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MWRD Phase II Study Area
City of Chicago

Project Overview Presentation to

Calumet Stormwater Collaborative

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May 1, 2015

Project Team

Protecting Our Water Environment

Metropolitan Water Reclamation District of Greater Chicago

CITY OF CHICAGO – INCORPORATED 4th MARCH 1837 –

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engineers | scientists | innovators

Green Metro Planning llc

MWH

STANHOPE CONSULTING

our business is public participation

Coordinated Construction Project Control Services

TERRY GUEN DESIGN ASSOCIATES

LANDSCAPE ARCHITECTURE | URBAN DESIGN | ECOLOGICAL MASTER PLANNING

BLUESTEM communications

Supporting coalitions • Building capacity • Inspiring action

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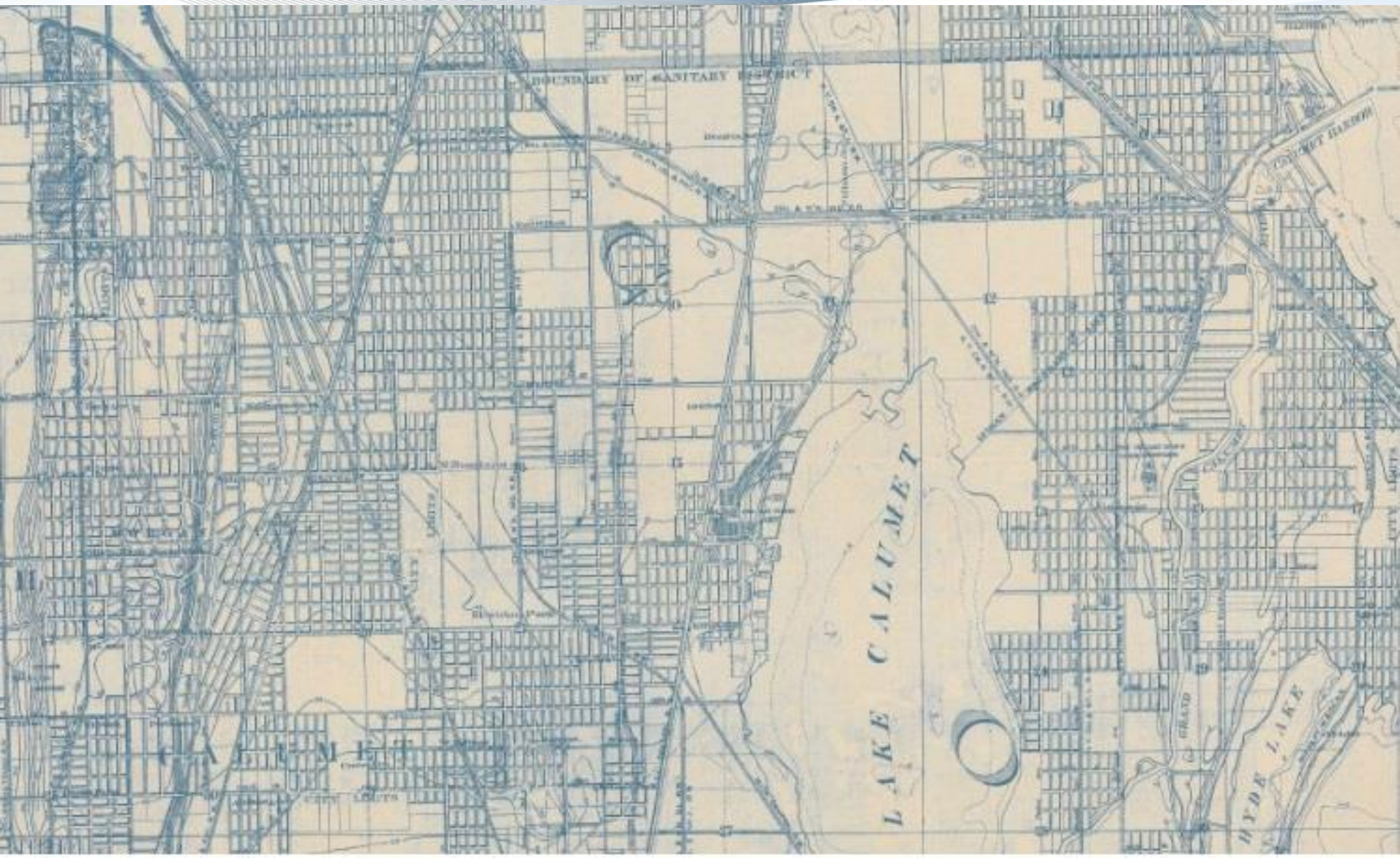
Sanitary District of Chicago Map c1895



Historical Aerial 1939

Historical Aerial 1939
Illinois State Geological Survey

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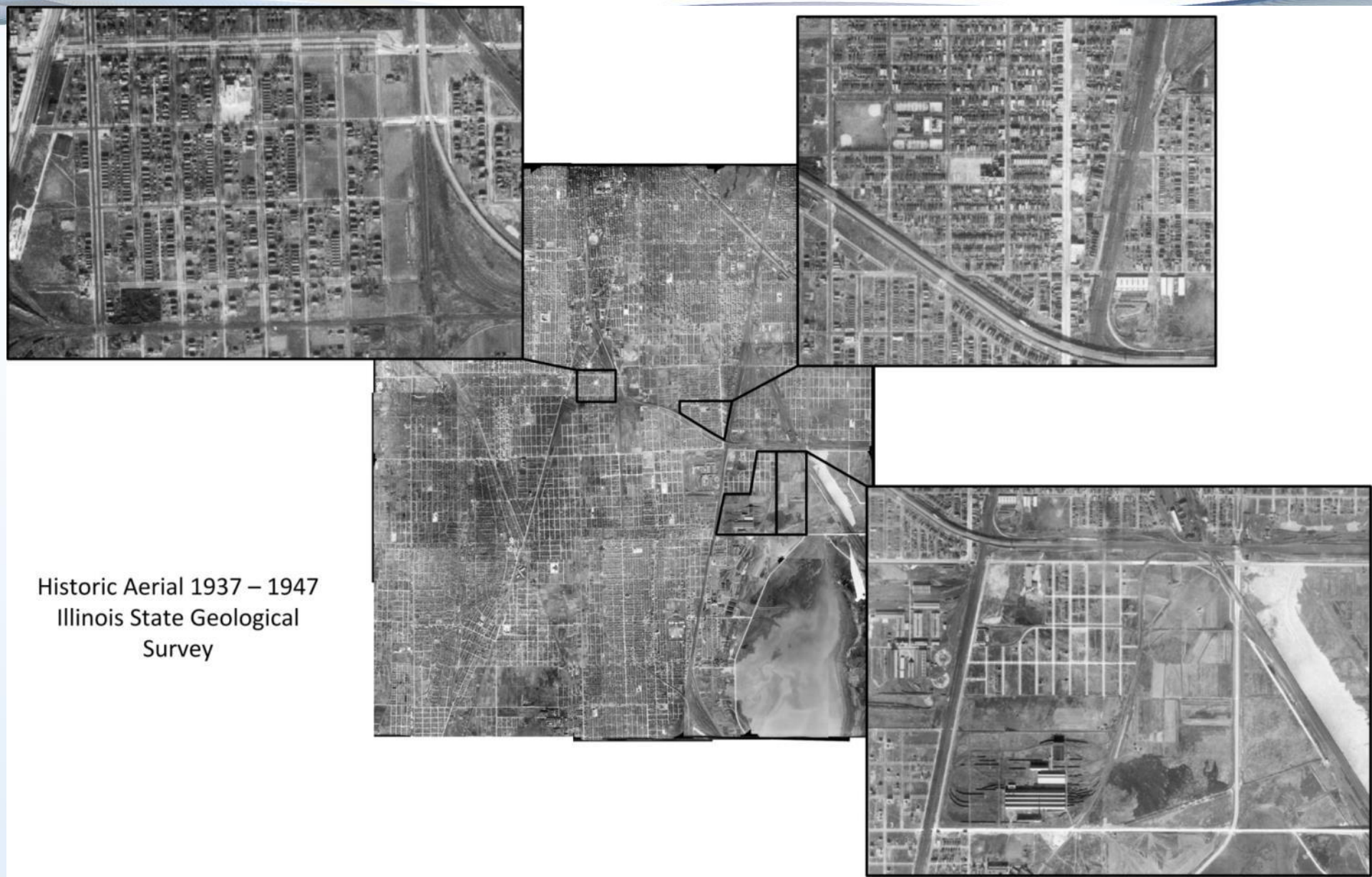
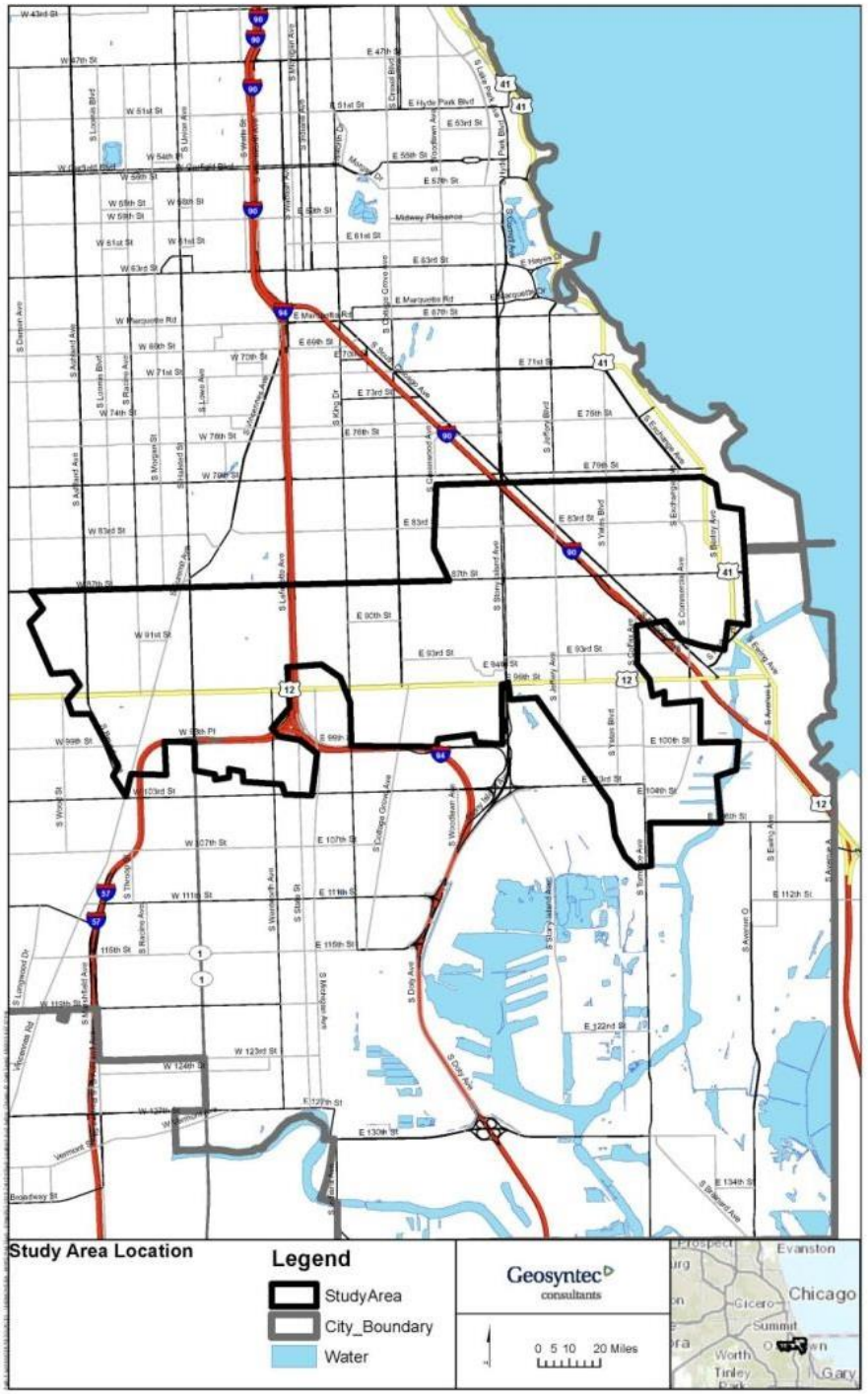
A Closer Look of Subservice Areas 1939



Historic Aerial 1937 – 1947
Illinois State Geological Survey



Overview

- 13 Square Miles
- 7 Wards (7,8,9,10,21, 34, & 19)
- Densely urbanized
- Prior & ongoing studies
- Chronic urban flooding

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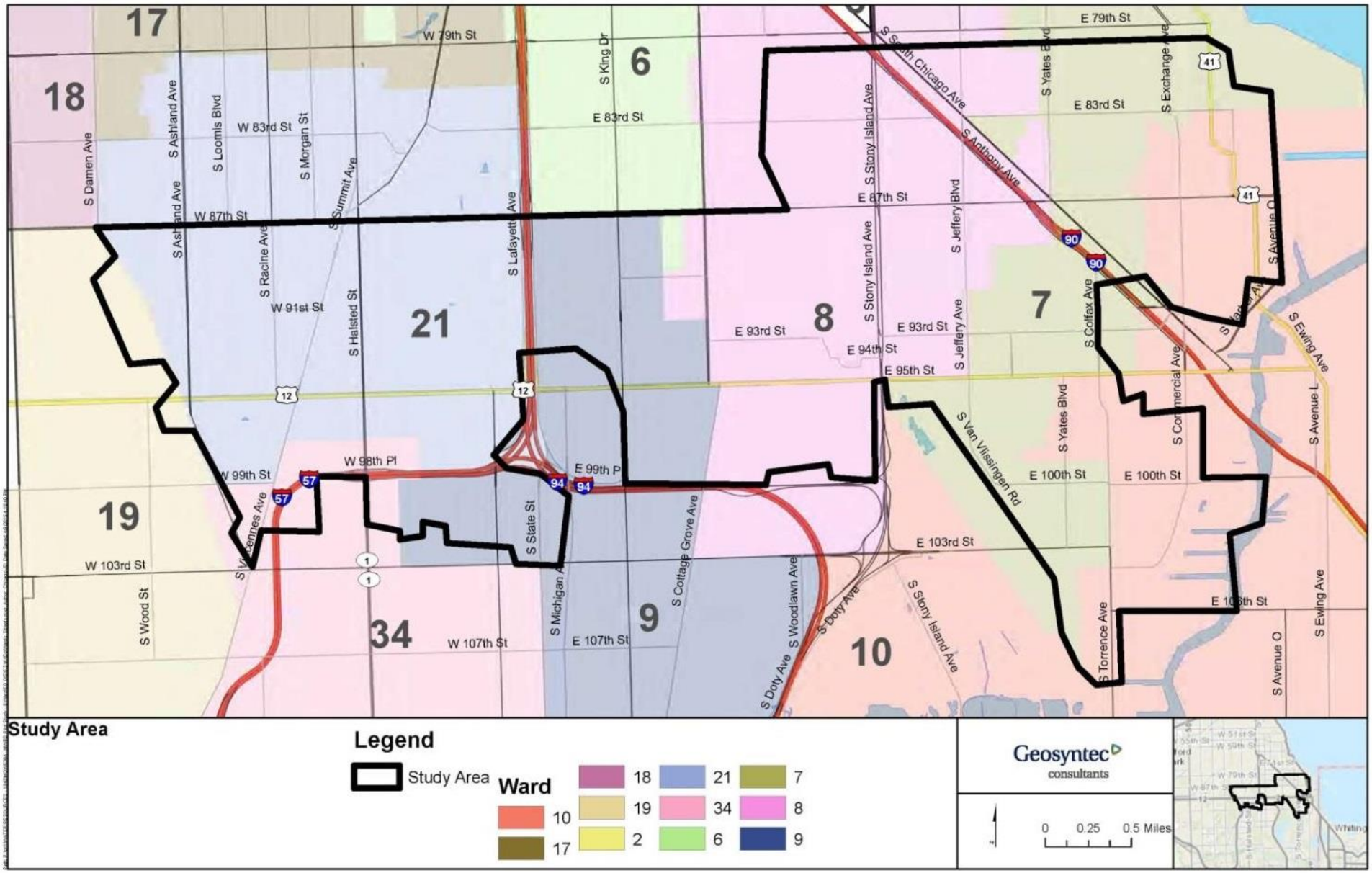
Wards and Streets



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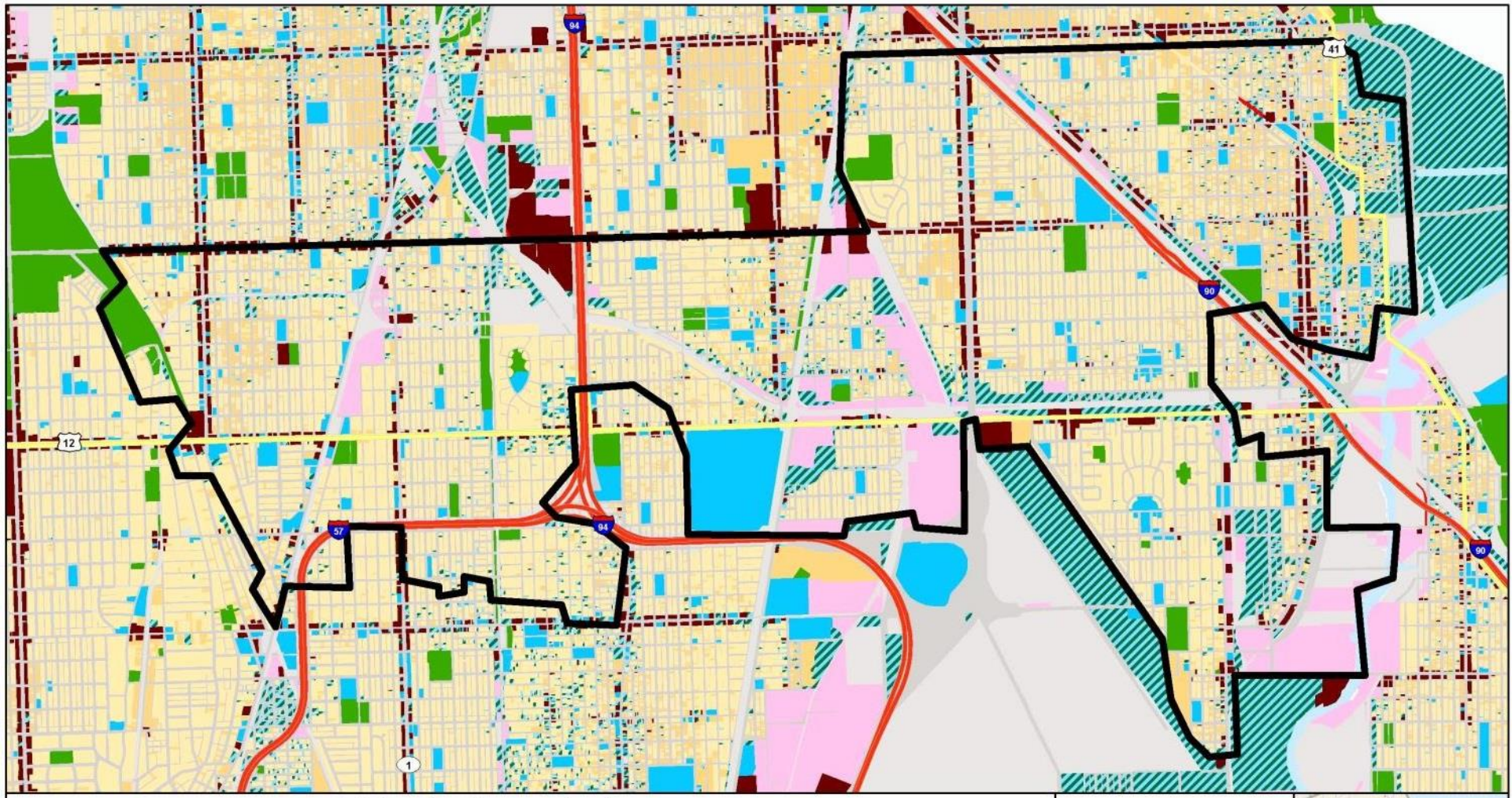
Land Use



LANDUSE

Parcel Based landuse
Chicago Metropolitan Area Planning (CMAP)
http://www.cmap.illinois.gov/data/land-use/inventory

Landuse Type	Acres	Percent
Single-Family	2921	35%
Multi-Family	521	6%
Commercial	325	4%
Industrial	449	5%
Institutional	453	5%
Vacant (developed)	482	6%
Road ROW	2351	28%
Open Space	219	3%
Transportation	613	7%
Total	**8,333**	**100%**

Proposed Study Area

Landuse

- Residential-Single Family
- Residential-Multi-Family
- Commercial
- Institutional
- Industrial
- Transportation/Communication/Utility/Waste
- Agriculture
- Open Space
- Vacant or Under Construction
- Road ROW
- Unclassified
- Water

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Miles
0 0.25 0.5

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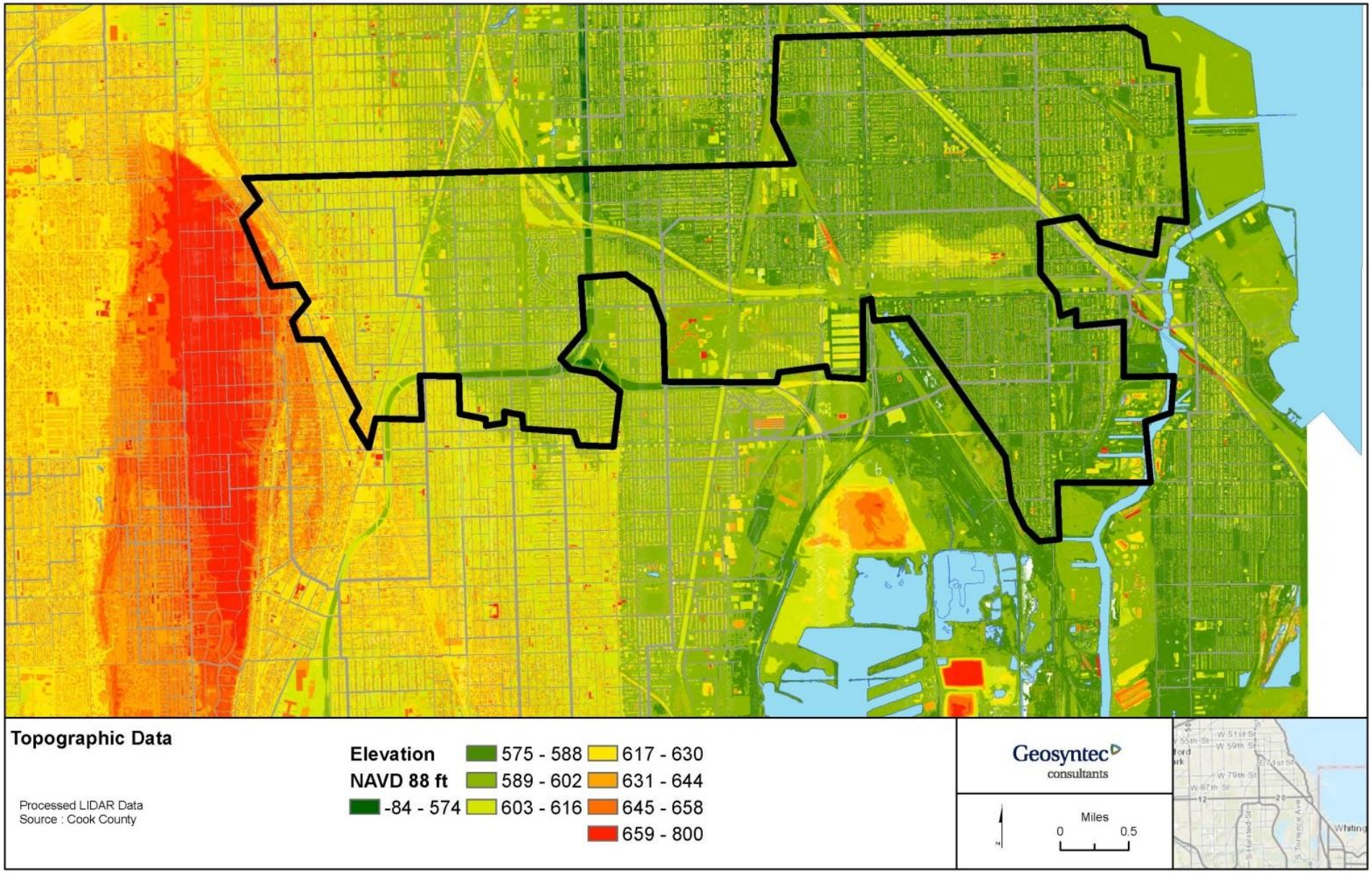
Topography



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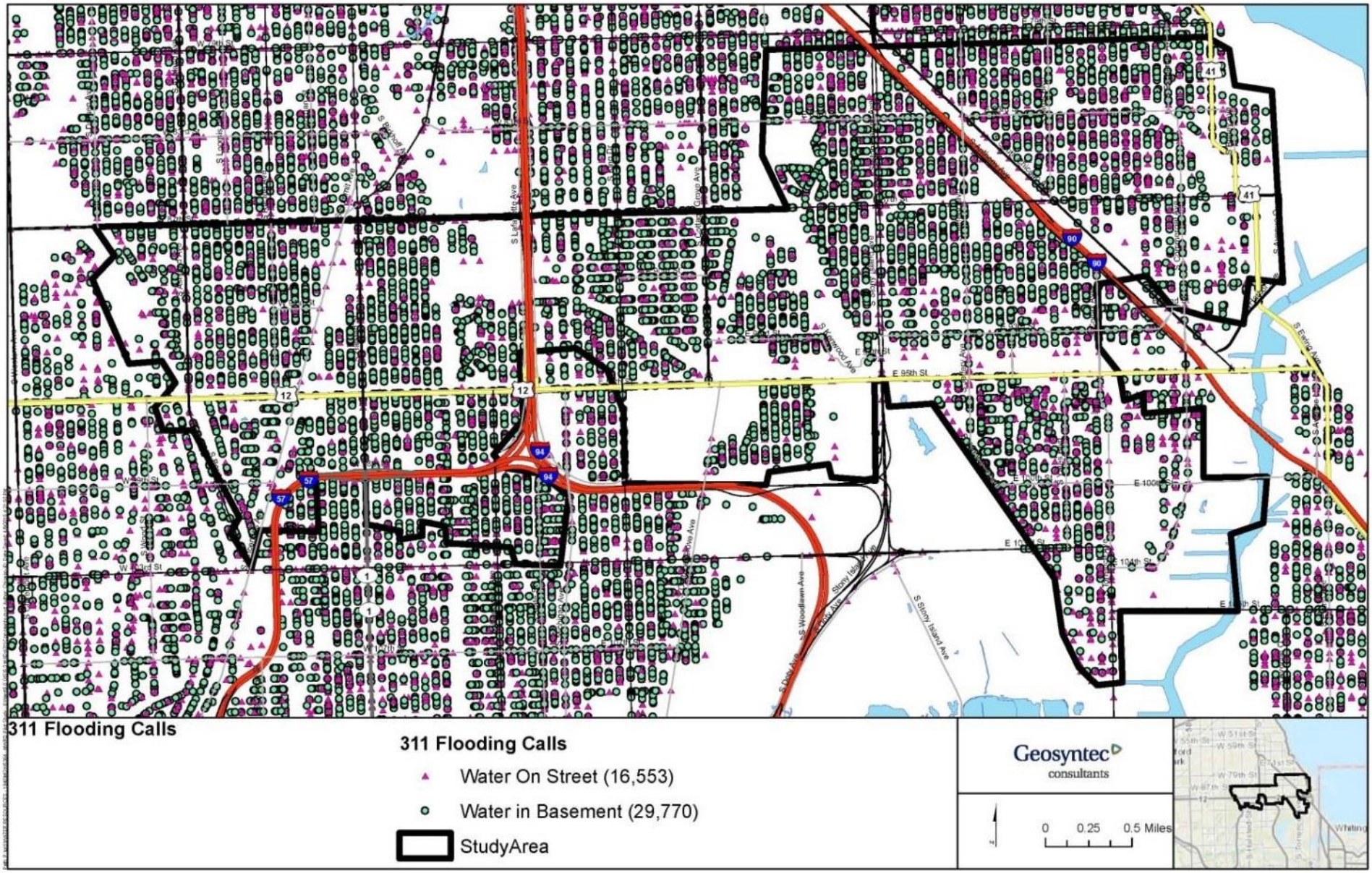
311 Flooding Calls



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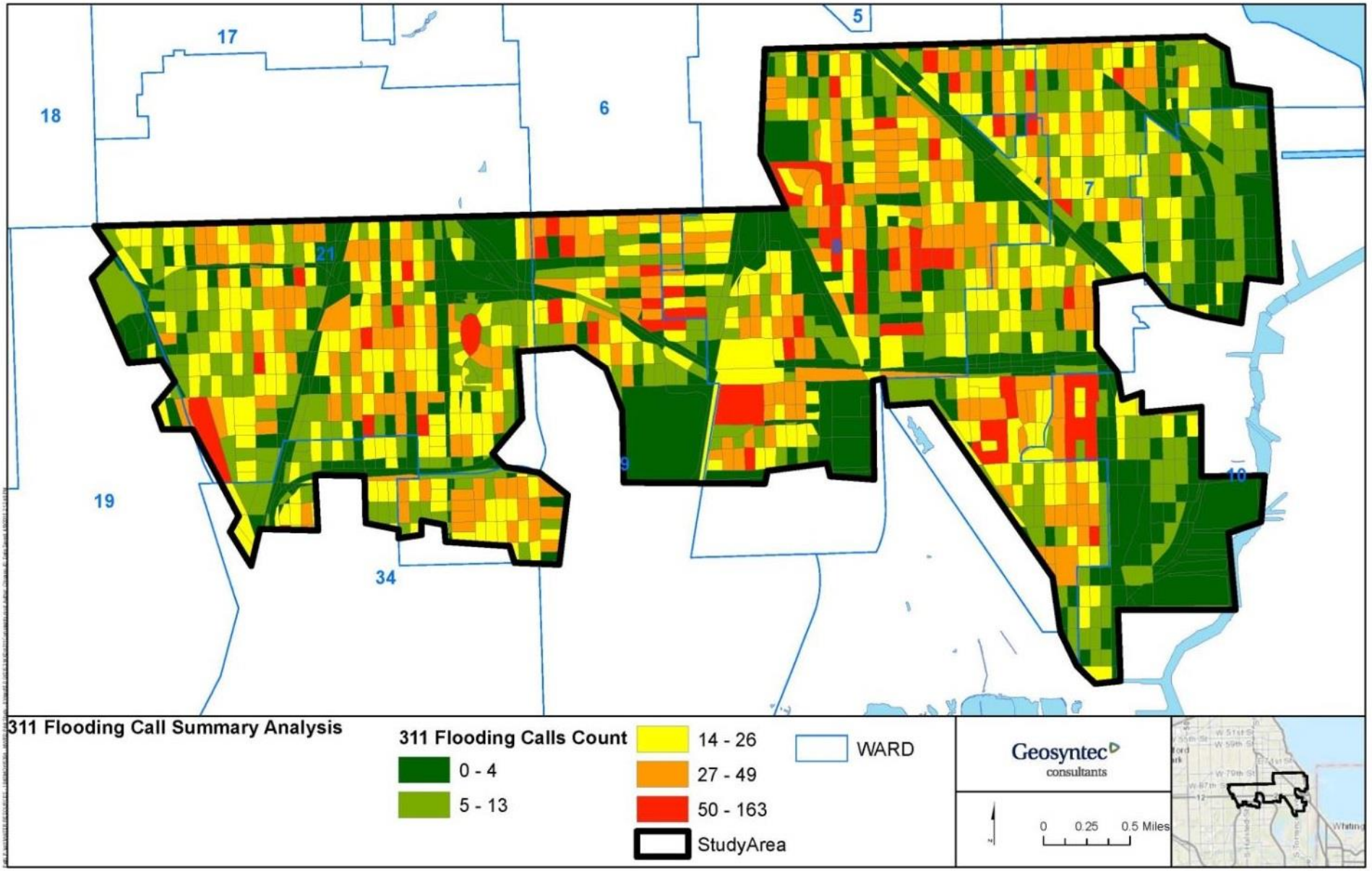
311 Flooding Call Analysis



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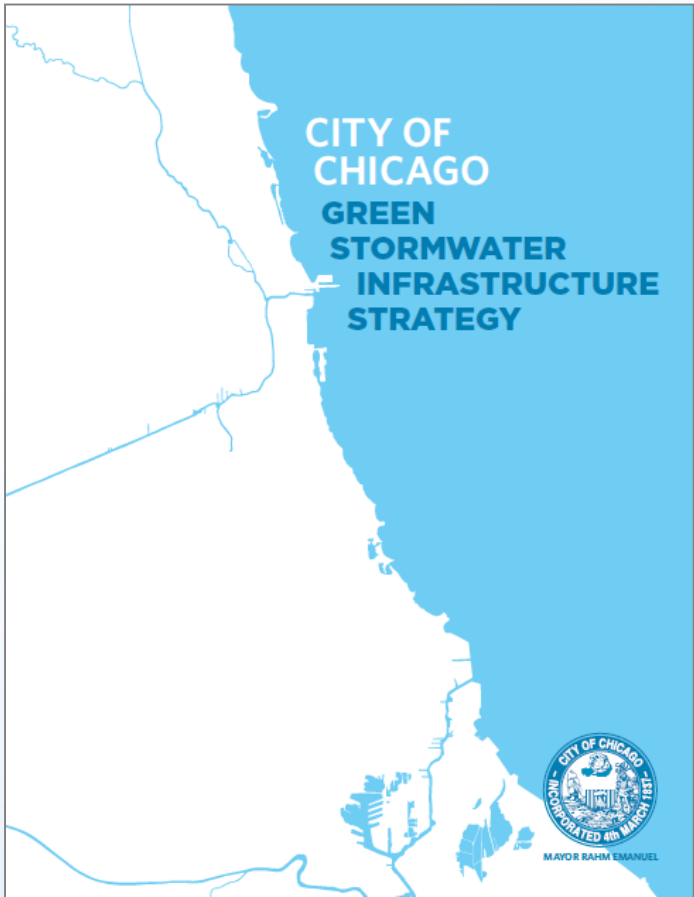
Prior Studies

- Comprehensive Stormwater Management and Sewer Improvement Study for the Jeffery Manor Area (1992)
- Stormwater Management Study and Feasibility Report for the Jeffery Manor Area (1993)
- Report on City-Wide Study and Evaluation of the Adequacy and Physical Condition of the City of Chicago Sewer System (1995)
- Southeast Inlet Control Pilot Study (1999)
- City-wide Trunk Sewer Model – Areas 4A, 4B (2008)
- City-wide Master Planning of Sewer Improvement Projects: Model Area 4 Documentation (2015)
- Chatham Neighborhood: CNT & USACE (2015)

Project Approach & Work Plan

- Foundation of Project Approach: Green Stormwater Infrastructure Strategy
  - Initiative 4
  - Initiative 6
- Key Work Plan Elements
  - Green Infrastructure Tool Box
  - Sub-service Area Selection
  - Analytical / Modeling Approach



City of Chicago Green Stormwater Infrastructure Strategy

- **INITIATIVE 4: Green Stormwater Infrastructure Study: Undertake a study to determine the costs and benefits of using green infrastructure to manage stormwater**
  - *There are two primary aspects of green stormwater infrastructure that we must study further – analyzing the costs and benefits of potential long-term green implementation scenarios and using a computer model to simulate the effects on sewer system performance and project reductions basement flooding risk and improvements to water quality.*

City of Chicago Green Stormwater Infrastructure Strategy

- **INITIATIVE 6: Citywide Stormwater Management Plan: We will create a comprehensive plan that establishes a long-term vision and implementation strategy for managing stormwater with green and grey stormwater infrastructure**
  - *The plan will also build on and be informed by two other major efforts – the City's previous and ongoing master planning work for sewers and the MWRD's ongoing and upcoming planning for stormwater management and green infrastructure.*

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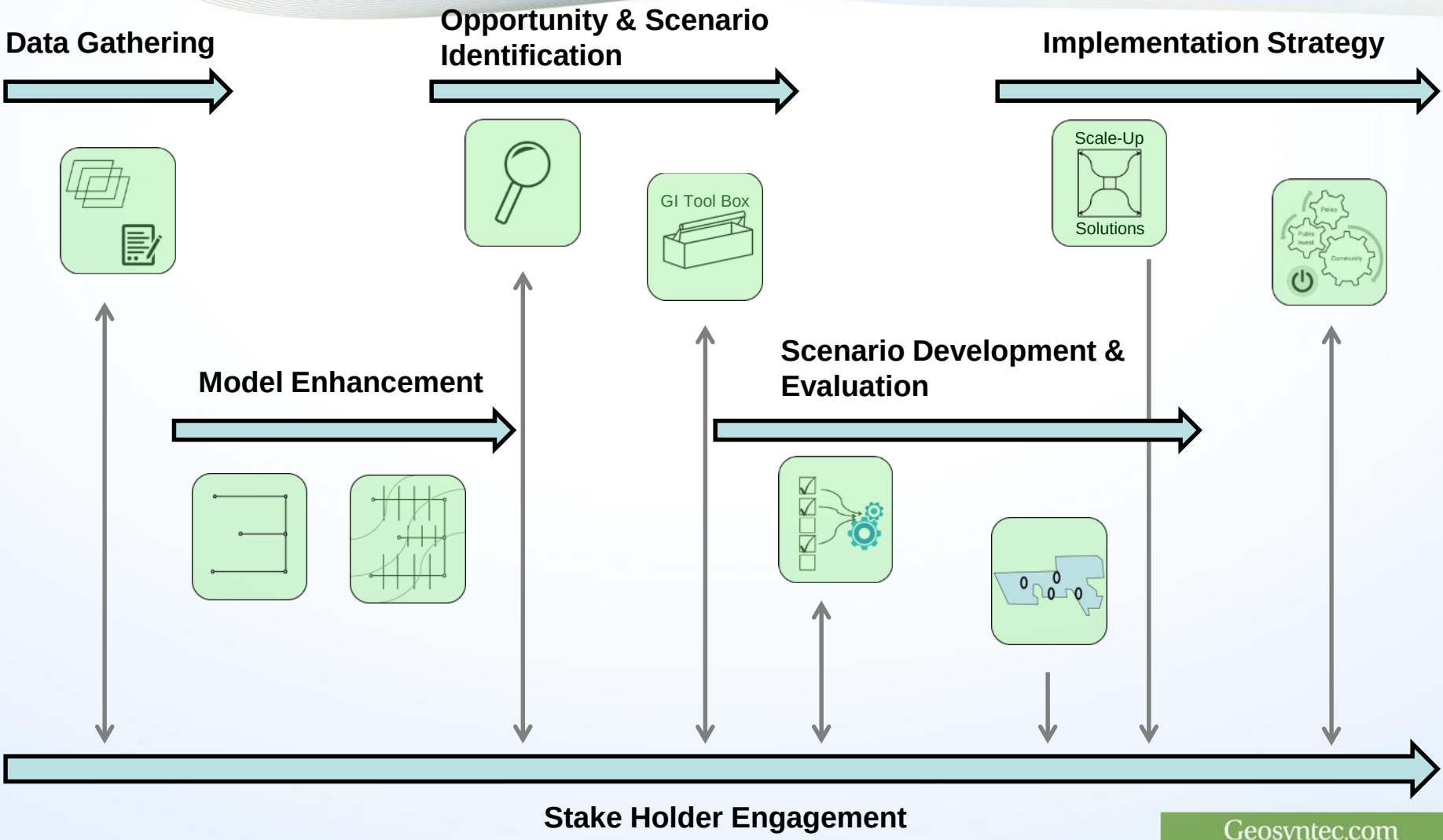
Work Flow



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Analytical / Modeling Approach

- Modeling Green Infrastructure to Quantify Benefits & Performance
  - Approximation (i.e. curve number)
  - Explicitly (i.e. unit processes, attenuation, infiltration)
- InfoWorks – City Model (combined sewer)
- Refining the model (allow GI representation)
  - InfoWorks CS vs ICM
  - InfoWorks & EPA-SWMM
  - InfoWorks ICM with surface routing

Public Outreach, Engagement, and Education

Goals

- Understand the issues at a local level: flooding and local perception
- Engage the community
- Educate the community
- Provide community with framework for future improvements

Outcomes

- Local understanding of the issues
- Neighborhood champions
- Community leaders and residents will have the tools to move forward

Public Outreach, Engagement, and Education

Non-Traditional
Outreach and Engagement

Our over-arching goal is to seek the highest level of community participation, in order to maximize the project impact.

Public Outreach, Engagement, and Education

Listening to Stakeholders and Community Representatives

Engaging community residents in active conversations

Public Outreach, Engagement, and Education

We meet with and educate:

Political champions/local elected officials: aldermen, state representatives

Business organizations: industrial, retail, commercial, small businesses

Large landowners/institutions: elementary/high schools, community college, university, libraries, police, fire, government

Working in the 10th Ward

Public Outreach, Engagement, and Education

Community Leaders gather input from their neighborhood organizations (survey)

Neighborhood representatives have a shared understanding of the project

High participation and partnership results in buy-in from residents (survey)

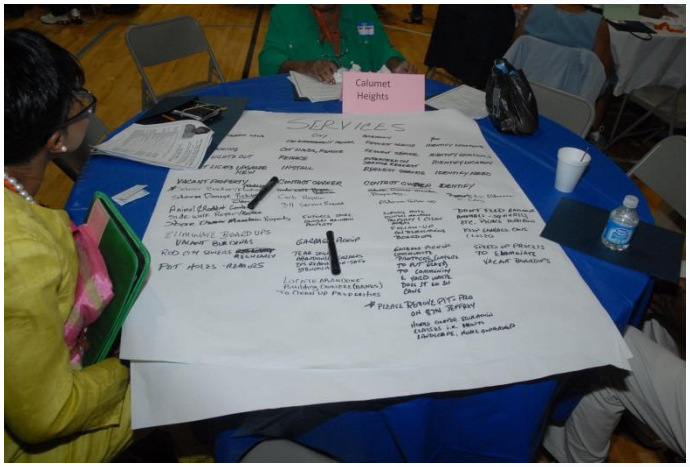
Working in the 6th and the 21st Ward

Public Outreach, Engagement, and Education

Incorporate recommendations into the study

Train community leaders to champion future stormwater management improvements

Motivate communities and residents to implement recommended green infrastructure actions



Working in the 8th Ward