

EAST SIDE REVITALIZATION

DECEMBER 2013

Reducing the Impacts of Flooding and Floodway Regulations Freeport, IL



INTRODUCTION

EPA's Superfund Redevelopment Initiative (SRI) and EPA Region 5 sponsored a reuse planning process for the CMC Heartland Site and other contaminated properties in the East Side neighborhood of Freeport, Illinois. The project connects site reuse with area-wide neighborhood revitalization for this environmental justice community. This report summarizes outcomes from a 12-month community planning process, including considerations for reducing the impacts of flooding and floodway regulations on the East Side Neighborhood.

COMMUNITY GOALS

Neighborhood stakeholders identified two primary goals for this planning effort to set the stage for neighborhood revitalization:

- Reduce flood impacts.
- Reduce impacts of floodway regulations.

Additional neighborhood revitalization goals are documented on the back page of this report.

HOW DO FLOODING AND FLOODWAY REGULATIONS IMPACT THE EAST SIDE?

The East Side is an African-American neighborhood located in the floodway of the Pecatonica River. Residents of the East Side share a strong sense of community and deep affection for the neighborhood. Many families have lived in the neighborhood for generations. Long-time residents remember a time when the neighborhood supported quality housing and thriving businesses with neighborhood-oriented amenities.

The neighborhood's economic vitality and housing quality have been impacted negatively over time by the neighborhood's location in the floodway. Residents contend with recurring major and minor flood events, and are subject to Federal Emergency Management Agency (FEMA) and State of Illinois floodway regulations, which limit improvements on structures located in a floodway. These regulations, which were not in place when the neighborhood was built, make it challenging to improve and expand both housing and neighborhood businesses. Over time, housing quality has severely declined and most commercial businesses have vacated the neighborhood.

Today, the community suffers from a lack of access to basic amenities, goods and services, and transportation options. Improving infrastructure, identifying strategies to reduce the disproportionate impacts of floodway regulations, and providing assistance for home repairs that may otherwise be cost-prohibitive could significantly improve the quality of life for East Side residents. These changes could also lay a foundation for addressing additional neighborhood revitalization goals.

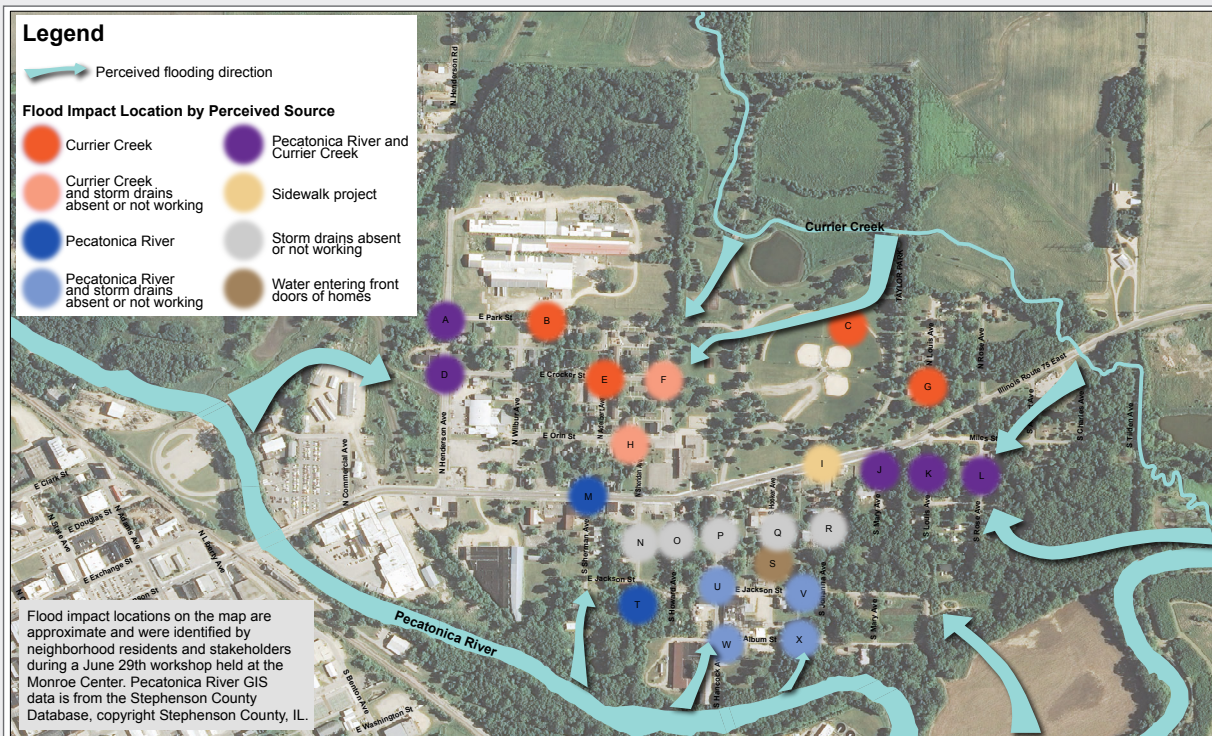
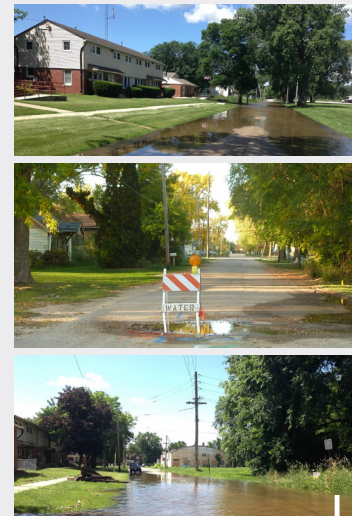


Figure 1: Neighborhood Flood Experience

This map documents the location and perceived source of flooding, as shared by neighborhood residents at a series of public meetings held during the summer of 2013. The map is not a technical analysis but instead captures the experience of local residents.



REDUCE FLOOD IMPACTS

PRIORITIES

The East Side neighborhood has an opportunity to reduce flood impacts by:

- Improving grey infrastructure, and
- Adding green infrastructure features to publicly owned lands and brownfield sites. (see Figure 2).

Participants prioritized the following goals for reducing flood impacts:

- Address areas where floodwater enters the ground floor of homes and impacts private utilities.
- Address areas where floodwaters completely block street access.
- Ensure safe access for children, parents and staff at Taylor Park Elementary School.
- Address standing water created on E. Stephenson Street by the new sidewalks.
- Design green infrastructure features to beautify the East Side neighborhood and the Stephenson Street entrance corridor.

STRATEGIES

Both green and grey infrastructure strategies can be used to increase a community's capacity to absorb, collect and drain storm water.

Grey infrastructure strategies may:

- Repair broken or blocked components,
- Upgrade undersized and dated infrastructure, and
- Add new drainage networks.

Green infrastructure strategies may:

- Help overcome limitations of existing grey infrastructure to reduce flooding impacts,
- Temporarily and safely store storm water until it can drain,
- Be used on vacant properties, Superfund sites, brownfield sites, and publicly owned lands or right-of-ways.

For more information on potential green infrastructure strategies, see the Addendum.

Green Infrastructure Considerations

East Side residents endorsed the green infrastructure strategies in the Addendum and offered the following considerations:

- Layer multiple strategies for maximum effectiveness.
- Involve East Side residents in the design and construction, including apprentice or job opportunities.
- Design should not promote mosquito habitat.
- Design should be safe for children.
- Include observation areas and educational signage describing the features and the wildlife they attract.
- If there is an adequate maintenance budget, consider plantings that beautify the neighborhood.
- Work with the state to address debris blocking the flow of the Pecatonica River.

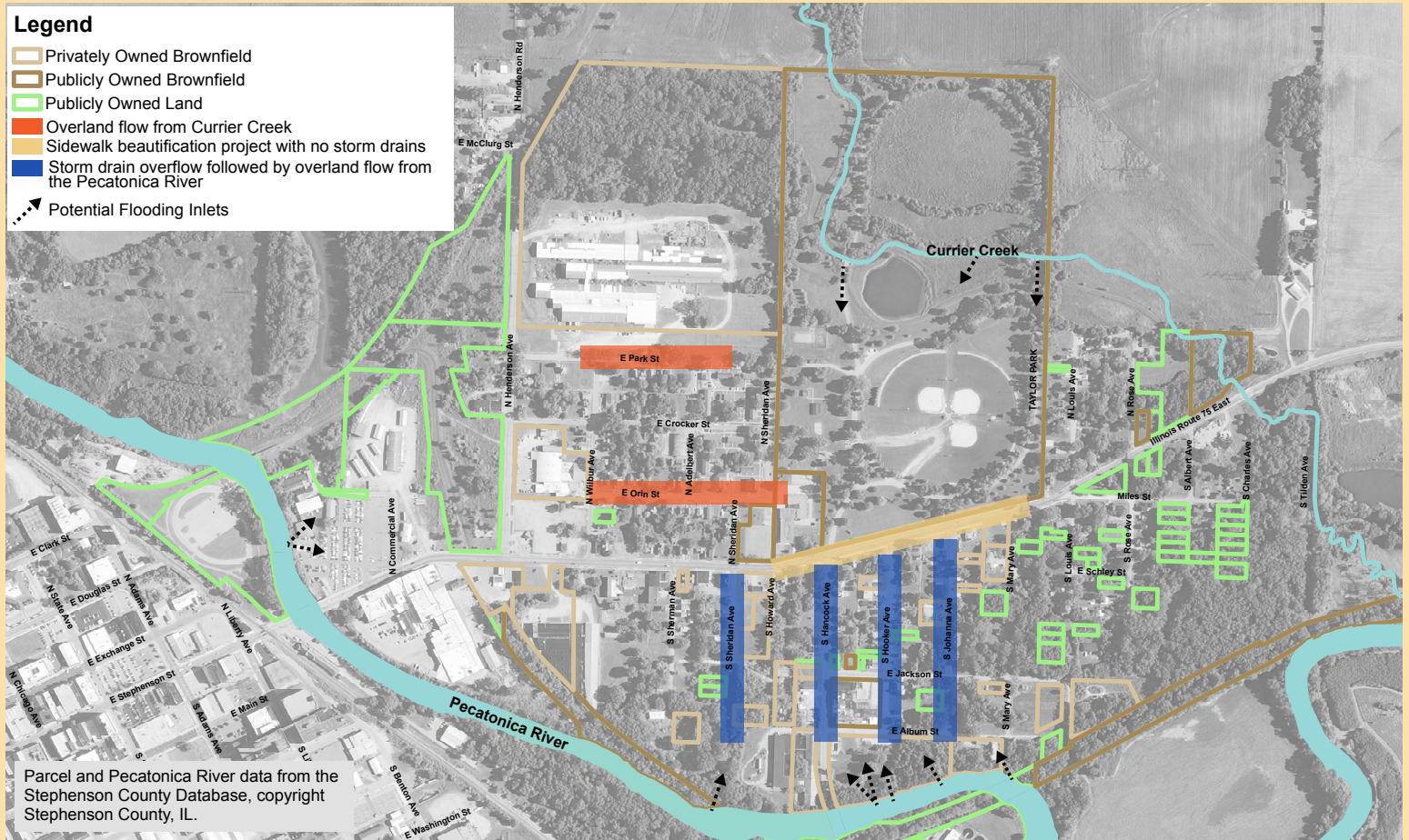


Figure 2: Opportunities to Address Flood Impacts through Green Infrastructure

This map documents (1) the location of publicly owned lands and brownfields that could support green infrastructure features, and (2) the three priority areas for reducing flood impacts as identified by East Side residents who participated in the reuse planning process (shown in red, yellow and blue).

REDUCE FLOODWAY REGULATION IMPACTS

FLOODWAY REGULATION AND ENFORCEMENT

The Federal Emergency Management Agency (FEMA) is responsible for the designation of floodway areas. Typically, a floodway is considered the area where water flows during a storm event. In Illinois, additional state regulations widen the designated floodway further.

Developed areas located in a floodway are subject to federal regulations regarding new construction and improvements to existing structures. These regulations are intended to ensure the safety of structures and the people living or working in them.

The City of Freeport is responsible for the enforcement of floodway regulations related to the permitting of new construction and improvements. If these regulations are not enforced, all city residents and businesses could lose their eligibility for FEMA flood insurance and the City could lose its eligibility for federal disaster assistance.

A DISPROPORTIONATE IMPACT

FEMA regulations currently limit improvements on structures located in a floodway to half of the structure's value. If desired improvements are over 50% of the value, floodway upgrades must be made including elevating the structure by one foot which can be cost-prohibitive. This regulation severely restricts the ability of homeowners in the East Side community to be able to maintain and improve their homes.

For example, in a neighborhood where average home values are \$200,000, a homeowner could make improvements of up to \$100,000. However, the East Side median home value is \$6,384. For a home valued at \$6,384, improvements are limited to no more than \$3,192 before triggering costly regulatory requirements - like elevating the structure out of the floodway/floodplain. This restriction has prevented East Side homeowners from undertaking any significant improvements to their homes.

This unintended disproportionate impact on East Side homeowners has resulted in declining home values and housing quality, which further contributes to a cycle of disinvestment in homes and businesses in the neighborhood. The end result of this cycle has been a declining economic stability and quality of life for East Side residents, as described on the front page of this report.

RESIDENTS TAKE THE INITIATIVE

East Side residents and stakeholders who participated in this reuse planning process have begun meeting to prepare for dialogue with FEMA and others regarding the disproportionate impact of floodway regulations upon their community. They are committed to presenting a unified message that:

- Tells the story of the decline of the East Side neighborhood,
- Clearly communicates the significance of the disproportionate impact of floodway regulations, and
- Invites agency representatives into a dialogue with East Side residents and their local, state and federal elected representatives that will focus on finding solutions to address this impact.

East Side residents and stakeholders meet to discuss flood impacts and to prepare for dialogue with agencies involved in the regulation of floodways (right).

“Floodway regulations have a disproportionate impact on housing values and housing quality in low-income neighborhoods.

The majority of East Side residents have difficulty maintaining and improving homes because of floodway regulations.

East Side residents would like FEMA to address the disproportionate impact of the 50% rule and would like assistance with maintaining and improving their homes.”

Consensus message developed by participants at the September 28, 2013 workshop.



MOVING FORWARD

SUCCESS THROUGH PARTNERSHIP

This project has set the stage for a productive partnership between city staff and the East Side neighborhood to work together to achieve community revitalization goals.

Guiding principles included:

- Healing of previously strained relationships between neighborhood residents and local government representatives,
- Deference to neighborhood leadership to define the problems experienced by neighborhood residents and to prioritize solutions,
- Engagement of local and federal government representatives as valued resources for neighborhood leaders, and
- Respectful dialogue that emphasizes an inclusive vision for improving quality of life on the East Side.

Steps to build a partnership throughout the project included:

- Facilitation of a workshop for neighborhood leaders and local government staff on Building Cultural Competence (see bottom right),
- Engagement of neighborhood leaders in setting the agenda for each EPA-sponsored meeting,
- Coordination of EPA-sponsored meetings to dovetail with ongoing conversations at community-convened meetings,
- Engagement of local government representatives in preparing and responding to meeting materials and resources,
- Active participation of local government staff and elected representatives at meetings with neighborhood residents, and
- Public commitment from City of Freeport staff and elected representatives to work with neighborhood residents to identify resources for implementing neighborhood priorities.

NEXT STEPS

The steps outlined above helped to rebuild a solid partnership between East Side residents, local government and EPA. All entities have committed to moving forward together by:

- Continuing coordination between the East Side neighborhood, the City of Freeport and EPA on brownfields cleanup and reuse.
- Using EPA Brownfields Area-Wide Planning Grant funds to:
 - Conduct a storm water infrastructure feasibility study to identify which infrastructure strategies explored in this report and the green infrastructure strategy insert are appropriate throughout the East Side.
 - Develop an area-wide plan that incorporates flood impact reduction and neighborhood revitalization goals.
- Identifying agency and non-profit partners to contribute to implementation of the area-wide plan.
- Exploring formation of an East Side neighborhood association.
- Engaging FEMA and other relevant entities in a dialogue regarding how to reduce the disproportionate impacts of floodway regulations on the East Side neighborhood.

This report was funded by the EPA Superfund Redevelopment Initiative and EPA Region 5. For more information on SRI and reuse planning, please contact Tom Bloom, EPA Region 5 reuse coordinator (312-886-1967, Bloom.Thomas@epa.gov). For more information on brownfields activities in Freeport, Illinois, please contact Linda Mangrum, EPA Region 5 brownfields coordinator (312-353-2071, Mangrum.Linda@epa.gov). For more information on neighborhood revitalization in Freeport, Illinois, please contact the Freeport Department of Community Development (815-235-8202).

The report was produced for the East Side neighborhood and the City of Freeport, Illinois by Skeo Solutions (www.skeosolutions.com)

REVITALIZATION GOALS

“The East Side is more than water!”

~ East Side Resident

East Side residents are hopeful that reducing the impact of flooding and overcoming the economic limitations floodway regulations have created will set the stage for comprehensive neighborhood revitalization and improvement in quality of life for neighborhood residents.

The following neighborhood revitalization goals were shared during the course of this reuse planning process:

- Improve housing conditions.
- Identify suitable economic redevelopment opportunities for brownfield sites throughout the East Side neighborhood.
- Increase neighborhood-oriented amenities and services, including a grocery store, sit-down restaurant, laundromat and public transportation.

Additional revitalization goals are captured in the *2007 East Side Revitalization Strategy*.



Collaboration between a neighborhood business owner and the City of Freeport resulted in development of Sell Noir, a catering business on the East Side. Residents are hopeful that the East Side can attract additional businesses with neighborhood-oriented amenities.

BUILDING CULTURAL COMPETENCE

Early in the process, Skeo Solutions provided Cultural Competence Training that brought together city staff and neighborhood residents to build a foundation for working productively together.

During the training, participants shared their personal stories and explored many layers of culture that impact communication between the East Side and the City. Parties from both sides expressed frustration with the history of poor communication and strained relationships between residents and city staff.

Breakthroughs occurred as participants realized that they all care deeply about living conditions on the East Side and as they learned more about each other's personal lives. Participants acknowledged the barriers to relationship development created by their differing roles in the community. Participants learned strategies for developing stronger personal relationships across the divide between residents and staff and committed to using their relationships to create change on many levels in the neighborhood.

ADDENDUM: FLOOD IMPACT REDUCTION

Green infrastructure strategies for reducing flood impacts on the East Side

1 FOR NEIGHBORHOOD STREETS with sidewalks and large street area

For neighborhood areas that have:

- Sidewalks on both sides of street
- Large area between road and sidewalk



Potential Strategy: Planted Swales

Ample area between roads and sidewalk provide space to construct bioswales between streets and sidewalks to collect rainwater from streets and hold it until flooding subsides.



Notes

Planted swales can be planted with lawn or planted to look like a garden. The photographs below show different types of swales, from simple grassy swales to perennial plantings that provide seasonal color.

- *Maintenance:* Residents would like the City to have a maintenance plan in place for new plantings.
- *Aesthetic qualities:* Residents would prefer swales planted to look like a garden. If maintenance funding is a challenge, residents would prefer grassy swales that are consistently maintained.
- *Community:* Neighborhood residents would like to be involved in planning, planting and maintaining these features. Planting and maintenance offer opportunities for apprenticeships and jobs for residents.

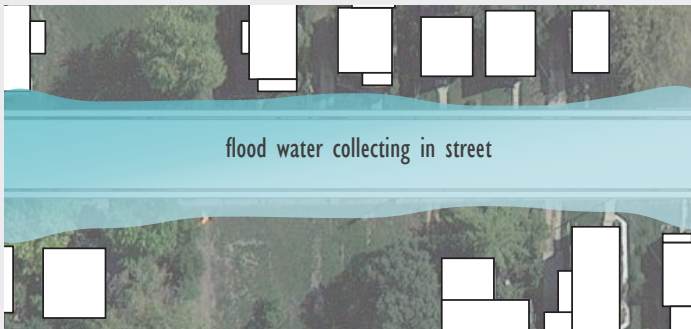


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FOR NEIGHBORHOOD STREETS with limited sidewalks and street area

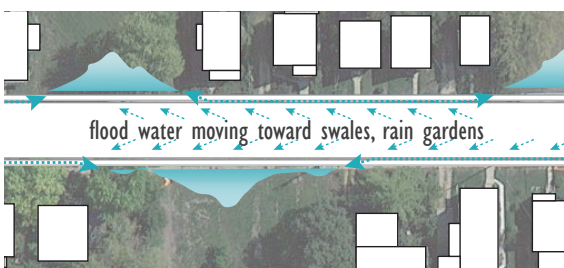
For neighborhood areas that have:

- No sidewalks or sidewalk on one side of the street
- Close to publicly owned vacant lots



Potential Strategy: Direct and Hold Water

This strategy focuses on moving water away from homes and streets toward vacant lots where water can be held safely until flooding subsides. Swales or channels direct the water from streets to rain gardens or similar retention basins on nearby vacant properties.



Notes

Placement

- Channels and basins may need to be placed on vacant lots to avoid holding water close to structures.
- New sidewalks, sidewalk repairs and storm drains could be added to enhance safety.

Technical Notes

- This network of swales and rain gardens could link to a pond or underground storage across Stephenson in significant overflow events.
- An engineering study is required to determine potential locations and holding capacity for implementation.

Community Interests

Similar considerations exist for planted swales, rain gardens and other types of infiltration and retention basins.

- *Maintenance:* Residents would like the city to have a maintenance plan in place for new plantings.
- *Aesthetic qualities:* Residents would prefer swales planted to look like a garden. If maintenance funding is a challenge, residents would prefer grassy swales that are consistently maintained.
- *Community:* Neighborhood residents would like to be involved in planning, planting and maintaining these features. Planting and maintenance offer opportunities for apprenticeships and jobs for residents.
- *Design:* Design should be safe for children and should not promote mosquito habitat. Include observation areas and educational signage describing the features and the wildlife they attract.

3 FOR STREETS AND SIDEWALKS with no drainage or outflow

For neighborhood areas that have:

- Sidewalks that direct flood water toward the street.
- No opportunity for water to drain from the street.



Strategy A: Redirect and Hold Water (Retrofit)

Slight changes can be made to move water away from the street into holding areas.

Curb cuts (or sidewalk cuts) in the sidewalk allow water to drain away from the street.



The cuts direct flood water to **planted swales or channels** along the street.



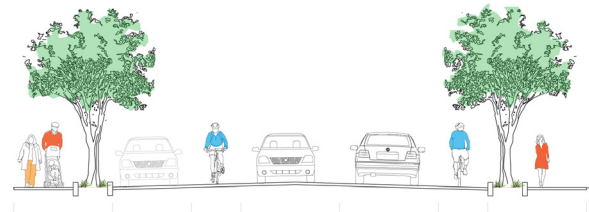
These swales could help clean and direct the water toward larger holding basins or potential underground storage north of Stephenson.



Strategy B: Green Street (Rebuild)*

A “green street” can provide:

- Planted swales to hold and infiltrate flood water.
- Lanes for drivers and bicyclists.
- Separated sidewalks for pedestrian safety.



Strategy C: Conventional Infrastructure (Rebuild)*

Rebuild sidewalk/road with appropriate conventional gray infrastructure (pipes and drains).



* Strategies presented in B and C can be combined for effective flood reduction that mixes green and gray infrastructure.

4 FOR LARGE OPEN SPACES with space to store flood water

Larger open space areas can help store flood water. These storage strategies can be located:

- In large public spaces and vacant lots.
- Areas that have a large amount of flood water.



Strategy A: Stormwater Wetland

Constructed wetlands collect and store water in a shallow pool until flooding subsides. Wetlands include marshland plants to clean the water. Wetlands can provide wildlife habitat, education and recreational opportunities such as bird watching. Wetlands can be designed to minimize mosquito habitat.



Strategy B: Underground Storage

Underground storage tanks can be placed in large areas, allowing the land to be used for recreation, parking or other purposes. These tanks collect and hold water in a heavy rain event. Afterward, water can be slowly released back into the ground so it can infiltrate at a controlled rate.



Notes

Strategies can be combined to work across the neighborhood in a network of pipes, channels and wetlands.

Arrows in this image show how water moves through bioswales, basins and wetlands in a networked flood management approach.

Swales direct overflow toward larger holding areas.

Overflow water moves toward a large constructed wetland.

