

Staff Responses to Council Questions July 9, 2019

Items A through D are the stormwater reports/analysis from 2006-2018, followed by questions and answers related to the prioritization and funding for stormwater capital and maintenance projects.

A. 2006 Stormwater Master Plan

The 2006 Stormwater Master Plan provided information about the existing stormwater problems in the Village, the condition of the stormwater system, the adequacy of system components, and estimated costs for necessary maintenance, capital improvements and regulatory requirements at the time of publication. This master plan document provided the Village with information for establishing strategies for future infrastructure management, identifying preliminary budgetary needs, and identifying alternatives for financing an adequate stormwater program. The intent is to provide a “big picture view” of the stormwater system problems and needed improvements. This plan was used extensively when the Village was exploring the creation of a stormwater utility.

B. 2007 Watershed Infrastructure Improvement Plan

The Watershed Infrastructure Improvement Plan (WIIP) identified areas in the Village where drainage and flooding issues existed and recommended specific solutions to each problem area according to an established set of prioritization guidelines.

Projects recommended in the WIIP primarily addressed drainage and stormwater issues within the public system. While these projects create additional capacity within the system and improve drainage as a whole, they are not intended to alleviate all flooding and stormwater issues on private property. Construction of the improvements provide property owners an opportunity to address their private flooding and drainage concerns by allowing connection to the public stormwater system through a network of smaller (12” to 18”) sewers and catch basins.

The WIIP identified a number of projects with a total estimated cost of \$340 million. Projects were categorized as High, Medium and Low priorities.

The Watershed Infrastructure Improvement Plan guided stormwater project construction from 2008 through 2014. Through this period the Village completed 22 projects for a total cost of \$19.3M.

C. 2014 Stormwater Project Analysis

In the aftermath of the April 2013 floods, the Village undertook a number of data gathering and analysis initiatives which culminated in the identification of a total of 21 locations distributed throughout the Village which would be the subjects of the 2014 Stormwater Project Analysis. The purpose of this study was to develop feasible projects in the study area, then recommend a

prioritization framework which the Village could use to determine how to focus their expenditures on Stormwater Infrastructure. The result is 20 identified projects, 17 non-floodplain and 3 in a floodplain, prioritized in accordance with the underlying recommended policies used by the Village to set a standard for Stormwater Infrastructure.

The Stormwater Project Analysis included a new approach for prioritizing stormwater capital improvement projects that is consistent with the Village's fee-based stormwater utility. Each project is assigned a priority level based on the extent to which the existing stormwater system achieves the minimum service level standard. For example, a project that would serve an area that currently has no stormwater infrastructure would be a High priority. Each project is also prioritized within each level based on cost effectiveness (the cost of the project compared to the amount of impervious surface in the area served by the project).

The goal of this new approach is to establish a minimum service level standard for stormwater management such that the stormwater system will safely convey and store 95% of all rainfall events. DuPage County is performing a study of St. Joseph Creek and the 3 floodplain projects are within the study area. The Village is waiting on the final report which may identify other areas better suited for projects or modify the scope of the SPA projects. This report is expected to be completed at the end of 2019/early 2020. The estimated cost to complete the 17 non-floodplain projects is \$11.6M and they are planned to be completed by 2020.

D. 2018 Stormwater Regulation Amendments (2018 New Construction Runoff Plan)

Consider Amendments to Stormwater Regulations was identified as a Priority Action Item for the Village Council for 2017-2019. Before the amendments to the stormwater regulation, Code-compliant development activity sometimes created stormwater runoff that negatively impacted adjacent properties. Village Council directed staff to consider more stringent stormwater management regulations to lessen the negative impacts of increased runoff generated by construction activity.

Based on Village Council direction provided at previous Council meetings and staff analysis of the identified options, staff prepared an ordinance with the following regulations:

- Require all sump pumps installed with a new foundation to discharge into a 50 cubic foot storage/infiltration system
- Require all new single family houses and additions of 400 s.f. footprint expansion or more to provide stormwater storage according to the following table:

Net New Impervious Area	Required Storage Volume
No Change or Reduction	--
1 to 699 sf	100 cubic feet
700 to 999 sf	150 cubic feet + BMP Storage Volume
1,000 to 1,999 sf	250 cubic feet + BMP Storage Volume
2,000 sf or more	250 cubic feet + BMP Storage Volume

The proposed amendments also include the following:

- Clarifies that appeals may be filed only for the administrator’s decisions and application of code requirements
- Clarifies requirements for sump pump discharge design and location
- Requires PCBMPs to:
 - Drain within 96 hours
 - Avoid concentrated discharge areas
 - Be connected to the public stormwater management system
 - Meet setback regulations
 - Be subject to inspections
 - Be fenced during construction activities
 - Requires drywells to be designed with a bottom elevation higher than the estimated seasonal high water level

Effectiveness & Estimated Cost

The proposed amendments are intended to achieve the project objectives of mitigating the negative impacts of stormwater runoff caused by new residential development and to maintain a permitting process which accommodates residential renovation and redevelopment.

Attributes of the Proposed Regulations

- Provides Improvement over Current Regulations
 - 2.3 Times the Amount of Storage Currently Required
 - 99% of New Houses Required to Provide Storage
- Provides Enhanced Stormwater Mitigation for All Properties
 - With or Without Connection to Stormwater System
 - All Soil Types
- Costs are Small Percentage of Total Project Cost (\$7,000 to \$30,000)
- Can be Provided Using Shallow Storage Construction Techniques
- Minimal Impact on Yard “Useability”
- Predictable, Easy to Calculate
- Low Administrative Burden
- Continues to Provide Incentives to Avoid Increases in Impervious Area

How many projects has the Village identified and at what total cost to get 95% coverage?

The Village is currently working with a consultant to prepare a comprehensive level of service analysis which will evaluate all areas of the Village, regardless of flooding history, to determine their level of service protection. The 2014 Stormwater Project Analysis (SPA) identified 17 non-floodplain and 3 floodplain projects to provide 95% protection for the 21 areas throughout the Village that were identified as significantly impacted by the April 2013 floods. The estimated cost to complete the 17 non-floodplain projects is \$11.6M and they are planned to be completed in 2020.

How does the Village prioritize projects?

Each of the SPA non-floodplain projects was designated either low, medium or high need, depending on the existing level of stormwater infrastructure. Areas in the Village that had little or no storm sewers or ditches were designated high need when compared to other areas that provided some level of infrastructure. A Project Cost Index was determined for each project,

which is the ratio of the project need and the estimated cost to complete the project. Other factors, such as the ability to obtain properties and permits also impact project schedules.

What are the rough cost estimates to get coverage for 100% of all storms?

A cost estimate to provide protection from flooding for 100% of all storms has not been prepared. There is no stormwater management system which can handle 100% of all storms. There will always be a storm with characteristics which exceed the system capacity.

What is the Village spending on Capital projects this year?

The FY19 Budget includes \$7.08M for stormwater capital projects.

What are the Village's annual maintenance costs?

The annual cost for stormwater maintenance activities have been at or around \$2.0M depending on the scope of maintenance work completed each year. The FY19 Budget includes just over 2.0M for stormwater maintenance activities this year. It would cost about \$4 million per year to perform the recommended annual maintenance activities.

How are projects and maintenance funded?

Stormwater projects and maintenance are funded by the Village's Stormwater Utility Fund. Pursuant to the plan established in the [2016 Stormwater Utility Report](#), the Village would need to gradually increase its annual revenues from \$3.7 million in 2016 to more than \$11 million in order to meet the recommended level of service by 2029. The stormwater utility fee is expected to increase by 8.7% annually until actual revenues would match the cost of providing the recommended level of service.

What restrictions do the Clean Water Act put on the Village related to how much/fast the Village can discharge to the DuPage River?

The Clean Water Act does not restrict the rate of flow of stormwater. Its primary focus is water quality. The Village's Municipal Code, Chapter 26 "Stormwater and Floodplain Ordinance" regulates the amount of water that can be discharged from properties.