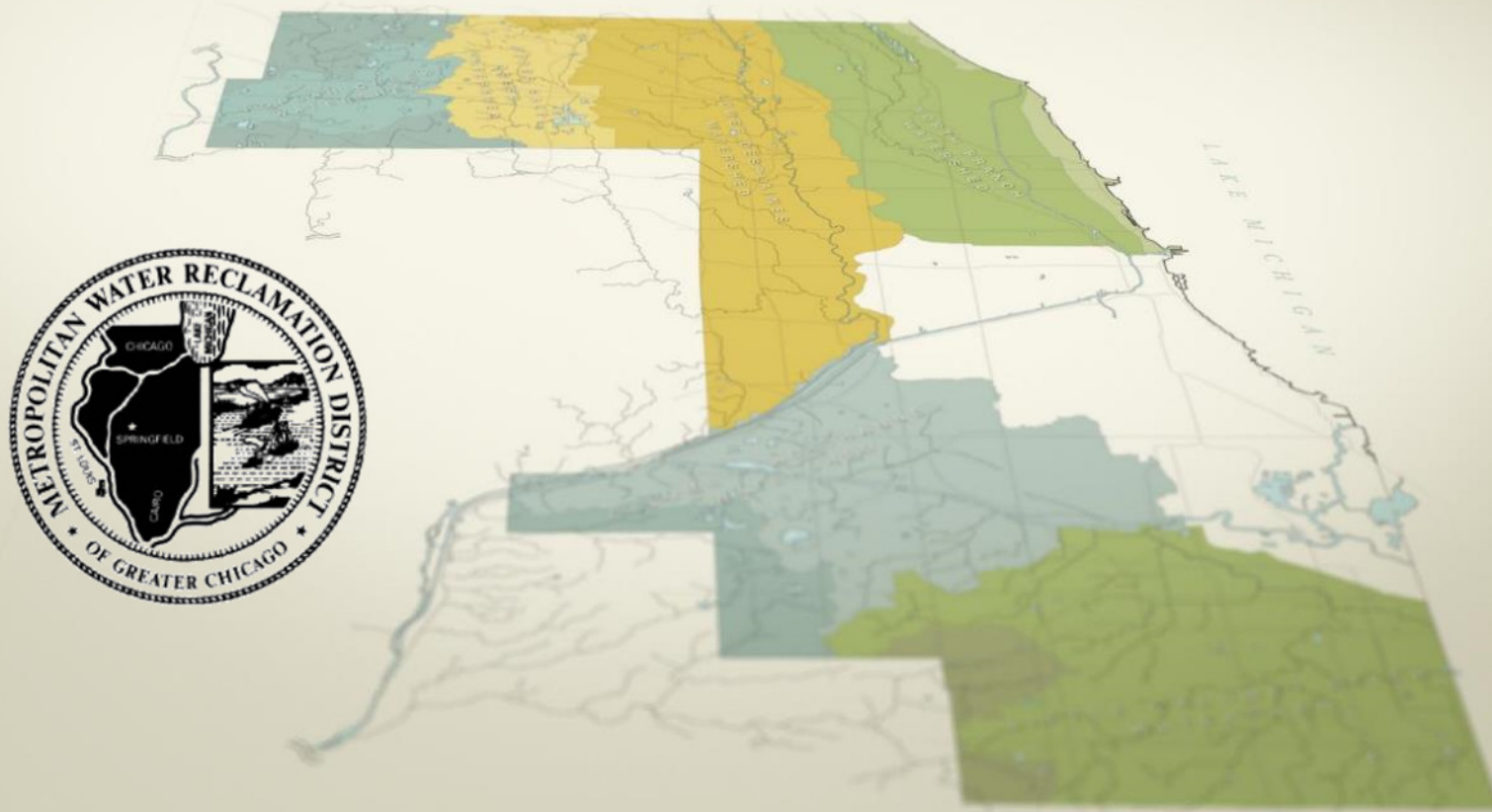


# Metropolitan Water Reclamation District of Greater Chicago

## Stormwater Management Program Funding



**IAFSM Stormwater Funding Seminar**

February 21, 2018



# Stormwater Management Programs

## Flooding remains our #1 issue

- Stormwater Phase I (DWP) Projects
  - Design and Construction of Regional Flood Control and Streambank Stabilization Projects
- Stormwater Phase II Projects
  - Funding of Shovel-Ready Projects
  - Design of Conceptual Projects
- Green Infrastructure
  - Partnerships with Local Communities
- Flood-Prone Property Acquisitions
  - Voluntary buyouts where no practical engineered solution exists



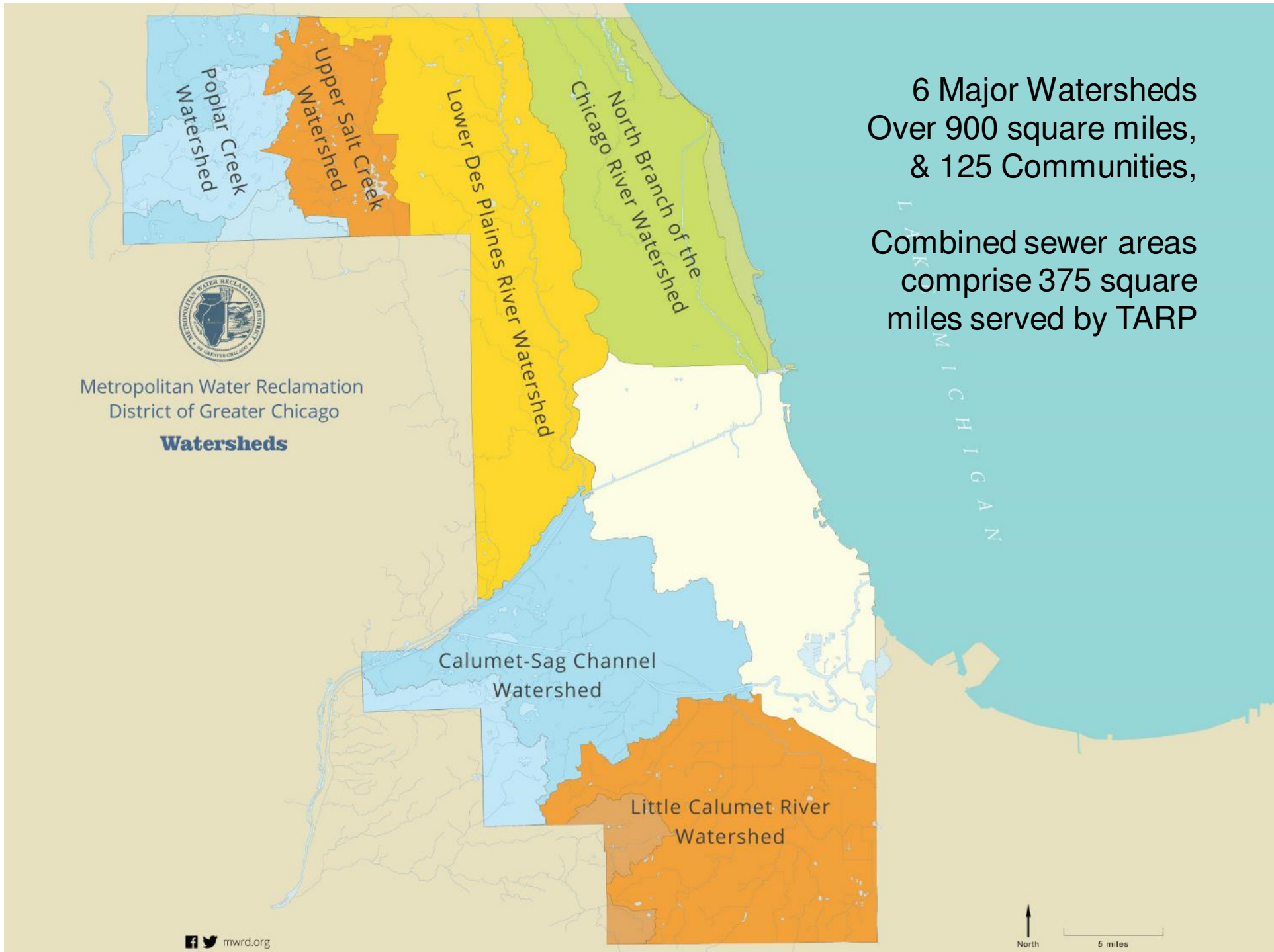
# Stormwater Management Program

MWRD conveyed authority in November 2004 to plan, manage, implement, and finance activities relating to stormwater management in Cook County

Cook County Stormwater Management Plan (CCSMP) adopted in 2007 establishing program framework

## Primary Stormwater Management Activities:

- Develop Capital Improvement Program (CIP) to address REGIONAL stormwater problems
- Comprehensive uniform stormwater regulations to ensure future development and redevelopment does not exacerbate flooding



6 Major Watersheds  
Over 900 square miles,  
& 125 Communities,

Combined sewer areas  
comprise 375 square  
miles served by TARP



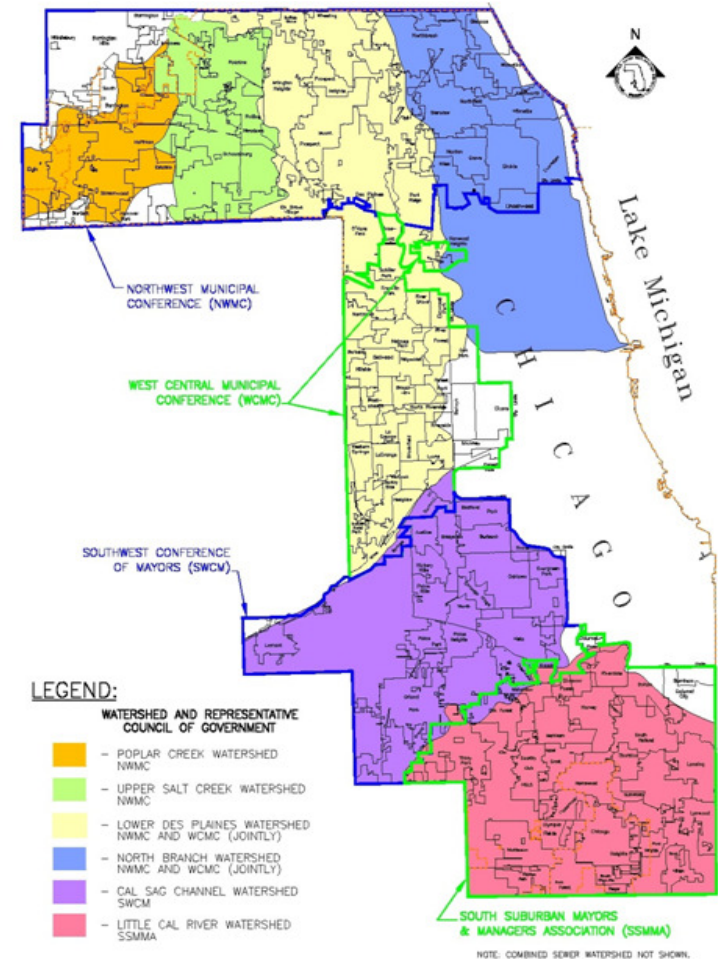
Metropolitan Water Reclamation  
District of Greater Chicago

**Watersheds**



# Detailed Watershed Plan Development

- Poplar Creek
- Upper Salt Creek
- Lower Des Plaines River
- North Branch Chicago River
- Calumet-Sag Channel
- Little Calumet River



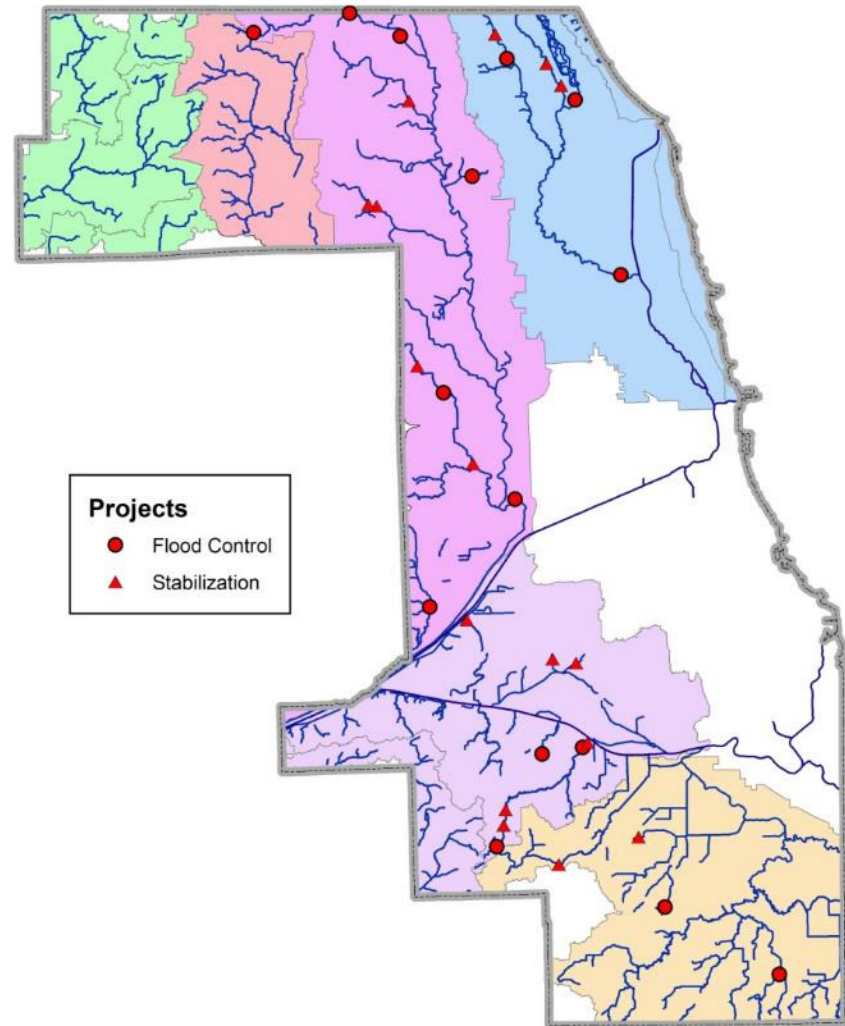


# Recommended DWP Projects

15 Flood Control Projects to address overbank flooding

12 Streambank Stabilization Projects to address critical erosion

Prioritized based on Benefit-to-Cost Ratio and Distributed across Cook County





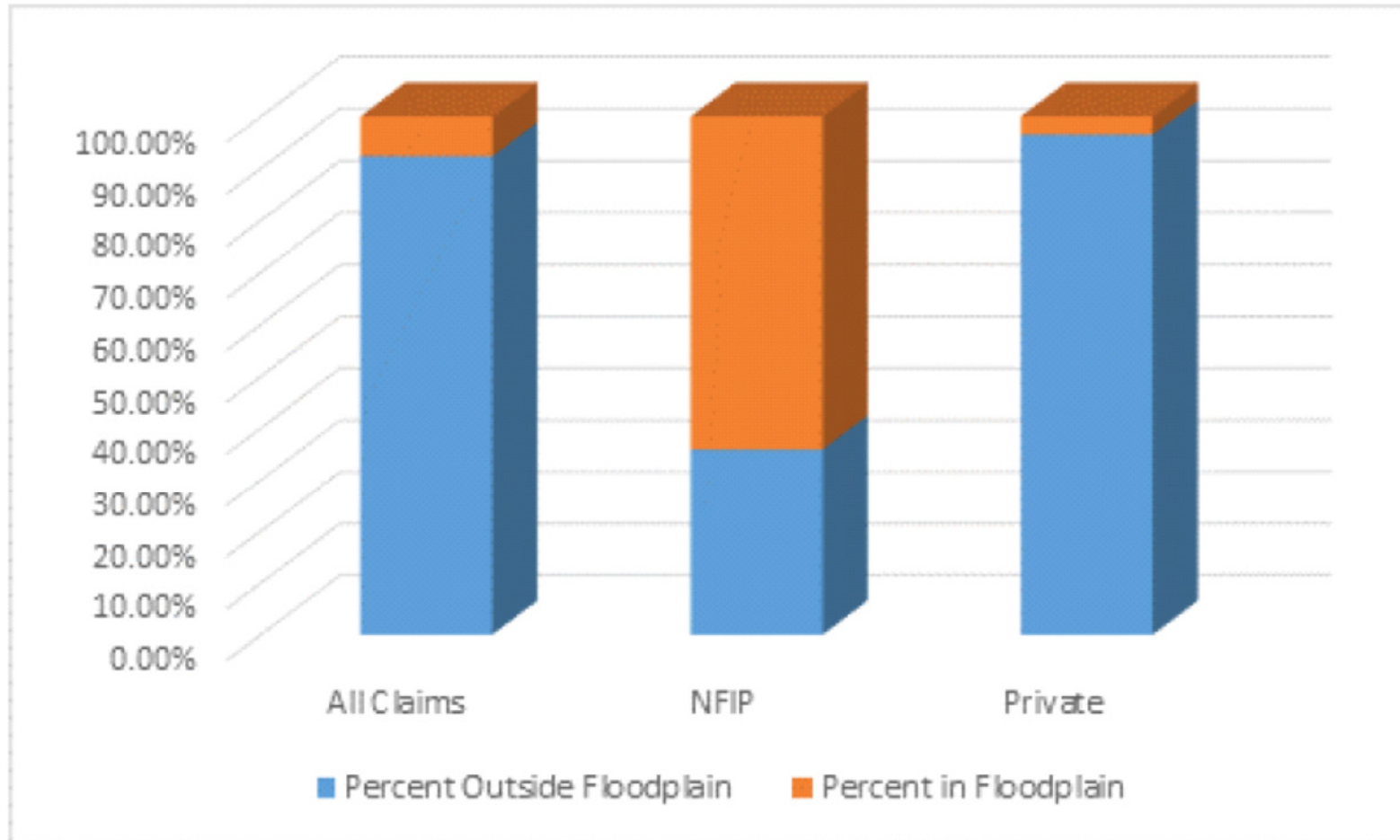
# Riverine vs. Urban Flooding



“Urban Flooding” is the inundation of property in a built environment caused by rainfall overwhelming the capacity of local drainage systems.



# Riverine vs. Urban Flooding



*Figure 1.3: Between 2007 and 2014, most (96.5%) of private insurance claims are for structures outside the mapped floodplain; however, a significant number of NFIP claims (35.9%) are outside the mapped floodplain.*





# Legislative Amendment to MWRD's Stormwater Management Authority

## **Public Act 98-0652** enacted into Law June 2014

- Allowed the District to move forward on new initiatives under its **Phase II** program including partnering with local communities and agencies to address **local** drainage problems, and setting up a program for purchasing flood prone and flood damaged property on a voluntary basis.
- District-wide call for local projects/problem areas in 2013, future calls to be done annually starting this year
- Application process developed for Phase II, GI and Flood-Prone Property Acquisitions



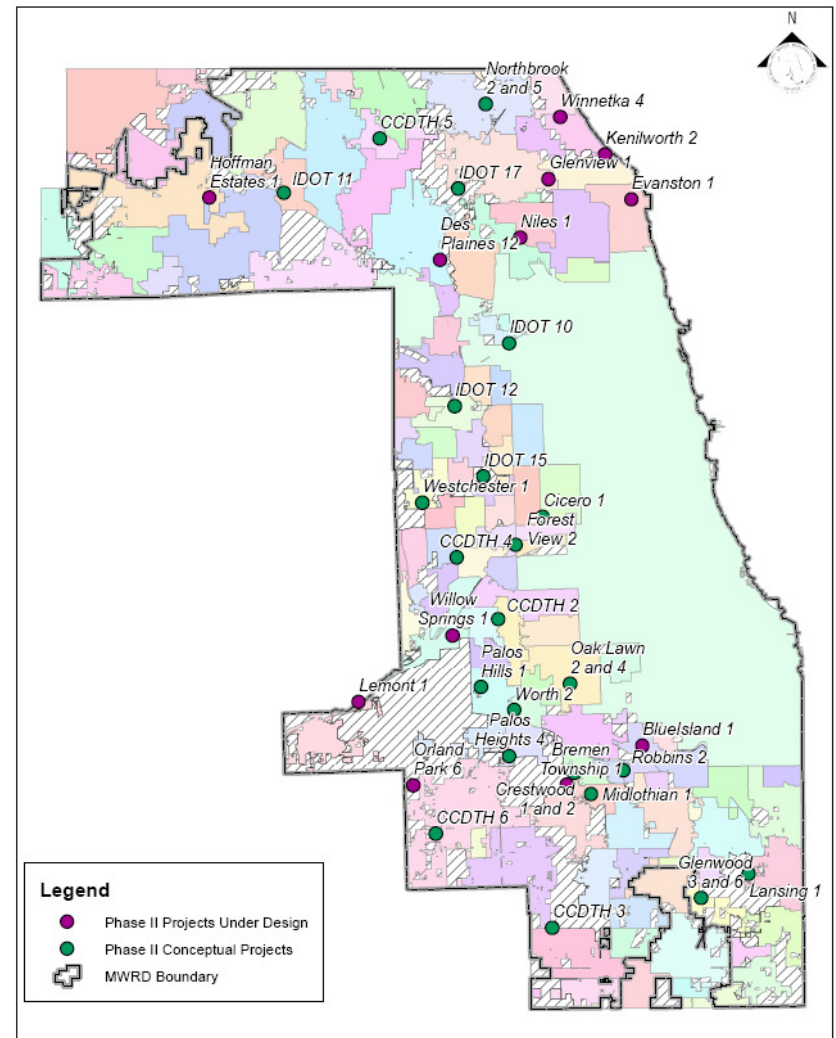
# Phase II Projects

Shovel-ready and Conceptual projects

Distributed throughout county

Types of Projects include:

- Green infrastructure
- Localized detention
- Upsizing critical storm sewers/culverts
- Pump stations
- Establishing drainage ways

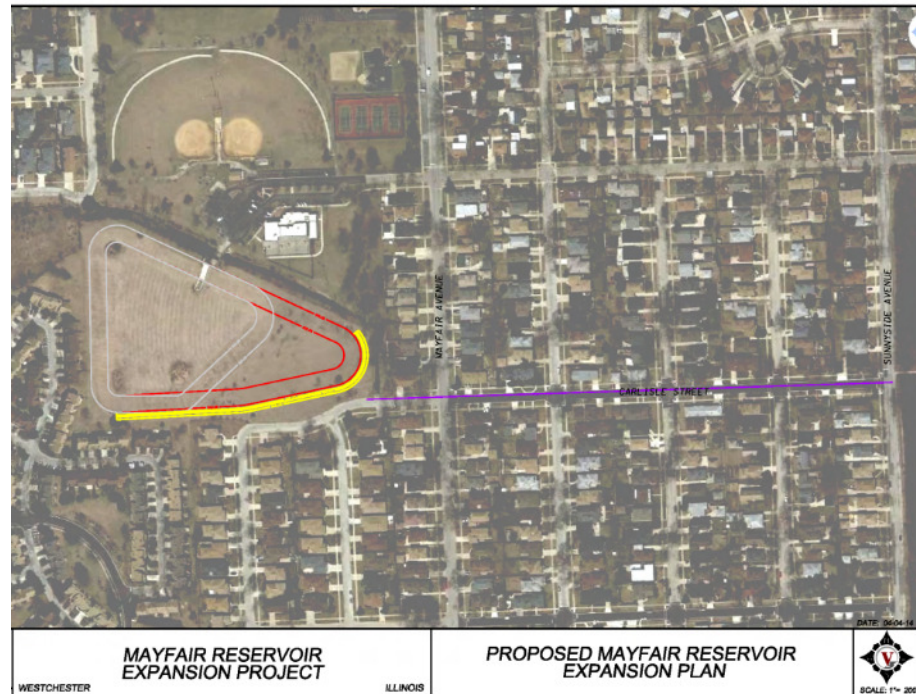




# Phase II Shovel Ready Projects

## Shovel-Ready Example: Mayfair Reservoir Expansion

- 27 Acre-feet of New Stormwater Storage in Westchester
- 60 Structures Protected
- Village responsible for design, construction, and maintenance
- MWRD reimbursement funding provided for construction through IGA
- Project completed 2015

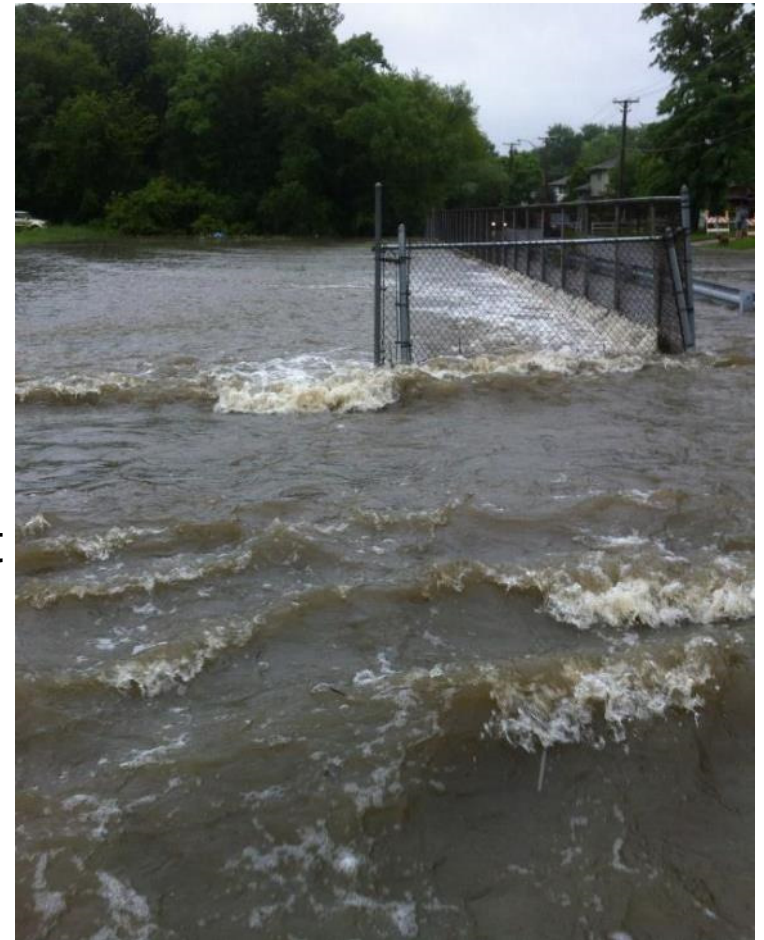




# Phase II Projects

## Conceptual Example: Natalie Creek Flood Control Proj.

- Problem affecting 237 structures in Midlothian and Oak Forest
- MWRD performed preliminary eng. to identify alternatives and recommend a preferred solution.
- MWRD designed conveyance and storage improvements and will construct
- Municipalities to own and maintain all new improvements
- Municipalities assisting in property acquisition and stakeholder outreach





# Stormwater Project Hurdles

- For local projects to be eligible for MWRD funding assistance, communities must follow MWRD Procurement Rules, Diversity Requirements, and comply with Multi-Project Labor Agreement
- Local communities must own and maintain new improvements
- Locals must provide up-front construction funding (MWRD funding is reimbursement-based)
- Project benefits must be clearly defined and quantifiable
- Socio-economic challenged communities have stormwater issues that go beyond flooding





# Flood-Prone Property Acquisition Program

- Policy adopted by Board of Commissioners August 2014 after PA 98-0652
- Three Distinct Components
  1. Local Sponsor Assistance Program
  2. District Initiated Program
  3. Local Government Application



Photo Source: [www.rblandmark.com](http://www.rblandmark.com)



# Flood-Prone Property Acquisition Program

## Minimum Criterion

1. Property must be within 100-year floodplain and/or DWP inundation area.
2. The Project's Benefit-to-Cost Ratio must be greater than 1.0.

## Factors Applicable to Each Program

1. Local government agency must serve as a local sponsor
2. Duties of local sponsor include:
  - Local Sponsor will be party responsible for direct contact with the private property owners during the acquisition process
  - Accept ownership of acquired property
  - Remove existing structures
  - Place deed restrictions against future development
  - Maintain property upon return to open land
  - Provide regular reports certifying property meets terms and conditions



# Flood-Prone Property Acquisition Program

## Program Progress

- Glenview - 17 homes purchased
- Des Plaines – City in process of purchasing 62 homes
- Riverside-Lawn – Cook County Land Bank purchasing 39 homes
- Northlake – City purchasing 8 homes
- Finalizing IGAs for acquisition of additional homes in Franklin Park and Flossmoor
- Additional funding secured with Cook Co. CDBG-DR
- Received applications from 6 communities during 2018 call







# Green Infrastructure

## Program Components

- Rain Barrel Program
- Comprehensive Land Use Policy
- Community Assistance and Public Outreach
- Projects and Design Retention Capacity





# Rain Barrel Program

The District's Rain Barrel Program utilized three distribution networks

- Municipalities
- NGOs and community groups
- campus-type facilities

Through 2016, nearly 110,000 MWRD rain barrels have been distributed in 108 communities across Cook County





# Green Infrastructure Requirements

## MWRD's Comprehensive Land Use Policy

- Requires public entities leasing MWRD property to provide GI based on the size of the leasehold and the desired use
- Private entities leasing MWRD land are provided incentives to implement and maintain GI. Private entities installing GI receive a credit equal to \$0.50 on the \$1.00 up to 10% of the leasehold cost for GI improvements in excess of WMO requirements.

## Watershed Management Ordinance – Volume Control Req'ts

- Capture 1-inch of runoff from impervious surfaces using GI
- Through 2016, ~300 permits requiring nearly 20M Gallons of GI retention volume were issued
- Offsite volume control/detention trading exchange being evaluated

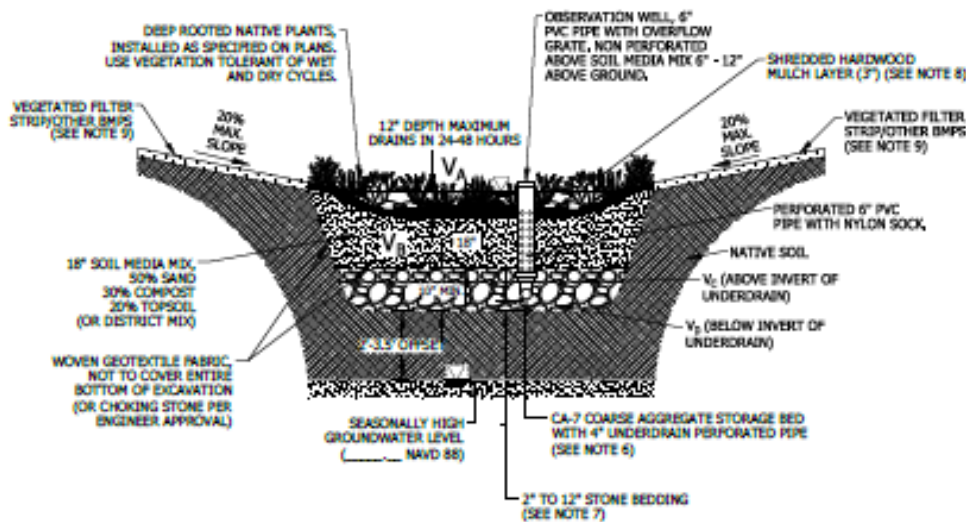


# Green Infrastructure Public Outreach

MWRD is committed to promoting the benefits of Green Infrastructure to encourage its use.

GI can provide opportunities for community enhancements

MWRD has worked with numerous entities to share and gain knowledge on the design, installation, and maintenance of GI





# Green Infrastructure Projects

Prioritize projects based on various criteria, including:

- The likelihood of flooding and/or basement backup reduction
- Number of benefitting structures
- Project cost
- Project location with consideration given to maintenance and educational opportunities
- Socio-economic considerations

Develop partnerships



Image: Data Conversion Laboratory



2015-10-16 14:51



# Green Infrastructure Partnerships

## Space to Grow

- Managed by Healthy Schools Campaign and Openlands
- Funding and technical assistance from
  - Chicago Public Schools
  - Chicago Dept. of Water Management
  - MWRDGC

## Chicago Housing Authority

- Dearborn Homes Rainwater Harvesting

## Local Municipalities

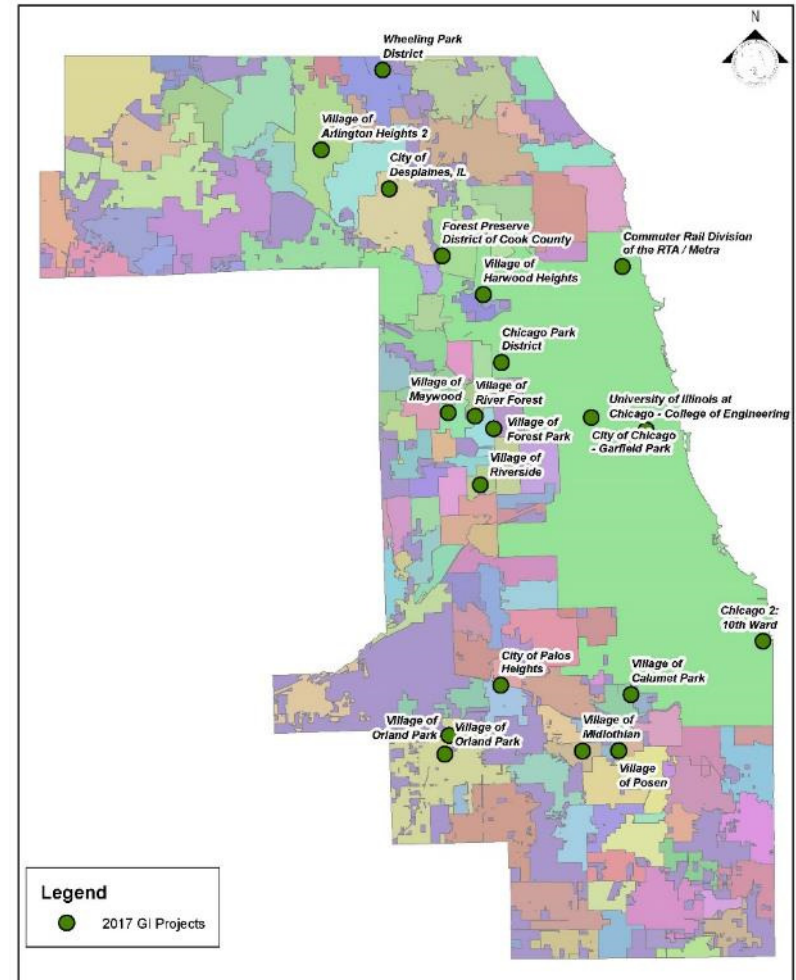
- Evanston, Blue Island, Kenilworth, Wilmette, Northbrook, Niles, and Berwyn (complete)
- Skokie (under design/construction)



# 2017 Green Infrastructure Projects

- 2017 Call for Green Infrastructure Projects
- 20 Green Infrastructure Projects
- \$11.7M estimated total Construction Costs
- 730 Structures Benefitted
- 3.6M gal Design Retention Capacity estimated

2017 Green Infrastructure Projects



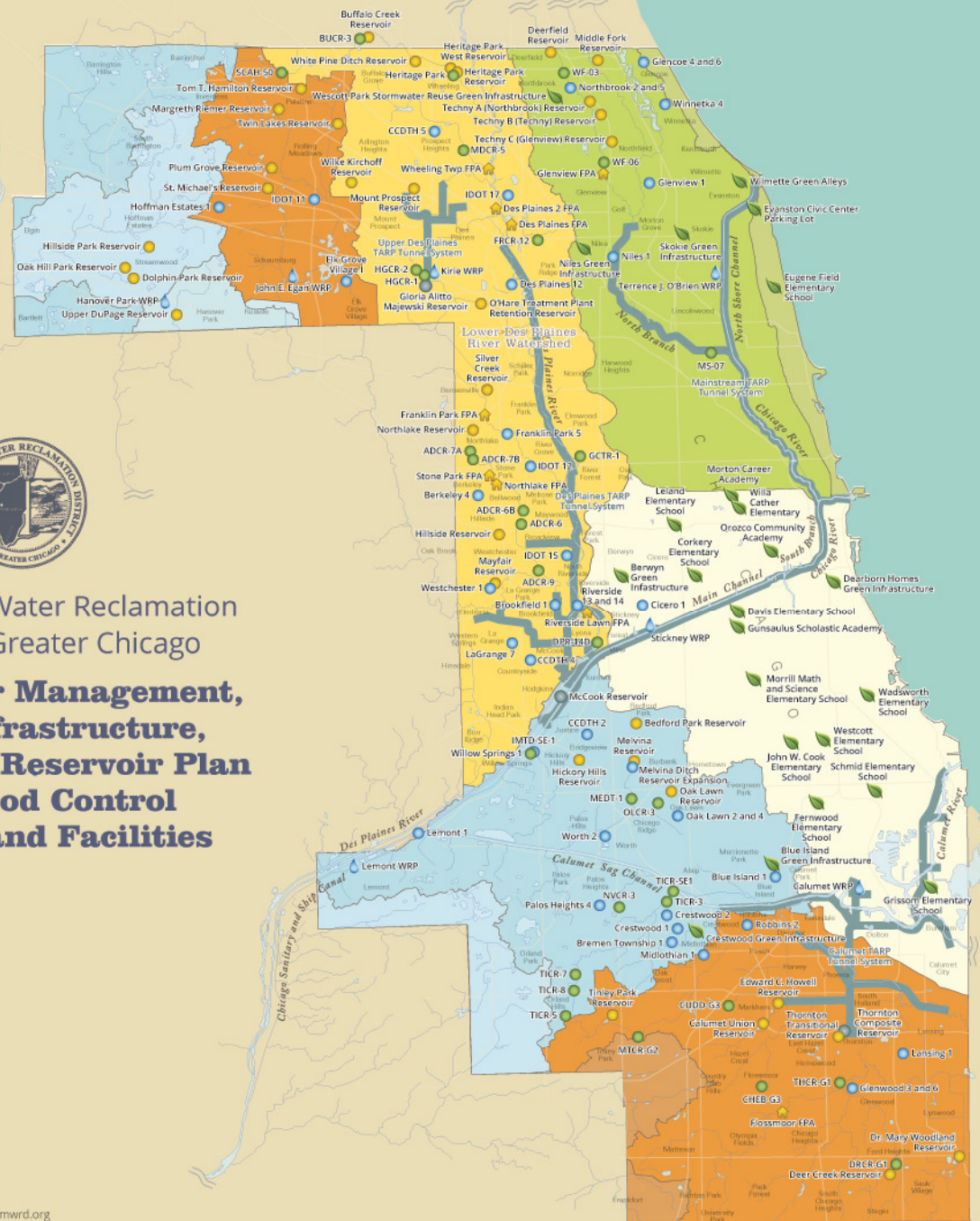


# Virgil Grissom Elementary School After





Metropolitan Water Reclamation District of Greater Chicago  
**Stormwater Management, Green Infrastructure, Tunnel and Reservoir Plan and Flood Control Projects and Facilities**



**Legend**

- Stormwater Management Phase 1 Project
- Stormwater Management Phase 2 Project
- Flood Control Reservoir
- 🏠 Flood Prone Property Acquisitions (FPA)
- 🌿 Green Infrastructure (GI)
- 💧 Water Reclamation Plant (WRP) with GI
- 🚰 Tunnel and Reservoir Plan Tunnel System
- 🌊 Tunnel and Reservoir Plan Reservoir
- 🗺 Cook County

10.18.16





# Stormwater Program Summary

<b>Program Component</b>	<b>Current Number of Projects</b>	<b>Structures Protected / Removed</b>	<b>Construction / Acquisition Cost (\$Million)</b>	<b>MWRD Cost (\$Million)</b>
Phase I	27	4,423	\$369	\$315
Phase II Shovel Ready	21	3,146	\$81	\$41
Phase II Preliminary Engineering	13	TBD	TBD	TBD
Green Infrastructure	25	717	\$48	\$13
Flood Prone Property Acquisition	9	201	\$61	\$34
<b>Totals</b>	<b>85</b>	<b>8,487</b>	<b>\$559</b>	<b>\$403</b>



# Current Call for Project Results

## 2017 Call for Projects:

- Green Infrastructure: 2<sup>nd</sup> Quarter
  - 47 Projects submitted
  - 20 Projects were accepted
  - Potential for 730 Structures to Benefit
- Flood-Prone Property Acquisitions: 3<sup>rd</sup> Quarter
  - Ended on December 1<sup>st</sup>
  - 5 Pre-Applications were submitted
  - Currently evaluating applications, and awaiting feedback on FEMA grants requested by some applicants
- **Phase II – Local Stormwater Projects: 4<sup>th</sup> Quarter**
  - **Applications are due: February 23, 2018**



# Stormwater Master Planning

The District is also preparing to initiate Stormwater Master Planning:

- MWRD will review needs for SW master planning across Cook County to identify solutions to flooding with a holistic approach.
- In 2018, program managers will work with MWRD to develop its approach to the planning process and identify where master plan studies should be conducted.
- In 2019 and beyond, MWRD will initiate future master plans.





# PROJECT: ACCESSING SECTION 319 FUNDING FOR LOCAL COMMUNITIES

# IEPA Section 319 Grant Program

Designed to provide grant funds for projects that prevent, eliminate, or reduce water quality impairments caused by nonpoint source pollution.

- Approximately 10 to 18 grants issued per year - statewide
- Approximately \$3.5 to \$4.5 million per year
  - Project range is \$80K - \$2 million
- Reimbursement program
- 60/40 match (in-kind) required
- “non-pipe” based solution projects

# Section 319 Project in Cook County

- 2-year period (2017-2018)
- Funder: IEPA with in-kind matching
- Partners: Metropolitan Planning Council, Christopher B. Burke Engineering, and MWRD
- Create supplemental materials focused on water quality for 4 existing MWRD plans
- **Ultimate goal:** enable communities within these boundaries to be eligible for 319 grant funding

# Four Watersheds Funded:

- Little Calumet River South (IL\_HB-01) Year 1
- Cal Sag Channel (IL\_H-01) Year 1
- Poplar Creek (IL\_DTG-03) Year 2
- Lower Des Plaines River (IL\_G-03) Year 2



# Questions?

Please contact the project team with any questions:

[LowerDesPlaines319@cbbel.com](mailto:LowerDesPlaines319@cbbel.com)



# Stormwater Management Contact Information

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