

**Village of Westmont
Community Stormwater
Management Committee**

**Presentation to the Village Board
October 24, 2013**

Steve Nero

Village of Westmont Trustee

Community Stormwater Committee Chair

Westmont Resident - Near St. Joseph Creek

Stormwater Management Committee

Committee Goal

To research community stormwater management needs and make recommendations to the Village Board

Committee Members

Residents from throughout the village, each resident from a different region of the community

Call To Action

Everyone understands this is an important issue, the question is what are we going to do now and how are we going to fund this - **Resident recommendations** will be highlighted at the end of this presentation.

Larry McIntyre

Village of Westmont
Communications Director

Community Stormwater Committee
Project Manager

Presentation Outline

- * Stormwater Management Philosophy
- * History of Community Development & Weather Trends
- * Conventional & “Green” Stormwater Strategies
- * Review of Areas of Concern and Prioritization
- * Project Funding Options
- * Committee Recommendations
- * Public Comment
- * Board Comment

Stormwater Management Committee

What have we done?

- * Community meeting May 2013 after April flood
- * Formed committee in June
- * Met at least twice monthly for the past 4 months
- * Reviewed 2011 Community Stormwater Management Study & other materials
- * Created sub-committees to work on prioritization matrix and present recommendations to Village Board

Kelly Karesh

Community Stormwater
Committee Member

Westmont Resident
Northeast Acres

Stormwater Management Philosophy

Though the committee consisted of people from throughout the community, and though each area had their specific concerns, the residents and the committee quickly decided that Stormwater Management is a **COMMUNITY ISSUE**. We worked together as a team to address this issue and towards the goal of adopting smart recommendations that will effectively address our stormwater management concerns.

Stormwater Infrastructure

Our stormwater management system is an underground utility, installed to provide a safe and efficient method of removing stormwater from village streets. As we embrace the challenges and necessities of other utilities and infrastructures, such as gas, electric, drinking water, etc., we should be equally committed to understanding that stormwater management is fundamentally important and the responsibility of the entire community.

John Jagielo

Community Stormwater Committee Member
Public Works Staff City of Elmhurst

Westmont Resident - Downtown West of Cass

Stormwater Management History

Recent Flooding Issues...

...Not Unique To Westmont

It is important to reiterate that the flooding issues that have been experienced in Westmont are similar to problems that have occurred throughout northeast Illinois. Development coupled with a growing number of heavy rain events have resulted in more extensive problems in the last decade.

Stormwater Management

WESTMONT AND ELMHURST

A Comparison of Two Communities

- * Severe flooding issues - especially in the last decade
- * Strong emotion from residents most affected
- * Creation of a resident committee to address concerns
- * Coming to terms with costs and funding

Bob Gleason

Community Stormwater Committee Member
Former Village Planner

Westmont Resident - Downtown East of Cass

Growth of Westmont

- * Incorporated 1921 with population of over 900 people
- * Small houses built on the rear of their lots with septic fields on their own property
- * Original boundaries, very little change until the 60's
- * Numerous annexations in the 60's & 70's, inherited existing infrastructure concerns
- * Some regions flooded historically since original development and continue until today
- * From 1970 to 1980, population grew from 8,920 to 17,353

Major Storms

- * Late 40's, basement flooding and sanitary backups became more common**
- * Several major storms of the past 50 years**
- * 1967 Major Winter Snowstorm**
- * 1988 Major Flood**
- * 2006 Major Flood**
- * 2008 Major Flood**
- * 2010 Major Flood**
- * 2013 Historic Flooding of Northeast Illinois**

The Cost of Development

Urban sprawl and development throughout the area has resulted in less green space which, along with increased severe storm events, has contributed to flooding concerns.

How do we evolve our current stormwater management infrastructure to address our current and growing needs?

George Hamper

Community Stormwater Committee Member

Former EPA Employee & Environmental
Improvement Committee Chair

Westmont Resident

Near Twin Lakes Woods

Stormwater Management Strategies

Conventional Strategies

- * Impervious paved areas direct rainwater to storm sewers
- * Stormwater is moved away in sewer systems and detained in storage basins

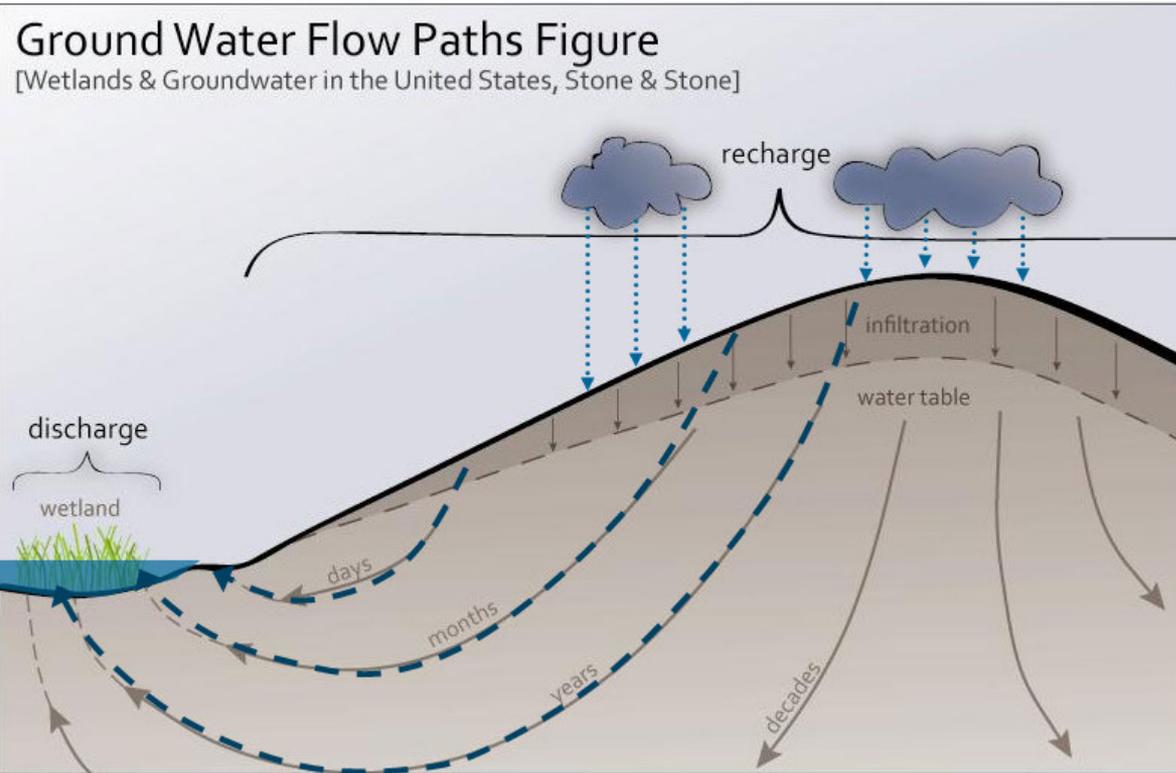
Green Strategies

- * Allow a portion of the rainwater to go into the ground immediately or evaporate
- * Reduce the burden on storm sewers and storage basins

Historical Patterns of Hydrology

Recharge Zone: Uplands

Discharge Zones: Lowlands – rivers, streams, ponds, wetlands

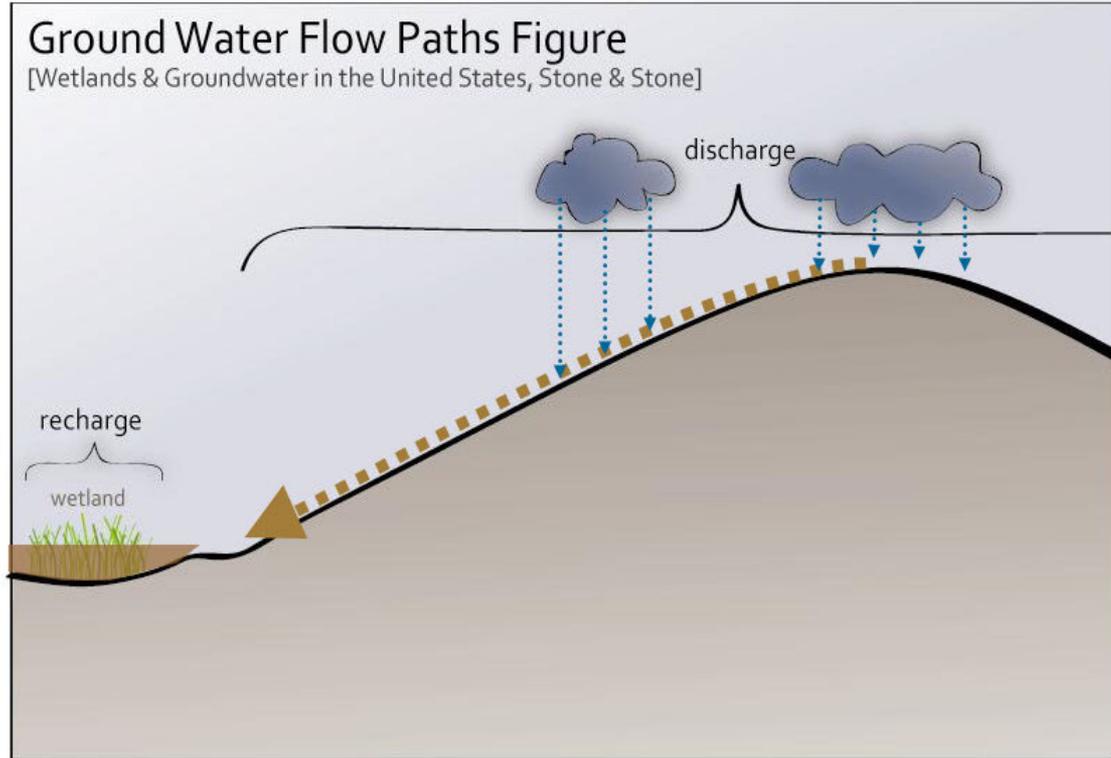


Constant, clean discharge flows, year round to sustain stable surface water hydrology with constant water temperature and chemistry

Contemporary Hydrology

Upland becomes discharge zone

Natural wetlands are expected to function as recharge zones



Reversed hydrological pattern results in runoff containing sediments, oils, greases, salts, fertilizers, pesticides, and higher water temperatures that inundate historical systems adapted to completely different hydrological and water quality conditions

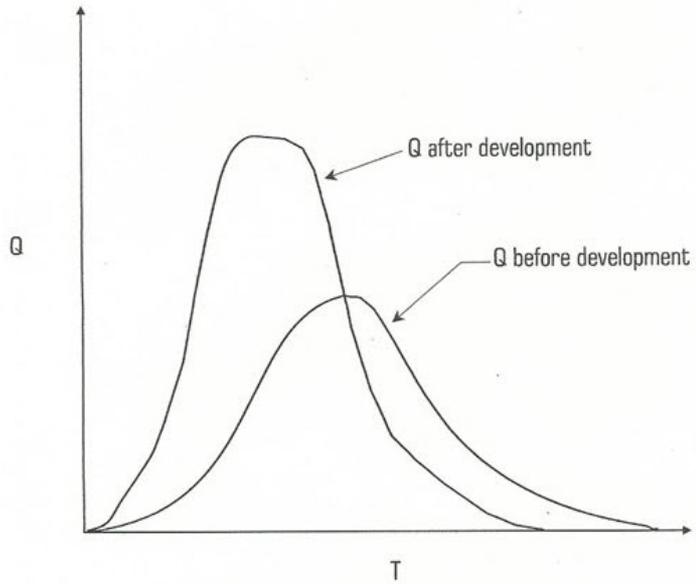
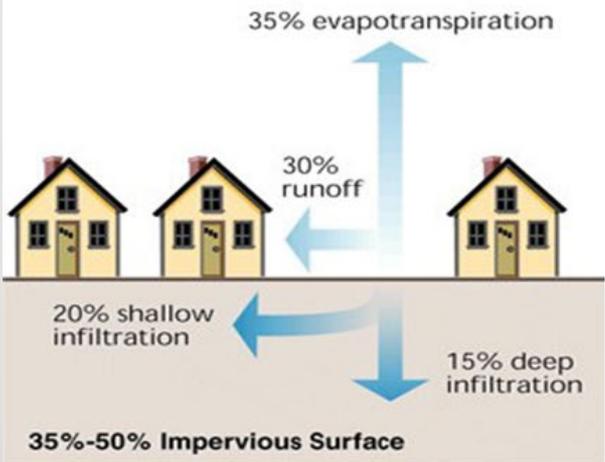
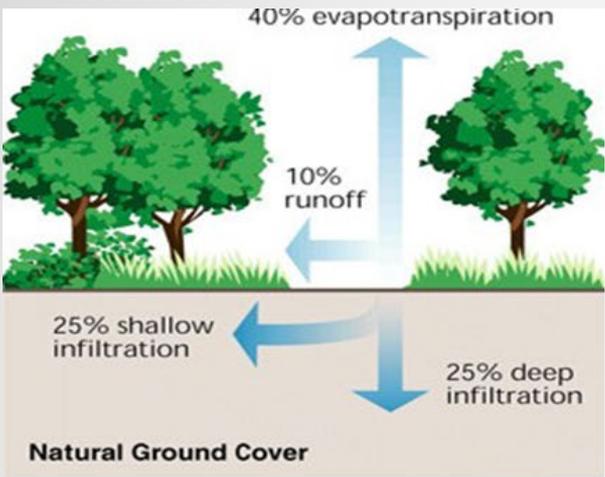


Figure 1.4. Hydrologic Alterations Due to Site Development

EPA Public Domain Images

Bioswale

Uses green plants
to slow stormwater flow



Northeast Acres
Westmont



Fire Station #3
Downers Grove

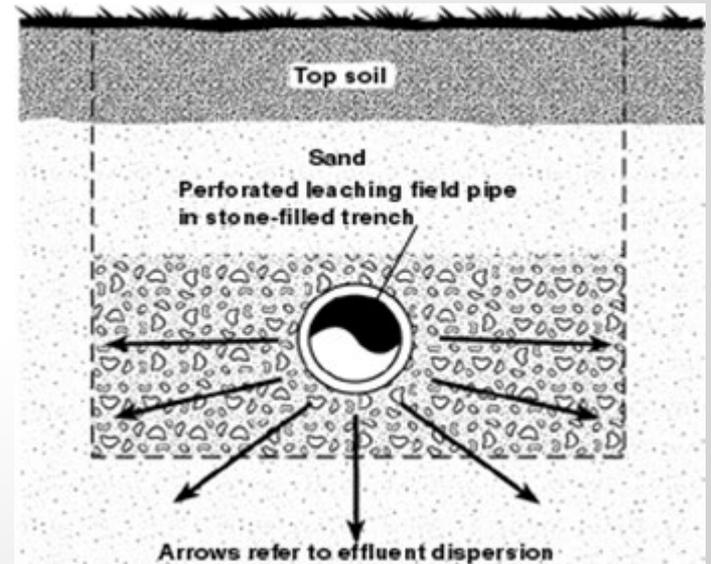
Rain Garden

Planted depression, possibly in right-of-way, that holds stormwater runoff while it goes into the ground or evaporates.





Underground Storage & Infiltration Trench





Allows stormwater to go into the ground where it lands rather than sending all rainwater directly to the storm sewer system

Permeable Pavement



Green Roof

Possible grant money available
for green initiatives



Naturalized Detention Basin

Good Samaritan Hospital



Before



After

Reasons to employ “green” stormwater management solutions

SMART CONCEPTS

- * Reduced stormwater runoff
- * Reduced burden on stormwater system
- * Filters pollutants

COST EFFECTIVE

- * Reduced need for land acquisition
- * Reduced expensive maintenance needs
- * Saves money overall

Bob Fleck

Village of Westmont &
Westmont Park District Staff

Westmont Resident - Near Manning School

Before & After “Green” Streetscapes Utilizing Permeable Pavers

Aesthetic benefit as well as stormwater management benefit



Charles City, Iowa

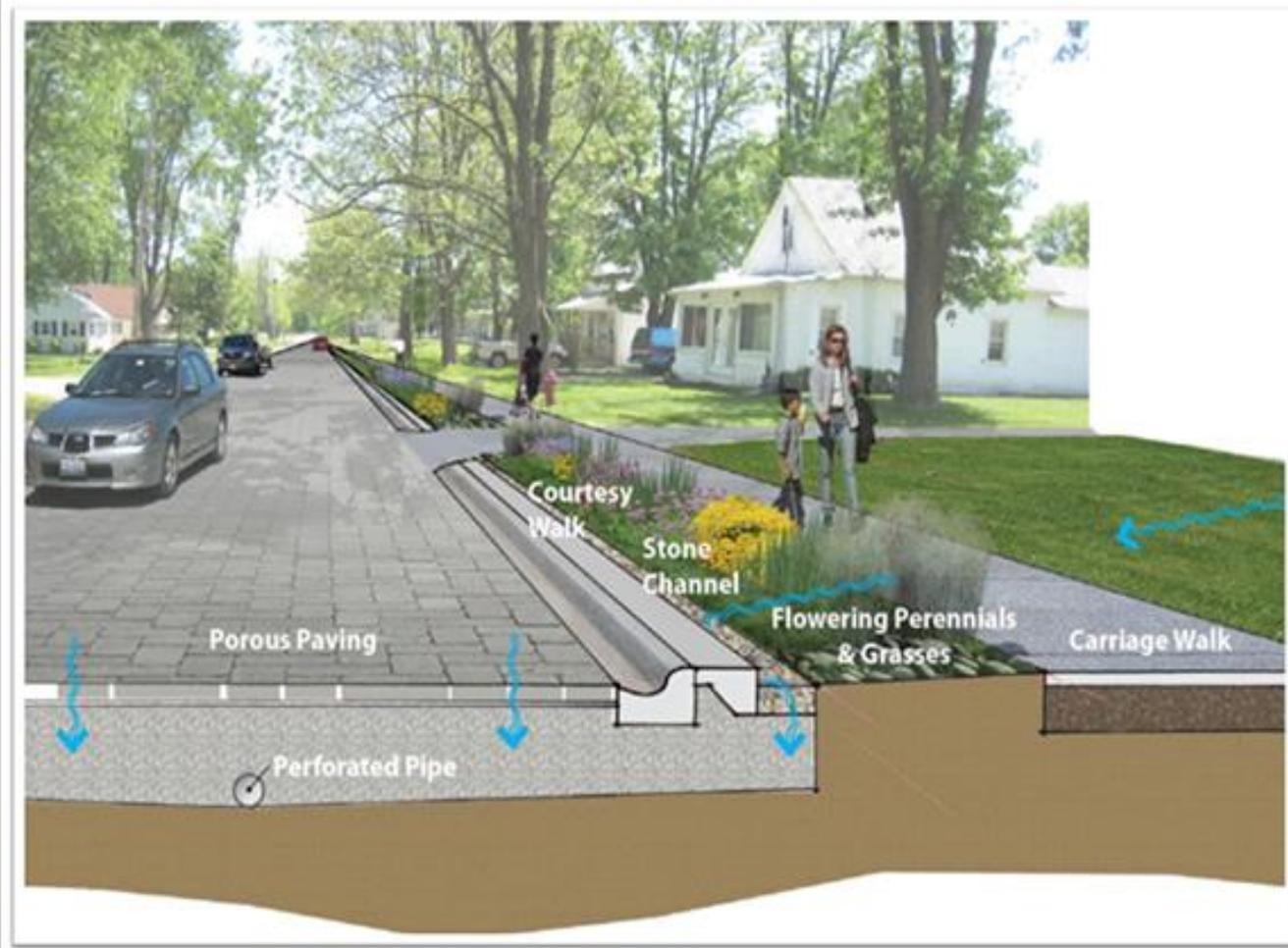


Charles City, IA



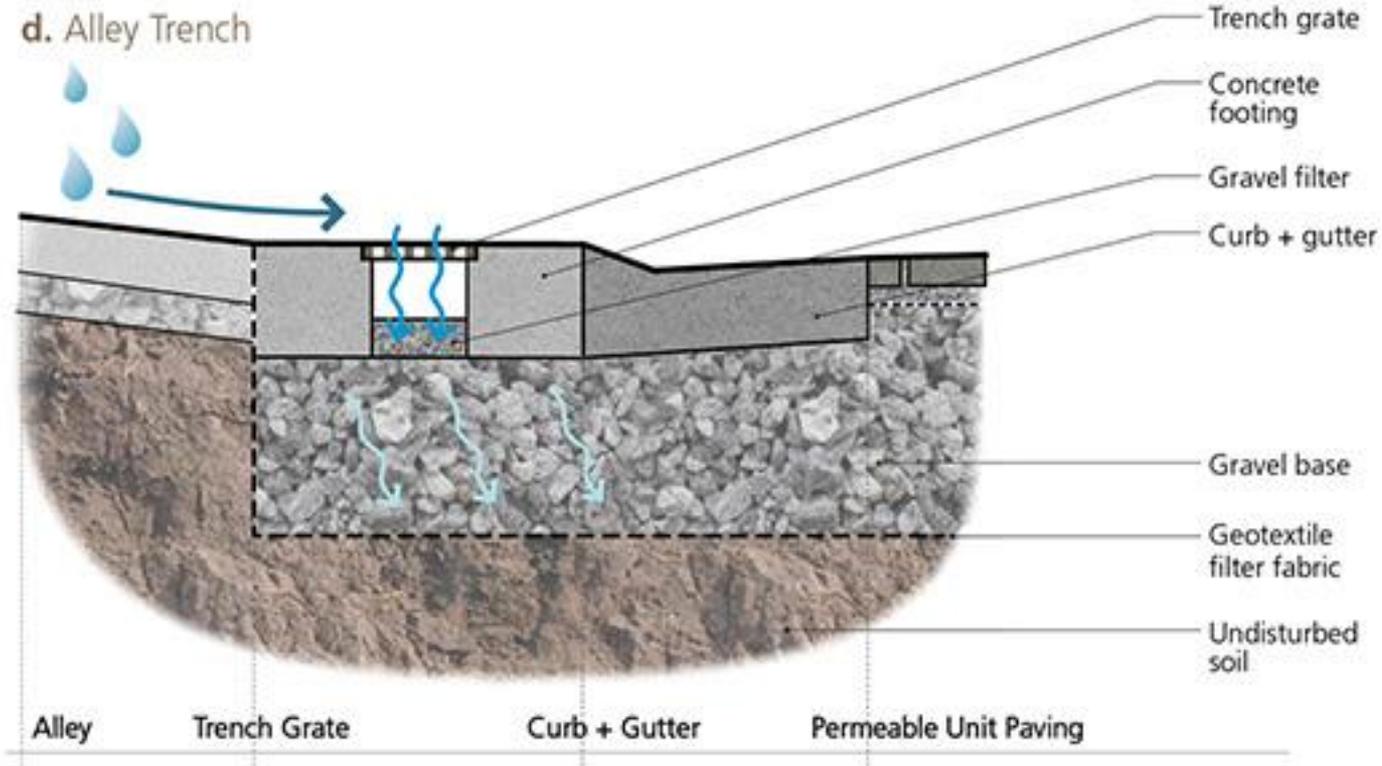


How do we use “green” strategies to improve stormwater management in our neighborhoods?



Construct streets, sidewalks & right-of-ways that allow rainfall to soak into the ground rather than quickly push all rain water to storm sewers.

d. Alley Trench



Allows for temporary water storage under the streets and sidewalks, where currently the water cannot reach.



Images used with permission from James Patchett, Conservation Design Forum





Before & After “Green” Streetscapes Utilizing Permeable Pavers Aesthetic benefit as well as stormwater management benefit



Bundled “Green” Infrastructure Cost Savings

- * Energy savings through comprehensive green approach - electric, geothermal, etc.
- * Expanded grant opportunities
- * More rapid return on investment
- * Reduced maintenance costs and practices
- * Proactive response to emerging EPA regulations

Stormwater Management Comprehensive Approach

- * Research all options
- * Employ “green” strategies when possible
- * Employ “conventional” systems as appropriate
- * Encourage property owners to self-manage stormwater on their properties
- * We’re all part of the solution
- * All potential solutions are being reviewed & discussed

John McClory

Community Stormwater Committee Member
EMA Volunteer

Westmont Resident
Near Muddy Waters Park

Prioritization Matrix Development

Evaluate needs based on facts vs. emotion

- * 2013 Flood Data (FEMA Survey)
- * Community Stormwater Study
(completed in 2011)
- * Staff Input
- * Resident Input
- * Defining Terminology

Matrix Criteria Considerations

- * Severity
- * Frequency
- * Life Safety
- * Cost of Projects
- * Cost Benefit

- * Project Interdependencies
- * Ranking Scale

*DEVELOPED BY THE
RESIDENTS ON THE
COMMITTEE*

7 Main Criteria Used For Severity Index

PRIVATE PROPERTY CRITERIA

- * Water on first floor
- * Water in basement or crawlspace, 1 foot or more
- * Water in basement or crawlspace, less than 1 foot
- * Water in garage or yard

PUBLIC PROPERTY CRITERIA

- * # of flooded roads
- * # of flooded alleys
- * Parcels along impassable roadways

Prioritization Ranking Note

Committee unanimously agreed that these rankings are just one tool for reference and that prioritization may change based on additional information such as flooding issue frequency and other facts that may come forward.

Stormwater Management Areas Of Concern

- * King Arthur Court and Surrounding Watershed
- * Northeast Acres, Warwick Avenue, and Surrounding Watershed
- * Northwest Acres, Park Street, and Surrounding Watershed
- * Chicago Avenue & Washington Street intersection and Surrounding Watershed
- * Richmond & Grant Street intersection and Surrounding Watershed
- * Traube/Grant Detention and Surrounding Watershed



Saint Joseph's Creek Watershed - King Arthur Court



King Arthur Court & Surrounding Watershed

339 S. Park St at 55th Street

Pre-Engineering	Final-Engineering	Land/Easement Acquisition	Project Construction	Total
Potentially by County	TBD - Potential Grant	Potential FEMA Grant	TBD	TBD

Northeast Acres, Warwick Avenue & Surrounding Watershed



400 block of N. Warwick looking south

Northeast Acres Detention & E. Traube Relief Sewer Est. Costs

Pre-Engineering	Final-Engineer	Land Acquisition	Construction	Total
\$63,500	\$63,500	\$6,000,000	\$635,000	\$6,762,000



400 block of N. Warwick looking north

Northwest Acres, Park Street, and Surrounding Watershed

Pre-Engineering	Final Engineering	Land Acquisition	Project Construction	Total
TBD	TBD	TBD	TBD	TBD



Chicago Ave./Washington St. & Surrounding Watershed



200 W. Chicago Ave looking north

Chicago Ave./Washington St. & Surrounding Watershed

Pre-Engineering	Final Engineering	Land Acquisition	Project Construction	Total
TBD	TBD	TBD	TBD	TBD



200 block of W. Chicago looking west

Richmond & Grant looking south



Richmond & Grant and Surrounding Watershed

Lebeck Park



Richmond & Grant St Intersection and Surrounding Watershed

Possible Solution - Install backflow preventer, underdrain system & monitoring well at Lebeck Park

Pre-Engineering	Final Engineering	Land Acquisition	Project Construction	Total
\$3,500	\$3,500	0	\$35,000	\$42,000

Police Station - 500 N Cass - looking west



Traube Ave / Grant St and Surrounding Watershed

Police Station - 500 N Cass - looking west



Traube Ave / Grant St and Surrounding Watershed

Pre-Engineering	Final Engineering	Land Acquisition	Project Construction	Total
TBD	TBD	TBD	TBD	TBD

How Do We Finance These Important But Costly Initiatives?

6 Financing Options Will Be Explored

Spencer Parker, Village of Westmont Finance Director

Funding Options Matrix

		Who?	
		Entire Community	Specific Areas Directly Impacted by Project
How?	Taxes (State / County)	Referendum 2014 (3 options)	Special Service Area
	Another Method (Village)	Utility	Special Assessment

Special Service Area

How? Taxes

Who? Specific Area

Pros

- ★ Administered by County through Property Tax therefore no additional municipal staff

Cons

- ★ Difficult to determine direct benefit
- ★ No ongoing revenue stream for maintenance
- ★ May be cancelled if opposed by >50%

Special Assessment

How? Other Method

Who? Specific Area

Pros

- ★ Useful for undeveloped areas

Cons

- ★ Difficult to administer & determine direct benefit
- ★ Not often used for developed areas
- ★ Processed through courts
- ★ No ongoing revenue stream

Referendum - GO Property Tax Bond

How? Taxes

Who? Entire Community

Pros

- ★ Community investment
- ★ Administered by County through property tax

Cons

- ★ May be opposed at referendum
- ★ No ongoing revenue stream for maintenance

Referendum - Home Rule

How? Taxes

Who? Entire Community

Pros

- ★ Village flexibility in determining revenue source
- ★ Could establish subsequent revenues if needed

Cons

- ★ May be opposed at referendum

Referendum - Sales Tax

How? Taxes

Who? Entire Community

Pros

- ★ Administered by State through Sales Tax
- ★ Could set up revenue for future maintenance
- ★ Contribution by non-residents

Cons

- ★ May be opposed at referendum
- ★ Possible backdoor referendum

Stormwater Utility

How? Another Method

Who? Entire Community

Pros

- ★ Fair method for determining payment
- ★ Includes incentives
- ★ Provides revenue stream for ongoing maintenance

Cons

- ★ Takes time to set up
- ★ Require ongoing staff
- ★ May be opposed if advisory referendum
- ★ Possible backdoor referendum

Estimated Impact By 20-Year Bond Amount

	\$10 m	\$15 m	\$20 m
Monthly Utility Fee	\$10	\$15	\$20
Monthly Property Tax	\$10	\$15	\$20
Sales Tax	0.5%	0.75%	1.0%
Home Rule	varies by ultimate revenue		
Special Assessment	varies by individual location		
Special Service Area	varies by individual location		

Stormwater Utility Specifics

Downers Grove Stormwater Utility Rate Structure

- ★ Fees based on impervious area on each parcel measured in ERUs (Equivalent Runoff Units)
- ★ 1 ERU in Downers Grove is 3,300 sq. ft., which is the avg. square feet of impervious area for a single-family home in Downers Grove

Downers Grove Stormwater Utility

Single Family Residential Monthly Fee

TIER 1 - up to 2,500 sq. ft. impervious area = .75 ERU

TIER 2 - 2,501-4,000 sq.ft. impervious area = 1 ERU

TIER 3 - more than 4,001 sq.ft. impervious area) = 1.5 ERU

Non-Single Family Residential Monthly Fee

Rate Determined Per ERU (3,300 s.f.)

Vacant/Unimproved Parcels Monthly Fee

0.3 ERU

Downers Grove Stormwater Utility

INCENTIVES & CREDITS

- ★ **Incentives** - one-time reduction
- ★ **Credits** - on-going reduction
- ★ **Examples** - Rainwater barrels, rain gardens, permeable pavers, green roofs, cisterns, detention and retention basins, bioswales, bioretention cells, and manufactured best management practices and other projects that reduce the total volume or peak volume of stormwater, and/or improve the quality of stormwater leaving a parcel

Karolina Przyborowski

Community Stormwater Committee Member
Attorney at Law

Westmont Resident - Near Police-Fire Facility

Westmont Stormwater Committee Recommendations

Consider & Approve Community Stormwater Utility

Consider, create and approve a utility that guarantees an on-going revenue stream to address stormwater management concerns and provides funding for regular management & maintenance in the future. Creation of an on-going revenue source is fundamental to the success of this initiative.

Westmont Stormwater Committee Recommendations

Consider & Approve Community Stormwater Utility

- ★ **Phase 1** - Commission Feasibility Study & Develop Utility Plan
Timeline - November 2013, complete by February 2014
- ★ **Phase 2** - Provide Public Information Meetings
Timeline - March-May 2014
- ★ **Phase 3** - Village Board formally votes on creation of Community Stormwater Utility and implementation begins
Timeline - June 2014
- ★ *Suggested Timeline Is Fast-Tracked*

Westmont Stormwater Committee Recommendations

Consider & Adopt New Stormwater Management Policies

- ★ Adopt policy that ensures **annual inspections** of every storm drain, sewer, and stormwater-related infrastructure in the Village to ensure proactive maintenance & reduce reactive expenses
- ★ Adopt policy to **employ dedicated personnel to community stormwater management and maintenance** and to meet the above-stated policy (personnel could be full-time, part-time or contractor)

Westmont Stormwater Committee Recommendations

Consider & Adopt New Stormwater Codes & Ordinances

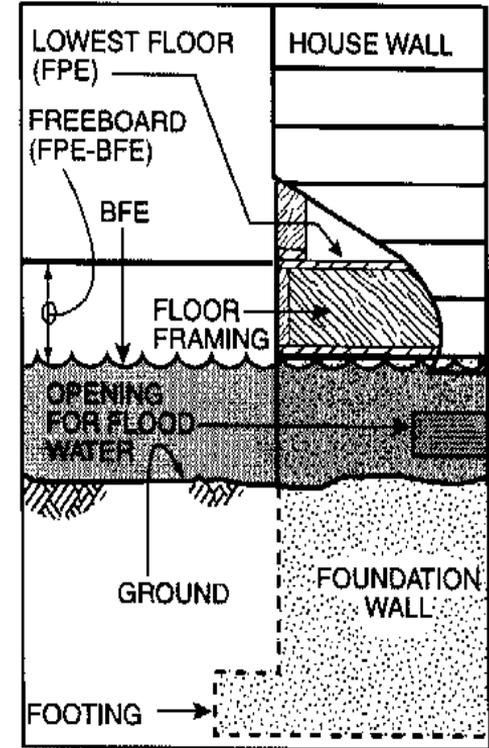
- ★ Adopt code that applies FEMA construction rules to low depressional area properties with more than 3 acres of off-site tributary area

Westmont Stormwater Committee Recommendations

Consider & Adopt New Stormwater Codes & Ordinances

- ★ Adopt code that requires a 2 or 3-foot freeboard between the Lowest floor elevation and the Base flood elevation for a building

*Figure 5-1
As shown in the cutaway view, the lowest floor is above the flood level. When at least 1 foot of freeboard is provided, only the foundation is exposed to flooding.*



Westmont Stormwater Committee Recommendations

Consider & Approve Resolution To County Board

Create and approve a resolution to County Board advocating the Village's position regarding County Stormwater Utility Fee including:

- ★ Reduced fees for Westmont residents if our community is addressing our own stormwater management concerns
- ★ Reduced fees if Westmont has less impact on County maintained stormwater systems
- ★ Specific information regarding how and when the County will address stormwater concerns affecting Westmont residents
- ★ Work with County to obtain permission to use County equipment and resources as well as look for opportunities for cost-sharing

Westmont Stormwater Committee Recommendations

- ★ Give direction to **continue ad hoc Community Stormwater Committee** to follow through on current recommendations as well as continue with additional stormwater management initiatives
- ★ What started out as a forum for residents to share their frustrations concerning a very difficult and emotional topic has evolved into a **unified vision by our residents to work together with the Village to provide solutions** that will benefit the entire community

Westmont Stormwater Committee Presentation To Community & Village Board

Closing Arguments

Call To Action

Westmont Stormwater Committee Presentation To Community & Village Board

Questions & Comments
From The Community

Questions & Comments
From The Village Board