

DATE: February 7, 2011

## **REQUEST FOR PUBLIC WORKS AND ENGINEERING COMMITTEE ACTION**

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File Number: 2011-0065  
Orig. Department: Public Works Department  
File Name: Pond Stewardship and Management

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### **BACKGROUND:**

Over the years, the Village has accepted a number of ponds and detention basins that comprise the stormwater management system for the Village. There have been varying levels of stormwater basin maintenance and management performed by differing departments and contractors and a comprehensive strategy has not been developed. Included in these efforts have been shoreline plantings, re-plantings and aquatic vegetation improvements.

In an effort to develop a sustainable maintenance and management plan for the ponds that comprise the Village's stormwater management and pond system, Public Works has been conferring with the Parks Department and Village Administration over the past couple years. As the functionality of the ponds is directly related to the stormwater sewer system that is maintained by Public Works, the responsibility for maintenance and management of the ponds has historically resided in Public Works. The funding for the pond related work is contained within the Village's Water & Sewer Fund.

After several isolated projects with varying levels of success were undertaken over the past several years to improve select ponds and shorelines, what has become evident (specifically during 2010) is that neither Parks nor the Public Works Departments possess the requisite skills or resources to systematically develop and maintain ponds and the associated shorelines to acceptable levels of quality throughout the Village.

#### **Detention Basin Maintenance Program**

There are over 550 ponds in the Village that are part of the larger stormwater management system. Approximately 172 ponds throughout the Village are maintained by the Village. Staff is proposing a pond management strategy that relies on a categorization of each pond, based on the following broad goals:

1. Establish a comprehensive Village-wide approach.
2. Provide consistency in expectations among all stakeholders.
3. Utilize the right resources at the right time provided by the best qualified parties.
4. Follow industry best practices for ecological restoration and maintenance.

Accordingly, the following categorization is proposed to ensure that the above referenced goals are reached.

Category A: High Impact (No more than 15% can be placed in this category)

- Annual maintenance and/or stewardship
  - High visibility areas
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DATE: February 7, 2011

## **REQUEST FOR PUBLIC WORKS AND ENGINEERING COMMITTEE ACTION**

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- Generates frequent complaints due to low aesthetics and/or performance
- Prone to invasive species
- Subject to design issues (e.g., slopes, etc.) that compel higher maintenance
- Lack of regular maintenance degrades the image of the Village
- Intensity of maintenance will likely combine efforts of contractor and Parks and Public Works departments

Category B: Intermediate Impact (No more than 30%)

- 2-4 year maintenance schedule, lower intensity
- Maintenance efforts may include combination of contractor and Village staff
- Location generates occasional complaints
- Medium or high visibility
- Requires periodic maintenance, but has satisfactory functionality

Category C: Low Impact (Remaining 55% or more)

- High functionality
- Relatively low visibility
- 5-10 year maintenance schedule, low intensity
- Maintenance can likely be achieved with internal resources
- Source of little or no complaints

The attached list of ponds provides the proposed categorization of ponds in accordance with the outline above.

### Phase I - Establish a Steering Committee

Staff recommends the creation of a steering committee comprising staff, consultants, and two (2) village trustees to periodically review best practices and annual work plans, as well as to provide feedback and recommendations vis-à-vis the Village's maintenance program.

### Phase I - Proposed Work Plan

Staff proposes implementation of the above strategy beginning in Spring 2011. Funding for Category A level maintenance, in the amount of \$500,000, has been included in the FY2011 Water & Sewer Capital Budget. For Categories B & C, funding of \$50,000 has been included in the FY2011 Water & Sewer Budget, as part of its annual operating budget.

Staff proposes to use capital funding, as available, to address the Category A ponds in an effort to bring their performance and aesthetic appearance up to expectations. Those ponds would be sequenced for restoration work in the coming years as part of a long-term restoration plan.

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DATE: February 7, 2011

**REQUEST FOR PUBLIC WORKS AND ENGINEERING COMMITTEE ACTION**

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Staff recommends that the Village Hall ponds and Imperial West pond be included in the initial 2011 work plan. Staff further recommends that the initial effort include critical components that include a three-year stewardship component not exceeding FY 2011 Funding which will include Staff Education, and a task to develop communications materials for internal and external use.

**Phase II - Proposed Plan**

Staff proposes that a similar effort be undertaken following above strategy for work in 2012. Staff has forecast requested level of funding for the forthcoming years so the maintenance strategy is able to be properly implemented. Funding was proposed in the amount of \$500,000, for the FY2012 Water & Sewer Capital Budget.

Once the work undertaken in 2011 is reviewed for desired results, we will have a better understanding of the effort that will be required to continue the pond work for 2012 and beyond.

PLEASE SAVE ATTACHMENTS. THE INFORMATION ATTACHED WILL NOT BE DUPLICATED FOR THE FEBRUARY 21, 2011, BOARD MEETING.

A NEW COVER SHEET WILL BE PROVIDED WITH THE APPROPRIATE BOARD MOTION.

**BUDGET IMPACT:**

Funds are available within the approved 2011 Capital Budget to provide for the work planned to be undertaken in Phase I of this effort.

**REQUESTED ACTION:**

I move to recommend to the Board of Trustees that Staff be directed to solicit qualified professional proposals to implement Phase I of the Pond Management Strategy.

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## Project Approach

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### **Project Approach**

As outlined in the Request for Proposal, it is understood that the Village of Orland Park desires to engage a professional engineering firm to perform stormwater basin assessments and create a systematic action plan for twenty four (24) initial basins. We also understand that the preferred firm would bring a design-build-manage approach to this project. Tasks beyond the initial assessment include restoration and construction of failing stormwater basins, and maintenance/stewardship of all the selected basins in order to achieve the desired categorization and appeal. The general scope of work in a design-build-manage delivery will include all tasks to evaluate, design, permit, construct, monitor and maintain the work associated with the designated stormwater basins. The costs associated with these items will be defined based on the parameters set forth by the Village for the overall project scope and quality expectations.

The V3 Team has the expertise and experience to satisfy the requirements of this project for the Village of Orland Park. We have been involved in natural area assessment and design for over 25 years and have been involved in construction of natural areas for over 15 years. Our design-build-manage approach to projects has become an award winning combination, which is shown by the ten (10) USEPA/Chicago Wilderness Conservation and Native Landscaping Awards that we have won since 2008.

The following items provide the general project approach that the V3 Team will bring to the Basin Best Practices Program project:

**A. Single Point of Responsibility**

Through this project delivery approach, there is a single Project Manager that is ultimately responsible for understanding the Owner's intent for the Basin Best Practices Program project, completing the assessment, identifying design and permitting (if required) of stormwater basin retrofits, and executing on the construction and stewardship of the project.

**B. V3 Team Staff**

The Project Manager will involve the appropriate expertise from the V3 Team in order to address each stormwater basin challenge. These challenges may be technical, construction or funding related, and the V3 Team that we have assembled for this project can tackle any of these situations to obtain success for the Village. Our personnel have extensive experience in stormwater basin work and will bring the Village a successful delivery of the project.

**C. Coordination between Village, Steering Committee and V3 Team**

Developing a long term program for managing the 172 Village owned basins and over 550 stormwater basins within the Village limits is an important step to sustainability of these systems. The Project Manager will provide coordination at quarterly meetings to jointly create this visionary program for the Village.

**D. Quality**

Design-build-manage delivery will require a fluid schedule to accommodate the varying field conditions without sacrificing the quality of the installations or maintenance techniques. With the designer and constructor acting together, installations and operations are revised as necessary to achieve the intended results. Any limitations to the plans and specifications are recognized immediately and corrected based on field observations, therefore avoiding unnecessary installations and future corrections.

**E. Project Goals**

The project goals are to develop an action plan for twenty four (24) basins. However, the Program Goals for the Village basins are undefined because of the time horizon to complete this huge task and the lack of certified

# Project Approach

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long term budget for future implementation. General Program goals will be developed by the Village, Steering Committee and V3 Team that sets a roadmap for future steps toward creating sustainable stormwater basins.

## **Scope of Services**

This Scope of Services was developed by the V3 Team based on the information within the Request for Proposal and following response to questions provided by the Village. This scope can be modified as necessary to meet the additional intentions and goals of the Village through the process of developing the Basin Best Practices Program.

### 1. Stormwater Basin Assessment

- a. **Site Assessment Field Work.** The V3 Team will conduct one (1) site visit to evaluate each basin at the twenty four (24) selected sites. During the site assessment, the overall site conditions will be documented by taking several photographs, and marking areas of erosion, invasive species dominance, algae presence, bank conditions or other basin concerns on an aerial map of the site.
- b. **Create Site Exhibits.** The V3 Team will prepare aerial exhibits for each of the twenty four (24) sites which show the size of the property and locations of invasive species dominance and other basin concerns that may be targeted for restoration under the Basins Best Practices Program. These exhibits will be used by the Village and the V3 Team to develop a Basin Management Plan for maintenance of each area.
- c. **Site Recommendations & Costs Estimate.** The V3 Team will prepare a three year site restoration and maintenance plan for each of the twenty four (24) sites based on the existing basin concerns. A cost estimate will be developed for each basin.

*Note: An example of the deliverable for this Stormwater Basin Assessment phase can be reviewed in Section 4, Project Example: Detention Basin Assessment & Management Project for the level of detail that will be provided under this contract.*

### 2. Stormwater Basin Prioritization

- a. **Steering Committee Meetings.** The V3 Team will meet quarterly with the Steering Committee in order to set project goals, report on status, review basin assessment outcomes and receive direction and focus.
- b. **Prioritization.** The V3 Team will meet with the Village and the Steering Committee to develop the prioritization of the twenty four (24) selected basins. The prioritization will be based on criteria established by this team.
- c. **Design & Permitting Requirement List.** Upon selection of restoration and maintenance activities at priority basins, additional design and permitting may be required to prepare for actual construction and planting implementation. The V3 Team will create a design and permitting list that identifies likely design requirements (Such as Planting plan, Grading Plan, Utility Plan and Erosion Control Plan) along with potential permit requirements based on identified regulatory issues. This list can be used by the Village to decide whether a Design/Build contract will be entered with the V3 Team for an individual stormwater basin, or a final design plan is required to flush out more project detail.

*Note: Final design fees will be incorporated into the construction costs associated with each basin for a design/build contract. If a final design plan is required, the V3 Team will provide scope and fee to prepare final design plans and specifications for the priority basins.*

# Project Approach

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## 3. Educational Material Creation & Training

- a. Educational Handout. The V3 Team will create an educational handout that the Village can provide to residents and HOA's regarding best practices for living with naturalized stormwater basins. It is assumed that the handout will be a tri-fold, double sided, full color print piece. The V3 Team will provide two (2) draft options for review by the Village and Steering Committee that display format, content, images and copy. Upon comment and direction by the team, one (1) final education handout will be created by the V3 Team. The handout will then be translated into Spanish and completed for bi-lingual distribution. The deliverable will be 2,000 hard copy brochures (1000 English & 1000 Spanish) that the Village can use for distribution and one digital copy of each handout (print ready version) for future reproduction by Village.
- b. Educational Presentation. The V3 Team will create an educational presentation in Powerpoint format. This training presentation will be focused on training the Village of Orland Park staff (not residents) as the primary audience. This does not mean that the training presentation would not be suited for residents as well, but it may be in more detail than warranted for that purpose. The material will focus on typical stormwater basin and watershed typical concerns and remedies (water quality & erosion control issues). It will also include best practices for maintenance, techniques for planting and seeding, and appropriate windows for successfully accomplishing restoration and maintenance tasks. The V3 Team will provide a draft presentation for review by the Village and Steering Committee. Upon comment and direction, a final presentation will be completed. Deliverable will be one digital copy of the Powerpoint presentation.
- c. Training Presentation. The V3 Team will provide one (1) training session in 2011 for the Village of Orland Park staff. Training will include one hour of office discussion and two hours of field training. This training session will be based on the approved Education Presentation, and the field training will involve site review and discussion of two (2) of the selected stormwater basins that provide complex discussion and observation of site conditions. The V3 Team will provide appropriate experts at the office and field training to cover various aspects of the stormwater basin assessment and restoration techniques.

## Alternate Scope Items

### 4. Stormwater Basin Master Plan

Although not specifically mentioned in the scope of services for this Request for Proposal, it is our understanding that the Village would like to develop an ongoing Stormwater Basin Master Plan that sets a roadmap of best practices, restoration and maintenance of the stormwater basins throughout the Village. This Stormwater Basin Master Plan would serve to categorize the stormwater basins (already completed by the Village), identify problem areas (based on categorization and resident complaints), set short term and long term improvement goals and identify a funding source (or suite of sources) to accomplish the Program. The V3 Team has the expertise to accomplish this Stormwater Basin Master Plan if desired by the Village within the 2011 budget.

This Stormwater Basin Master Plan task can be evaluated by the Village and Steering Committee against some of the other priorities of the 2011 budget. If requested, the V3 Team can prepare a scope of services and fee for this Stormwater Basin Master Plan.

## Project Approach

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### 5. Establishment of Special Service Areas

The establishment of Special Service Areas (SSAs) can be an effective tool to develop a dedicated funding source for long term maintenance costs associated with stormwater basins. The V3 Team has provided a detailed process for SSAs establishment within Section 3, Identification of Critical Issues. This scope of service was not specifically required in the Request for Proposal, but may be beneficial to the Village to accomplish within the 2011 budget.

Upon identification of the number and size of SSAs that are desired by the Village, the V3 Team can provide a scope of service and fee to accomplish this task for the Basin Best Practices Program. The SSA establishment task and fee can be evaluated against other 2011 priorities by the Village and Steering Committee.

### 6. Stormwater Basin Maintenance

It was stated in the Request for Proposals that the selected team would provide maintenance of some of the selected twenty four (24) stormwater basins. However without a maintenance plan or specific scope of services, this task is difficult to quantify and price. Therefore, the V3 Team has provided our standard rates for maintenance services on natural areas. These rates can be used upon selection of priority basins and maintenance requirements.

### 7. Stormwater Basin Restoration

It was stated in the Request for Proposal that a design/build contract may be required from the selected consultant to accomplish the restoration activities on priority basins. However, without identified construction and restoration tasks, it is impossible to provide pricing at this time. Upon completion of the Basin Prioritization task, the V3 Team would appreciate the opportunity to provide the Village with a design-build-manage contract to accomplish those required improvements.

Cost savings will be experienced by the Village through this approach because the level of detail typically required for final engineering and construction bid documents is not required for a design-build-manage contract. Therefore significant design and plan preparation savings will occur.

Time savings will be experience by the Village through this approach because the V3 Team can move quickly from Basin Prioritization stage to restoration and maintenance because the final engineering and bid stages are removed from the traditional process.

Design-build-manage contracting with the V3 Team will allow more of the 2011 budget to be dedicated to actual on the ground improvements, instead of engineering and bidding costs associated with construction. Upon request by the Village, the V3 Team will provide a design-build-manage contract to complete restoration activities on selected priority basins.