and overland flow paths that combine to convey flow between Manor Lake and Mill Creek.*** Revised floodplain maps were prepared showing numerous homes being removed from the regulatory floodplain.

CITY OF LOCKPORT, IL

Master Stormwater Conveyance Plan Kelvin Grove and Garfield Park

A Stormwater Master Conveyance Study was prepared for the Kelvin Grove and Garfield Park neighborhoods for the City of Lockport. This study inventoried existing storm sewers, identified existing drainage problems, and provided alternatives for future improvements. The study area consisted of approximately 200 acres in an older residential area with a creek flowing through it.

The City required a master plan in order to install storm sewers in phases in conjunction with roadway improvements. Existing and proposed storm sewers were modeled with the Storm CAD program. Alternatives were provided to correct back-pitched and undersized storm sewers and add storm sewer and inlets for adequate drainage of areas without existing sewers.

Alternatives were also provided for expanding an existing detention basin on a school site for regional benefit; flows could then be diverted and temporarily stored to reduce standing water at street intersections and on private property. A cost-benefit analysis of the alternatives was prepared for this study.

This Exhibit was included in the City's 08 Stormwater Master Plan prepared by Baxter & Woodman. It shows the existing (pink and green) and proposed (orange) storm structures within the study area. The City has since, successfully made drainage improvements recommended by this plan along Valley Lane, highlighted in yellow below.



**More examples
are shown on the
following page!**

VILLAGE OF LAKEWOOD, IL

Best Management Practices Ordinance

Baxter & Woodman completed the East Side Stormwater, Sanitary Sewer and Groundwater Study in early 2008 in response to the damage that resulted from the rain storms of August 2007. One recommendation of the study was to review and revise development standards. ***Prior to revising the development standards, a resident Stormwater Task Force was formed to provide guidance and to ensure public support moving forward.*** The purpose of revising the development standards was to reduce the discharge of stormwater and pollutants from new development as much as possible.

This direction led the Village to the adoption of Best Management Practices (BMP) Ordinance for the R-2 Zoning District. Along the way, the draft ordinance was revised based on input from the Stormwater Task Force. The final version of the Ordinance was written with the end user (Village residents) in mind and a pre-submittal packet for applicants includes a FAQ sheet, sample documents, and BMP profile sheets to streamline the permitting and design processes. The sample documents and reference sheets will be periodically updated to ensure they remain current with evolving BMP methods and technologies.

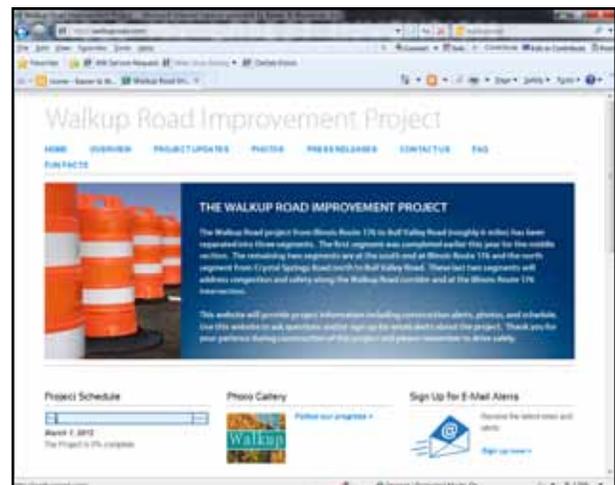
MCHENRY COUNTY DEPARTMENT OF TRANSPORTATION, IL

Walkup Road at IL Route 176

This project involves Phase III services for improvements to Walkup Road at Illinois Route 176. Various communication techniques are being utilized on the project, from neighborhood canvassing to the development of a project-specific website.

Route 31 Bypass Study

Baxter & Woodman teamed with MACTEC Engineering for this feasibility study. ***We provided support for the public involvement portion of the study through a project specific website, public information meetings, writing press releases, preparing informational handouts for the meetings, and various mailings to project stakeholders and the public.*** We developed a temporary project website which included a forum for the public to post their comments. Throughout the course of the project we monitored the site, responded to public comments and posted project updates.



This construction website and supplemental social media tools were created, monitored, and maintained by Baxter & Woodman to help the DOT keep their staff and public informed of project information like detour routes and road closures.

Communicate Project Information to Residents in Real Time!

There are a number of advanced communication techniques available to help communicate project information to the public, instantly...

- Mobile Webcams
- Social Media: Twitter, Facebook, Linked In
- Project Blogs
- Project web sites
- Phone Hot Lines

Baxter & Woodman received compliments from a local business owner in Lombard regarding construction tweets:

“The daily tweets were useful for knowing what to expect, rather than the usual guesswork involved in driving through construction areas. I wish more towns would do this!”

EDUCATING STAFF AND RESIDENTS

We can provide the Village with a tailored communication CD containing documents you can edit and distribute.

Our staff of experts can coordinate and lead public presentations for residents and training seminars for Village staff.



INFILTRATION/INFLOW

VILLAGE OF HOFFMAN ESTATES, IL

Comprehensive Flow Monitoring and Inflow/Infiltration Study & Sewer Rehab

The project consisted of sanitary sewer rehabilitation, manhole inspections, smoke testing, external building inspections, and flow meter data analysis. Approximately 824 manholes were inspected and smoke tested. Approximately 500 exterior building inspections were conducted. A report was prepared and presented to the Village, along with recommendations for improvements to rehabilitate the defects located during the evaluation, their associated cost estimates, and prioritization of improvements.

HIGH PROFILE PROJECT WITH REGIONAL RECOGNITION!

- *AWARD WINNER! This project earned an American Public Works Association 2009 Project of the Year Award in the Environmental category.*
- *Successful results were presented at 2009 Illinois American Water Works Association/ Illinois Water Environment Association Joint Conference (IAWWA/IWEA)*

This comprehensive study included flow monitoring of 22 sub-basins and dyed-water testing of selected sub-basins. The goal of this study was to identify sources of infiltration and inflow and identifying the scope of sanitary sewer rehabilitation needed to address operational issues (surcharging, basement backups).

The Village of Hoffman Estates had been plagued by continued sewer surcharging during wet weather periods. The Village wanted to identify major sources of Inflow/Infiltration (I/I) and then conduct rehabilitation. Baxter & Woodman's approach divided the study area into six large basins. Each basin was then divided into several smaller sub-basins. We then conducted flow monitoring followed by dyed-water testing (where warranted) to identify I/I sources.

During flow monitoring, inline flow meters were installed at the downstream end of each sub-basin to continuously monitor flow. After a flow monitoring period of 2 months, the data was analyzed to identify the sub-basins that received significant amounts of I/I. Dyed water testing was then performed in the identified sub-basins to pinpoint specific sources of I/I.

We presented our findings in a letter report which included a summary of the work completed, the results of the various inspections and tests, and our recommendations for improvements to rehabilitate the defects located during our evaluation. The recommendations included cost estimates and prioritizing of the improvements.

Baxter & Woodman's Municipal News Newsletter Case Study Article communicating the impressive results of the improvements in Hoffman Estates!

Hoffman Estates, Illinois

SANITARY SEWER REHAB CONTRIBUTES TO ZERO REPORTED SEWER BACKUPS

The Village of Hoffman Estates experienced structural problems with their aging clay pipe sanitary sewer system. Maintenance was becoming cumbersome and ineffective.

REPAIRING THE SANITARY SEWER

In 1998, the Village hired a consultant to televise the sewers and recommend how the Village should proceed to make the pipes structurally sound. The result was a staggering project cost estimate for improvements totaling over \$6 million dollars.

The Village sought a second opinion from Baxter & Woodman, Inc. By utilizing a different approach, Baxter & Woodman was able to cut the cost estimate by approximately 40%. Baxter & Woodman's approach was to use multiple rehabilitation technologies and to specifically target their uses based on pipe condition, maintenance history, system configuration and cost effectiveness. This refined project approach combined with favorable bidding conditions has reduced the cost to 60% of the original estimate.

So far, Baxter & Woodman used a combination of six techniques to structurally improve 28,000 feet of sewer. These techniques included:

- Cast in Place Piping (CIPP) Manhole to Manhole
- Point Excavation Repairs
- CIPP Short Liners
- Cementitious Manhole Rehabilitation
- Service Lateral Lining
- Manhole Reconstruction



continued on back



MUNICIPAL NEWS Case Study CONTINUED

(Continued from other side)

IDENTIFYING THE INFILTRATION/INFLOW

Wet weather flows had always been a challenge for the community. The prospect of rehabbing over 52,000 feet of sewer was a concern to both the Village and Baxter & Woodman because each crack or joint that may be an infiltration source may also be an exfiltration point. Tightening up the system too much may result in new operational problems such as basement backups.

The solution was to embark on a multi-year Infiltration/Inflow (I/I) program. The goals of the I/I program were to identify areas where structural rehab would not cause new issues and to reduce the flow enough to allow the Village to continue the structural rehabilitation of their sanitary sewer pipes.

The I/I program included the following techniques:

- Flow Monitoring
- Smoke Testing
- Dyed Water Testing
- Manhole Inspections

SAVING TIME AND MONEY WITH DESIGN/BUILD

Baxter & Woodman used a targeted approach to identify the I/I. By focusing on potential hot spots in the system (suspected sources of inflow), then using the design/build concept, Baxter & Woodman and Kennedy Construction worked closely together to identify leaks and immediately repair the sources of inflow.

This targeted design/build approach minimized effort and maximized results—saving the Village both time and money.



CONTINUING THE SUCCESS

Now entering year seven of the ongoing improvements, the Village is thrilled with the results. The project has cost less than originally projected and the improvements have been dramatic. By staggering the I/I program with the structural improvements, the Village has successfully achieved their goal of not causing any new problems as they work to solve existing ones.

“In late summer of 2007, the Chicagoland area experienced several heavy rainstorms, wreaking havoc on area sewers. Communities throughout the suburbs reported significant problems with sewer backups.

During this time, the local ServiceMaster sales rep called to inquire if Hoffman Estates could use his company’s drainage services after the deluge of rain we had been receiving. In the past, it was a good bet that I would have been saying yes, but it was my pleasure to tell him that we didn’t need him! Since we have started our ongoing sanitary sewer rehabilitation and I/I program, we have experienced zero reported sewer backups”

Ken Hari
Director of Public Works



Baxter & Woodman
Consulting Engineers
www.baxterwoodman.com



DOWNERS GROVE SANITARY DISTRICT, IL

Examples of our expertise in reducing I/I and basement backups can be seen in our work with Downers Grove Sanitary District, which contains sewers dating back to the early 1900's.

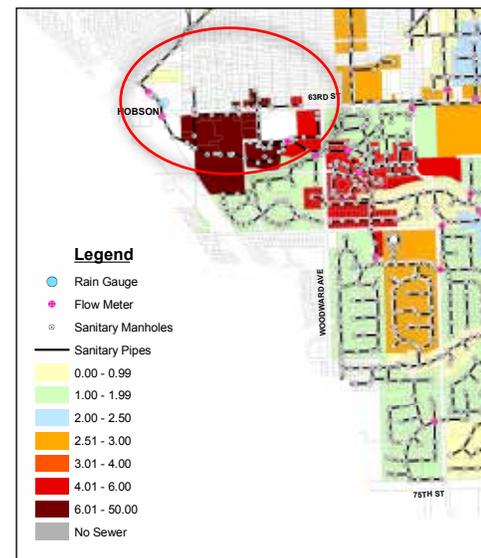
Flow Monitoring Program

This project is an ongoing flow monitoring program which includes monitoring approximately 150 sites. In 1996, the District consulted with us to develop a sanitary sewer flow monitoring program. This program involved collecting flow data from approximately 150 sites to monitor the entire District over a three year period. In addition, we trained District staff to administer the program on a day-to-day basis including installing, calibrating, and maintaining the flow meters. This project led to an annual flow monitoring program that Baxter & Woodman has administered since 1996.

Our continuing assistance includes analysis of the flow data to calculate dry weather, wet weather, and inflow and infiltration (I/I) flow rates, and incorporating rain gauge data onto hydrograph plots. This analysis results in an I/I number that is a component of a rating system used to rank the flow basins based on the severity of I/I. The flow monitoring basin rating system incorporates the flow monitoring data, age of the sewer system, occurrence of sewer backups and frequency of sanitary sewer overflows to rank the basins. Flow monitoring basins with the highest ranking are targeted for Sewer System Evaluation Survey (SSES) methods including televising, manhole inspections, and flood testing of mainline sewers and building services. The flood testing is completed in conjunction with sewer televising to locate and quantify specific sources of I/I in both the mainline sewer and building service.

HIGH PROFILE PROGRAM WITH NATIONAL RECOGNITION!

- Project included flood testing around the foundation of 189 houses
- Successful results were presented at 2009 Illinois American Water Works Association/ Illinois Water Environment Association Joint Conference (IAWWA/IWEA)
- Also Presented at 2008 National Wastewater Environment Federation Conference (WEFTEC)



GIS is a great tool to organize data and highlight areas with issues. This Downers Grove Sanitary District exhibit ranks infiltration and inflow levels within the District in order to prioritize improvements by urgency.

I/I Removal and Sewer System Rehabilitation Project

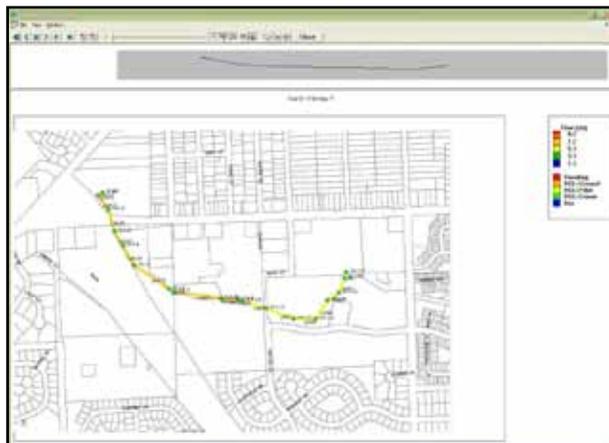
In 2001, Baxter & Woodman and the District identified I-H-9 as a target flow basin for rehabilitation work under the District's Infiltration and Inflow Removal and Sewer System Rehabilitation Policy. Rehabilitation of the I-H-9 flow basin consists of sewer main and service lining and air testing, manhole grouting or replacement and vacuum testing, building service cleanout installation, and removal of I/I sources within the buildings. This basin consists of 8,284 lineal feet of 6-inch and 8-inch diameter public sewer, 32 manholes, and 188 building services. Flow data indicated that the peak flow during the ten year event was approximately 1,200 gpm; the average dry weather flow is 50 gpm.

As of November 2007, all of the sewer mains had been lined with cured-in-place pipe, 143 of the services had been lined or replaced, six manholes had been grouted, and seven manholes had been replaced. To evaluate the effectiveness of the sewer lining on infiltration and inflow (I/I), an analysis was performed using flow meter data. This data demonstrated that I/I has been reduced by approximately 30 percent by sewer main lining. Also, only one manhole overflow has occurred since the main sewer lining was completed in 2004, whereas several manholes in this basin overflowed once per year previously. The I-H-9 flow basin will continue to be monitored as the rehabilitation of the remaining building services and manholes is completed. Based on the preliminary results, it is anticipated that I/I flow will continue to decrease as additional services are lined and manhole overflows will be eliminated.

Sewer System Modeling

We have completed several computer models in XP-SWMM of the District's sanitary system. Data from the District's GIS database, survey work by Baxter & Woodman, and Flow Monitoring Program were used to develop the models. In addition, several of these models were prepared to alleviate overflows and comply with a Compliance Commitment Agreement with IEPA. Models include:

- Denburn Woods
- Hobson Pump Station and Trunk Sewer
- Downtown Downers Grove and Westmont (redevelopment)
- WWTP Excess Flow Pump Station
- Valleyview Drive Trunk Sewer
- Northwest Pump Station and Trunk Sewer
- IM12A Flow Basin



Hobson Pump Station XP-SWMM Model

STORMWATER POLICIES & REGULATIONS FOR DEVELOPMENT

VILLAGE OF GLENVIEW, IL

Single Lot Stormwater Detention Ordinance

The Village of Glenview's Flood Risk Reduction Program recommended review of the Village's single lot stormwater detention policy. The Village does not currently require stormwater detention on individual lots; however, the Village is considering the adoption of a Single Lot Stormwater Detention Ordinance (SLSDO).

Baxter & Woodman prepared a document for the Village summarizing the advantages and disadvantages of adopting a SLSDO. After considering the advantages and disadvantages, the Village directed Baxter & Woodman to draft a SLSDO.

The first step was to review several recently approved single lot developments and establish reasonable regulatory standards, which would provide a sufficient level of flood protection without drastically increasing the cost of development and re-development. The next step was to draft an Ordinance including a chart with pre-determined pipe sizes, pipe lengths, and restrictor sizes for a range of new impervious areas. ***This chart will simplify the site design and approval process since each applicant will not be required to prepare detailed detention calculations.*** The final step in preparing the draft Ordinance was developing typical construction details.

Village staff plans to solicit input on the draft Ordinance from the development community prior to Baxter & Woodman's presentation of the Ordinance to the Board of Trustees.

Unified Development Code

Baxter & Woodman incorporated the sections of the Village Code which regulated development activity into a single logical location within the Village Code, eliminating existing inconsistencies, conflicts and redundancy. As part of this project, Baxter & Woodman also ***updated the Village's Flood Control Ordinance*** to comply with IDNR's model floodplain ordinance for Communities within Northeastern Illinois.

CITY OF WOOD DALE, IL

Community Rating System (CRS) Compliance

Baxter & Woodman assists the City of Wood Dale with CRS compliance through coordination with the Community Development Director and the Public Works Director. Activities for which points are awarded to Wood Dale in the 300, 400, 500 and 600 series are monitored periodically in order that annual requirements can be met and points retained. ***Wood Dale is one of only seven communities in Illinois rated at Class 5 or lower.*** The City recently completed a periodic compliance review and received a preliminary determination that the City's points have increased and it will retain its Class 5 rating. This rating saves Wood Dale residents with flood insurance policies 45% on their annual premiums.

DEKALB COUNTY, IL

Stormwater Management Ordinance

DeKalb County and the Cities of DeKalb, Genoa, Sandwich and Sycamore, cooperatively hired Baxter and Woodman to develop a County Stormwater Ordinance. Development of this ordinance was undertaken prior to passage of state legislation that granted DeKalb County authority over stormwater county-wide. So the goal of the County and these cities was to prepare an ordinance that established minimum stormwater detention requirements, as well as soil erosion control procedures that could then be distributed to other municipalities and local units of government.

Because the County did not have legislative authority to mandate these minimum procedures, it was important to get buy-in from all stakeholders so that uniform standards could be assured. Baxter & Woodman prepared the ordinance, met with the County and the Cities of DeKalb, Genoa, Sandwich and Sycamore, as well as several local Drainage Districts to review and make modifications as requested, and then assisted with promotion of the ordinance to other municipalities to ensure its uniform adoption.

Although the project was funded by these five governments, the ordinance development process was open to all DeKalb County agencies including Villages, Cities, Towns, Townships and Drainage Districts, through a series of stakeholder meetings. Significant effort was made to gain buy-in from the Drainage Districts, who in the end fully supported the new County Ordinance.

DEVELOPMENT PLAN REVIEW

Our Water Resources Department staff is comprised of engineers and wetlands specialists. Our engineers are licensed to practice in Illinois, Wisconsin, Iowa, and Indiana. Among our staff, we also have Certified Floodplain Managers and a Certified Professional in Erosion and Sediment Control. We regularly review development plans for conformance with local stormwater management regulations the following municipalities:



Village of Prairie Grove, Village of Lakewood, Village of North Barrington, Village of South Barrington, Village of Glenview, Village of Grayslake, City of Wood Dale, Village of Itasca, Village of Gilberts, Village of Plainfield, Village of Beecher, Village of Elwood, City of Country Club Hills, City of Elgin, City of Oak Forest, Village of Olympia Fields, Village of Park Forest, Village of Round Lake, Village of Lindenhurst, Village of Winthrop Harbor, Town of Darien (WI), Town of Delavan (WI), Town of Geneva (WI), Town of Lyons (WI), Village of Paddock Lake (WI), Village of Rochester (WI), Village of Twin Lakes (WI), Village of Union Grove (WI), Village of Waterford (WI), Town of Walworth (WI), Village of Williams Bay (WI)

STORMWATER EXPERTISE

We serve on the Stormwater Technical Advisory Committees for Lake County and McHenry County, while also participating in the DuPage County Municipal Engineers Meetings. Our staff regularly makes presentations on current stormwater management topics at conferences and workshops. *The following presentations were made by members of your project team at conferences and workshops already this year.*

- McHenry County's Streamlined Permitting Process, IAFSM Annual Conference, March 14, 2012
- Gilberts Glen Storm Sewer Replacement and Detention Restoration, IAFSM Annual Conference, March 14, 2012
- Highlands Ravine Stabilization, IAFSM Annual Conference, March 14, 2012
- NPDES Phase II Training for Municipal Employees, Baxter & Woodman Workshops in Crystal Lake, Itasca, and Country Club Hills, February 21-23, 2012

GREEN INFRASTRUCTURE

DEKALB PERMEABLE PAVEMENT HITCHCOCK DESIGN GROUP

Frank Van Buer Plaza (City of DeKalb, Illinois)

Baxter & Woodman acted as subconsultant to HDG for the complete removal of the existing impervious concrete parking lot pavement and installation of a permeable brick pavement system. The permeable brick system was designed to allow rainwater to filter down and dissipate into the soil, as opposed to directly draining from the pavement into the storm drains.



VILLAGE OF WOODSTOCK, IL

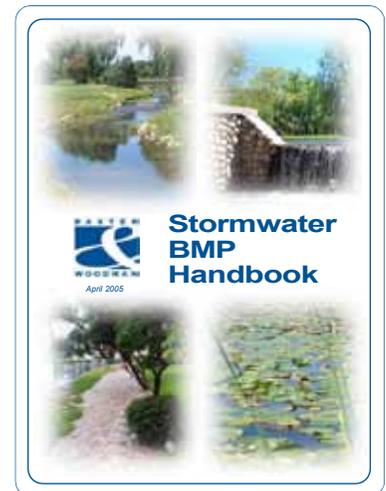
Rain Garden Demonstration

Baxter & Woodman helped the City with the design and implementation of demonstration rain gardens on highly visible municipal sites. The City wished to illustrate the effectiveness and beauty of this stormwater management feature to residents. We also provided the City with design standards and guidelines for future rain gardens within the City. This information is suitable for distribution to homeowners and developers to encourage the utilization of Best Management Practices on their property.



BEST MANAGEMENT PRACTICES (BMP) TOOLBOX

The BMP Toolbox is a handbook of introductory information on structural and non-structural best stormwater management practices that was developed by our in-house experts. The primary purpose of the BMP Toolbox is to assist communities in developing and implementing sensible growth strategies that will allow continued growth and development while limiting the impacts upon our environment. Much of the information presented in the handbook can also be used to assist communities in meeting specific environmental regulations.



VILLAGE OF GLENVIEW, IL

Village-Wide Drainage Inspections

As general consultant for the Village of Glenview, Baxter & Woodman provides assistance on many levels, from day-to-day administrative tasks to design and inspection of major capital projects. One of our projects is an ongoing drainage assessment for individual residents.

Numerous properties within Glenview have experienced flooding during large storms in recent years. **Often there are things that individual property owners can do to reduce the risk of flooding and alleviate drainage problems.** We have implemented a cost share program that these owners can take advantage of.

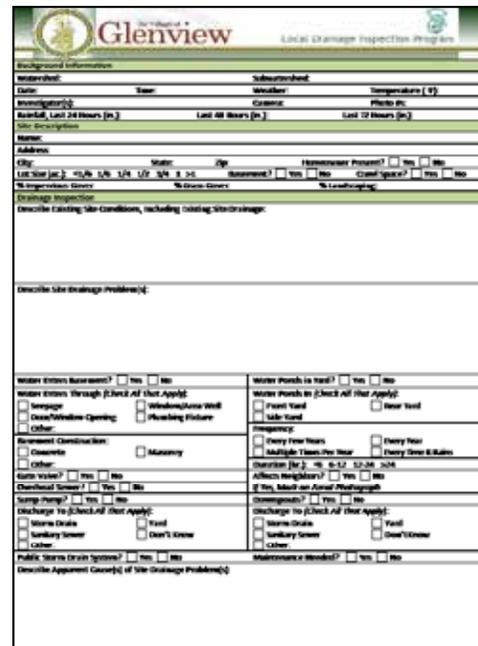
Individual owners initiate an inspection either by completing an on-line survey request – using a custom survey developed by Baxter & Woodman – or calling the Village. Data is gathered for the specific property including aerial photographs, storm and sanitary atlas information, floodplain maps and contour data and then a property inspection is scheduled at the convenience of the owner.

Inspections are performed by a licensed professional engineer who is also certified in floodplain management. The engineers review the lot with the owner and identifies steps that the property owner can take to alleviate drainage problems. Recommendations have included installing overhead sanitary sewers in basements, storm sewer service extensions, diverting downspouts away from the foundation, regrading to redirect surface runoff and even **construction of private rain gardens.**

A summary report with written recommendations is provided to the homeowner. The report includes a list of licensed contractors as well so the homeowner can follow-up with the recommendations.

Many residents have taken advantage of this ongoing program. The Village pays 50% and property owners pay 50% of the inspection. The cost of implementing the recommendations is not shared by the Village but is borne by the property owner.

An online survey allows homeowners to provide relevant data and request a property inspection.



WATER QUALITY IMPROVEMENTS

VILLAGE OF KENILWORTH, IL

Skokie Ditch Sampling

The Village of Kenilworth is *investigating the quality of the water* flowing through the Skokie Ditch. This is the first phase of a feasibility study intended to determine whether the historical flow path of the Skokie Ditch could be restored allowing the ditch to discharge directly to Lake Michigan, reducing the burden on the MWRDGC's Sheridan Road interceptor sewer and thereby alleviating street flooding throughout the Village.

Prior to collecting samples, Baxter & Woodman developed a sampling plan which identified the locations from which samples would be collected, the approximate schedule for collecting wet and dry weather samples, and the test which would be run on each sample collected.

GENEVA TERRITORY HOMEOWNER'S ASSOCIATION, WI

Pond Assessment

Baxter & Woodman was hired to *assess the condition* of the Association's approximately 3.25 acre pond. A letter report was prepared which addressed water quality, buffer zone vegetation, shoreline conditions, aquatic habitat, fish management, and recommended Best Management Practices to maintain a healthy pond environment.



CITY OF PROSPECT HEIGHTS, IL

Old Willow Falls Pond Improvements

Baxter & Woodman provided design and construction engineering services to the City to *improve the water quality* functions of Old Willow Falls Pond. Old Willow Falls Pond had accumulated sediments to near capacity and the shoreline exhibited signs of severe erosion. To assist the City with determining the best management options that maximized limited resources and site limitations, Baxter & Woodman provided design alternatives and cost estimates for the removal of sediments and stabilization of the shoreline.

The alternatives were based on a Baxter & Woodman study of sediment characteristics (sediment thicknesses, chemical constituents of concern) and evaluation of shoreline conditions (severity of erosion, site constraints). Alternatives included a variety of sediment removal and disposal options. Shoreline stabilization methods focused on stabilizing the toe of the bank and flattening the bank slopes. Native vegetation was included in the stabilization methods.



Effective shoreline stabilization techniques were used to control erosion from stormwater runoff.

BOHNER'S LAKE, WI

Sediment Loading Study

The sediment that enters Bohner's Lake through the Bohner's Lake Tributary has long been a concern for area residents. The sediment basin and inlet located near the southwest corner of the lake were most recently dredged in the fall of 2008 to help keep sediment from passing into and settling out in the lake. Given the amount of sediment that has been estimated to be moving along the bed of the tributary, it is not surprising that the sediment basin and inlet must be dredged at least once every two years to maintain their sediment storage capacity.



Previous studies had estimated the amount of sediment carried by the tributary, evaluated its characteristics, and identified its primary sources. However, conditions within the watershed changed prior to the start of this project. For example, one of the primary sources of sediment identified in the 2008 study, the Baumeister Farm, was recently converted to a Wisconsin Department of Transportation wetland mitigation site. Some of the sediment that was once generated on this site may no longer make its way into the tributary and toward Bohner's Lake. Since conditions within the watershed had changed, the BLSLSD decided to re-evaluate the watershed and update the previous studies.

This scope of services for this project included: a review of previous studies, an evaluation of the Baumeister Farm, a reach assessment of the Bohner's Lake Tributary, sediment sampling, laboratory testing, and flow monitoring. The results of the laboratory testing and flow monitoring were utilized to estimate the sediment load that is currently being carried within the Bohner's Lake Tributary, to identify the sources of the sediment, and to characterize the particle size distribution and relative density of both the suspended sediment load and bed load. ***Various BMPs were identified to lower the amount of sediment being delivered to Bohner's Lake Tributary or to capture the sediment before being deposited into Bohner's Lake.*** These BMPs included maintenance dredging at the inlet, streambank stabilization, and riparian corridor management practices.

NPDES PHASE II

CITY OF ELGIN, IL

NPDES Phase II Stormwater Permit Compliance Project

Baxter & Woodman was hired to assist the City in the development and implementation of a multi-year stormwater pollution prevention program with a total contract fee over \$500,000. The project involves developing: an illicit discharge detection and elimination program for the City, good housekeeping procedures to prevent stormwater pollution from municipal activities, a program to educate and involve the public in stormwater pollution prevention, and updating the City’s GIS storm sewer maps with as-built data. ***This project requires coordination with various City Departments and several other City consultants.*** The project also involves training City staff to implement the programs and procedures developed during the project.



ELGIN
Stormwater Quality
for
RESTAURANTS

Help Keep Your Workplace & Our Water Resources Safe

The storm drain system is designed to collect stormwater – both rain and snow melt – and release it directly to the Fox River, or one of its tributaries, without treatment. Pollutants may be transported in stormwater as rain and snowmelt flow across surfaces such as patios, parking lots, and dumpster pads, picking up food waste, grease, cleaning solvents, and trash before entering the storm drain system. These contaminants degrade the quality of our community’s water resources. Therefore, care must be taken to keep stormwater runoff clean.

The following list of Best Management Practices (BMPs) is applicable to most restaurants. Implementing these BMPs and other good housekeeping practices will help ensure a safe workplace and help protect our water resources.

<p>OIL & GREASE</p> <ul style="list-style-type: none"> Regularly inspect and clean out grease traps/interceptors. Use proper oil and grease recycling receptacles. Do not dump oil and grease wastes into the storm drain system. 	<p>SPILLS</p> <ul style="list-style-type: none"> Clean up spills immediately. <ul style="list-style-type: none"> Use absorbent materials to clean small spills, rather than hosing down the area.
<p>CLEANING</p> <ul style="list-style-type: none"> Keep outside areas free of trash, debris, and pollutant buildup. Sweep/pick up trash regularly. Do not wash surfaces with a hose. Pour mop/wash water in mop sink or floor drains. Do not dump dirty water into the storm drain system. Use non-toxic substitutes for chemicals whenever possible. 	<p>TRASH</p> <ul style="list-style-type: none"> Cover all dumpsters and replace leaky ones. Keep the area around the dumpsters free of trash. Ensure trash is properly bagged before placing it in the dumpster.

Este información es importante. Si no lo puede leer, por favor busque la ayuda de alguien que lo puede traducir.
For more information please call (847)931-5955.

Adapted from City of Golden, Colorado Stormwater Quality and Restaurants <http://ci.golden.co.us/Page.asp?NavID=238>



ELGIN What You Can Do to Prevent Stormwater Pollution.

When land is developed, impervious surfaces such as rooftops, roads, parking lots, and driveways are created. These impervious surfaces generate stormwater runoff because they do not allow rain to soak into the ground. Impervious surfaces also accumulate pollutants deposited from the atmosphere, leaked from vehicles, or wind-blown in from adjacent areas. During storm events, pollutants quickly wash off of impervious surfaces and are rapidly delivered to downstream waters. Some common pollutants found in urban stormwater runoff include sediment, nutrients (nitrogen and phosphorus), heavy metals, oil and grease. Stormwater BMPs are inserted into the landscape to improve water quality and reduce the flooding associated with increased impervious cover and surface runoff.



What can I do?

By practicing good household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clippings, and automotive fluids off the ground and out of stormwater.

- Don't dump fluids down the storm drain.
- Clean up spilled fluids immediately with an absorbent material.
- Use pesticides and fertilizers sparingly.
- Clean up pet waste.
- Wash your car at a commercial car wash.



What else can I do?

By installing small-scale Stormwater BMPs in your yard, you can reduce the amount of runoff from your property and reduce the amount of pollution in stormwater runoff.

- Connect rain barrels to one or more of your roof drains.
- Landscape your yard using native plants and grasses.
- Build a rain garden.
- Install your new patio or walkway using permeable pavers.
- Participate in community events to clean up rivers and ponds.



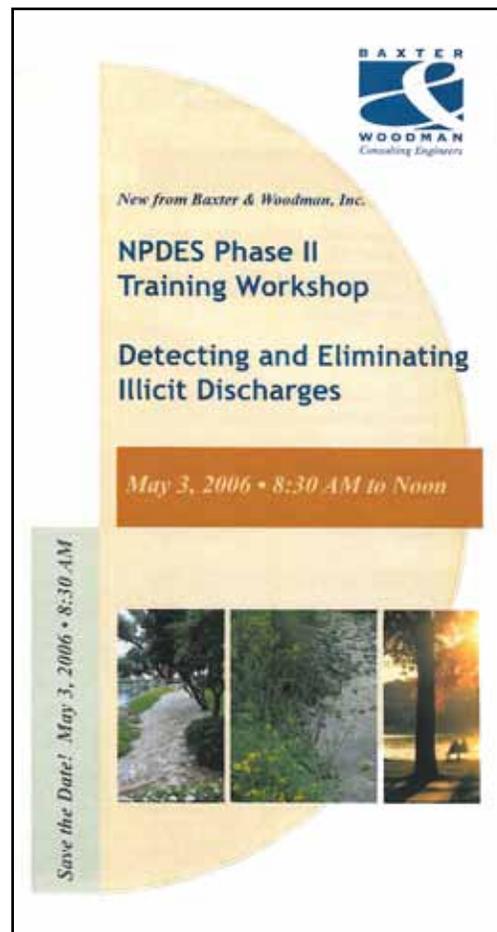
Adapted from Center for Watershed Protection Adopt-A-Pond Program Document (2005) and USEPA Be the Solution to Stormwater Pollution

Public education is important in managing and preventing stormwater pollution. Baxter & Woodman has designed and prepared multiple educational print materials to be distributed to residents as well as to various types of businesses within the City such as restaurants, automotive shops, industries, etc.

MUNICIPAL NPDES PHASE II ASSISTANCE

Baxter & Woodman provides ongoing assistance for the following Northeast Illinois municipalities in maintaining compliance with the conditions of their General NPDES Permit for discharges from their storm sewer system. The type of assistance varies with each municipality, but includes: training for municipal employees, recommending amendments to existing ordinances, preparation of stormwater pollution prevention plans for municipal facilities, preparing annual reports, and assistance with audits by the IEPA. Communities include:

Village of Lakewood
Village of North Barrington
Village of South Barrington
Village of Glenview
Village of Grayslake
City of Wood Dale
Village of Itasca
Village of Gilberts
Village of Beecher
City of Country Club Hills
Village of Olympia Fields
Village of Park Forest
Village of Winthrop Harbor
Village of Hazel Crest
Village of Island Lake
Village of Wheeling
Village of Western Springs
DeKalb County
DeKalb Township
Normal Drainage District
City of Sycamore
Village of Itasca
Village of South Elgin
Village of Cary
Village of Palatine



Baxter & Woodman holds annual workshops to educate municipal staff on NPDES Phase II.

MAINTENANCE

OLYMPIA FIELDS, IL

Graymoor Subdivision Detention Pond Design

This project consists of final design engineering and construction document preparation for *removal of sediment accumulations* in the Graymoor subdivision north and south detention ponds and additional excavation for aquatic habitat enhancement at the two ponds. The project included a Bathymetric survey of the ponds, an estimate of the quantity of sediment in the ponds, an analysis of the sediment composition to determine possible land application reuse methods, an estimate of sediment removal quantities to restore the ponds to near their probable original design, analysis of two possible dredging methods, and several possible *Best Management Practices* to improve pond maintenance, storm water retention function and improved aquatic habitat. In addition, preliminary pond reconstruction estimated costs, preliminary pond reconstruction design, and evaluation of potential funding options were developed. This project is currently under construction.



GILBERTS GLEN, IL

Storm Sewer Replacement and Detention Restoration

Gilberts Glen is a residential neighborhood built in the early to mid - 1980s. It was constructed with rural cross-section roads, septic fields, private wells and swale and culvert storm water system that has deteriorated over time. The main branch of the drainage system is a 2,500 ft pipe connecting a pond to the discharge point at Tyler Creek. This pipe is located along common rear yard lot lines, with an overflow swale conveying most of the runoff.

The old pipe consisted of various materials pieced together through the years. ***The pipe no longer drains properly, resulting in an elevated pond surface and the loss of detention storage capacity.*** Storm events frequently exceeded the capacity of the drainage system. Residential lots became islands, septic fields became inundated and roads became impassable.

The solution was comprised of many parts ranging from replacing the non-functioning pipe, to improving the swale system and re-establishing ground elevations to historical conditions. ***The ability to affect the solutions was the result of the partnership between Baxter & Woodman and the local contracting firm that assists the Village*** in storm system maintenance, combined with financing from Kane County Recovery Zone Bonds. The project was completed in November 2011 and has already passed a major test with nearly 4 inches of rainfall during construction in September.

REFERENCES



Village of Kenilworth
 Reference for CIP, Stormwater Planning & Modeling:
 Brad Burke, Village Manager
 847-251-1666

Village of Glenview
 Reference for Stormwater Planning, Design & Public Relations:
 Joseph Kenney, Director of Capital Projects
 847-904-4313



What You Can Do to Prevent Stormwater Pollution.

When land is developed, impervious surfaces such as rooftops, roads, parking lots, and driveways are created. These impervious surfaces generate stormwater runoff because they do not allow rain to soak into the ground. Impervious surfaces also accumulate pollutants deposited from the atmosphere, leaked from vehicles, or wind-blown in from adjacent areas. During storm events, pollutants quickly wash off of impervious surfaces and are rapidly delivered to downstream waters. Some common pollutants found in urban stormwater runoff include sediment, nutrients (nitrogen and phosphorus), heavy metals, oil and grease. Stormwater BMPs are inserted into the landscape to improve water quality and reduce the flooding associated with increased impervious cover and surface runoff.

What can I do?

By practicing good household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clippings, and automotive fluids off the ground and out of stormwater.

- Don't dump fluids down the storm drain.
- Clean up spilled fluids immediately with an absorbent material.
- Use pesticides and fertilizers sparingly.
- Clean up pet waste.
- Wash your car at a commercial car wash.

What else can I do?

By installing small-scale Stormwater BMPs in your yard, you can reduce the amount of runoff from your property and reduce the amount of pollution in stormwater runoff.

- Connect rain barrels to one or more of your roof drains.
- Landscape your yard using native plants and grasses.
- Build a rain garden.
- Install your new patio or walkway using permeable pavers.
- Participate in community events to clean up rivers and ponds.

Adapted from Center for Watershed Protection, Adopt-A-Pond Program Document (2007) and USEPA, Be the Solution to Stormwater Pollution

City of Elgin
 Reference for NPDES Phase II Assistance, Project Management, and Multiple Consultant Coordination for ongoing, long term project:
 Mike Hall, Engineer
 847-931-5595

CURRENT WORKLOAD

The Village of Winnetka will benefit from our wealth of expert staff available from multiple office locations, including Crystal Lake, IL, Mokena, IL, and Burlington, WI. Our proposed project team’s current workload includes the following projects listed below, a majority of which are substantially complete. Individual staff workloads have been carefully reviewed by our department managers and team members are available to assist Winnetka with your Master Plan.

Assigned Staff Current Projects in Progress:

Elgin NPDES Phase II Assistance	70% Complete
South Barrington Village Hall Expansion	60% Complete
Wood Dale Citywide Drainage and Flood Improvement Study	5% Complete
Gilberts Binnie Road	90% Complete
Lockport Stormwater Master Plan	0% Complete
Country Club Hills Fleet Maintenance Facility	90% Complete
Forest Preserve District of Cook County Bicycle Trails	80% Complete
Buffalo Grove Kildeer Creek Streambank Stabilization	30% Complete
Rochester Municipal Engineering	90% Complete
Oak Forest 152nd Street Basin SSES	5% complete
Momence East Side WM River Crossing	10% complete
Waukegan WTP Lift Station Replacement	60% complete
Lombard Lift Station Upgrades	90% complete
Wheaton Sanitary District Flow Monitoring	30% complete
Western Springs Combined Sewer Overflow Control Plan	40% complete
Glenview East of Harms SSES	90% complete



PROJECT TEAM

TEAM ORGANIZATIONAL CHART

The success of this project greatly hinges on our ability to collaborate with your staff and address all project goals. Below is an organizational chart for this project and a summary of relevant qualifications of team members. *Detailed resumes have been included in Appendix A of this submittal.*



TEAM QUALIFICATIONS

John Mick, PE - Project Advisor / Funding Assistance

John is our Chicago Regional Manager with 30 years of experience with management, study, design and construction of infrastructure improvements emphasizing planning and design. He has led Program Management efforts on local and regional projects valued at over \$1 billion. He is skilled in cost analyses/estimating, pursuit/management of funding sources, and CIP development. He served Franklin Park as Municipal Engineer for seven years, and while there developed their first Capital Improvement Program.

Mark Phipps, PE, CFM, CPESC - Project Manager / Main Contact

Mark has 14 years of experience serving as project manager for various water resource projects, including drainage investigations, storm sewer and detention design, drainage studies, hydraulic reports, erosion and sediment control, and rehabilitation/replacement of municipal infrastructure. In addition, he assists our municipal clients with plan reviews and NPDES Phase II compliance. He is a certified Floodplain Manager and a Certified Professional in Erosion and Sediment Control. *Mark also has a wealth of experience coordinating with multiple agencies, consultants, and stakeholders to bring success to multifaceted projects, like for the City of Elgin.*

Steve Amann, PE, CFM - Water Resources Engineer

Steve has almost 30 years of experience in design of storm sewers, swales, detention ponds, compensatory storage, bridges and culverts. He has earned the designation of Certified Floodplain Manager and promotes effective and innovative approaches to address floodplain and stormwater management systems for municipalities. He is active in the development and subsequent updates of stormwater management ordinances and floodplain modifications. Steve promotes the incorporation of stormwater Best Management Practices into development ordinances and through the review of private site improvements on behalf of governmental entities.

John J. Tierney, PE, CFM - Water Resources Engineer

John is a water resources engineer with more than 17 years of experience in municipal engineering, with an emphasis on storm water management. A Certified Floodplain Manager, John's dedication to clear and proactive communication has led to the successful coordination of numerous storm water, sanitary sewer, water main, and transportation projects. *Notable experience includes coordinating the development of a Storm Water Utility for the Village of Union Grove, which was approved in summer 2010. He has also coordinated design and construction projects for the Storm Water Utility District of the Village of Caledonia.* John's work involves both urban and rural drainage projects, including localized drainage complaints and projects involving farm drain tile investigations.

Bill Blecke, PE, CFM - Water Resources Engineer

Bill has 35 years of experience and is well versed in the preparation and review of municipal codes, ordinances and engineering design standards with an emphasis on drainage, floodplains and floodways, wetland, soil erosion, and sedimentation control. He is a member of the Illinois Association for Floodplain and Stormwater Management and Association of State Floodplain Managers, and keeps current on stormwater drainage, floodplain and wetlands issues. He is a Certified Floodplain Manager and performs the duties of “Enforcement Officer” under the Lake County Watershed Development Ordinance for several of our Lake County clients and is a Certified Review Specialist in Kane County. Bill is in charge of keeping our clients FEMA FIRMs and ordinances current under the MAP MOD program in order that they remain in good standing in the NFIP. He was also accepted to serve on the IEPA General Permit Review Committee for review of the conditions for the Draft General Permit under the NPDES Phase II requirements.

Thomas E. Ganfield - Environmental Specialist

Tom has a wealth of experience in environmental engineering, including storm water management, wetland delineation, permitting and mitigation. During the course of his 20-year career, he has completed more than 100 wetland delineations throughout the country, completed various environmental analyses, and authored Environmental Assessments and Environmental Impact Statements.

Sean O’Dell, PE - Infrastructure Engineer

Sean has 10 years of experience and regularly assists many local municipalities and agencies with infrastructure rehabilitation, including the Village of Plainfield, City of Oak Forest, Village of Park Forest, Downers Grove Sanitary District, and more. His experience with a variety of water, wastewater, stormwater management, and transportation projects has made him proficient in master planning, design, watershed modeling, survey, and GPS. He has both field and office experience, allowing him to bring a practical perspective to your project. *Sean is also a member of our Trenchless Technology Committee, which meets regularly to discuss and stay up-to-date on the newest construction methods to reduce environmental impacts, limit resident disruption, and improve safety.*

Eric Murauskas, PE - Infrastructure Engineer

Eric has 23 years of experience in many areas including sanitary sewer evaluation studies, sanitary sewer flow monitoring, sanitary sewer rehabilitation, stormwater drainage studies, sewer system design, and municipal services. *Eric recently completed the CIPP Inspector Training and Certification Program from NASSCO, Inc.* NASSCO’s Inspector Training and Certification Program (ITCP) is a new standard national training and certification program that provides field construction professionals with comprehensive learning and tools to understand and inspect trenchless pipeline renewal technology.

Deborah Finn, CPSM - Public Relations

Deborah has 32 years of experience and manages the marketing efforts of Baxter & Woodman, Inc., including market research, budget planning, business development, proposal generation, promotional activities and development of the firm’s annual public relations initiatives. Her public relations’ experience focuses on newsletters, direct mailings, client and industry association presentations and project award submittals. Deborah also oversees web development, graphic design and scripting of firm brochures, trade show booth artwork, special mailers and PR and recruiting materials development. *Recent relevant projects include McHenry County DOT Walkup Road Construction website, social media management, and public meeting coordination.*

Andrew Zaletel, GISP - GIS Assistance

As the Manager of Baxter & Woodman’s GIS Department, Andy leads the planning, design, and implementation of GIS and GPS-based services for municipal clients. He has 13 years of experience and supervises a staff of GIS specialists and mapping technicians with expertise in ESRI and Trimble software applications and Autodesk mapping. Andy has served as Project Manager for numerous custom application development, utility mapping, data collection and basemap development projects, and has also overseen the GIS component of many municipal master plans. He has been instrumental in assisting communities with data analysis and conversion, custom application development, web-based GIS solutions, infrastructure system surveys and educational workshop presentations and trainings.

PROJECT APPROACH & SCHEDULE

APPROACH - STRATEGY FOR YOUR SUCCESS

The Village of Winnetka has decided to enlist the services of an engineering consultant to help Village officials, staff, community and other agencies develop a Stormwater Master Plan. The Village wants a collaborative process to create a document and framework which will guide Village efforts in flood management, drainage, water quality, green infrastructure, and wastewater. Baxter & Woodman is uniquely qualified to develop a Stormwater Master Plan. We work with more than 200 municipalities and will bring to this project our broad experience and knowledge with regard to stormwater and wastewater in municipalities – including planning, design, public outreach, construction and maintenance. Winnetka will be served by professionals who are adept at building consensus, identifying cost-effective solutions and maintenance strategies, securing funding, and who are at the forefront of stormwater regulations.

The following is our project approach to preparing the Stormwater Master Plan.

Overall Project Management/Communications

Mark Phipps, PE, CFM, CPESC will be your Project Manager and will be the Village's primary point of contact. We understand that the Village currently has two other consultant teams designing stormwater improvements and conducting studies, in which those results will be analyzed and incorporated in your Stormwater Master Plan. Mark will work collaboratively with your Project Lead and other consultants to coordinate the overall efforts of the team with regard to each individual component of the project.

Mark is a strong Project Manager experienced in coordinating projects with multiple consultants and stakeholders. He will focus on meeting your project goals and promote proactive communication. A current example of his expertise is the City of Elgin's five year NPDES Phase II Stormwater Permit Compliance Project. This project is in its fourth year, and requires coordination with staff from five City Departments, two additional City consultants, and various stakeholder groups. Mark's proactive attitude, strong leadership, and communication skills combined with the City's commitment to its NPDES Phase II program are making this project a success.

Project Initiation and Data Review

The Village wants a plan that will be implemented over a 5 to 10-year timeframe, with clearly defined improvements, schedules and costs. At the outset, Mark will schedule a project initiation meeting with key Village staff. During this meeting:

- clear lines of communication will be established,

- the project schedule will be refined, and
- existing data will be reviewed with the Village.

This discussion will also confirm the budget, funding source(s), and any special requirements for the services and how the funds will be spent through the life of the project.

We understand, despite many municipal priorities, that Winnetka's # 1 budgetary concern is Stormwater, and this year you plan to spend over \$2 million on this priority. We are cognizant of Winnetka's financial resources during every step of the work – from engineering costs to funding/expense forecasts in the Village's Capital Improvement Plan. Mark will keep your staff updated on budget, scope and schedule on a regular basis.

Throughout the duration of the project, Mark will prepare and submit to the Village regular Project Status Reports that outline work completed, work scheduled, and any outstanding items that require attention. Progress meetings can be scheduled monthly at critical stages of the project in order to review preliminary findings and recommendations. Mark will prepare minutes after each meeting to summarize the items discussed and the conclusions reached.

***Example:** A detailed project status report can provide all relevant parties with the information to keep the project moving forward, while also addressing any concerns immediately. Here is snippet of a sample status report.*

The deliverables for this component will be: a detailed communication plan, weekly project status reports, budget and project(s) cost estimates tracking, and meeting minutes for each project meeting.

Public Involvement and Education

Providing public education and outreach efforts early on in the project will assist in gaining acceptance and buy-in from residents. We are aware of the many communication vehicles available to reach the public to engage representatives of varying interests and promote participation. Collaborating with residents and other affected stakeholders during the stormwater planning process will provide needed input to the Stormwater Master Plan. We would like to review the ideas being sent to stormwatercomments@winnetka.org.

Develop a Stormwater Work Group

We propose the creation of a Stormwater Work Group comprised of Village staff and consultants. The Work Group would meet approximately monthly to discuss preliminary findings and recommendations as the Stormwater Master Plan is developed. The meetings would be used to confirm the direction of

the project, build consensus among the Work Group, and coordinate with the Village’s consultants on other projects related to the Stormwater Master Plan. Once preliminary recommendations for an individual component of the Plan have been fully vetted by the Stormwater Work Group, a draft chapter of the Plan will be prepared for review and consideration by the Village Council.

Host Town Hall Meetings

Several components of the Stormwater Master Plan may warrant presentation to the public at a Town Hall Meeting. These components may include: stormwater improvements for “areas of further study”, strategies to encourage stormwater best management practices on private property, and the Implementation Plan. A Town Hall Meeting would only be scheduled after the preliminary recommendations have been brought before the Village Council. Feedback received at the Town Hall Meeting would be incorporated into the draft Stormwater Master Plan and then brought back to the Village Council. Collecting public input throughout the project at these Town Hall Meetings will give the Village confidence that the priorities in the completed Stormwater Master Plan will have public support.

Social Media Options to Engage the Public

There are a number of communication tools available to help communicate project information to the public. Our team will utilize the communications expertise of our Marketing Department with the ability to provide a project website and Facebook page, coordinate and promote public meetings, and other social media. We will also rely on graphic expertise of our GIS Department to get information to those who want to know “what’s going on”. Our GIS expertise will reflect your ongoing investment in GIS and the Interactive Mapping feature on the Village website. Frequent communication, using a variety of media will keep everyone apprised of the status of the planning process. We know the value of using visuals to convey your message – whether at a Council meeting, the Rotary Club at the Community House, presenting a project to Representative Gabel or Senator Schoenberg for funding, or on the Village website – GIS tools will be used to create graphics that clearly convey technical concepts to the public.

Mark Phipps will take the lead in Public Education and Involvement, and be supported by Deb Finn and Andy Zaletel. Deb and Andy collectively have over 30 years of communication and GIS experiences with 25 + communities supplying Winnetka current practices and recognized strategies.

The primary deliverables for this component will be: a strategy for involving the public in the planning process and a strategy for educating property owners on measures they can take to protect their properties. A secondary deliverable, per our project research for this Approach, will be tools that Winnetka can use for other public engagement processes, and for further efforts in stormwater information sharing and education.

Review Previous Studies and Recommendations

The Village has completed Flood Risk Reduction Studies for eight distinct drainage basins. Our team members have reviewed these reports to further understand Winnetka's current conditions as they relate to stormwater. The Village Council recently authorized the design of several recommended improvements from those studies. Baxter & Woodman works in over 150 communities on infrastructure for stormwater which often includes the review of other professionals' work. We enjoy great relationships with our peers, and we will use those relationships to share data and findings to save time and money. Your completed Stormwater Master Plan will reference the work done to date in each drainage basin and incorporate the need for additional improvements in the Implementation Plan.

Mark Phipps will take the lead in reviewing the existing Flood Risk Reduction Studies. He will be assisted by Sean O'Dell in the development of the Implementation Plan.

***Example:** Sean O'Dell and Mark Phipps recently worked together to complete a Capital Improvements Plan for the Village of Kenilworth. The scope of services for that project was very similar in that the Village had reports and studies prepared previously by other engineering firms, which each recommended investment in Village infrastructure. One report focused on the need for sewer improvements, while another focused on the need for road improvements. The Village is also considering improvements to its water distribution network. Baxter & Woodman was hired to incorporate the recommendations from separate studies and to prioritize those improvements for implementation in a logical sequence over a 10-year period.*

The deliverable for this component will be a 10 Year Plan for implementing the improvements recommended in the Flood Risk Reduction Studies. Improvements will be selected based on several factors including the benefit-to-cost ratio; the cost per citizen benefitting from each project; the Village budget; and input from the public, Village staff, and the Village Council.

Identify Additional Stormwater Improvements or Areas of Further Study

Several other areas of the Village, which are served by undersized storm sewers or inadequate overland flow routes, have yet to be studied. These areas are identified on RFP Attachment 2 as: Area A, Area C, Area E, Area G, Area N, and Area O. These areas are primarily residential subdivisions spread out across the Village. The lone exception is Area O, which is a downtown business district.

The Village has a very detailed storm sewer atlas with storm sewer locations, elevations, sizes, lengths and connections. The previous Flood Risk Reduction Studies were successfully completed without the collection of new survey data. We propose the same approach for these "Other Village Areas."

Aerial topographic data will be obtained from the Village, if available, or from Cook County. Our work with the County Forest Preserve District and Highway Department will expedite this data gathering and its use.

We propose to perform hydrologic and hydraulic analyses of each unstudied area using XP-SWMM for consistency with the studies performed previously. We use XP-SWMM regularly for stormwater modeling because of its capacity to calculate a variety of flow conditions, including pressure flow within the pipes in combination with surface flow along overland flow paths.

Steve Amann will be responsible for the evaluation of these other areas of the Village, estimating the cost of each alternative considered, and recommending improvements for each studied area.

Example: *We have planned, implemented, and solved drainage issues for many communities. Steve Amann successfully completed the Natalie Subdivision Drainage Study for the City of Oak Forest using XP-SWMM to identify improvements which would alleviate storm sewer surcharging in the subdivision, street flooding which overflowed into below-grade garages, and yard flooding. The City has implemented Steve's recommendations and the problems have been solved.*

The deliverable for this component will be a list of recommendations for improving the drainage in Area A, Area C, Area E, Area G, Area N, and Area O. Potential improvements will be selected based on several factors including the benefit-to-cost ratio; the cost per citizen benefitting from each project; the Village budget; and input from the public, Village staff, and the Village Council.

Review Sanitary Sewer Flow Monitoring Study and Recommendations

Homeowners and public officials often think that reducing Infiltration/Inflow (I/I) in your sanitary sewer system will improve both sanitary sewer and storm sewer performance during wet weather events. While this is true for the sanitary sewer, storm sewers and flood-prone areas will actually see more water during wet weather events if I/I is truly reduced.

The selected engineer must understand the surface drainage impacts of I/I reduction in order to successfully reduce long-term flooding.

The Village has separately contracted for a flow monitoring study. The study will identify portions of the system which are subjected to excessive I/I. The study will also evaluate and prioritize basins for further study, which could include CCTV inspection, smoke testing, dyed-water testing, manhole inspections, private property canvassing, and hydraulic modeling.

The proposed Stormwater Master Plan must organize and evaluate available data (flows, capacities, priorities, homeowner surveys, footages, costs/budgets, and schedules) in order to create a long-term strategy to reduce I/I.

The strategy must address both public and private sources. In some cases, up to 60% of I/I can come from private property (sump pump, footing drain, window well, and roof drain connections to the sanitary system). Private property canvassing will help to identify and remove these large sources of I/I. On the other hand, private property I/I removal comes with high labor and political costs.

A successful private property program can only be successful with a systematic public system assessment and rehabilitation program in conjunction with much needed public education. Inflow investigations (smoke and dyed-water testing) can be completed quickly and inexpensively with high returns, as opposed to infiltration investigations and rehab (CCTV and manhole inspections) which can be long, costly and moderately effective if not coupled with some form of private sewer rehabilitation. Fortunately, we have seen large reductions in I/I by using lower cost alternatives, such as grouting, to rehab public sewers, private services, and manholes.

***Example:** Over the years, Baxter & Woodman has helped the Downers Grove Sanitary District achieve a 65% reduction in I/I in the basins targeted by the District.*

The deliverable for this component will be a strategy for identifying and completing needed improvements to the sanitary system. We will work with the Village to combine costs, priorities, phases and storm sewer improvements in order to successfully reduce inflow and infiltration in the sanitary sewer system, while planning for the additional flow within the storm sewer system. Potential improvements will be selected based on several factors including the benefit-to-cost ratio; the cost per citizen benefitting from each project; the Village budget; and input from the public, Village staff, and the Village Council.

Evaluate Regulations

The Village already regulates stormwater impacts from commercial and residential development and recognizes that stormwater management trends and regulations have changed significantly over the past 10 years. Existing regulations may be outdated and not reflect Best Management Practices. By updating these regulations Winnetka leaders can ensure that new development encourages the use of sustainable development practices and green infrastructure. We recognize that Winnetka has a Downtown Revitalization Fund to make some infrastructure repairs and undertake further studies. The work products of this task will provide coordination with this development priority.

During the course of our review, we will verify that the existing regulations are in compliance with applicable State and Federal requirements, including those promulgated by the Illinois Environmental Protection Agency (IEPA), the Illinois Department of Natural Resources (IDNR), the Federal Emergency Management Agency (FEMA), and the U.S. Army Corps of Engineers. We are aware that the Village is preparing to apply for participation in the Community Rating System (CRS), and we will review existing regulations for simple amendments which could improve the Village's CRS rating. Any improvements can reduce the premiums charged to Village residents for flood insurance. Illinois has recently become authorized by the National Oceanic and Atmospheric Administration (NOAA) to implement a Coastal Zone Management Program. We will make sure any new rules comply with this program.

Cook County's adoption of a Countywide Watershed Management Ordinance will be delayed at least until the MWRDGC completes the Economic Impact Study (EIS) that is underway. We've been involved throughout the development of the draft Ordinance both as representatives of various municipalities and as involved professionals. This involvement will allow Winnetka's planning to be up-to-date with the County and MWRDGC thinking. The findings of the EIS are expected to be presented to the MWRDGC Board this summer. Our recommendations regarding amendments to the Village's regulations will be made with full consideration of the status of the Countywide Watershed Management Ordinance. We'll work from experience in municipal stormwater regulations and legal issues with Village Counsel to provide recommendations that are sensible, practical and based on Winnetka legal opinions. We will also provide a balanced approach to regulations reflecting the need for good developments which reflect Winnetka's wishes and goals versus stormwater impacts and mediation.

Mark Phipps will be responsible for reviewing the Village's regulations and recommending strategies for updating their regulations.

Example: Project Manager, Mark Phipps, previously worked as McHenry County's Chief Stormwater Engineer. In that capacity, Mark enforced stormwater regulations, wrote amendments to the countywide Stormwater Management Ordinance, guided those amendments through the adoption process. He worked closely with Federal and State regulatory agencies such as the IEPA, the IDNR, FEMA, and the U.S. Army Corps of Engineers. He also helped McHenry County enter the CRS.

Example: Project Manager, Mark Phipps, is currently assisting the Village of Glenview create a Single-Lot Stormwater Detention Ordinance. This Ordinance would require on-site detention with new development or substantial re-development of a property. This Ordinance is one strategy in the Village's overall Flood Risk Reduction Program.

The deliverable for this component will be a strategy for updating the Village’s development regulations.

FEMA Regulations and CRS Rating

The Village is planning to apply for participation in the CRS and may be required to develop a Floodplain Management Plan to address repetitive flood loss properties. There may be other floodplain management practices, such as tracking requests to view Flood Insurance Rate Maps which would be simple (due to scope, schedule or cost) for the Village to implement and would further improve the Village’s CRS rating.

Bill Blecke will perform a thorough review of the Village’s Floodplain Management Program in order to identify opportunities for the Village to improve its CRS rating.

***Example:** Bill Blecke serves as the Village Engineer in Wood Dale, which is one of only 7 municipalities in Illinois with a CRS Class of 5 or lower.*

The deliverable for this component will be a plan to improve the Village’s Floodplain Management Program, including recommendations to address repetitive flood loss properties in the Village.

Identify Green Infrastructure Opportunities

Winnetka has incorporated a “green” philosophy into your decision making, including green and sustainability initiatives in your operations. Green Infrastructure can be an effective way to reduce runoff volumes and improve the quality of runoff. Green strategies can work on private and public property, as long as the improvements meet Village criteria and reflect the goals of the community.

Depending on the Village’s interests, the installation of green infrastructure on private property could be encouraged through the use of cost-sharing programs, or required through the adoption of new regulations.

Example: Project Manager, Mark Phipps, performs on-site drainage inspections for Glenview residents as part of a cost-sharing program between the Village and the residents. Mark inspects properties with localized drainage issues and provides residents with alternative solutions, cost estimates and recommendations. One of the alternatives often considered is the installation of a rain garden, for which the Village has another cost-sharing program. The Local Drainage Inspection Program and the Rain Garden Program are both strategies in the Village's overall Flood Risk Reduction Program.

Options such as these will be discussed with the Village Council and the Stormwater Work Group, prior to making any recommendations.

Green infrastructure can also be incorporated into public improvements such as road reconstruction, detention basin retrofits, or demonstration projects.

Example: Tom Ganfield helped the City of Woodstock design and implement rain garden demonstration projects on highly visible municipal sites. Baxter & Woodman provided the City with design standards and guidelines for future rain gardens within the City. This information is suitable for distribution to homeowners and developers to encourage the use of BMPs on their property.

After obtaining a list of the Village's planned road and infrastructure improvements, along with maps showing the locations of publicly owned properties within the Village, Tom Ganfield will prepare a plan to incorporate green infrastructure into public improvements.

The deliverables for this component will be strategies to encourage the use of Best Management Practices in private and public improvements.

Maintain/Improve Water Quality

The Village has a General NPDES Permit for discharges from its storm sewer system. This permit requires the Village to prevent pollution from storm sewer discharges to the maximum extent practical. Baxter & Woodman provides assistance to more than 25 northeast Illinois municipalities in maintaining compliance with the conditions of their General NPDES Permit. We will carefully review the Village's existing NPDES program and recommend opportunities to streamline the program. We will also recommend opportunities to protect or enhance water quality.

Recommendations to protect or enhance water quality will be made based on water quality samples collected within the Village. Samples will be collected at strategic locations, during both wet and dry weather, at various times throughout the year. The samples will be tested in a laboratory for a range of

pollutants, including those with Total Maximum Daily Load limits in the North Branch of the Chicago River watershed.

Tom Ganfield will take the lead in developing a sampling plan, interpreting the test results, and recommending actions to protect or enhance water quality.

Example: Tom Ganfield has recently initiated a sampling plan for the Village of Kenilworth to determine the quality of the water in the Skokie Ditch at various locations and during varying flow conditions.

The deliverables for this component will be the identification of opportunities to streamline the existing NPDES Program and the identification of opportunities to protect or enhance water quality.

Short and Long-Term Maintenance

The Village's existing storm and sanitary sewer systems require ongoing maintenance to preserve your existing level of service. Future improvements will also require ongoing maintenance. The expected maintenance activities for the storm sewer system involve many strategies, including, but not limited to: street sweeping, catch basin cleaning, catch basin repair, stabilization of eroded areas, and dredging of detention ponds. The sanitary sewer system must be cleaned, televised and assessed in order to determine sewers in need of rehabilitation (cured-in-place-pipe lining or grouting). Furthermore, targeted cleaning of sewers (trunk sewers, hydraulic bottlenecks, and grease-prone areas) can drastically improve system performance.

This maintenance can be anticipated and budgeted over a multi-year program. Your budget includes over \$300,000 for storm sewer maintenance and \$100,000 for sanitary sewer repairs. This will be a baseline as we help you determine what amounts should be budgeted yearly for each system's maintenance, beyond the capital improvements. John Tierney and Sean O'Dell will be responsible for developing maintenance plans and estimating maintenance costs for the Village's storm sewer and sanitary sewer systems, respectively.

Examples: John Tierney has assisted the Villages of Milton, Union Grove, and Rochester each implement a stormwater utility. As part of his work, John developed a long-range plan for the necessary stormwater capital improvements and planned maintenance. His work also included extensive public education and outreach campaigns.

The deliverable for this component will be a strategy for scheduling and funding maintenance activities

for storm and sanitary sewer systems.

Financial Plan

There are numerous potential sources of funding for improvements to, and maintenance of, municipal sewer systems. These potential sources include: General Fund/property taxes, sales taxes, bonds, grants, loans, cash reserves, Special Service Areas, Special Assessments, Motor Fuel Taxes, Stormwater Utility Fees and user fees. Some of those potential funding sources are more reliable, sustainable, or equitable than the others. We track and work with municipal clients to help them secure infrastructure funding from over 200 sources.

As a municipal engineering firm, Baxter & Woodman has extensive experience working with each of the potential funding sources listed above – including the establishment of stormwater utilities for several clients.

***Examples:** John Tierney has helped the Villages of Milton, Union Grove, and Rochester implement a stormwater utility. As part of his work, John evaluated all other potential funding sources.*

We understand that the Village intends to conduct a separate Stormwater Utility Rate Study concurrent with the Stormwater Master Planning process. We expect that the Village’s consultant will need the list of recommended capital improvements and anticipated maintenance developed during the Stormwater Master Planning process, along with cost estimates for each, in order to establish stormwater utility rates. We will work cooperatively with the Village’s Stormwater Utility consultant and incorporate the results of the Stormwater Utility Rate Study into the Stormwater Master Plan. We will offer our insights and recommendations regarding each potential source of funding to the Village and their consultant in order to further the financing discussions and develop a workable financial implementation strategy. John Tierney will take the lead in developing the financial implementation strategy for the Village.

The deliverable for this component will be a financial implementation strategy for funding infrastructure improvements and maintenance.

Implementation Plan

Once the deliverables listed above have been prepared, and concurrent with the development of the financial implementation strategy, Sean O’Dell will prepare an Implementation Plan. We recommend a 10 Year time frame for the recommended improvements that will be prioritized based on several

factors including the benefit-to-cost ratio; the cost per citizen benefitting from each project; the Village budget; and input from the public, Village staff, and the Village Council. The plan's cost estimate and priorities will be transparent so that everyone can understand reasons behind all decisions.

Example: Sean's work on the Capital Improvement Plan for Kenilworth and John's work establishing stormwater utilities, which included preparing a stormwater Capital Improvement Plan for each community, make them very qualified to prepare an Implementation Plan for Winnetka.

The deliverables for this component will be a plan and schedule for implementing the recommended improvements and anticipated maintenance.

Real-time Collaboration and Updates

After the first submittal, we suggest having a review-workshop. We will bring a laptop and projector to the meeting and walk through the plan using Google Earth and Excel. We will be able to make live updates as discussion progresses.

Presentation of the Plan

The Stormwater Master Plan (in final form) will include: a description of the Village's existing stormwater management program; recommended improvements - each supported by a narrative description, appropriate exhibits, and data; clearly defined goals; and tools for the Village to achieve those goals.

Throughout the Stormwater Master Planning process, we will attend Village Council meetings to provide the Council with a progress report and to receive ongoing input from the Council. Formal presentations of the Draft and Final Stormwater Master Plan will be made to the Council.

Project Manager Mark Phipps will be responsible for making progress reports to the Village Council and for the formal presentations of the Stormwater Master Plan.

The deliverables for this component will be: the Stormwater Master Plan (Draft and Final version), complete with supporting exhibits, slideshow presentations, data, and calculations. Fifteen (15) bound copies of the Stormwater Master Plan in its Final form will be delivered to the Village, along with one digital copy in .pdf format.

FIRM BACKGROUND & SERVICES

GENERAL FIRM HISTORY

Focusing on Winnetka

You will not worry about conflicts of interest. Founded in 1946 by two World War II Veterans, Baxter & Woodman, Inc. has specialized in municipal engineering for 65 years, and over 95% of our business is from various forms of government - municipalities, counties, and state agencies. With this municipal sector focus, we have developed the staff, resources and training to provide the full range of engineering services required by today's municipalities and public agencies.

Employee Owned & Operated

You receive a team invested in your project's success. Baxter & Woodman is a privately held, employee-owned corporation. The company's success and integrity are determined by our employee shareholders. This corporate structure benefits our clientele because the project team assigned to each client has a direct vested interest in the success of each project. The corporation currently has 98 employee shareholders, which comprise approximately 50% of the company's work force. All shareholders are active full-time employees.

Providing Comprehensive Services

The Baxter & Woodman staff includes stormwater, sanitary, civil, transportation, mechanical, structural, electrical, and environmental engineers, wetland specialists, water and wastewater operators. The engineering personnel is supported by trained technicians, surveyors, CAD operators, construction managers and inspectors, and administrative assistants.

Multiple Locations to Serve You

Today, firm principles and culture remain the same - provide outstanding service to municipalities in support of safe and healthy environments for their residents. We have 190 employees, all of whom serve municipal/government clients from our nine regional office locations:

- Mokena
- Plainfield
- DeKalb
- Crystal Lake
- Grayslake
- Burlington, WI
- Chicago
- Itasca
- Madison, WI



RELEVANT SERVICES

OUR TEAM PROVIDES THE FOLLOWING RELEVANT SERVICES:

Baxter & Woodman's capabilities and experience covers all phases of and stormwater management; wastewater collection and treatment; and water supply, treatment and distribution. In fact, the firm was founded on water/wastewater infrastructure and we routinely provide planning, design, and construction observation of various stormwater/water/wastewater system facilities including:

Stormwater Management

- Storm Sewer Analysis and Design
- Stormwater Master Plans
- Drainage Studies
- Hydrologic and Hydraulic Modeling
- Bridge and Culvert Design
- Watershed Planning
- Stormwater Utilities
- Best Management Practices



Sanitary Sewer Collection

- Infiltration/Inflow Analyses
- Sewer System Evaluation Surveys
- Comprehensive Flow Monitoring Programs
- Sewer System Master Plans and Modeling
- Sanitary Sewer Extensions
- Sanitary Sewer Rehabilitation Programs
- Wastewater Pumping Stations
- Sewage Force Mains



Baxter & Woodman has been named every year as one of the top 50 Trenchless Design Firms in North America by Trenchless Technology Magazine since 2008!

Water Distribution

- Transmission and Distribution Mains
- Modeling
- Booster Stations
- Elevated Storage Tanks, Reservoirs, Standpipes
- Supervisory Control and Data Acquisition (SCADA) Systems
- Distribution System Network Analysis
- Distribution System Leakage Investigations



John P. Mick II, PE, F-NSPE, F-ITE
Project Advisor / Funding Assistance

Education

B.S., Civil Engineering
Indiana Institute of
Technology

Joined Firm in 2008

Years of Experience: 36

Registrations

Licensed Professional
Engineer: Illinois

**Professional
Associations**

Institute of Transportation
Engineers

Illinois Society of
Professional Engineers

National Society of
Professional Engineers

American Public Works
Association

American Consulting
Engineers Council

Illinois Municipal League

John has over 30 years of experience with management, study, design and construction of infrastructure improvements emphasizing planning and design. He has led Program Management efforts on local and regional projects valued at over \$1 billion. He is skilled in cost analyses/estimating, pursuit/management of funding sources, and CIP development. He served Franklin Park as Municipal Engineer for seven years, and while there developed their first Capital Improvement Program.

Representative Projects

Kenilworth, IL

Capital Improvement Program

Project Manager for the development of the Village's first Capital Improvement Program (CIP) for a ten-year period (2012 – 2021). Work included project planning and budget development for over 100 infrastructure projects; and coordination with numerous Village staff and departments, elected officials, and other government agencies. Key tasks included a street assessment; water, sanitary and stormwater systems review; reviews of several reports and Master Plans prepared by other consultants; and research of funding sources and grant programs. The total CIP investment exceeds \$40 million. The deliverable included project scopes, budgets, timing, and forecast funding sources.

Franklin Park, IL

Municipal Engineer

\$60 million. Included project planning and budget development for Village's infrastructure, coordination with other Village staff and elected officials, and other government agencies. He was responsible for development of their first Capital Improvement Program – including project scopes, budgets, timing and forecast funding sources. Coordination with developers and reviewed proposed development for impact on the Village's infrastructure. Conducted grantsmanship for State/Federal funding.

Bellwood, IL

Village Engineering

\$20 million. Provided engineering services including general engineering for the water, sewer, and street system. Services were provided on a Task Order basis. Included CIP input – including project scopes, budgets, timing and grantsmanship

Chicago, IL

O'Hare International Airport, Safety Study

Project Manager for the \$15 million Traffic/Safety study for landside circulation system at world's busiest airport. Resulted in over fifty specific improvements in geometric layout, operational strategies, pedestrian and worker flows and coordination of numerous private transportation providers. Involved assisting the City with Airports' budgeting and Capital Improvement Program – including project scopes, budgets, and timing. Comprehensive report/recommendations, many of which have been implemented.

University of Illinois at Chicago, IL

Five Traffic Safety Studies

Project Director of the multi-disciplined project team conducting \$10 million studies in conjunction with Campus Master Plan. Included traffic counts, pedestrian counts, speed studies, gap studies, and traffic control device warrant analyses. Project Reports for

each location and prioritization and funding of improvements at each location in coordination with CDOT. Provided input to City's C I P – including project scopes, budgets and forecast timing. Analyzed improvements in coordination with private and public utilities and various City departments.

Melrose Park/Bellwood, IL

25th Avenue Grade Separation Improvements

Project Manager for the project. Secured \$10 million in IDOT/FHWA grants for engineering suburban street and bridge improvements. Used technical community and political research to confirm projects' attributes in order to fully document them in complex grants. IDOT supported application as "one of best" of this type.

Villa Park, IL

Roosevelt Road Safety Study

Project Manager for the \$16 million safety and corridor study which analyzed pedestrian traffic along and across the corridor, as well as other non-motorized traffic (bicycles, rollerblades, etc.) Identified feasible non-motorized transportation facility, and safety, strategies, scanned land use issues, developed planning level opinions of cost and implementation to provide information for the Capital Improvement Program – including project scopes, budgets, timing and potential funding sources.

Rockford, IL

Harrison Avenue Strategic Regional Arterial Study

Project Manager for the \$60 million multi-disciplined analyses of six-mile arterial corridor to determine 20-year Master Plan of improvements. Data collection, concept development, right-of-way/cost analyses, environmental analysis and Project Report. Assisted the City and IDOT District Two with capital improvement programming – including project scopes, budgets and timing.

Franklin Park, IL

Grand Avenue Railroad Relocation

Program Manager for the consolidation of several at-grade crossings, into one 3-track bridge crossing depressed Grand Avenue, a major arterial. Assisted the Authority, first in Illinois, to monitor consultants and contractors in completion of the funding, permitting, environment approvals, design and construction including Design-Build, and less than 2.5% Change Orders. The \$50 million project had over 20 funding sources, including: IDOT, CMAQ, ICC, STP, Railroads and Village of Franklin Park.

Strategic Regional Arterials Study, Six County Chicagoland Area, IL

Program Manager for the \$1.1 billion transportation planning/engineering-comprehensive evaluation of 250 miles of arterial roadways to develop conceptual improvements through the year 2020. Traffic analyses, geometric concepts, land-use planning, environmental overview, public involvement, agency coordination and report development. One of the 13 routes studied was the Lake Shore Drive/Stony Island Avenue Corridor. Assisted IDOT District One with capital improvement programming – including potential projects' scopes, budgets and timing.



Mark G. Phipps, PE, CFM, CPESC
Project Manager / Main Contact

Education

B.S., Civil Engineering
Purdue University, 1998

Joined Firm in 2004
Rejoined Firm in 2010

Years of Experience: 14

Registrations

Licensed Professional
Engineer: Illinois, Wisconsin,
Indiana

Certified Floodplain Manager

Certified Professional in
Erosion and Sediment
Control

Enforcement Officer,
Lake County Stormwater
Management Commission

Qualified Engineer Review
Specialist, Kane County
Stormwater Management
Commission

Professional Associations

Technical Advisory
Committee Member,
McHenry County Stormwater
Management Committee

Board of Directors, McHenry
County Soil and Water
Conservation District

Member, Illinois Association
for Floodplain and
Stormwater Management

Member, The Association of
State Floodplain Managers

Mark serves as project manager for various water resource projects, including storm sewer and detention design, drainage studies, hydraulic reports, erosion and sediment control, and rehabilitation/replacement of municipal infrastructure. In addition, he assists our municipal clients with plan reviews and NPDES Phase II compliance.

Representative Projects

Elgin, Illinois - NPDES Phase II Stormwater Permit Compliance Project 2007-2013—Multi-year municipal stormwater pollution prevention program with a total contract fee over \$500,000. The project involves developing an illicit discharge detection and elimination program for the City, good housekeeping procedures to prevent stormwater pollution from municipal activities, a program to educate and involve the public about stormwater pollution prevention, and updating the City's GIS storm sewer maps with as-built data. The project also involves training City staff to implement the programs and procedures. Collaboration with many consultants was required.

Glenview, Illinois – Local Drainage Inspection Program – At the request of Village residents, performed on-site investigations related to drainage problems on private property. In written reports to the residents, identified the causes of the drainage problems and recommend improvements that could be made to correct the problems. The reports included cost estimates for potential improvements along with a list of recommended contractors.

Glenview, Illinois – Flick Park Overflow Path – Designed an overland flow path from the Rugen Road right-of-way, which flooded several times resulting in flood damage on private property. The flow path would convey stormwater to a detention basin in the adjacent park. The alignment of the overland flow path was carefully planned in order to preserve mature trees along the road right-of-way.

Glenview, Illinois – Sunset Memorial Lawns Storm Sewer Inlet – Designed an inlet structure for a proposed 48" bypass storm sewer originating in the Sunset Memorial Lawns Cemetery. In order to construct the bypass storm sewer, the Village needed to acquire an easement from the owner of the cemetery, who was concerned about the appearance of the inlet structure. The project involved concept sketches of several possible inlet designs and PhotoShop renderings of the Village's preferred alternatives.

McHenry County, Illinois – Chief Stormwater Engineer – Enforced the Countywide Stormwater Management Ordinance (SMO), which included: reviewing permit applications and proposed subdivisions for conformance with the SMO; issuing notices of violation; hearing appeals for variances; and reviewing the enforcement record of municipalities certified to enforce the SMO. As Chief Stormwater Engineer, Mark also re-instated the Technical Advisory Committee, drafted amendments to the SMO and the County's Conservation Design Standards, developed Countywide Permits to streamline the permitting process for routine projects, established a Memorandum of Understanding with the MCSWCD for inspection of permitted development sites, and established a Wetland Restoration Fund. This work was completed as an employee of McHenry County.

Soil Erosion and Sediment Control Enforcement Officer – McHenry County, Illinois – Reviewed engineering plans and inspected construction sites to ensure

Presentations

Soil Erosion and Sediment Control
Workshop Hosted by
McHenry County College
(August 2010)

Soil Erosion and Sediment Control
Contractor Seminar
Hosted by
MCSWCD and IECA
(November 2008)

A "Do-It-Yourself" Guide to Implementing an Efficient NPDES Phase II Program
Hosted by Baxter & Woodman
(February 2011)

NPDES Phase II Workshop
Lake County Stormwater Management Commission/APWA Chicago Metro Chapter
(May, 2007)

compliance with the Soil Erosion and Sediment Control Requirements of the McHenry County Stormwater Management Ordinance. Notified responsible parties of any deficiencies along with the required corrective actions. The following is a partial list of sites for which plans were reviewed and inspections were performed. This work was completed as an employee of McHenry County.

Prairie Grove, Illinois – Stormwater Enforcement Officer – Provided plan review services for proposed developments in accordance with the Village's Stormwater Management Ordinance.

South Barrington, Illinois – Village Stormwater Engineer – Provided plan review services for proposed developments in accordance with the Village's Stormwater Management Ordinance. Also, performed on-site investigations related to drainage complaints received by the Village. Identified the cause of the drainage problems and recommended any necessary improvements to be undertaken by the home owner or the Village.

North Barrington, Illinois - Floodplain Map Revision for Stone Creek– Performed a detailed study of a 1.7 square mile Zone A Special Flood Hazard Area surrounded by an established gated subdivision. Responsible for the project budget and schedule, supervision of the hydrologic and hydraulic analyses, obtaining regulatory approval from IDNR and a Letter of Map Revision from FEMA, and coordination with multiple clients and stakeholders.

North Barrington, Illinois - Woodland Drive Culvert Design - Updated the hydraulic computer model (HEC-RAS) to reflect the design conditions. The project included an evaluation of the potential flood benefits on private property and whether a LOMR was warranted. Meetings were held throughout the project with the Illinois Department of Natural Resources, Federal Emergency Management Agency, US Army Corps of Engineers, and Lake County Stormwater Management Commission to obtain environmental approvals and discuss design concerns for permit approvals.

Arlington Heights, Illinois – South Weller Creek Area Drainage Study Performed a drainage study of an established residential and commercial neighborhood prone to nuisance flooding. Responsible for the project schedule, supervision of the hydrologic and hydraulic analyses, and recommending short-term and long-term drainage improvements.

Mundelein, Illinois– Lincoln Avenue Storm Sewer Relocation - Designed the relocation of an existing 24" drain tile in an established residential neighborhood. Responsible for the storm sewer design, preparation of the construction specifications, and preparation of the engineer's opinion of probable construction cost.

City of Des Plaines, Illinois – Project Engineer for a Stormwater Master Plan developed for a neighborhood with recurrent flooding problems. Hydrologic analysis of existing and proposed conditions using design storms of various durations and frequencies were performed using XP-SWMM and alternative designs were screened for adverse impacts to Weller Creek using the regulatory WSP-2 model. Assisted in the preparation of engineering improvement plans for more than 18,000 linear feet of storm sewer and subsequent restoration.

Kane County, Illinois - Water Resources Project Manager for several Culvert and Bridge Rehabilitation projects for the Kane County Division of Transportation including

Lockport, Illinois – Adams Street Culvert Replacement -Water Resources Project Manager for the extension of the existing dual 7' diameter culverts channeling Milne Creek underneath Adams Street. Responsible for the hydraulic modeling of the proposed improvements and obtaining permits from regulatory agencies such as IDNR-OWR and U.S. Army Corps of Engineers.

Winnebago County, Illinois - East Riverside Development Project

Winnebago County and the City of Loves Park undertook infrastructure improvements to facilitate commercial development of the East Riverside Boulevard area. The proposed alignment of the roadways included several stream crossings with unmapped floodplain. Mark determined the base flood elevations for the existing and proposed conditions.

Plan Review and Development

City of Elgin, Illinois – Provided review of the Highland Woods Residential Development for stormwater management submittal.

City of Elgin, Illinois – Provided review of the Foy Property Residential Development for stormwater management submittal.

Village of Grayslake, Illinois – Provided review of Grayslake Park District 40-acre Park Development Plan for stormwater management submittal.

Village of Grayslake, Illinois – Provided review of Lake Street Square residential development plan for stormwater management submittal and conformance with Village Subdivision Control Ordinance.

McHenry County, Illinois – Permit Engineer for the Department of Planning and Development, providing review of base flood elevation determinations, stormwater management reports, and site plans for conformance to the McHenry County Stormwater Management Ordinance.

NPDES Phase II Assistance

Illinois – Project Manager for numerous projects involving the development or continuation of programs for: Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, and Pollution Prevention/Good Housekeeping. Including: **Village of Glenview, Village of Palatine, Village of South Barrington, Village of Itasca, Village of South Elgin, Village of Cary, Village of Lakewood**

Village of Twin Lakes, Wisconsin – Assisted the Village in planning programs and activities for Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Pollution Control, Post-Construction Site Storm Water Management, and Pollution Prevention.

Stormwater Pollution Prevention Plan Preparation – Illinois – Prepared a Stormwater Pollution Prevention Plan (SWPPP) meeting the requirements of the General NPDES Permit No. ILR10 for various developments, including those listed below. Submitted the SWPPP along with a Notice of Intent to the IEPA.

- Public Works Facility – Fox River Grove, Illinois
- Village Park – Prairie Grove, Illinois
- Village Hall Expansion – South Barrington, Illinois



Stephen R. Amann, PE, CFM
Water Resources Engineer

Education

BS, Civil Engineering,
University of Illinois Urbana-
Champaign, 1985

Joined Firm in 1997

Years of Experience: 27

Registrations

Licensed Professional
Engineer: Illinois

Certified Floodplain Manager:
Illinois

**Professional
Associations**

American Society of Civil
Engineers

Illinois Association for
Floodplain and Stormwater
Management

Related Training
**Managing Floodplain
Development Through the
National Flood Insurance
Program, FEMA, November
2010**, National regulations,
insurance and legal
requirements for compliance
with NFIP

**Low Impact Development
for Water Resources
Management, ASCE June
2006**, Reduction of
impervious surface area, use
of infiltration and other best
management practices to
reduce stormwater runoff
from sites ranging from small
commercial lots to large
residential subdivisions

Steve leads our firm in the planning, design, permitting and construction documentation of stormwater facilities for urban and rural environments. Steve has earned the designation of Certified Floodplain Manager and promotes effective and innovative approaches to address floodplain and stormwater management systems for municipalities. His design experience includes storm sewers, swales, detention ponds, compensatory storage, bridges and culverts. He is active in the development and subsequent updates of stormwater management ordinances and floodplain modifications. Steve promotes the incorporation of stormwater Best Management Practices into development ordinances and through the review of private site improvements on behalf of governmental entities. His experience also includes hydrologic and hydraulic modeling and FEMA Letters of Map Change. As a member of the Metropolitan Water Reclamation District of Greater Chicago's Technical Advisory Committee on the proposed County-wide Watershed Management Ordinance, Steve has represented municipal interests in the preparation of this ordinance.

Representative Projects

Lockport, Illinois

Victoria Crossings Detention Basin Project Manager.

Stormwater Management Development Plan Reviewer

Steve Amann's expertise in Subdivision Stormwater Management Plan review, has successfully prevented flooding in new subdivisions over the last 15 years in 9 local communities:

- New Lenox
- Shorewood
- Plainfield
- Oak Forest
- Beecher
- Elwood
- Country Club Hills
- Olympia Fields
- Park Forest

Plainfield, Illinois

Responsible for the review of all development work in the Village beginning in 2002, from concept plan review through Plan Commission presentations to final construction document approval. Includes coordination with Planning, Public Works, and Police Departments, and other local agencies from the Plainfield Park District to the Plainfield Fire Protection District. Involves coordination of field changes during construction and coordination with outside permitting agencies, including the U.S. Army Corps of Engineers

Assist with computerized map updating, investigate existing drainage problems, prepare menu of Best Management Practices to be incorporated into site plan design requirements, update drainage and detention ordinance to comply with new County requirements, update Village subdivision code to reflect current construction practices. Coordinated NPDES Phase II program creation and implementation.

Project manager for groundwater investigation in two subdivisions, including field surveys, drain tile repairs, groundwater modeling and feasibility analysis of proposed

Design of Storm Sewers & Pavement Drainage, Water Resources Learning Center 2005, Storm sewer and pavement/curb and gutter hydraulic analysis and design

HEC-HMS, ASCE March 2004, Use of the Army Corps' updated hydrologic computer program to model stormwater runoff, including controls through detention and other methods

Traffic Management of Land Development, Northwestern University Traffic Institute, 2003, Site design options, access control alternatives, roadway and intersection analysis and design to manage traffic impacts

Hydrologic and Hydraulic Design of Culverts, ASCE, 2001, USGS regression equations, culvert analysis using FHWA's HDS-5 report and HY-8 program

Watershed Modeling and Detention Basin Design, ASCE, 2001, Runoff generation and routing using SCS TR-20 and Army Corps HEC-1

NPDES Phase II Stormwater Quality Workshop, NCRS, 2000, Watershed planning, ordinances and public involvement, best management practices

Bicycle Facility Training, Chicago Area Transportation Study, 2000, Design aspects of bike paths, including roadway crossings and incorporation into site plans

improvements.

Shorewood, Illinois

Responsible for the review of all development work from 1998 through 2006, from concept plan review through annexation agreement negotiations to final construction document approval. Includes coordination with Community Development, Public Works, and Police Departments, and other local agencies including the Troy Fire Protection District. Coordination of field changes during construction and coordination with outside permitting agencies, including the U.S. Army Corps of Engineers

Investigate existing drainage problems, update drainage and detention ordinance to comply with new County requirements, update Village subdivision code to reflect current construction practices. Coordinated NPDES Phase II program creation and implementation.

Project Manager for Community Development Block Grant-funded extensions of municipal water system to existing residences. Aspects of project included assistance with low to moderate income resident surveys, preparation of funding applications, design and permitting of improvements, and construction documentation including payment and reimbursement processing.

Project Manager for the 1993 and 1994 Contract Maintenance MFT Programs, which included responsibilities from appropriation to construction observation

Oak Forest, Illinois

Investigation of various drainage concerns, including lot grading, storm sewer analysis, hydrologic and hydraulic modeling.

Project manager for replacement box culvert, including flood damage assessment, design, permitting, bidding and construction.

Project engineer for design of wet-bottom detention pond rehabilitation using aquatic and mesic vegetation.

Assist Community Development Department with preparation of required information to achieve certification within the Community Rating System.

Review of revised Flood Insurance Rate Maps to determine accuracy of background data.

Analysis of existing detention pond to determine capacity for additional runoff; design of pond improvements to expand capacity.

Grundy County

Serves as County Engineer, responsible for engineering plan review of all developments since 2007, including residential and commercial projects, as well as a 132-turbine wind farm. Coordinates plan review with Land Use, Environmental Health and Highway Departments.

Project engineer for drainage analysis involving property owner disputes, uncertain drainage divides, and required County improvements.

Beecher, Illinois

Coordinated NPDES Phase II program creation, implementation, updates and reporting.

Site Design for Stormwater Management, Center for Watershed Protection, 2000, Innovative site design considerations to reduce stormwater impacts

Urban Stormwater Best Management practices for Northeastern Illinois, NIPC, 1999, Implementation of specific BMP's for water quality and quantity benefits

Using HEC-RAS for Floodplains, Bridge and Culvert Hydraulics, Univ. of Wisconsin, 1998, HEC-RAS modeling for water surface profiles, bridge and culvert hydraulics, floodplains

Papers Presented Groundwater Flooding in Residential Subdivision, Illinois Association for Floodplain and Stormwater Management Annual Conference, 2010, Research, analysis, and alternative solutions to address groundwater elevation increases within residential subdivisions to reduce sump pump run times

**Bremen Township, Illinois
Kilbourne Avenue Culvert**

Project manager for culvert replacement project, including hydraulic modeling, wetlands and floodplain modifications, and permitting. Funding for this project was a combination of Community Development Block Grants, a State grant administered through the Department of Transportation, and local funds. Project work included assistance with CDBG funding applications, and construction documentation including payment and reimbursement processing.

**Country Club Hills, Illinois
Provincetown Detention Pond**

Project engineer for detention pond modifications, including hydraulic and hydrologic analysis, wetland impacts, and permitting.

Assist City with maintenance of status within the Federal Emergency Management Agency's Community Rating System.

**Homewood, Illinois
Linden/Gladville Relief Storm Sewer**

Project engineer for this 60-inch relief storm sewer requiring tunnel construction. The project was approximately 5,000 feet long, with an estimated construction value of \$4,300,000.

New Lenox, Illinois

Project manager for hydraulic analysis of complex storm drain system impacting poorly-drained subdivision.

Olympia Fields, Illinois

Review of development plans for residential, institutional and commercial sites, including coordination with adjacent municipality.

Park Forest, Illinois

Review of development plans, including mixed-use redevelopment of existing golf course, and proposed drainage modifications by adjacent community.

Various Municipalities 1997-Present

Helped represent several Villages at Technical Advisory Committee meetings during the preparation of Will County's Stormwater Management Ordinance. Prepared local ordinance updates to achieve compliance with Will County Stormwater Management Ordinance, including presentations to Village Staff and Officials, to achieve Certified Community status. Coordination of construction observation services with Baxter & Woodman representatives, contractors and public works personnel. Review of numerous subdivision and site improvement plans, including stormwater management facilities, and FEMA LOMC submittals. Coordinate NPDES Phase II program creation, implementation, and yearly permitting. Assisted with interpretation and review of proposed Cook County-wide Watershed Management Ordinance.

Various Municipalities Various Subdivisions 1986-1997

Project engineer for design, permitting and construction of numerous subdivisions, including storm sewer design, detention pond design, and floodplain modifications.



John J. Tierney, PE, CFM
Water Resources Engineer

Education

B.S., Civil Engineering
Villanova University
Villanova, PA

Joined Firm in 2001

Years of Experience: 22

Registrations

Licensed Professional
Engineer: Wisconsin

Licensed Professional
Engineer: Illinois

Certified Floodplain Manager

Lake County Watershed
Development Ordinance
Enforcement Officer

Professional Associations

American Public
Works Association

Wisconsin Association of
Floodplain, Stormwater and
Coastal Managers

Association of State
Floodplain Managers

John joined Baxter & Woodman in 2001 after five-year tenure as Village Engineer for a large (pop. 32,000) municipality. His background includes more than 17 years of progressively responsible experience in municipal engineering. John has reviewed plans for and supervised the installation of millions of dollars in public improvements completed by residential and commercial developers. John's experience also includes the administration of capital improvement projects including street resurfacing programs, downtown streetscape improvements, relief sewers, stormwater management projects, and water main replacement projects. He facilitated the construction of two fire stations, a new police station, a new library and a METRA train station. He has worked with Park District staff on the redevelopment of a community park and construction of a fitness center.

John is the designated Village Engineer for the Village of Rochester, WI. He is also the Watershed Development Ordinance Enforcement Officer for the Village of Round Lake, IL.

Representative Projects

Village of Union Grove, WI – Storm Water Utility Feasibility Study

Project manager for a project to study the feasibility of creating a fee based storm water utility for the Village to fund flood control and water quality projects.

Village of Union Grove, WI – Commerce Drive Pond Drainage Study

Assisted the Village in evaluation of the capacity of a breached detention basin. Reviewed tributary drainage area, model the previous outlet works and presented alternatives to repair and upgrade the Village owned detention pond.

Village of Rochester, Wisconsin – Annual Road Improvement Programs

Project manager for the preparation of bidding documents and administration of construction for the annual Village pavement rehabilitation project.

Village of Rochester, Wisconsin – Ag School Drain Tile Study

Manager and project engineer for a study of flooding problems related to a partially abandoned drain tile system. Provided recommended corrective measures and cost estimates.

Village of Rochester, Wisconsin - South Rochester Street Sidewalk

Prepared design documents, attended public hearings and managed the construction of a new 800-foot Village sidewalk in County Trunk Highway right-of-way.

St. Benedict's Abbey, Salem, Wisconsin - Sewer System Repairs

Conducted a sanitary sewer investigation and design of a private sewer rehabilitation project. The project included 275 feet of private interceptor sewer replacement and 230 feet of cast-in-place sewer lining.

City of McHenry, Illinois - Northside Avenue Storm Water Drainage Assessment

Investigation into stormwater flooding problems in a residential subdivision near the Fox River. Conducted surveys and evaluated the capacity of the existing drainage system. Prepared a report with recommendation for drainage infrastructure improvement.

Village of Mundelein, Illinois - Dam Inspections

As the Village Engineer and Assistant Village Engineer in Mundelein, John conducted the annual inspection of the Tullamore Dam, on the Seavey Drainage Ditch, a Class I earthen dam used for stormwater control. Inspection reports were prepared and submitted to the Department of Natural Resources.

Subdivision Plan, Plat, and Site Development Plan Review

Village of Grayslake, Illinois

Stoney Ridge Subdivision
Village Station Subdivision

Village of Itasca, Illinois

Mitchell Manor Subdivision
Maples of Itasca Subdivision
Hidden Oaks Subdivision
Thorndale Distribution Warehouse
Pierce Place Condominiums

City of Marengo, Illinois

Landings of Marengo Subdivision
Victoria Cove Subdivision
Brayton Knolls Subdivision
Brookside Meadows Subdivision
Marengo High School
Marengo Park District Recreation Center
Floodplain Permit Reviews Various Lots

City of McHenry, Illinois

Riverside Hollow
Liberty Trails
Boone Creek Unit 6
Shamrock Farms Subdivision Plan and Water Resources Report Review
Prairie Point Business Park Subdivision
Northgate West Commercial Subdivision

Village of Rochester, Wisconsin

Settlement of Rochester Condominiums
Millgate Center Commercial Development
Rookery Landing Subdivision
Coyote Territory Subdivision
Stone Ridge Subdivision

Village of Round Lake, Illinois

Lakewood Grove Subdivision
Valley Lakes Subdivision
Sunset Commerce Center
Silver Leaf Glen Subdivision
Fairfield Lakes Subdivision

Village of Winthrop Harbor, Illinois

Maples Subdivision
Covenant Courts Subdivision



William C. Blecke, PE, CFM
Water Resources Engineer

Education

BS, Civil Engineering
Valparaiso University, 1973

Joined Firm in 1990

Years of Experience: 35

Registrations

Licensed Professional
Engineer: Illinois

Certified Floodplain Manager:
Illinois

Continuing Education

Floodplain Regulations
Workshops

IAFSM and ASFPM
Workshops (annually)

IDOT TR-55 Workshop
NPDES Stormwater
Discharge Permitting

Stormwater
Management/Detention
Design

Wetlands and 404 Permitting
and FEMA Map Revisions

**Professional
Associations**

American Public Works
Association

American Society of Civil
Engineers

Illinois Association for
Floodplain and Stormwater
Management

Association of State
Floodplain Managers

In a career which began after graduation from Valparaiso University with a Bachelor of Science in Civil Engineering in 1973, Bill initiated his career in the design of civil engineering infrastructure. Since joining Baxter & Woodman in 1990, we have put Bill's municipal experience and knowledge to good use. He is well versed in the preparation and review of municipal codes, ordinances and engineering design standards with an emphasis on drainage, floodplains and floodways, wetland, soil erosion, and sedimentation control.

As a member of the Illinois Association for Floodplain and Stormwater Management and Association of State Floodplain Managers, Bill keeps current on stormwater drainage, floodplain and wetlands issues. He is a Certified Floodplain Manager and performs the duties of "Enforcement Officer" under the Lake County Watershed Development Ordinance for several of our Lake County clients and is a Certified Review Specialist in Kane County. Bill is in charge of keeping our clients FEMA FIRMs and ordinances current under the MAP MOD program in order that they remain in good standing in the NFIP.

He was also accepted to serve on the IEPA General Permit Review Committee for review of the conditions for the Draft General Permit under the NPDES Phase II requirements. Bill heads the firm's efforts in the preparation of Notices of Intent, Annual Facilities Inspection Reports and Stormwater Management Program Plans for several municipalities for compliance with the State of Illinois General NPDES II Stormwater Discharge Permit.

Bill participated in the drafting of the McHenry County Stormwater Ordinance as a member of the Technical Advisory Committee. He assisted the McHenry County Planning and Development Department in the review of development projects for stormwater and floodplain issues.

Representative Projects

City of Wood Dale

Community Rating System (CRS) Compliance

Project Manager assisting the City of Wood Dale with CRS compliance through coordination with the Community Development Director and the Public Works Director. Activities for which points are awarded to Wood Dale in the 300, 400, 500 and 600 series are monitored periodically in order that annual requirements can be met and points retained. Wood Dale is one of only seven communities in Illinois rated at Class 5 or lower. The City recently completed a periodic compliance review and received a preliminary determination that the City's points have increased and it will retain its Class 5 rating. This rating saves Wood Dale residents with flood insurance policies 45% on their annual premiums.

Village of Itasca, Illinois

Prepared recommendations for revision of the Village's subdivision ordinances and development standards in conjunction with the enactment of the DuPage County Stormwater and Floodplain Ordinance. This activity involved monthly update reports, meetings with county officials, as well as presentations at Village Board meetings. Reviews private development plans and public improvement projects for conformance with the DuPage County Stormwater and Floodplain Ordinance, including permit applications and variance procedures. Currently is the project manager for a regional detention basin modification and a neighborhood flooding analysis incorporating XP-

Presentations

“Waste Water Treatment Plants and their impacts on Water Quality and Natural Beneficial Functions – Two Case Studies”

Illinois Association for Floodplain and Stormwater Management
(March 2009)

“Village of Huntley’s Efforts to Include Environmental Benefits for Sustainability by Ordinance”

Illinois Association for Floodplain and Stormwater Management
(March 2006)

“NAI-One Community’s Efforts to Include Environmental Benefits for Sustainability by Ordinance”

Association of State Floodplain Managers Conference
(Albuquerque, June 2006)

“NPDES Phase II Year 1: What Now?”

Association of State Flood Plain Managers Conference
(Biloxi, May 2004)

“NPDES Phase II Year 1: What Now?”

Illinois Association for Floodplain and Stormwater Management
(March 2004)

“Anti-Degradation/Stream Relocation of Eakin Creek”

Association of State Floodplain Managers
(St. Louis, May 2003)

“National Pollution Discharge Elimination System”

American Public Works Association Chicago Metropolitan Chapter Lake Branch Meeting
(October 2001)

SWMM.

McHenry County, Illinois Stormwater Review Specialist

Provided consulting services to McHenry County as staff support for enforcement of the County-wide Stormwater Ordinance in unincorporated McHenry County and non-certified communities. Responsibilities include review of development applications for erosion control, stormwater detention design, grading, base flood elevations, compensatory storage calculations, wetland impacts, and best management practices.

Village of Huntley, Illinois

Bill was responsible for maintaining regular contact with the Village Engineer and Public Works Director, and upon request assisted with review of development projects, updated master facilities plans and NPDES Stormwater Discharge program activities. He developed the Village’s subdivision design standards and specifications for the subdivision control ordinance, as well as procedures for the guarantee, inspection and acceptance of Village improvements. Bill also was instrumental in the Village’s adoption of the Kane County Stormwater Management Ordinance. Bill also coordinated the review for all public improvements, floodplain determinations, and wetland mitigation associated with the 1,800-acre Del Webb Sun City project, the 800-acre Talamore Development, and numerous other residential and commercial developments.

Village of Island Lake, Illinois

Community Development Block Grant funding administrative services for various water system upgrade projects.

Lake County Stormwater Management Commission Lake County, Illinois

Serves on the Municipal Advisory Committee for review of County initiatives regarding assistance to municipalities in meeting NPDES Phase II Stormwater Discharge Permit requirements.

Village of Lakemoor, Illinois

Coordinated review for the acre multi-use Residential Lakemoor Farms Development, including wetlands and flood plain determinations.

Sullivan Lake PUD: Combined single and multi-family development including public and private roadways, water, sewer and multiple pond wetland stormwater management plan.

Village of Mundelein, Illinois

Coordinated a flood control and rechannelization project of the Seavey Drainage Ditch. Project scope included using HEC-1 and HEC-2 to study the hydrology and hydraulics of the ditch, applying for floodway and floodplain construction permit and Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA), Lake County Stormwater Management Commission (LCSMC), and Illinois Department of Natural Resources (IDNR) and preparing plans and specifications.

Village of North Barrington, Illinois

Provided assistance to the Village to obtain certification for review authority under the Lake County Watershed Development Ordinance (WDO). Reviewed development plans as the Village WDO Enforcement Officer.



Sean E. O'Dell, PE
Infrastructure Engineer

Education

B.S. Civil Engineering,
Bradley University, 2002

Joined Firm in 2002

Years of Experience: 10

Registrations

Licensed Professional
Engineer: Illinois

Professional Associations

Vice President and Executive
Board Member; Chapter
Education Committee
Member, APWA Southwest
Branch

American Society of Civil
Engineers

Illinois Section of AWWA
(YP Committee)

Illinois Public Service Institute
2011

Presentations

Watercon2011
Trenchless Water Main
Rehabilitation - A Sustainable
Alternative to Open Cut
Replacement

Water Main Rehabilitation
ISAWWA Webinars -
January 2012, August 2011
Illinois Institute of Technology
Graduate Seminar, Fall 2011

APWA Expo 2010
Sustainable Pipeline Design -
The Art of Trenchless
Installation and
Rehabilitation

Sean regularly assists many local municipalities and agencies with infrastructure rehabilitation, including the Village of Plainfield, City of Oak Forest, Village of Park Forest, Downers Grove Sanitary District, and more. His experience with a variety of water, wastewater, stormwater management, and transportation projects has made him proficient in master planning, design, watershed modeling, survey, and GPS. He has both field and office experience, allowing him to bring a practical perspective to your project. He has worked closely with many growing and established municipalities and sanitary districts on planning infrastructure to serve growth and redevelopment areas. Sean is also a member of our Trenchless Technology Committee, which meets regularly to discuss and stay up-to-date on the newest construction methods.

Sean is also skilled in the following water resources software programs: HEC-RAS River Analysis System; PondPack version 8.0; TR-20 Computer Program for Project Formulation Hydrology; TR-55 Urban Hydrology for Small Watersheds; HY-8 Hydraulic Design of Highway Culverts. He is certified in evaluating sewer structural conditions through the PACP (Pipeline Assessment and Certification Program).

Representative Projects

Village of Lombard

Various Lift Station Improvements

Project Manager for the design of improvements to various lift stations throughout the Village. Included improvements at the Grace/Central & Kenilworth, Vista, Prairie-Lalonde, Olde Towne, Cambria, Elizabeth-Morris, Fairview, and Charles Lane & Finley Road lift stations.

Village of Oak Park

I-290 Water Main Slip-lining

Project Engineer for this award-winning, fast-tracked water main rehabilitation using trenchless slip-lining under I-290 expressway. 2-week improvement completion facilitated the advancing progress of the I-290 2010 road resurfacing project.

Village of Bensenville

2010 Street and Water Main Replacements

Project Manager/Engineer for installation of 3,000 feet of 8 inch water main, valves, fire hydrants and water services, curb and gutter removal and replacement, sidewalks, driveways, and roadway resurfacing (milling, patching, and paving), and parkway restoration.

Village of Lisle

2008-09 Infrastructure Rehabilitation

Project Engineer for the design and construction assistance of the Village's annual infrastructure improvement program which included approximately 7,000 lineal feet of water main and 6,000 lineal feet of sanitary sewer. Our evaluation included a review of open cut and directional drilling options and alternative pipe materials to address corrosion concerns.

City of Oak Forest

"L" Streets Water Main Replacements

Project Manager for design and construction engineering services for the City's "L" Streets water main replacements consisting of replacement of existing 6-inch water

mains with 8-inch water mains along Lamon Avenue from 153rd Street to 156th Street, along LeClaire Avenue from 152nd Street to 154th Street, along LaCrosse Avenue from 151st Street to 153rd Street, along Lavergne Avenue from 151st Street to 153rd Street, and 153rd Street from Lavergne Avenue to Cicero Avenue, as recommended in the City's Water System Master Plan, which was also prepared by Baxter & Woodman.

151st Street Water Main Replacement

Project Manager for the installation of approximately 3,770 lineal feet of 8-inch, and 64 lineal feet of 16-inch ductile iron water main, eight 6-inch and eight 8-inch gate valves, one 16-inch butterfly valve, one 10-inch x 8-inch pressure connection, 16 valve vaults, 12 fire hydrants, new water services, complete surface restoration, and other miscellaneous items of work.

Village of Skokie

2009 Water System Improvements

Project Manager for design of the replacement of water mains in two residential locations. The project will replace 985 lineal feet of 8-inch main and 915 lineal feet of 6-inch main. Also included are standard valve, fire hydrant and water service replacement. The project design was based on the data collected by the Baxter & Woodman survey department and from drawings that were created by the Baxter & Woodman CAD group. Baxter & Woodman will also provide construction observation services.

Village of Beecher, Illinois

Sanitary Sewer Master Plan

Design Engineer of a master plan for all existing and future sanitary sewer in the Village. The report included investigating flow meter results, determining existing capacity of the system, investigating locations and costs of relief sewer, calculating locations and costs of future trunk sewers and pumping station needed to serve growth in the Village, and assisting the Village in coordinating improvements with developers.

Trim Creek Sanitary Relief Sewer Improvements

Project Engineer for relief sewer improvements to help the Village accommodate future growth to the north without affecting homeowners downstream. The project included 2,100 feet of 21-inch sanitary sewer installed by open cut and jacking in steel casings. The project included coordination with adjacent property owners, the Army Corps, and the local draining district. This \$300,000 project originated in the Master Plan created by Baxter and Woodman.

Subdivision Plan Review

Plan Reviewer for various residential and commercial subdivisions including examination of grading plans, soil erosion and sedimentation control plans, storm sewer calculations, detention calculations, overflow routing and calculations, hydraulic grade line calculations, and weir/restrictor calculations.

Downers Grove Sanitary District

Sanitary Flow Monitoring

Field Engineer for various flow monitoring projects, including installing, calibrating, maintaining, and reviewing data for multiple manhole locations.

Sewer Replacement Projects

Design Engineer for various sewer replacements projects, including open cut installation, pipe bursting, and directional drilling of pressure-rated PVC pipe.



Eric J. Murauskas, PE
Infrastructure Engineer

Education

B.S. Civil Engineering, Iowa State University, 1989

Joined Firm in 1989

Years of Experience: 22

Registrations

Registered Professional Engineer: Illinois

Professional Associations

American Water Works Association

National Groundwater Association

Continuing Education

Annual courses conducted by Marsh-McBirney that include instruction ranging from site selection and flow meter installation to analysis of flow data

Training courses in the use of Visual-Modflow, a software package for modeling groundwater movement

Training courses for well design and rehabilitation

Training courses for the use of WaterCad, a software package for modeling water distribution systems

Eric is well versed in sanitary sewer evaluation studies, sanitary sewer flow monitoring, sanitary sewer rehabilitation, stormwater drainage studies, sewer system design, and municipal services. He is knowledgeable in the application of various computer programs used for design and evaluation purposes. Some of these include StormCAD, which is used to determine the capabilities of an existing storm water drainage system to handle current and future needs, and to evaluate alternative improvements to correct deficiencies; MODFLOW, which is used to model groundwater flow for Wellhead Protection Programs; and FLO-WARE and INSIGHT GOLD, both of which are used for wastewater flow monitoring data analysis.

Representative Projects

Elgin, Illinois

CSO Monitoring/SCADA Investigation

Project Engineer for evaluating equipment to be used for monitoring and recording combined sewer overflow events. This investigation included selection of monitoring locations, evaluation of alternate technologies, and preliminary design of equipment.

Elgin, Illinois

Lincoln/Douglas Sewer Separation

Project Engineer for the separation of a combined sewer and installation of separate storm and sanitary sewers through this historic district of the City. The comprehensive investigative phase of this project included coordination and review of sewer televising, building to building canvassing, manhole inspections, and smoke testing of selected sewers. A preliminary design report outlined our investigations, findings and conclusions.

Hoffman Estates, Illinois

Comprehensive Flow Monitoring and I/I Study

Project Engineer for the evaluation of the flow monitoring of 22 sub-basins and dyed-water testing of selected sub-basins in order to identify sources of infiltration and inflow and identifying the scope of sanitary sewer rehabilitation needed to address operational issues.

Phase III Sanitary Sewer Rehabilitation and I/I Study

Project Engineer for the sanitary sewer rehabilitation, manhole inspections, smoke testing, external building inspections, and flow meter data analysis.

Itasca, Illinois

Sanitary Sewer Evaluation Study

Project Manager for the Sanitary Sewer Evaluation Study (SSES) for the Village of Itasca. The purpose of the SSES was to determine remediation strategies for reducing excess infiltration and inflow (I/I). The investigation included inspection of 545 manholes, smoke testing of approximately 136,000 feet of sanitary sewer, dyed-water testing of the storm sewer system, and review of closed circuit television (CCTV) sewer inspections. A technical report was prepared summarizing the findings, identified I/I sources and their estimated I/I contribution, presented our recommendations for rehabilitation, and provided a cost estimate for the rehabilitation work.

2009 Wastewater Flow Monitoring

Project Manager for the development and implementation of a flow monitoring program to measure flows in the Village's sanitary sewer system. The program included installation of 10 flow meters. The flow meter data was analyzed to calculate the dry weather and wet weather flow from each flow basin. This analysis identified areas of the areas of the sanitary sewer system that contributed the most infiltration and inflow (I/I), prioritized flow basins for further study to identify I/I sources, and recommended additional sanitary sewer evaluation study (SSES) procedures to complete in each flow basin.

Oak Forest, Illinois

Sanitary Sewer Flow Monitoring

Project Manager for the development and implementation of a flow monitoring program to measure flow in the City's entire sanitary sewer system. Flow meter data was be analyzed to calculate the dry weather and wet weather flow from each of 25 flow basins. This analysis was used to identify areas of the sanitary sewer system that contributed the most infiltration and inflow (I/I), to prioritize flow basins for further study to identify I/I sources, and to recommend additional sanitary sewer evaluation study (SSES) procedures to complete in each flow basin.

Woodstock, Illinois

2008 Sanitary Sewer Evaluation Study

Project Manager for the Sanitary Sewer Evaluation Study (SSES) for the City of Woodstock. The purpose of the SSES was to determine remediation strategies for reducing excess infiltration and inflow (I/I). The investigation included inspection of 1,200 manholes, smoke testing of 310,000 feet of sanitary sewer, dyed-water testing of the storm sewer system, and review of closed circuit television (CCTV) sewer inspections. A technical report was prepared summarizing the findings, identified I/I sources and their estimated I/I contribution, presented our recommendations for rehabilitation, and provided a cost estimate for the rehabilitation work.

Barrington, Illinois

Sanitary Sewer Evaluation Study – Subareas 1 and 2

Project Manager for the Sanitary Sewer Evaluation Study (SSES) for the Village of Barrington. The purpose of the SSES was to determine remediation strategies for reducing excess infiltration and inflow (I/I). The investigation included inspection of 500 manholes, smoke testing of approximately 125,000 feet of sanitary sewer, dyed-water testing of the storm sewer system, and review of closed circuit television (CCTV) sewer inspections. A technical report was prepared summarizing the findings, identified I/I sources and their estimated I/I contribution, presented our recommendations for rehabilitation, and provided a cost estimate for the rehabilitation work.

Sanitary Sewer Evaluation Study – Subareas 3

Project Manager for the Sanitary Sewer Evaluation Study (SSES) for the Village of Barrington. The purpose of the SSES was to determine remediation strategies for reducing excess infiltration and inflow (I/I). The investigation included inspection of 355 manholes, smoke testing of approximately 89,000 feet of sanitary sewer, dyed-water testing of the storm sewer system, and review of closed circuit television (CCTV) sewer inspections. A technical report was prepared summarizing the findings, identified I/I sources and their estimated I/I contribution, presented our recommendations for rehabilitation, and provided a cost estimate for the rehabilitation work.



Deborah Finn, CPSM
Public Relations Specialist

Joined Firm in 1994

Years of Experience: 32

Certifications

Certified Professional
Services Marketer - 2006
Society of Marketing
Professional Services

Professional Associations

Society of Marketing
Professional Services

Women's Transportation
Seminar (WTS)
Communications
Committee

Women in Management
McHenry County Chapter

*National Charlotte
Danstrom Award
Corporate Category 2005*

*Chapter Secretary
2004 - 2005
Newsletter Committee
2002 - 2005*

Crystal Lake Chamber of
Commerce
*Leaders in Action
Committee*

Papers / Presentations

Delivering Your Message
13th Annual Transportation
Symposium & Business
Exchange 2009

"Building a Community"
Illinois Municipal Review

Since joining the firm in 1994, Deborah has managed the marketing efforts of Baxter & Woodman, Inc., including market research, budget planning, business development, proposal generation, promotional activities and development of the firm's annual public relations initiatives.

Baxter & Woodman's public relations' focuses on newsletters, direct mailings, client and industry association presentations and project award submittals. Deborah also oversees web development, graphic design and scripting of firm brochures, trade show booth artwork, special mailers and PR and recruiting materials development.

Deborah earned the designation of Certified Professional Services Marketer in 2006 from the Society of Marketing Professional Services. She also received the National Charlotte Danstrom Women of Achievement Award (Corporate Category) in 2005 from the Women in Management Organization, which she is an active participant.

Representative Projects

McHenry County Highway Department, Illinois Walkup Road Construction

This project involves Phase III services for improvements to Walkup Road at Illinois Route 176. Various communication techniques are being utilized on the project, from neighborhood canvassing, the development of a project-specific website, to creating and monitoring project Twitter and Facebook accounts.

Route 31 Bypass Study

Baxter & Woodman teamed with MACTEC Engineering for this feasibility study. Provided support for the public involvement portion of the study through a project specific website, public information meetings, writing press releases, preparing informational handouts for the meetings, and various mailings to project stakeholders and the public. As the website manager, I developed a temporary project website which included a forum for the public to post their comments. Responsible for monitoring site, responding to public comments and posting project updates.

Linn Sanitary District, Wisconsin Facilities Planning

As part of the wastewater facilities planning effort, a public campaign was initiated to identify all needs of the un-sewered community. Responsible for the preparation of a series of newsletters and a sanitary needs questionnaire that were sent to all affected residents. Following the needs questionnaire, we prepared a series of graphic illustrated display boards that were utilized during the public hearing portion of this study.

Highwood, Illinois City Newsletter

Acted as project liaison with the editor of the community newsletter, providing articles and project information on various capital improvement projects Baxter & Woodman was involved with.

Grayslake, Illinois Atkinson Road Extension

Coordination of public information meetings and related exhibits.



Andrew E. Zaletel, GISP
GIS Manager

Education

M.S., Resource Analysis and GIS, Saint Mary's University of Minnesota, 2000

B.S., Biology (Ecology), Winona State University, 1999

Joined Firm in 2005

Years of Experience: 13

Certifications

Geographic Information Systems Professional

Relevant Coursework

- "GIS Theory and Application"
- "GIS Analysis"
- "Advanced GIS"
- "Advanced Arcview"
- "Visual Basic Programming"
- "Avenue Programming"
- "Satellite Imagery/Photo Interpretation"
- "Fundamentals of Resource Analysis"
- "Access and SQL"
- "Statistical Analysis"
- "Spatial Data Methodology"

Professional Associations

Urban and Regional Information Systems Association

Illinois Geographical Information Systems Association

Course Instructor

Introduction to GIS,
College of Lake County
GPS Technologies,
College of Lake County

As the Manager of Baxter & Woodman's GIS Department, Andy leads the planning, design, and implementation of GIS and GPS-based services for municipal clients. He supervises a staff of GIS specialists and mapping technicians with expertise in ESRI and Trimble software applications and Autodesk mapping. Andy has served as Project Manager for numerous custom application development, utility mapping, data collection and basemap development projects, and has also overseen the GIS component of many municipal master plans. He has been instrumental in assisting communities with data analysis and conversion, custom application development, web-based GIS solutions, infrastructure system surveys and educational workshop presentations and trainings. In addition, he teaches Introduction to GIS and GPS Technologies for the College of Lake County in Grayslake, IL.

Representative Projects

Clearwave Communications, Illinois

Southern Illinois Middle Mile Network – Environmental Assessment

Provided GIS services for the ongoing preparation of an Environmental Assessment for the project route and completion of the US Army Corps of Engineers permit applications for wetland crossings. These are required as part of a \$31.5 million NTIA grant award received for installation of approximately 740 miles of fiber optic cable across a 23-county region of southern Illinois. As part of the project, a GIS base map for the proposed project area is being developed. Layers identifying wetlands, floodplains and other environmental assets will be created to assist with project and route planning, exhibit preparation and project delivery.

City of Wood Dale, Illinois

GIS Basemap Development

Project Manager for the development of a GIS basemap and GIS implementation plan. This GIS system was designed and created with an open architecture, which allows for easy, cost-effective expansion of the GIS when the City is ready. This project included interviews of city staff to gain understanding of the procedures of their daily job functions. Recommendations based on the interviews were made offering GIS solutions regarding project urgency, long-term planning and budgeting needed to achieve the City's goals.

City of Crystal Lake, Illinois

Northwest Area Trunk Sewer

Project Manager for GIS component of the Northwest Area Trunk Sewer project consisted of planning, design, and bidding assistance to provide wastewater collection and conveyance for the northwest area of Crystal Lake. The project included a regional sewage pumping station with a sewage force main and a gravity trunk sewer extending to Wastewater Treatment Plant No. 2. Additionally, the project included the reconfiguration of the stormwater detention basin on Lake Street near Nash Road, and the replacement of the basin outlet sewer.

Lake County, Illinois

Department of Transportation

GIS Data Collection Project

Project Manager responsible for the design and implementation of the GPS data and all GIS processing of storm sewer system. Performed GPS data download and processing

for upload into an ESRI Personal Geodatabase. Managed the assembling of storm mains to include the attribute data associated with the pipes. Utilized advanced tools in processing data with the Geodatabase to allow the County network trace and flow direction analysis capabilities. Provided digital photos of all outfall structures linked to the corresponding structure in GIS. Managed all GIS data processing and quality control to ensure project completeness and accuracy.

Village of Maple Park, Illinois

Utility Mapping and GIS

Project Manager for the GPS survey of all storm and sanitary system structures within the Village Limits. Managed the assemblage of sewer piping and association of the attributes with the structures. Performed quality control on all data collected and processed and created utility atlas maps for Village staff. All data is being processed and analyzed utilizing ESRI ArcGIS software.

City of Woodstock, Illinois

Water/Sewer Master Plan Updates

Project Manager for the GPS survey of all water distribution system structures. Associated existing City water atlas data with the survey data collected to populate an ESRI Personal Geodatabase. Provided the City with complete utility network and basemap GIS to be utilized by staff.

Village of South Elgin, Illinois

CAD to GIS Conversion Project

Managed the conversion and update of the Village's existing zoning map and parcel data layers. Converted data from AutoCAD to ArcGIS to allow for a greater level of attribute data population and the increased necessity of all staff to access this data. Performed an update to the Village's address data layer referencing existing data and the information provided by the County.

Village of Bartlett, Illinois

GIS Master Plan and Pilot Project

Development of a Geographic Information System (GIS) Master Plan and Pilot Project to assist the Village in creating the foundation for a functional GIS. Developed and prepared a GIS needs assessment, GIS conceptual design, and GIS implementation plan. The project also established an internet-based pilot project incorporating County data and Village-specific data layers.

Village of Itasca, Illinois

Village-wide Utility GIS

Project Manager for preparation of a user-friendly GIS basemap and layers maintained in-house by Village staff. GIS was also installed at three locations and staff were provided with training.

McHenry County Division of Transportation

Roadway Asset Pavement Management

This ongoing project involves a multi-task approach to the collection, analysis of data, and roadway asset management services for McHenry County. A semi-automated video pavement distress survey is being performed on the McHenry County network of roadways using a digital survey vehicle (DSV). The images and data are being viewed, processed and input into the CartêGraph suite of software.

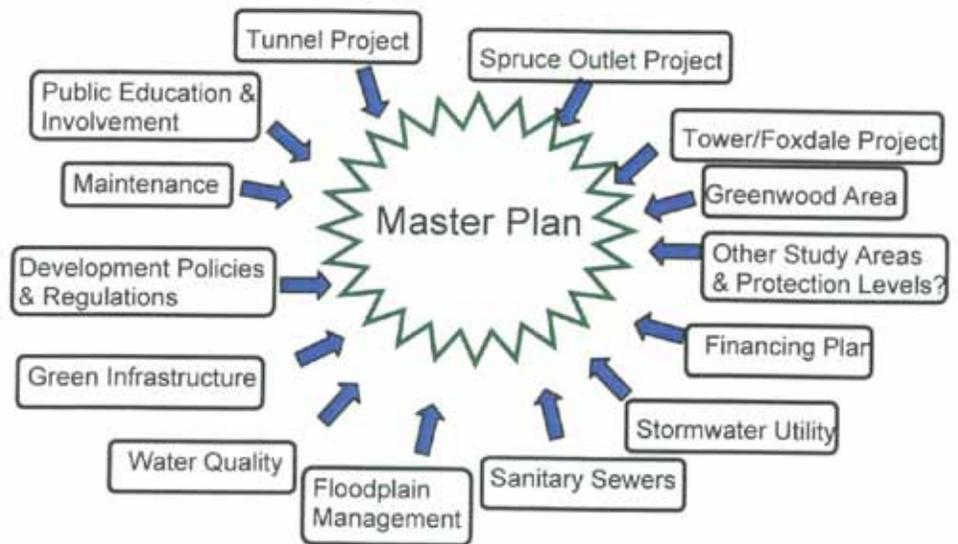
ATTACHMENT 3
Baxter & Woodman Fee Proposal



Village of Winnetka

Stormwater Master Plan

PROJECT BUDGET



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Baxter & Woodman, Inc.
Consulting Engineers
Revised May 25, 2012 ~~March 30, 2012~~
www.baxterwoodman.com

PROJECT BUDGET

Baxter & Woodman's not to exceed fee for the Village's Stormwater Master Plan Project is \$96,900. Manhour details and hourly rates for staff are included below.

Task	Hours
Review Flood Risk Studies	16
Review Miscellaneous Data from Village	14
Project Administration	36
Work Group Meetings	55
Meeting Minutes	16
Develop Communication Tools	25
Town Hall Meetings	22
Village Council Meetings	6
Obtain Topographic Data	4
XP-SWMM Existing Conditions	183
XP-SWMM Proposed Alternatives	75
Review Flow Metering Results	8
Strategy for I/I Reduction	14
Strategy for Maintenance Activities	19
Review Existing Development Regulations	24
Strategy for Updating Development Regulations	12
Strategy to Encourage BMPs	20
Review Existing NPDES Program	4
NPDES Program Recommendations	4
Water Quality Sampling	38
Water Quality Recommendations	10
Review Stormwater Utility Rate Study	10
Implementation Plan/Financial Strategy	40
Draft Stormwater Master Plan	94
Presentation of the Draft Plan	32
Final Stormwater Master Plan	29
Presentation of the Final Plan	8
Deliver Final Plan	8
Total Hours =	826

Team Hourly Rates	
Mark Phipps	\$ 125.00
Sean O'Dell	\$ 115.00
John Mick	\$ 170.00
Steve Amann	\$ 170.00
Tom Ganfield	\$ 130.00
John Tierney	\$ 135.00
Eric Murauskas	\$ 120.00
Bill Blecke	\$ 160.00
Andrew Zaletel	\$ 135.00
Deb Finn	\$ 135.00
Project Engineer	\$ 75.00
GIS Technician	\$ 90.00
Administrative Assistant	\$ 58.00

Direct Costs to Baxter & Woodman	
Mileage	\$ 2,552.00
Total Not to Exceed Fee =	\$ 96,900.00
Direct Costs to Others	
Water Quality Testing	\$ 4,320.00

Fee includes attendance at twelve (12) Stormwater Work Group Meetings
Additional Stormwater Work Group Meetings will be charged at a fee of \$700/meeting

Fee includes attendance at four (4) Village Council Meetings
Additional Village Council Meetings will be charged at a fee of \$600/meeting

Fee includes presentations at four (4) Town Hall Meetings
Additional Town Hall Meetings will be charged at a fee of \$1,300/meeting

Fee includes presentation of the Draft Stormwater Master Plan at one (1) Village Council Meeting

Fee includes presentation of the Final Stormwater Master Plan at one (1) Village Council Meeting

ATTACHMENT 4
Baxter & Woodman Draft Contract

VILLAGE OF WINNETKA, ILLINOIS
STORMWATER MASTER PLAN

ENGINEERING SERVICES AGREEMENT

THIS AGREEMENT is made this _____ day of _____ 2012, by and between the Village of Winnetka, Illinois, hereinafter referred to as the Village, and Baxter & Woodman, Inc., Consulting Engineers, hereinafter referred to as the Engineers, for engineering services required by the Village for the Stormwater Master Plan, hereinafter referred to as the Project.

WITNESSETH that in consideration of the covenants herein, these parties agree as follows:

SECTION 1. The Project consists of developing a stormwater master plan, as more completely described in Exhibit A, attached hereto. After written authorization by the Village, the Engineers shall provide professional services for the Project. These services will include serving as the Village's representative in all phases of the Project, providing consultation and advice, and furnishing customary engineering services, as enumerated in Exhibit B, attached hereto.

SECTION 2. The Village shall compensate the Engineers for the professional services enumerated in Exhibit B hereof as follows:

2.1 The Engineers' fee for the professional services described in Exhibit B Sections 1 through 18 shall be computed on the basis of their hourly billing rates for actual work time performed plus reimbursement of out-of-pocket expenses including travel costs, which total amount will not exceed \$96,900.00; Engineers' Project No. 120309.30.

2.2 The Village shall reimburse the Engineers for costs associated with employment of geotechnical and subsurface utility exploration subconsultants, and/or laboratory services as set forth in Paragraph 3.9.

SECTION 3. The parties hereto further mutually agree:

3.1 The Engineers may submit requests for periodic progress payments for services rendered. Payments shall be due and owing by the Village in accordance with the terms and provisions of the Local Government Prompt Payment Act, Illinois Compiled Statutes, Ch. 50, Sec. 505, et. seq.; and the Engineers may, after giving seven (7) days written notice to the Village, suspend services under this Agreement until the

Engineers have been paid in full all amounts due for services, expenses, and late payment charges as provided in such Act.

3.2 This Agreement may be terminated, in whole or in part, by either party if the other party substantially fails to fulfill its obligations under this Agreement through no fault of the terminating party; or the Village may terminate this Agreement, in whole or in part, for its convenience. However, no such termination may be effected unless the terminating party gives the other party (1) not less than ten (10) calendar days written notice by certified mail of intent to terminate, and (2) an opportunity for a meeting with the terminating party before termination. If this Agreement is terminated by either party, the Engineers shall be paid for services performed to the effective date of termination, including reimbursable expenses. In the event of contract termination, the Village shall receive reproducible copies of Drawings, Specifications and other documents completed by the Engineers.

3.3 The Engineers agree to indemnify and hold harmless the Village, its agents, and its employees against any and all lawsuits, claims, demands, liabilities, losses or expenses, including court costs, and attorney's fees, for or on account of any injury to any person or any death at any time resulting from such injury, or any damaged property, which has arisen out of the negligent acts, errors, or omissions of the Engineers. It is further understood that this indemnification shall not be construed to cover the negligent acts or omissions of the Village, its agents, or its employees. It is additionally understood that this indemnification shall not be construed to cover the negligent acts or omissions of parties unrelated to this Agreement.

In the event claims, losses, damages or expenses are caused by the joint or concurrent negligence of the Engineers and the Village they shall be borne by each party in proportion to its negligence.

The Village acknowledges that the Engineers is a Business Corporation and not a Professional Service Corporation, and further acknowledges that the corporate entity, as the party to this contract, expressly avoids contracting for individual responsibility of its officers, directors, or employees.

The Village and Engineers agree that any claim made by either party arising out of any act of the other party, or any officer, director, or employee of the other party in the execution or performance of the Agreement, shall be made solely against the other party and not individually or jointly against such officer, director, or employees.

3.4 For the duration of the Project, the Engineers shall procure and maintain insurance for protection from claims under worker's compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property including loss of use resulting therefrom, alleged to arise from the Engineers' negligence in the performance of services under this Agreement. The Village shall be named as an additional insured on the Engineers' general liability insurance policy. The limits of liability for the insurance

required by this Subsection are as follows:

(1)	Worker's Compensation:	Statutory Limits
(2)	General Liability	
	Per Claim:	\$1,000,000
	Aggregate:	\$2,000,000
(3)	Automobile Liability	
	Combined Single Limit:	\$1,000,000
(4)	Excess Umbrella Liability	
	Per Claim and Aggregate:	\$5,000,000
(5)	Professional Liability	
	Per Claim and Aggregate:	\$5,000,000/\$5,000,000

3.5 Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of the Engineers and their officers, directors, employees, agents, and any of them, to the Village and anyone claiming by, through or under the Village, for any and all claims, losses, costs or damages whatsoever arising out of, resulting from or in any way related to the Project or the Agreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract or warranty express or implied of Engineers or their officers, directors, employees, agents or any of them, hereafter referred to as the Village's Claims", shall not exceed the total insurance proceeds available to pay on behalf of or to the Engineers by their insurers in settlement or satisfaction of Village's Claims under the terms and conditions of Engineers' insurance policies applicable thereto, including all covered payments made by those insurers for fees, costs and expenses of investigation, claims adjustment, defense and appeal.

The Village and Engineers agree to waive against each other all claims for special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to the Project.

3.6 The Engineers are responsible for the quality, technical accuracy, timely completion, and coordination of all Designs, Drawings, Specifications, Reports, and other professional services furnished or required under this Agreement. The Engineers shall endeavor to perform such services with the same degree of knowledge, skill and diligence normally employed by professional engineers performing the same or similar services.

3.7 The Village may, at any time, by written order, make changes within the general scope of this Agreement in the services to be performed by the Engineers. If such changes cause an increase or decrease in the Engineers' fee or time required for

performance of any services under this Agreement, whether or not changed by any order, an equitable adjustment shall be made and this Agreement shall be modified in writing accordingly. No service for which an additional compensation will be charged by the Engineers shall be furnished without the written authorization of the Village.

3.8 All Reports, Drawings, Specifications, other documents, and electronic media prepared or furnished by the Engineers pursuant to this Agreement are instruments of service in respect to the Project, and the Engineers shall retain the right of reuse of said documents and electronic media by and at the discretion of the Engineers whether or not the Project is completed. Reproducible copies of the Engineers' documents and electronic media for information and reference in connection with the use and occupancy of the Project by the Village and others shall be delivered to and become the property of the Village upon request; however, the Engineers' documents and electronic media are not intended or represented to be suitable for reuse by the Village or others on additions or extensions of the Project, or on any other project. Any such reuse without verification or adaptation by the Engineers for the specific purpose intended will be at the Village's sole risk and without liability or legal exposure to the Engineers, and the Village shall indemnify and hold harmless the Engineers from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any furnishing of additional copies and verification or adaptation of the Engineers' documents and electronic media will entitle the Engineers to claim and receive additional compensation from the Village. Electronic media are furnished without guarantee of compatibility with the Village's software or hardware, and the Engineers' sole responsibility for such media is to furnish replacements of defective disks within 30 days after initial delivery.

3.9 The compensation for engineering services set forth in Section 2 hereof shall include supervision of any geotechnical subconsultant, subsurface utility exploration subconsultant and/or laboratory services required by the Engineers for the Project. The Engineers shall make all necessary arrangements, subject to the prior approval by the Village, and employ qualified subconsultants for all geotechnical subconsultant, subsurface exploration and/or laboratory services. The cost of such subconsultant services shall be a separate expense to the Village and the Village shall reimburse the Engineers for the actual costs of the geotechnical subconsultant, subsurface exploration and/or laboratory services plus five percent (5%) service charge upon submission of proper invoices.

3.10 The Village shall obtain from others and furnish to the Engineers complete legal descriptions and plats of property surveys for the Project which shall include, but not be limited to, location and staking of all necessary property lines and corners, public rights-of-way and secured easements, and zoning and deed restrictions.

3.11 The Engineers are an equal opportunity employer and hereby incorporate the requirements of 44 Ill. Adm. Code 750 Appendix A as applicable.

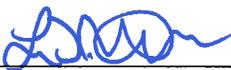
3.12 Any provision or part thereof of this Agreement held to be void or unenforceable under any law shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon the parties. The parties agree that this Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision which comes as close as possible to expressing the intention of the stricken provision.

3.13 This Agreement contains and embodies the entire and integrated agreement between parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

IN WITNESS WHEREOF, the parties hereto have caused the execution of this Agreement by their duly authorized officers as of the day and year first above written.

BAXTER & WOODMAN, INC.

VILLAGE OF WINNETKA, ILLINOIS

By 
Vice President/COO

By _____
President

05/30/12
Date of Signature

Date of Signature

(SEAL)

ATTEST:

ATTEST:


Deputy Secretary

Clerk

Attachment

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VILLAGE OF WINNETKA, ILLINOIS
STORMWATER MASTER PLAN

EXHIBIT A

PROJECT DESCRIPTION

The overall objective of this Project is to compile a document which provides a clear and concise explanation of the Village's existing stormwater management program, presents a detailed investigation into key components of stormwater as it is related to the Village, establishes stormwater management goals for the future, presents tools to meet or exceed established goals and provides a foundation for future policy decisions. The final product should be a document which helps the Village guide the stormwater program for the next five to ten years.

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VILLAGE OF WINNETKA, ILLINOIS
STORMWATER MASTER PLAN

EXHIBIT B

SCOPE OF SERVICES

1. **PROJECT ADMINISTRATION.** Plan, schedule, and control activities that must be performed to complete the Project. These activities include, but are not limited to, budget, schedule, scope and performance. This task involves the preparation of a detailed communication plan to be adhered to throughout the Project and submittal of weekly Project status reports to the Village.
2. **PROJECT INITIATION AND EXISTING DATA REVIEW.** Hold a Project initiation meeting to review existing data provided by the Village including, but not limited to:
 - Sanitary and storm sewer system maps
 - GIS data
 - Digital topographic data
 - Previous drainage studies
 - Previous hydrologic and hydraulic models
 - Summaries of previous Village council discussions and meeting materials
 - Flooding reports and records
 - NPDES permit and activities
 - Village comprehensive plan “*Winnetka 2020*”
 - Village codes and ordinances as applicable
 - Village planned road and infrastructure improvements
 - Map of publicly owned properties
 - Repetitive flood loss properties
3. **STORMWATER WORK GROUP MEETINGS.** Attendance at up to twelve (12) meetings with Village staff and other Village consultants to discuss preliminary findings and recommendations as the Stormwater Master Plan is developed. This task includes the preparation of minutes for each meeting of the Stormwater Work Group.
4. **VILLAGE COUNCIL MEETINGS.** Attendance at up to four (4) meetings of the Village Council to provide the Council with an informal progress report and to receive ongoing input from the Council.
5. **TOWN HALL MEETINGS.** Host up to four (4) meetings to engage the public in the development of the Stormwater Master Plan.

6. SOCIAL MEDIA COMMUNICATIONS. Utilize a Project website, Facebook, and Twitter to engage the public in the development of the Stormwater Master Plan. These communications will be updated monthly throughout the Project.
7. REVIEW PREVIOUS STORMWATER STUDIES AND RECOMMENDED IMPROVEMENTS. This task includes incorporating the recommended improvements into a 10-year plan for implementing the improvements.
8. IDENTIFY OTHER NEEDED STORMWATER IMPROVEMENTS OR AREAS IN NEED OF FURTHER STUDY. Perform hydrologic and hydraulic analyses of the unstudied areas of the Village identified on Attachment 2 of the RFP (Areas A, C, E, G, N, and O) based on storm sewer locations, elevations, sizes, lengths, and connections shown on the Village storm sewer atlas, along with aerial topographic data provided by the Village or Cook County. Recommend drainage improvements for each area studied and incorporate the recommended improvements into a 10-year plan for implementing the improvements.
9. REVIEW SANITARY SEWER FLOW MONITORING STUDY AND RECOMMENDATIONS. Review the results of the ongoing sanitary sewer flow-metering study. Develop a strategy to reduce inflow and infiltration in the sanitary sewer system (expected August-September 2012). This task includes incorporating the recommended improvements into a 10-year plan for implementing the improvements.
10. EVALUATE REGULATIONS. Review existing Village development regulations and identify opportunities to update the regulations. Recommend a strategy for updating development regulations to maintain compliance with applicable State and Federal requirements, including those promulgated by: the Illinois Environmental Protection Agency (IEPA), the Illinois Department of Natural Resources (IDNR), the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers (USACE), and the National Oceanic and Atmospheric Administration (NOAA). This task includes evaluation of the Village's regulations in light of the Village's Downtown Revitalization Fund, the Village's planned participation in the Community Rating System (CRS), and the pending Cook County Watershed Management Ordinance.
11. IDENTIFY "GREEN INFRASTRUCTURE" OPPORTUNITIES. Evaluate opportunities to encourage the use of stormwater best management practices (BMPs) through projects, cost-sharing programs, or new regulations. Recommend a strategy to encourage the use of these stormwater BMPs in private and public improvements.
12. REVIEW FEMA REGULATIONS AND CRS. Develop a plan to address repetitive flood loss properties and evaluate other opportunities to improve the Village's Community Rating Service (CRS) rating. Recommend a strategy to manage the floodplain within the Village.

13. **WATER QUALITY.** Collect water samples at strategic locations, during both wet and dry weather, at various times throughout the year and arrange for the samples tested in a laboratory for a range of pollutants. Recommend a strategy to enhance the quality of stormwater runoff from the Village. This task also includes reviewing the Village's existing National Pollutant Discharge Elimination System (NPDES) Phase II program and recommend opportunities to improve the program.
14. **DEVELOP RECOMMENDATIONS FOR MAINTENANCE.** Develop short- and long-term maintenance recommendations for the Village stormwater and sanitary sewer systems, including any recommended green infrastructure improvements.
15. **FINANCIAL PLAN.** Develop a plan for financing the recommended improvements and ongoing maintenance. This task includes incorporating the results of a separate Stormwater Utility Rate Study, which will be conducted concurrently with the development of the Stormwater Master Plan.
16. **IMPLEMENTATION PLAN.** Develop a 10-year plan and schedule for implementing the recommended improvements and ongoing maintenance.
17. **STORMWATER MASTER PLAN DOCUMENT.** Develop a document describing the Village's existing stormwater management program, recommended improvements, clearly defined goals, and tools for the Village to achieve those goals. A draft of this document will be submitted for review and comment before the document is finalized. Fifteen (15) copies of the final Stormwater Master Plan will be delivered to the Village, along with one digital copy in .pdf format.
18. **VILLAGE COUNCIL PRESENTATIONS.** Make a formal presentation of the draft and final Stormwater Master Plan to the Village Council with a slideshow and supporting exhibits.

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