

Urban Stormwater Working Group

Wednesday, February 21, 2024

Starts at 1:30 PM



Photo by Layne Knoche



ILLINOIS
NUTRIENT LOSS
REDUCTION STRATEGY

Welcome!

Please type your name and affiliation in the chat box.



ILLINOIS
NUTRIENT LOSS
REDUCTION STRATEGY

Agenda

1:30 – 1:35	Welcome <i>Eliana Brown, University of Illinois Extension</i>
1:35 – 2:05	Kane County Stormwater Infrastructure Mapping and Tools <i>Rob Linke, Kane County Department of Environmental & Water Resources</i> 25-minute presentation followed by a 5-minute Q&A
2:05 – 2:20	Stormwater Resource Repository Updates <i>Eliana Brown, University of Illinois Extension</i> 10-minute presentation followed by a 5-minute Q&A
2:20-2:30	Round Robin Member Updates (time permitting) Members provide a 1- to 3-minute update on current programs or projects



Kane County Stormwater Infrastructure Mapping and Tools

Rob Linke, Kane County Department of Environmental & Water Resources



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REDUCTION STRATEGY

Kane County's Stormwater Infrastructure Mapping & Tools

**Rob Linke, P.E., CFM
Kane County Dept of Environmental
& Water Resources**



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Fundamental Drainage Questions:

- How much land drains to my point of concern?
- Does this location / infrastructure handle the expected flow or does it overtop/flooded?
- Where does the stormwater flow to once it leaves my location of interest?



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

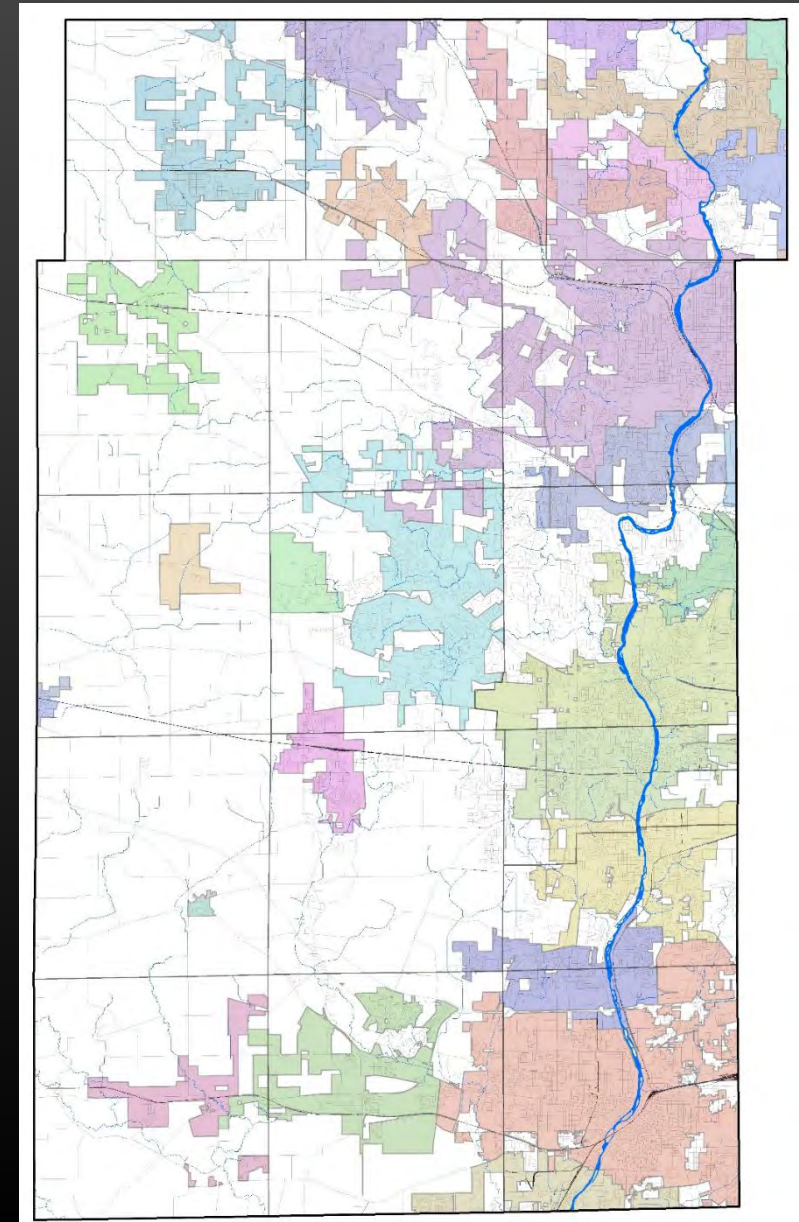
Why is the County taking the lead in this effort?

Kane County Area: 524 mi²

Unincorporated Areas: 312 mi²

Municipalities: 212 mi²

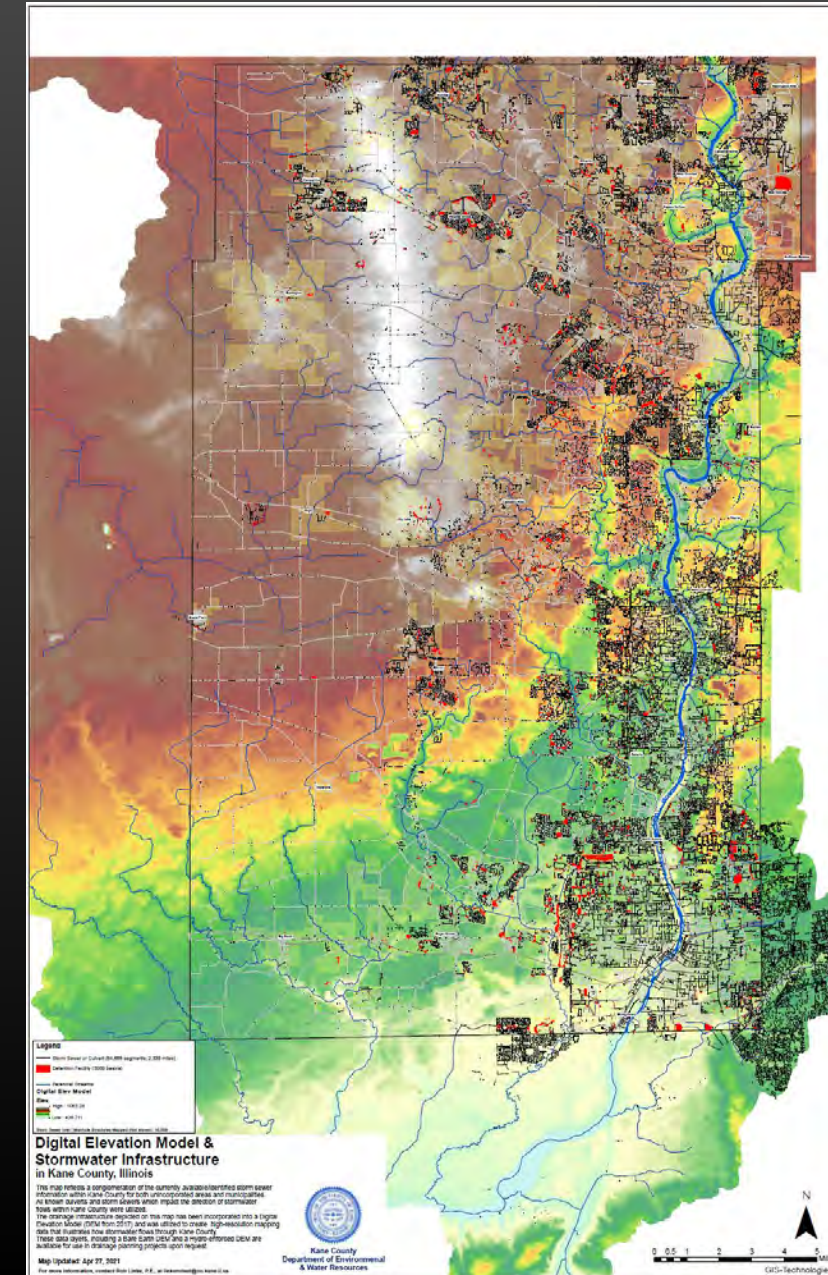
645 miles of shared boundary between the municipalities and unincorporated Kane County



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Goals for Coordinated, Countywide Mapping:

- Provide comprehensive, stormwater infrastructure mapping data that spans across the unincorporated areas as well as municipalities.
- Facilitate discussion and improve collaboration between municipalities & the county to address drainage problems & environmental resource issues from a watershed perspective.
- Create a tools that allows users to quickly and accurately answer those fundamental questions:
 1. How much area drains to this point (anywhere within Kane County)?
 2. Where does the water flow to and exactly what flow path does it take to get there?



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Deliverables – GIS Layers

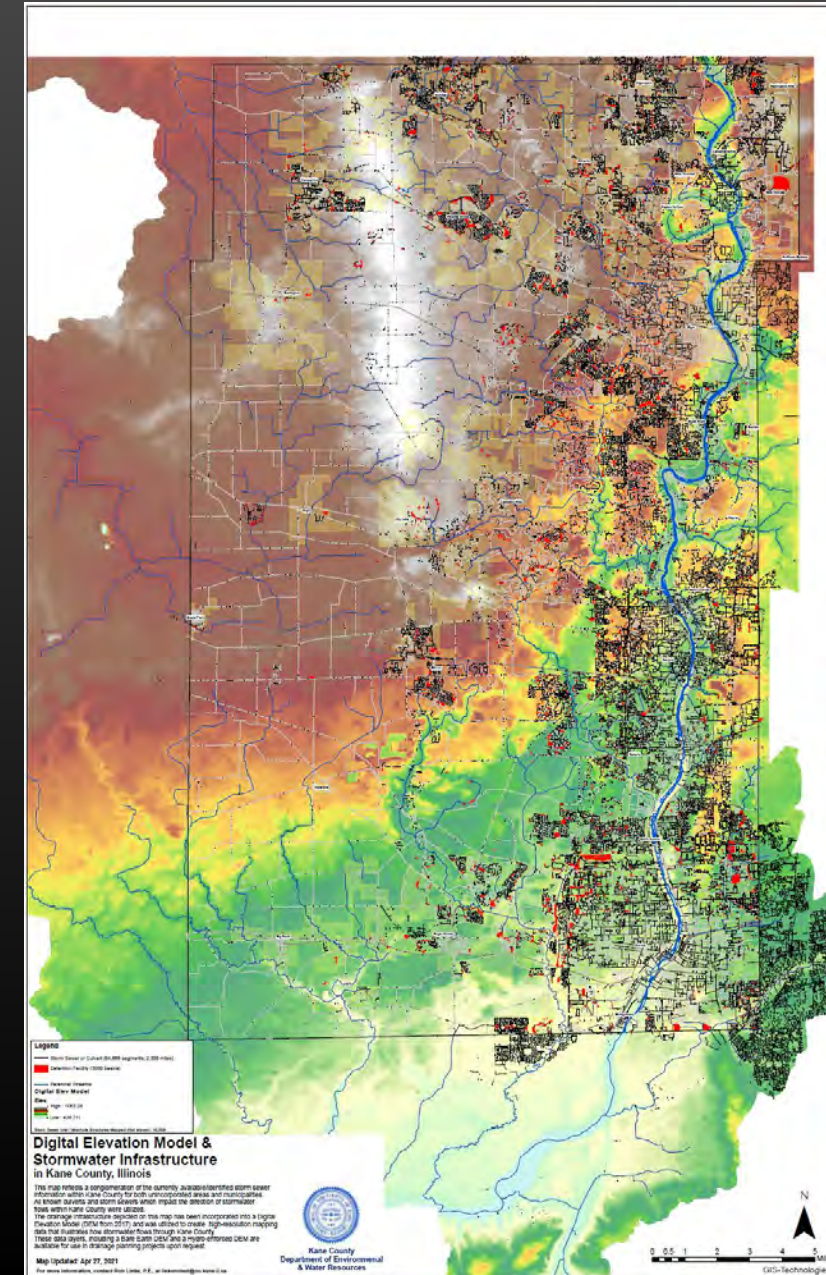
- Stormwater Detention Basins
- Storm sewers, roadway, railroad & driveway culverts
- Storm structures – catch basins, inlets, manholes, etc.
- Countywide storm flow path network
- Potential Flood Inundation Areas & True Depressional Storage Areas
- Bare Earth Digital Elevation Model
- Hydro-enforced Digital Elevation Model

Deliverables – PDF Maps

- By Township; Showing stormwater basins, storm sewer, culverts, storm flow paths, regulatory floodplain, depressional storage areas, areas potentially vulnerable to urban flooding, hydric soils, ADID wetlands, dams, etc.

Deliverables – On-line Interactive GIS Maps

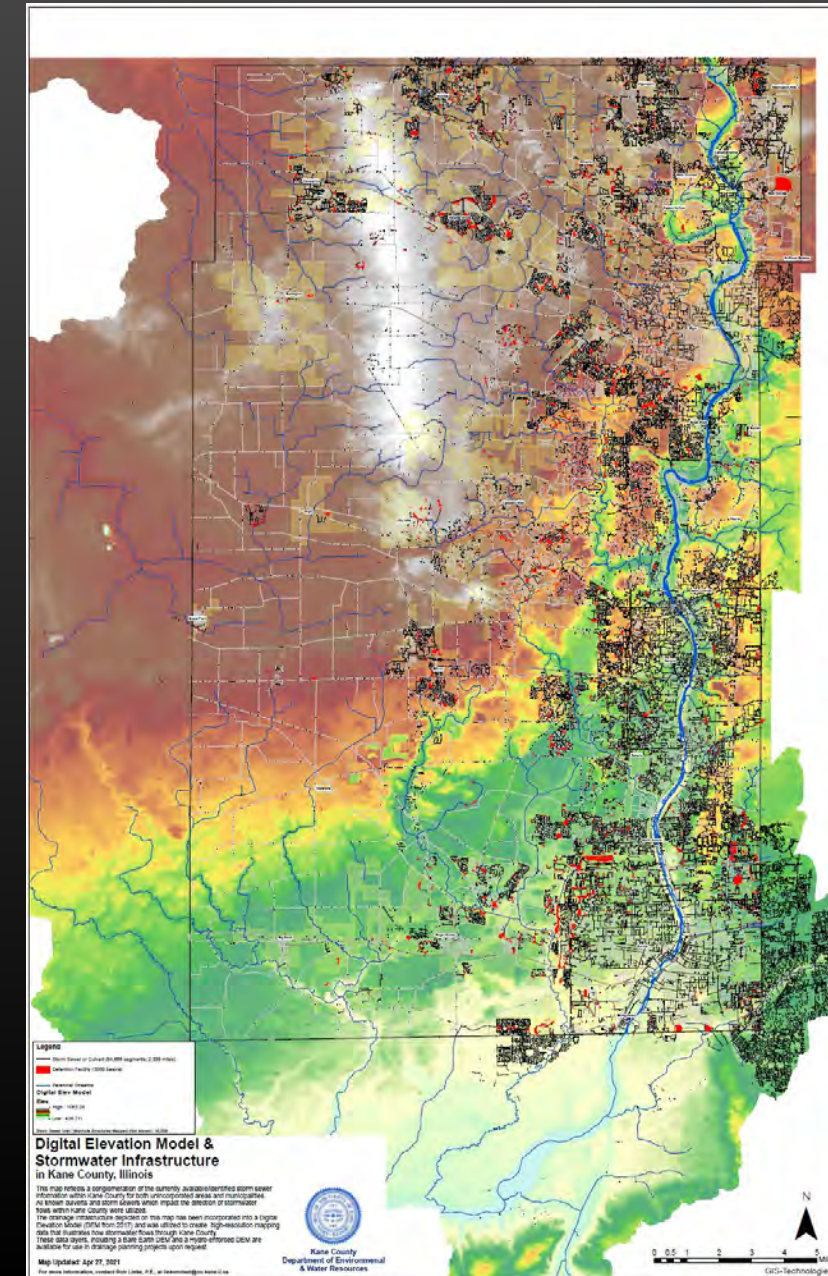
Deliverables – Real Time Flow Trace / Watershed Tool



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Data & Resulting Maps & Map Tools can be used for:

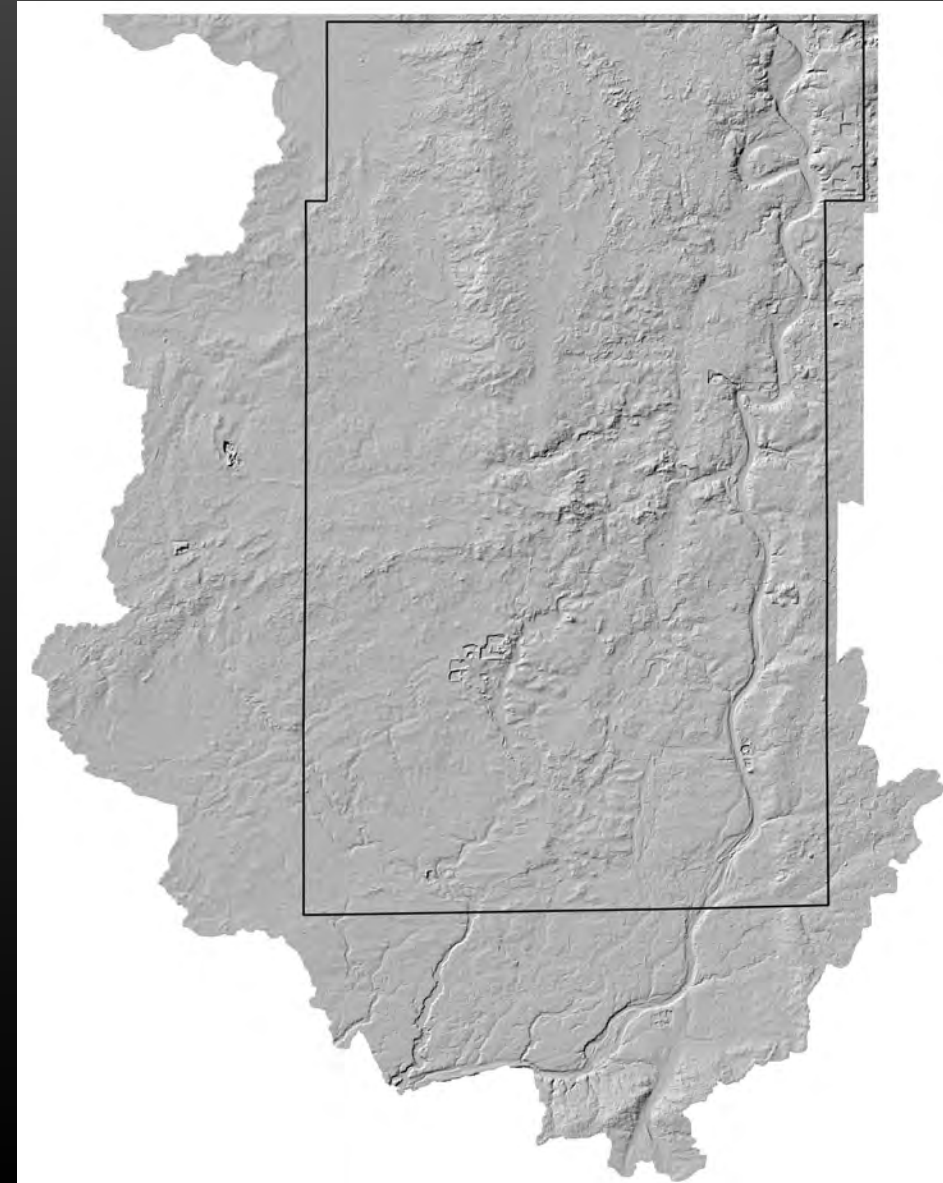
- Drainage Investigations
- Stormwater Permitting
- Watershed Planning
- Stormwater Modeling & Master Planning
- Floodplain Modeling & Remapping
- MS4 Illicit Discharge Tracing
- Hazard Mitigation Planning
- Public Education / Outreach to increase stormwater awareness



Making the Layers that Drive the Tools

Digital Elevation Model

- **Derived from LiDAR points flown Spring 2017**
 - 20 points per square meter;
 - 0.2ft +/- Vertical Resolution (on hard surfaces)
- **2ft X 2ft Horizontal Resolution**
- **30.8 miles E-W by 39.3 miles N-S**
- **832 sq. miles (Kane County = 524 sq. mi.)**
- **5.8 Billion Pixels**

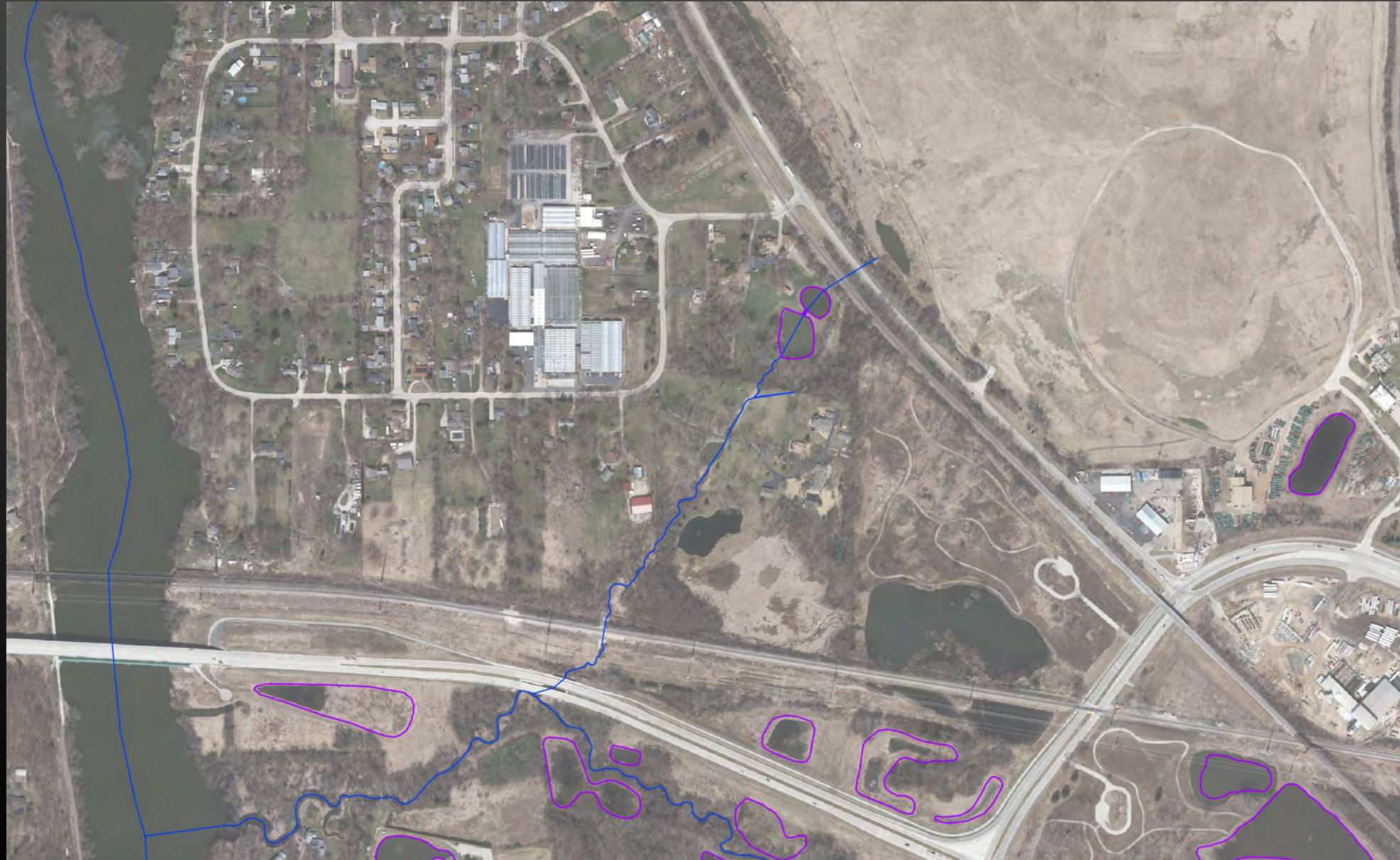


Making the Layers that Drive the Tools

2019 Aerial Imagery

Streams

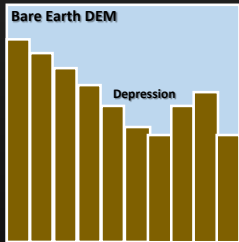
Detention Ponds



Making the Layers that Drive the Tools

2017 Digital Elevation Model

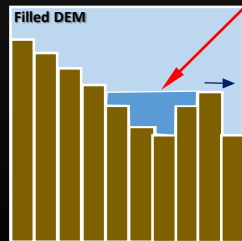
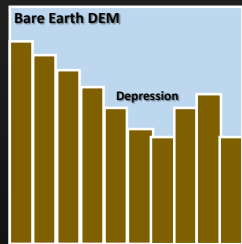
- **Bare Earth DEM**
 - Bridge decks removed
 - Buildings removed
- **Hydro-flattened**
 - Water surface made flat
- **Underground sewers & culverts are NOT reflected in the DEM**



Making the Layers that Drive the Tools

2017 Digital Elevation Model

- “Filled” DEM or “Depressionless” DEM

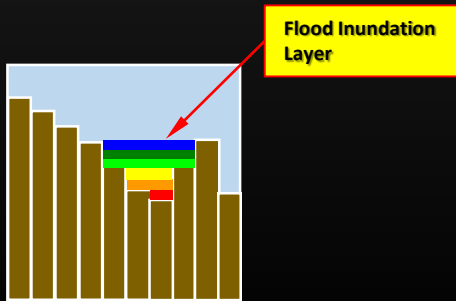
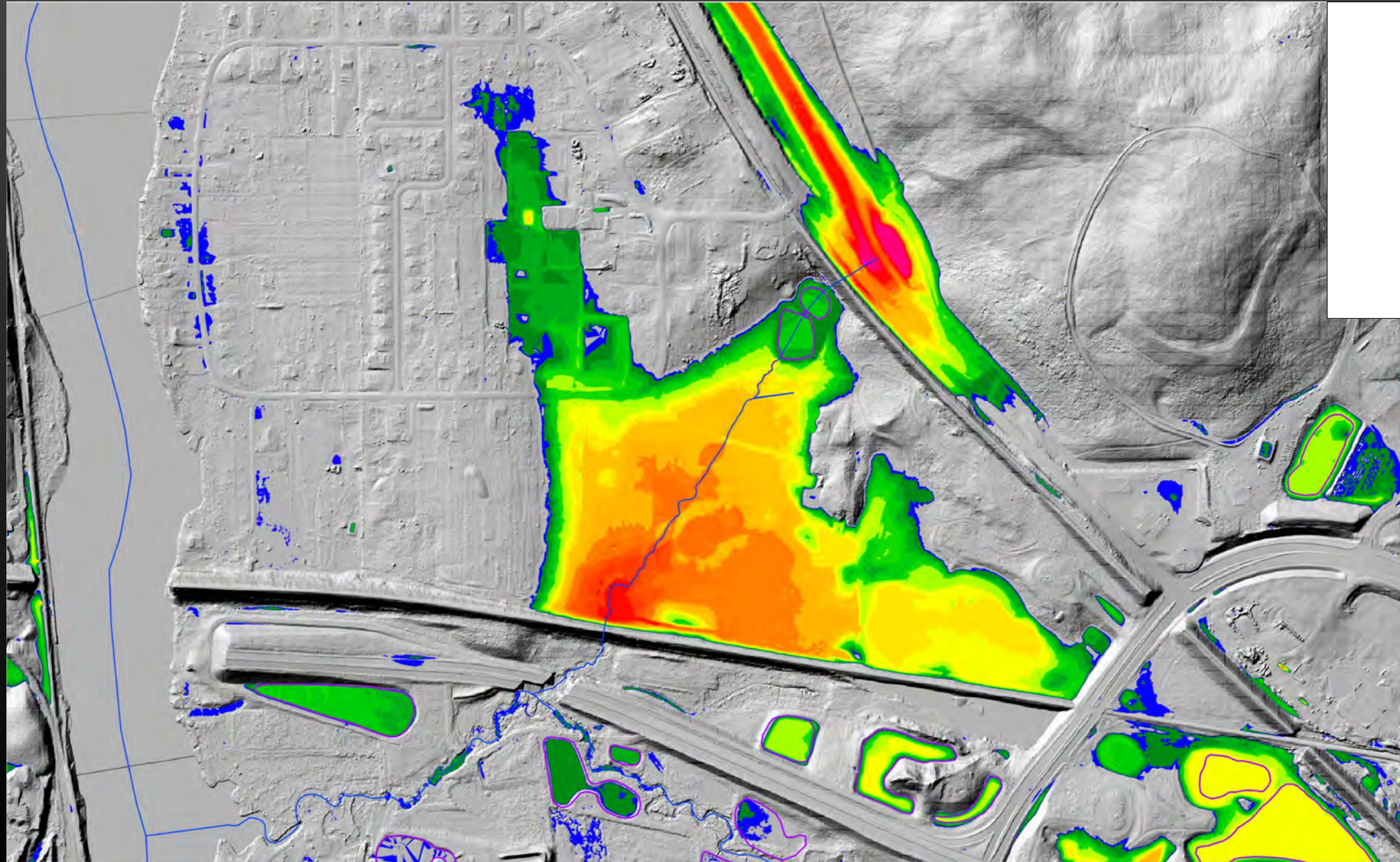


Depression
“filled” in



Making the Layers that Drive the Tools

Comparing Bare Earth
DEM to the Filled DEM to
generate a Flood
Inundation Layer



Making the Layers that Drive the Tools

Flood Inundation Layer displayed over aerial photography

Aids in identifying & visualizing potential urban flooding problems.

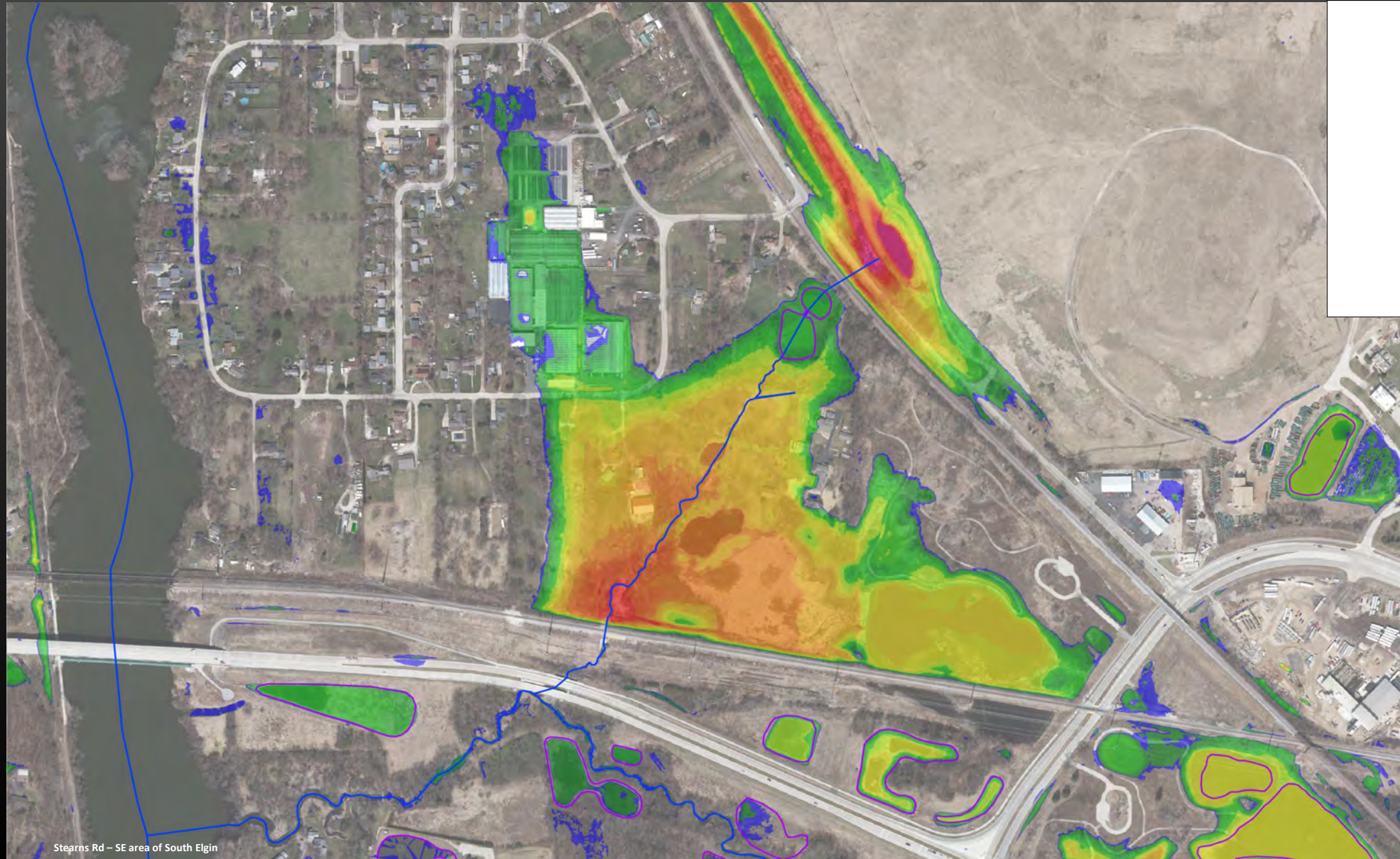
Helps answer questions:

“How deep could the water get around that house?”

“How deep could the water get on our street if the storm sewer failed during a storm & could it impact emergency vehicle access during a flood?”

This spring we’ll be able to answer:

“How many acre-feet of stormwater is stored in our detention basins?”



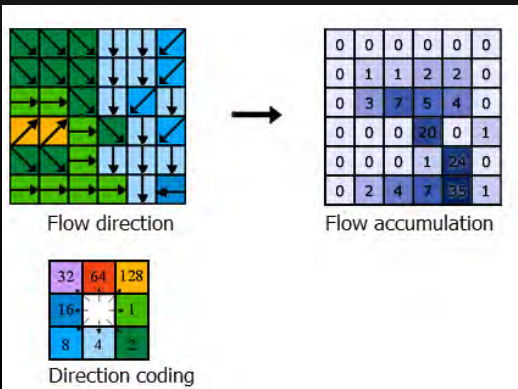
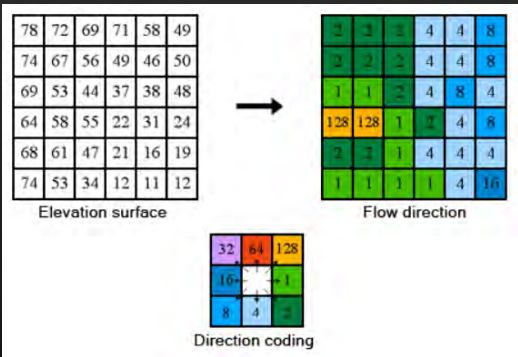
Making the Layers that Drive the Tools

Developing an accurate Storm Path Network

Storm flow path without manmade drainage infrastructure incorporated into DEM



Culvert not represented in DEM



Making the Layers that Drive the Tools

Developing an accurate Storm Path Network

Manmade drainage infrastructure & stream centerlines to be incorporated into Bare Earth DEM



Making the Layers that Drive the Tools

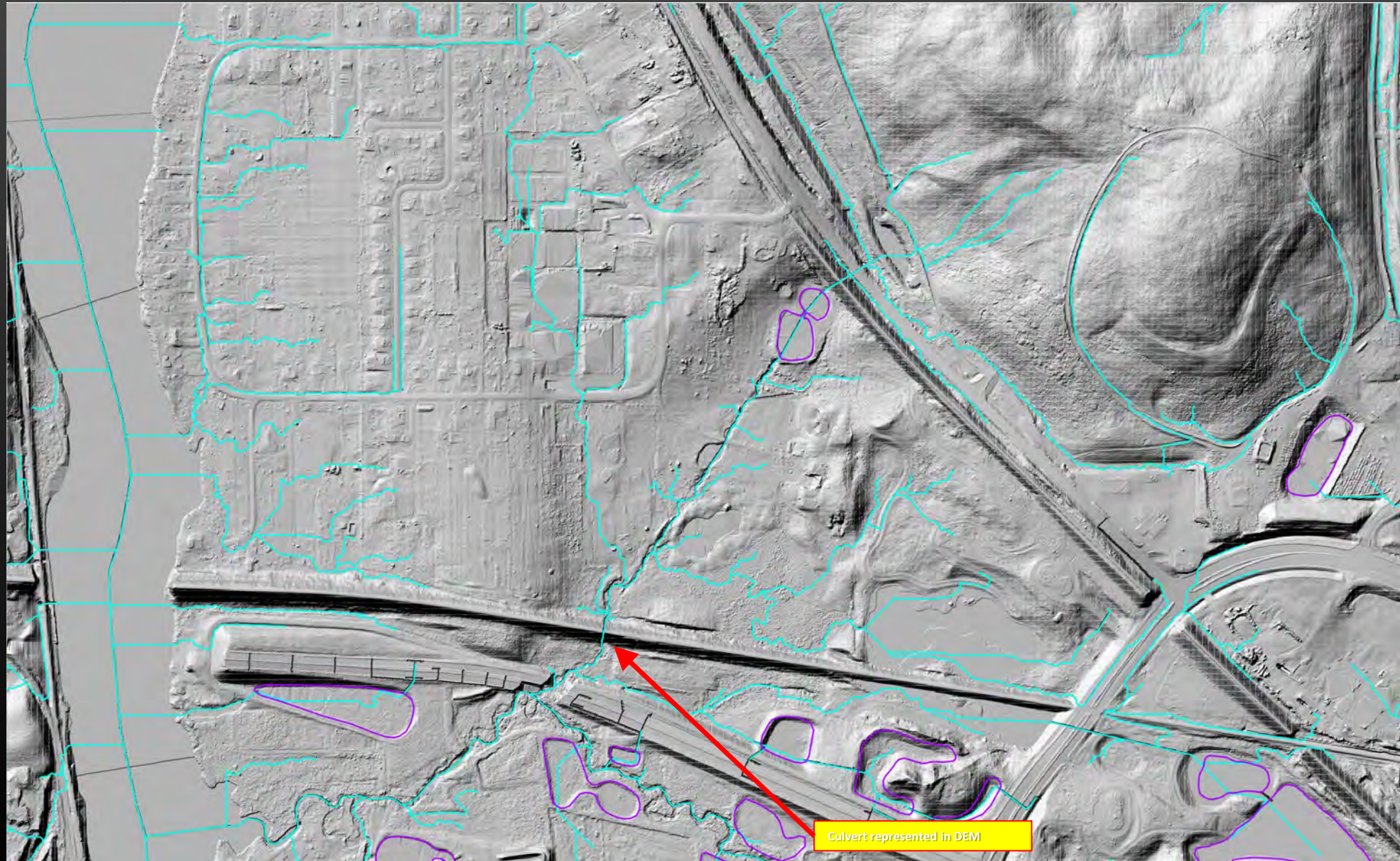
Developing an accurate Storm Path Network

Burning the drainage infrastructure into the Bare Earth DEM creates a hydro-enforced Digital Elevation Model

Storm flow path WITH manmade drainage infrastructure incorporated into DEM



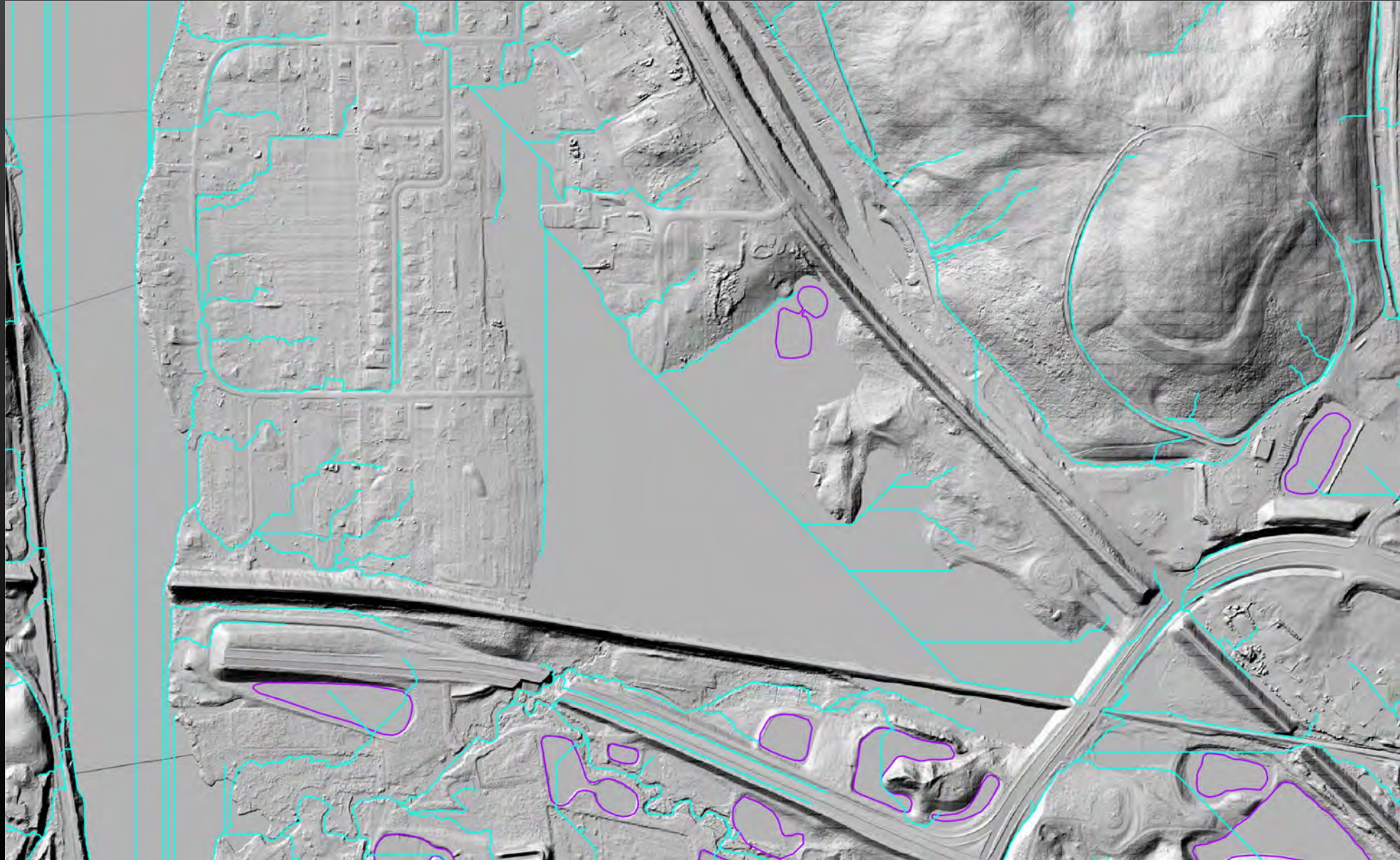
Resolution of Storm Path Network can be adjusted to any drainage area threshold desired (this image shows 1 acre threshold)



Making the Layers that Drive the Tools

No hydro-enforcement

Not necessarily an incorrect Storm Path Network – but a Storm Path Network that sheds light on how stormwater may flow during extreme events if parts of the underground drainage infrastructure fails.



Real-time Demonstration of Mapping Tools

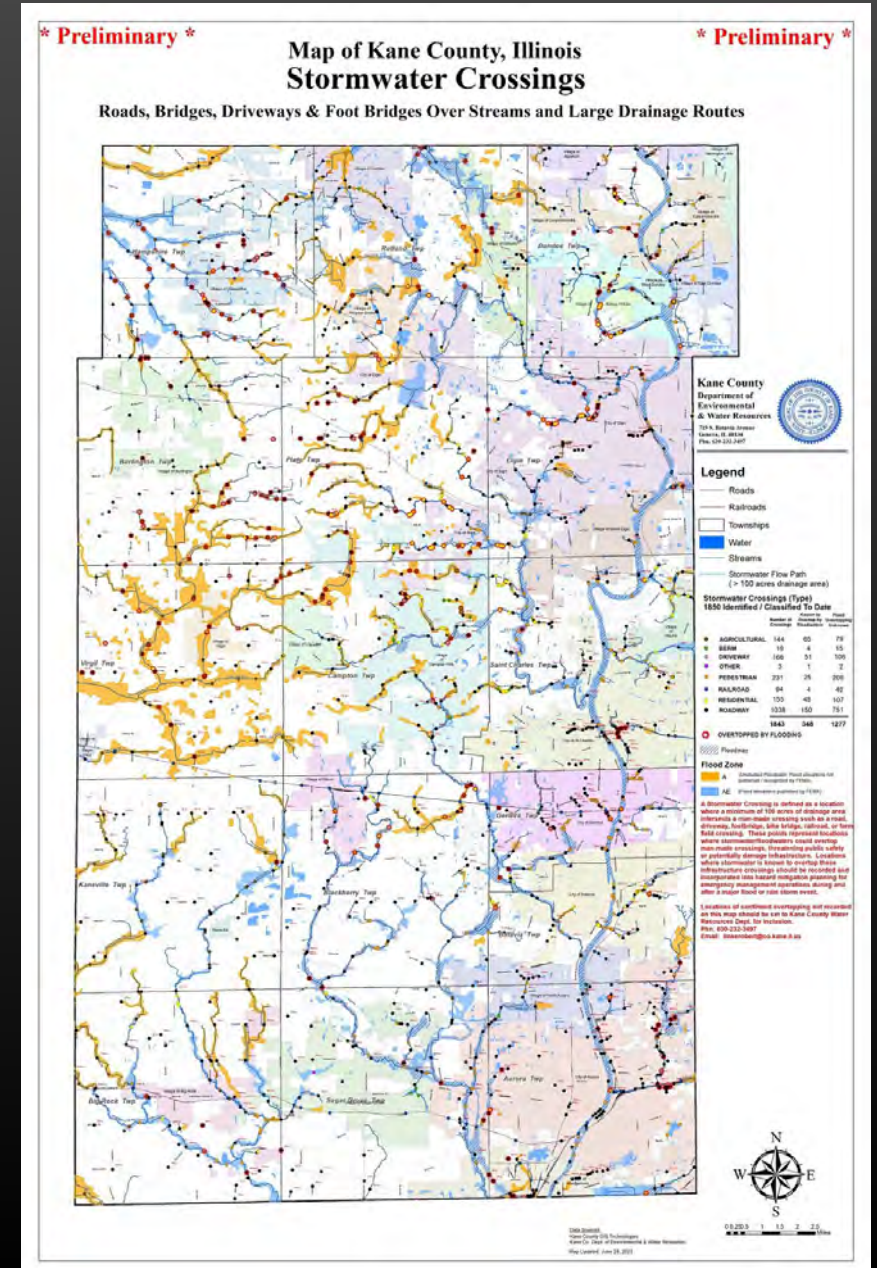
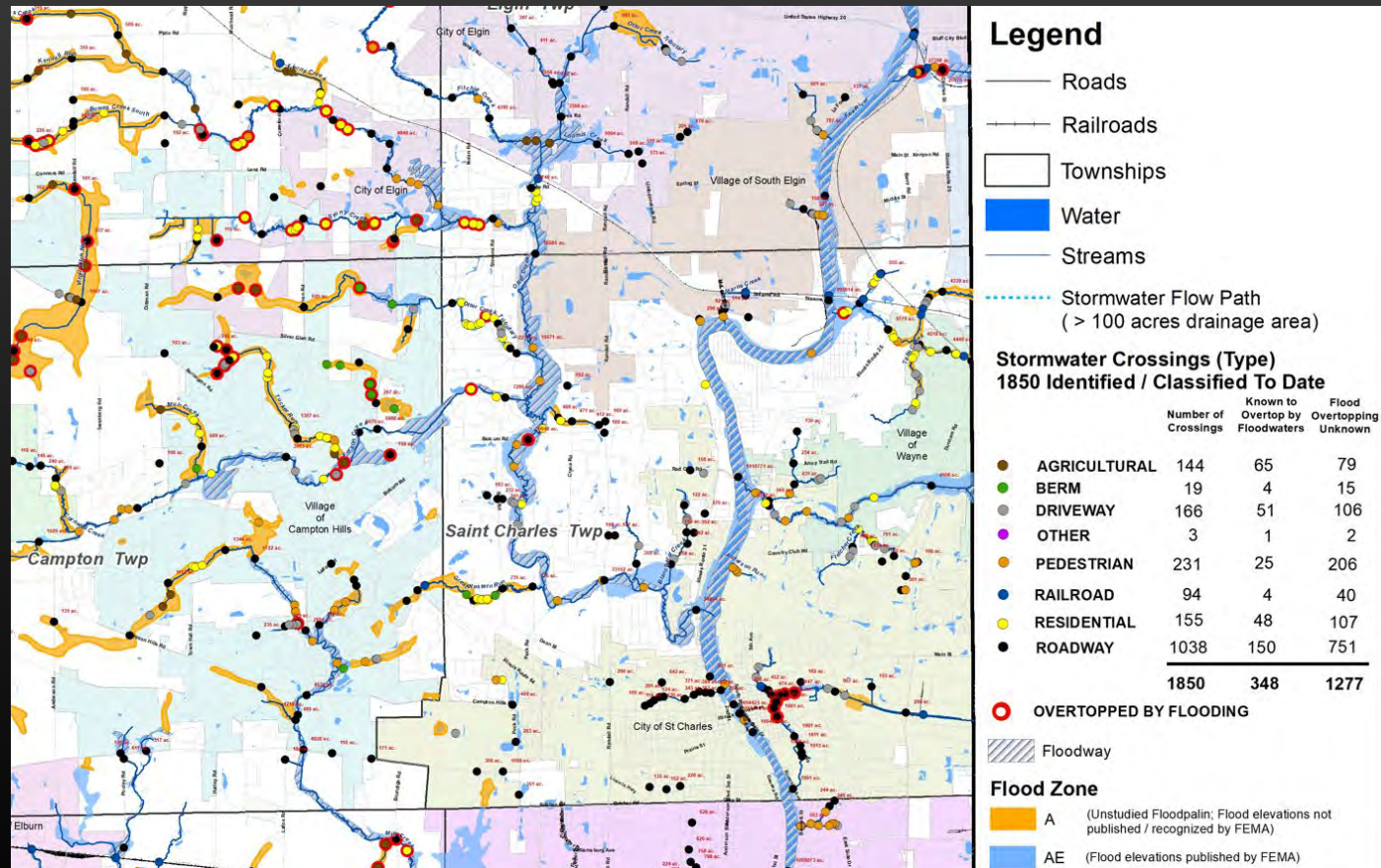
KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Other Derivatives from Mapping Initiative:

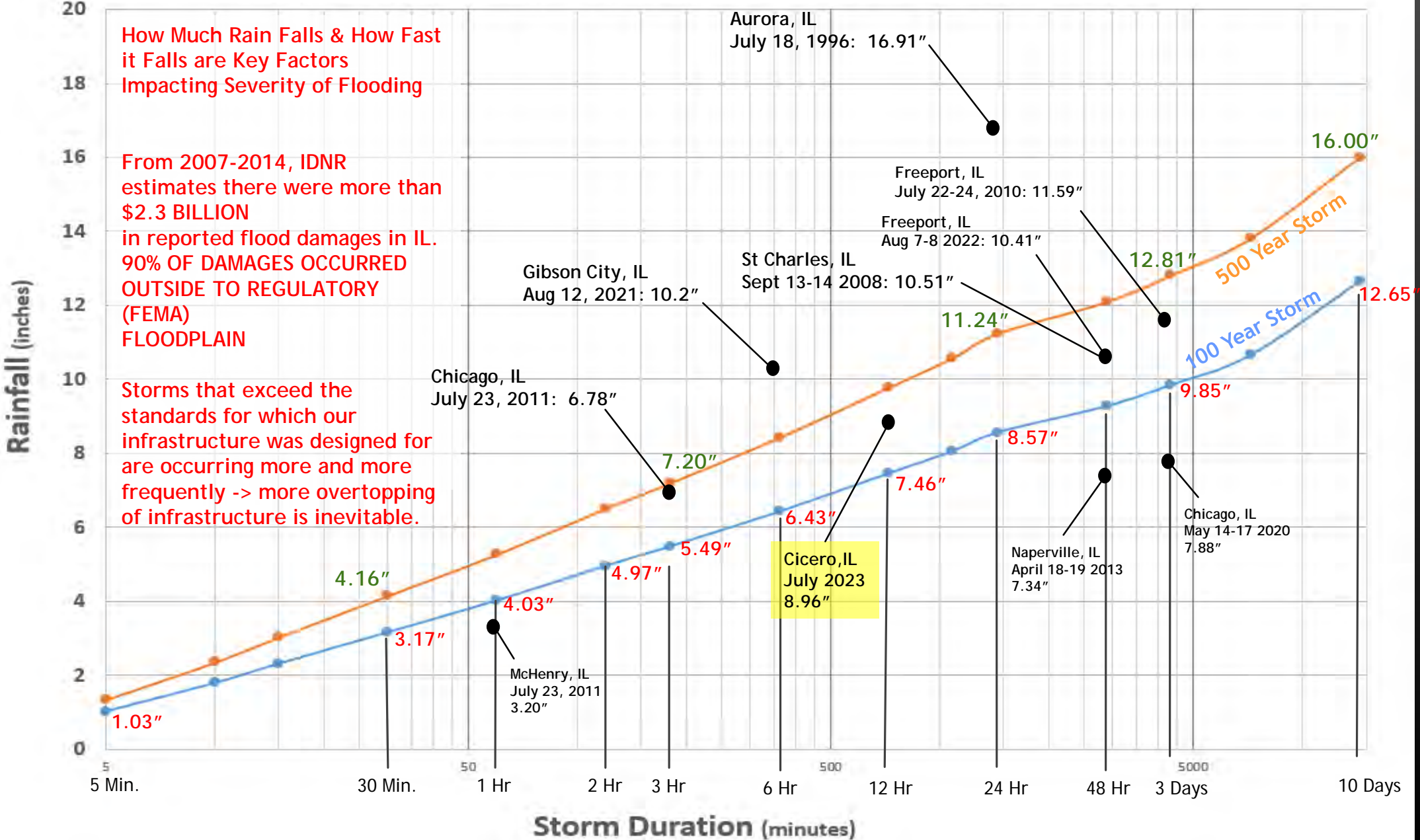
- **Stormwater Crossings (Preliminary)**
- **BMP Mapping Tools (Future Work)**

KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

Stormwater Crossings

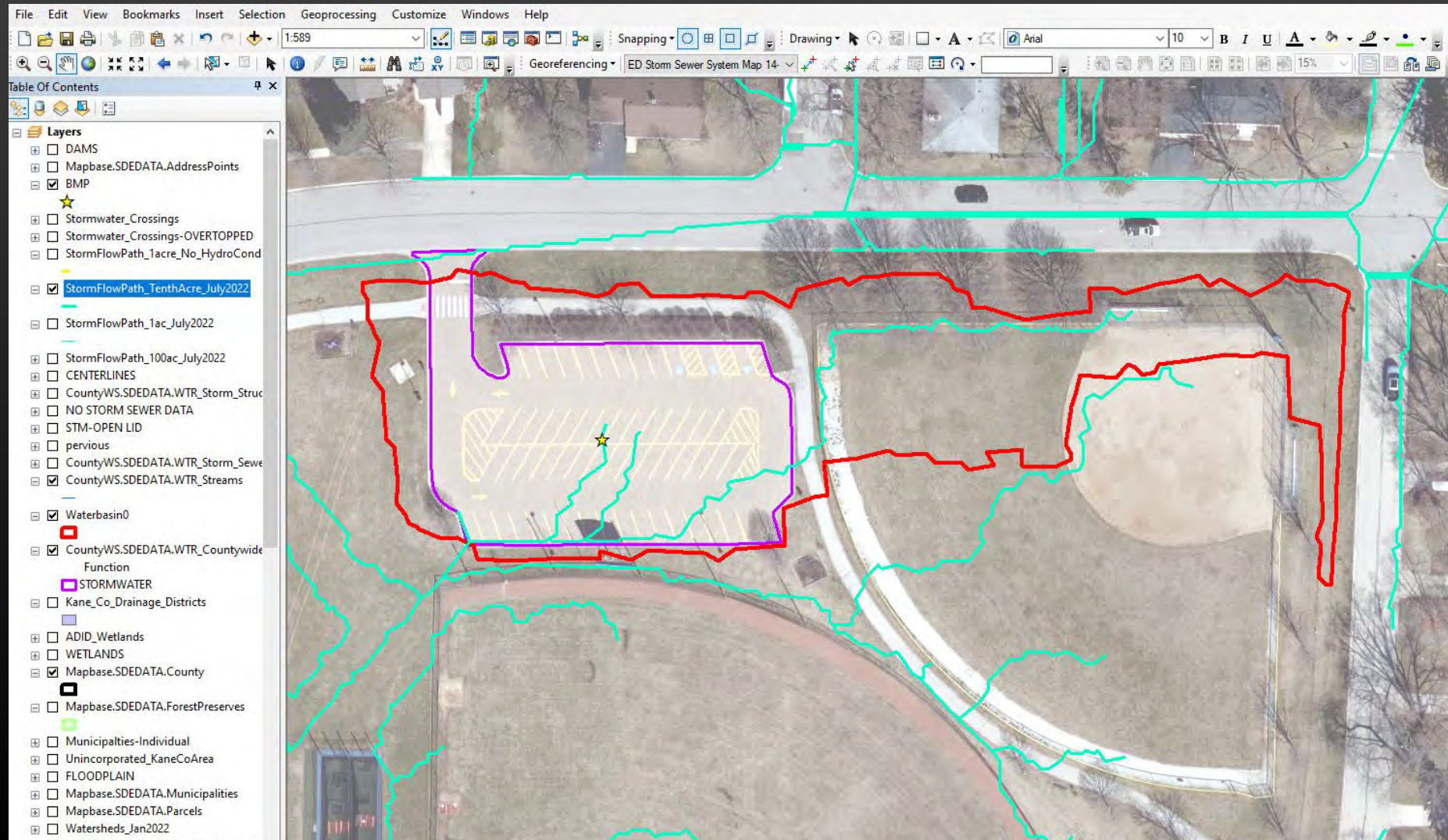


Storm Comparison - Theoretical vs. Real Storm Events



KANE COUNTY STORMWATER INFRASTRUCTURE MAPPING INITIATIVE

BMP Mapping



Questions?

Rob Linke, P.E., CFM


**Kane County Dept of Environmental
& Water Resources**

Linkerobert@KaneCountyIL.gov phn. 630-232-3498

Appendix:
**Stormwater Infrastructure Mapping
& Tools Guide**

Accessing the Map

countyofkane.org



KANE COUNTY, ILLINOIS
ESTABLISHED JANUARY 16, 1836

ENHANCED BY Google

Select Language Font Size: A A A

Government A-Z Services Business Communities Calendar **Maps** Employment



E-Payments Property Tax Board Members Why Kane Open Finance Help For Home Owners

Kane County Connects - Local Events



[Poem About Why Kane County is the Place to Be](#)



[Forest Preserve Wants to Bring Bison to North West Kane County](#)



[Kane County Recognizes Employee Who Received the Purple Heart](#)



[Kane County Part of Student Solar Workshop/Tour](#)

For more news and events, subscribe to the Kane County Connects newsletter!

Follow Us:    

[Next 10 Calendar Events](#)

[Media Releases](#)

Accessing the Map

countyofkane.org/Pages/Maps.aspx



KANE COUNTY, ILLINOIS
ESTABLISHED JANUARY 16, 1836

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Select Language

Font Size: A A A

Government A-Z Services Business Communities Calendar Maps Employment

Kane County Maps

The following are links to a variety of informational county maps.

Use the maps provided by GIS Technologies below to search for locations by either address, parcel, district, polling place, forest preserve, municipality, or county facility.

For questions or further information: 630-208-8655.

Map Links

- [Kane County Facilities and Directions - Google Maps](#)
- [Kane County Highway Map](#)
- [Kane/Northern Kendall Bicycle Map](#)
- [Kane County Government Center Campus](#)
- [Kane County Illinois Census 2020 Demographics](#)
- [Kane County - UIRVDA](#)
- [Individual Maps for all 24 Board Districts](#)
- [2021 Redistricting Maps Page](#)
- [2021 Kane County Board District Map Adopted November 30, 2021 Packet](#)
- [GIS County Board Districts Interactive Map](#)



a.) KaneGIS3 Viewer



b.) KaneGIS4 Viewer



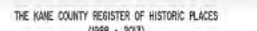
c.) Kane County District Maps



d.) Transportation Maps



2020 LAND USE



Navigating the Map

The screenshot displays a web-based GIS application interface. At the top, the browser address bar shows the URL: `gitech.countyofkane.org/gisims/kanemap/kanegis4_agox.html`. The application header includes a search bar with the text "Please enter a search term." and navigation tabs for "Map", "Aerials", "Hybrid", and "Lat/Lng". On the right side of the header, there are links for "About", "Help", "Themes", and "Layers", along with a "Developed by GIS-Technologies" logo and a "Finish update" button.

The main map area shows a detailed view of Kane County, Illinois, with a grid of red-outlined rectangles highlighting specific municipalities. The highlighted municipalities include Hampshire, Rutland, Dundee, Burlington, Plato Center, Elgin, Virgil, Campton, Saint Charles, Kaneville, Blackberry, Geneva, Batavia, Big Rock, Sugar Grove, and Aurora. The map also shows major roads, water bodies, and other geographical features. The city of Chicago is visible on the right edge of the map.

In the bottom-left corner, there is a "County Layers Disclaimer" box with the following text: "These layers do not represent a survey. No Accuracy is assumed for the data delineated herein, either expressed or implied by Kane County or its employees. These layers are compiled from official records, including plats, surveys, recorded deeds, and contracts, and only contain information required for local government purposes. See the recorded documents for more detailed legal information." Below the disclaimer, the text "ASA, USGS, EPA, NPS, USDA, USPS" is visible.

The bottom-right corner of the map interface features a "Powered by Esri" logo and a "Layers" panel with a "Layers" button.

Navigating the Map

The screenshot displays the KaneGIS4 web application interface. The browser address bar shows the URL: `gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html#`. The application title is "KaneGIS4 (4x)". The top navigation bar includes "Map", "2022", "Hybrid", and "Lat/Lng" tabs. A search bar is located at the top left with the placeholder text "Please enter a search term.". On the right side, there is a "Layers" panel with a list of map layers, including "Forests/Preserve", "Creeks", "FoxRiver", "Water", "WaterShed", "FEMALayers", "ADID", "Aquifer Major", "Aquifer Senshy", "Bedrock Lith", "Bedrock Topo", "Soils", "Hydric", "Topography", "Municipalities", "Districts", "Railroads", "SalesBOR", "Addresses", "FarmLand", "TIF", "CADLine", "CADText", "Cadastral/Subs", "Stormwater", "Zoning", and "BaseMap". The "BaseMap" layer is currently selected. The main map area shows an aerial photograph of a residential and commercial area with various streets, buildings, and green spaces. Three red arrows point to specific features: one points to the search bar, another points to the "Layers" panel, and a third points to the "Stormwater" layer in the list. A "County Layers Disclaimer" is visible in the bottom left corner, and a "Powered by Esri" logo is in the bottom right corner.

1. Turn on aerial photo

2. Access map layers here

2. Access stormwater layers here

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© OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
Powered by Esri

Navigating the Map

The screenshot displays a web-based GIS application interface. At the top, the browser address bar shows the URL: `gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html#`. The application includes a search bar with the text "Please enter a search term." and a map style selector set to "2022 Hybrid".

The main map area shows an aerial view of a residential development with several layers overlaid. Three red arrows point to specific features:

- Streams**: Indicated by blue lines and areas.
- Storm sewers**: Indicated by black lines.
- Detention basins**: Indicated by blue shaded areas.

On the right side, there is a "Layers" panel with a list of data layers. A legend below it shows the symbology for several layers:

Streams*	TIF
Storm Sewers*	CADLine
Drain Ties*	CADText
Flow Path*	CadastralSubs*
Detention Basins*	Stormwater
Potential Flood Inundation*	Zoning
	BaseMap

At the bottom left, there are two disclaimer boxes:

Stormwater Mapping Disclaimer
These layers represent planning level information based upon best available data collected to date by Kane County. No accuracy is assumed for the data delineated herein, either expressed or implied by Kane County or its employees. The presence or absence of stormwater infrastructure must be field verified.

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At the bottom center, there is a copyright notice: © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS. The bottom right corner indicates "Powered by Esri".

Navigating the Map

The screenshot displays a web-based GIS application interface. At the top, the browser address bar shows the URL: `gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html#`. The map area shows an aerial view of a residential and commercial area with several layers overlaid. Four red arrows point to specific features: 'Streams' (light blue lines), 'Storm sewers' (black lines), 'Storm Flow Path' (cyan lines), and 'Detention basins' (blue shaded areas). On the right side, there is a 'Layers' panel with a list of map layers. A legend below it shows the symbology for 'Streams*', 'Storm Sewers*', 'Drain Tiles*', 'Flow Path*', 'Detention Basin*', and 'Potential Flood Inundation*'. At the bottom left, there are two disclaimer boxes: 'Stormwater Mapping Disclaimer' and 'County Layers Disclaimer'. The bottom right corner shows navigation controls (home, back, forward, zoom in, zoom out) and the text 'Powered by Esri'.

Streams

Storm sewers

Storm Flow Path

Detention basins

Layers

- Forest/Preserve*
- Creeks
- FoxRiver
- Water
- WaterShed
- FEMALayers
- ADID
- Aquifer Major
- Aquifer Sensib
- Bedrock Lith
- Bedrock Topo
- Soils* | Hydric*
- Topography*
- Municipalities
- Districts
- Railroads
- SalesBOR*
- Addresses*
- FarmLand*
- TIF
- CADLine
- CADText*
- Cadastral/Subs*
- Stormwater
- Zoning
- BaseMap

Streams*

Storm Sewers*

Drain Tiles*

Flow Path*

Detention Basin*

Potential Flood Inundation*

Stormwater Mapping Disclaimer

County Layers Disclaimer

© OpenStreetMap, Maxxwell, Esri, TomTom, Garmin, SateGraph, GeoTechnologies Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Powered by Esri

Navigating the Map

Potential Flood Inundation
(in this case created by railroad embankment)

Potential Flood Inundation Disclaimer
Potential Flood Inundation represents the maximum possible flood depth of all landscape. This layer does not account for underground storm sewers, culverts, or drain tiles and is intended to represent a true "worst case scenario" of possible flooding if the man-made drainage infrastructure failed under extreme rainfall conditions. This layer does not represent floodplain mapping prepared by FEMA (see FEMALayers tab).

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DepressionalStora
0.50

Potential Depth of Flooding (ft)

0.5 FT
1

Explanation / Disclaimer on the Potential Flood Inundation Layer

Potential Flood Inundation Legend (left click on map then click on arrow to see flood depth legend)

Layer Name	Layer Name
Forest/Preserve*	TIF
Creeks	CADLine
FoxRiver	CADText*
Water	CadastralSubs*
WaterShed	Stormwater
FEMALayers	Zoning
ADID	BaseMap
Aquifer Major	
Aquifer Sensib	
Bedrock Lith	
Bedrock Topo	
Solls* Hydric*	
Topography*	
Municipalities	
Districts	
Railroads	
SalesBOR*	
Addresses*	
FarmLand*	
Streams*	
Storm Sewers*	
Drain Tiles*	
Flow Patn*	
Deterior Basins*	
Potential Flood Inundation*	

Kane County Stormwater Infrastructure Mapping & Tools

Part 2: Stormwater Tracing Tool

Using the stormwater mapping data compiled by KCDEWR, Kane County GIS Technologies Department has created a Stormwater Tracing Tool which allows a user to trace the flow of stormwater from any point in the County to the nearest river (Fox River/Kishwaukee River). This tracing tool takes into account all channels, culverts, and main storm sewers across the entire county. Accessing the tool on the public GIS webpage is outlined in the accompanying slides.

Stormwater Tracing Tool

KaneGIS4 (4.x)
Map Aerials Hybrid LatLng

Find Address, Pin, Sub
Please enter a search term.

Select "Stormwater" as the Theme

Themes		Layers	
Cadastral	Stormwater	ForestPreserve*	Creeks
Zoning		FoxRiver	
		Water	
		WaterShed	
		FEMALayers	
		ADID	
		Aquifer Major	
		Aquifer Sensity	
		Bedrock Lith	
		Bedrock Topo	
		Soils* Hydric*	
		Topography*	
		Municipalities	
		Districts	
		Railroads	
		SalesBOR*	
		Addresses*	
		FarmLand*	
		TIF	
		CADLine	
		CADText*	
		CadastralSubs*	
		Stormwater	
		Zoning	
		BaseMap	

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Stormwater Tracing Tool

gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html

KaneGIS4 (4.x)

Map Aerials Hybrid LatLng

Find Address, Pin, Sub

Please enter a search term.

About Help

Developed by GIS-Technologies

- Themes Layers
- Cadastral ForestPreserve*
- Stormwater Creeks
- Zoning FoxRiver
- Water
- WaterShed
- FEMALayers
- ADID
- Aquifer Major
- Aquifer Sensity
- Bedrock Lith
- Bedrock Topo
- Soils* Hydric*
- Topography*
- Municipalities
- Districts
- Railroads
- SalesBOR*
- Addresses*
- FarmLand*
- TIF
- CADLine
- CADText*
- CadastralSubs*
- Stormwater
- Zoning
- BaseMap

Print Graphics

Stormwater Trace
Click a location on the map to trace stormwater flow to the river

Export KML

Selecting "Stormwater" as the Theme will automatically activate the Stormwater Trace Tool. Use the mouse thumb wheel to zoom in (hold left mouse button down to pan), then simply click on the location to activate the trace tool.

County Layers Disclaimer
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Print Home Zoom In Zoom Out

Powered by Esri

Stormwater Tracing Tool

The screenshot displays the Stormwater Tracing Tool interface. At the top, the browser address bar shows the URL: `gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html`. The interface includes a search bar with the text "Please enter a search term." and a map style selector with options: Map, Aerials, Hybrid, and LatLng. A layer list on the right side, titled "Developed by GIS-Technologies", includes layers such as ForestPreserve*, ForestPreserve*, Creeks, FoxRiver, Water, WaterShed, FEMA Layers, ADID, Aquifer Major, Aquifer Sensity, Bedrock Lith, Bedrock Topo, Soils* Hydric*, Topography*, Municipalities, Districts, Railroads, SalesBOR*, Addresses*, FarmLand*, TIF, CADLine, CADText*, CadastralSubs*, Stormwater, Zoning, and BaseMap. The main map area shows an aerial view with a green line representing the stormwater flow trace. A red box with the text "Stormwater flow trace" and an arrow points to this line. A metadata popup on the left contains the following information:

Stormwater Trace
JobId: je094fb08e4cc04483869faa7a87abb53f
Point: 983356.795120 / 1907337.870054
JobStatus: Started
- Submitted Request
- Executing
- Performing downstream trace
- Copied trace results
JobStatus: job-succeeded
JobStatus: Completed

An "Export KML" button is located at the bottom of the popup. A red box with the text "The stormwater trace can be exported as a KML file for use in GIS software or Google Earth" and an arrow points to the "Export KML" button. At the bottom left, a "County Layers Disclaimer" is visible, and at the bottom right, the text "Powered by Esri" is present.

Kane County Stormwater Infrastructure Mapping & Tools

Part 3: Watershed Delineation Tool

Using the stormwater mapping data compiled by KCDEWR, Kane County GIS Technologies Department has created a Watershed Tracing Tool which allows a user to map the land area draining to any point in the County. This tracing tool takes into account all channels, culverts, and known storm sewers across the entire county. Accessing the tool on the public GIS webpage is outlined in the accompanying slides.

Watershed Delineation Tool

KaneGIS4 (4 x)

Map Aerials Hybrid LatLng

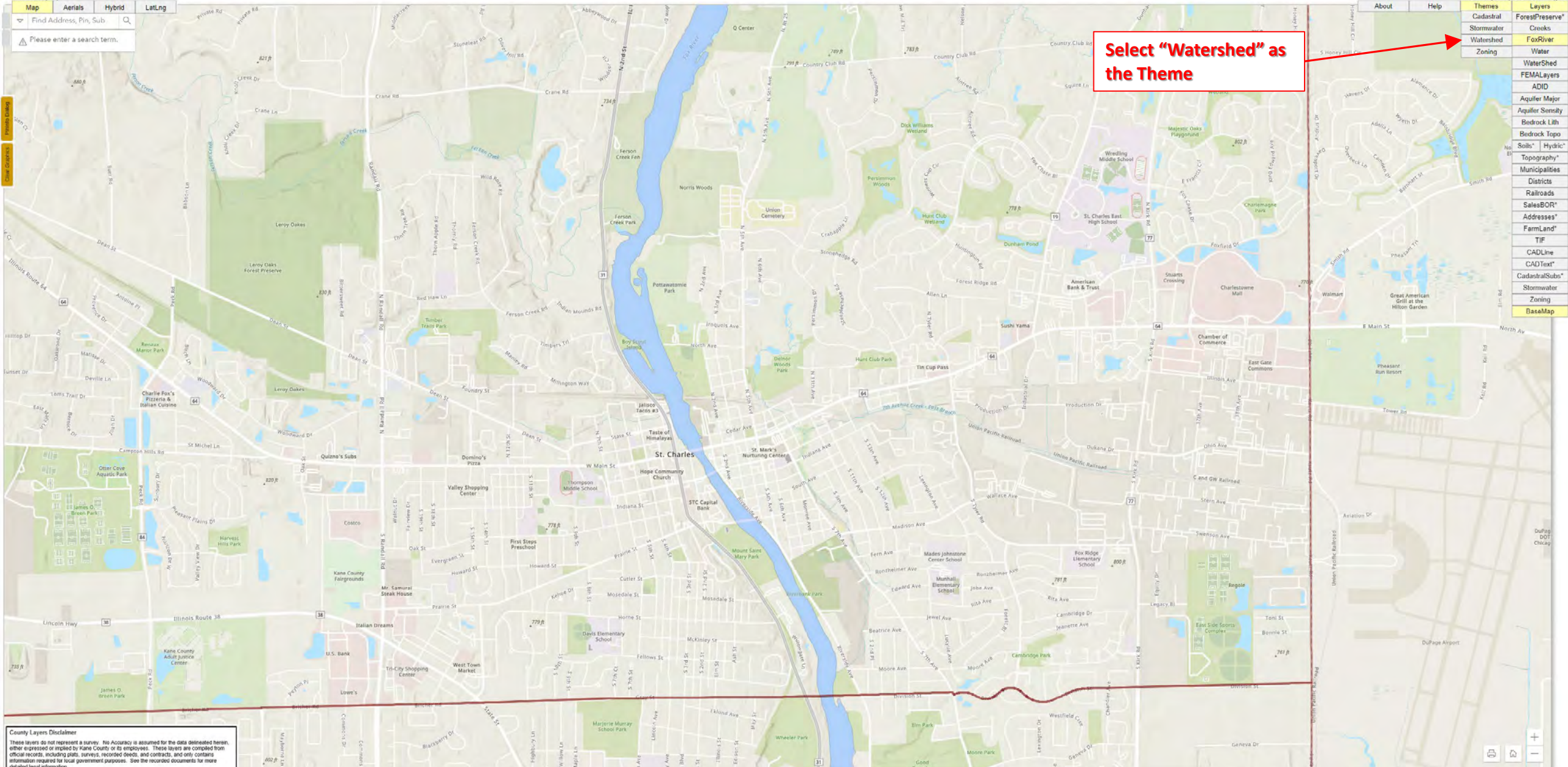
Find Address, Pin, Sub

Please enter a search term.

About Help

Themes	Layers
Cadastral	Forest/Preserve*
Stormwater	Creeks
Watershed	FoxRiver
Zoning	Water
	WaterShed
	FEMALayers
	ADID
	Aquifer Major
	Aquifer Sensity
	Bedrock Lith
	Bedrock Topo
	Soils* Hydric*
	Topography*
	Municipalities
	Districts
	Railroads
	SalesBOR*
	Addresses*
	FarmLand*
	TIF
	CADLine
	CADText*
	CadastralSubs*
	Stormwater
	Zoning
	BaseMap

Select "Watershed" as the Theme



County Layers Disclaimer

These layers do not represent a survey. No Accuracy is assumed for the data delineated herein, either expressed or implied by Kane County or its employees. These layers are compiled from official records, including plats, surveys, recorded deeds, and contracts, and only contains information required for local government purposes. See the recorded documents for more detailed legal information.

Watershed Delineation Tool

gistech.countyofkane.org/gis/kanemap/kanegis4_agox.html#

KaneGIS4 (4 x)
Map Aerials Hybrid Lat/Lng

Find Address, Pin, Sub
Please enter a search term.

Watershed Basin Trace
Click a location on the map to trace Watershed Basin

Export SHP Export KML

Selecting "Watershed" as the Theme will automatically activate the Watershed Basin Trace Tool. Use the mouse thumb wheel to zoom in (hold left mouse button down to pan), then simply click on the location to activate the trace tool.

Developed by GIS Technologies

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	CADLine
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	BaseMap

Stormwater Mapping Disclaimer
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Watershed Delineation Tool

The screenshot displays the Watershed Delineation Tool interface. The main map area shows an aerial view of a residential area with a blue line representing the watershed boundary. A red arrow points to a specific location on the map, labeled "Selected point". A pop-up window for this point displays the following information:

ObjectID
5427194

Zoom to

arcid: 5427194
grid_code: 1
from_node: 4028144

1 of 2

On the left side, there is a "Watershed Basin Trace" panel with the following details:

JobID: 08062016161e1692e183d730914ee00
Point: 995093.082700 / 1602044.120301
JobStatus: Started
- Submitted Request
- Executing
- Performing upstream trace
- Selecting basin

Export SHP Export KML

At the top right, there is a "Layers" panel with the following list:

Themes by GIS-Technologies

- Layers
- Forest/Preserve*
- Creeks
- FoxRiver
- Water
- WaterShed
- FEMALayers
- ADID
- Aquifer Major
- Aquifer Sensity
- Bedrock Lith
- Bedrock Topo
- Soils* Hydric*
- Topography*
- Municipalities
- Districts
- Railroads
- SalesBOR*
- Addresses*
- FarmLand*
- TIF
- CADLine
- CADText*
- CadastralSubs*
- Stormwater
- Zoning
- BaseMap

At the bottom left, there are two disclaimer boxes:

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The watershed basin tool runs for 10 sec up to 5 minutes depending on the size of the watershed being delineated

Selected point

Watershed Delineation Tool

gistech.countyofkane.org/gisims/kane/gis4_agox.html#

Map 2022 Hybrid Lat/Lng

Find Address, Pin, Sub

Please enter a search term.

Watershed area tributary to point selected in acres

Watershed Basin Trace
JobStatus: Started
Submitted Request
Executing
Performing upstream trace
Selecting basin
JobStatus: Job-succeeded
JobStatus: Completed
Watershed: 1968.20 acres

Export SHP Export KML

The watershed boundary polygon can be exported as a KML file for use in GIS software or Google Earth

Watershed boundary of area tributary to point selected

Developed by GIS-Technologies

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Powered by Esri



Watershed Delineation Tool

The watershed boundary exported into Google Earth

Google Earth Pro
File Edit View Tools Add Help

Search

Placemarks

- My Places
 - Subsetting Tour
- Temporary Places
 - Features

Layers

- Primary Database
- Announcements
- Borders and Labels
 - Places
 - Photos
 - Roads
 - 3D Buildings
 - Weather
 - Gallery
 - More
- Terrain

Stormwater Resource Repository Updates

Eliana Brown, University of Illinois Extension



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REDUCTION STRATEGY

Background (Urban Stormwater Educational Subgroup meeting 10/25/23)

Kate Evasic, CMAP, shared the history of the resource repository:

Over several years, the Calumet Stormwater Collaborative developed a list of resources that members found helpful in their day-to-day work. It has been posted online in a few places since 2018.

We proposed a plan to have grad student Katy Solak update, expand, and adapt the resources and for them to be added to the Illinois Groundwork website's Resource Library.

The subgroup members agreed that this would be helpful.



Background

Katy Solak first updated broken links on the existing repository.

Next, she had conversations to learn more about resources stormwater professionals used in their day-to-day work and those that they wish existed.

The list included representatives from the organizations that contributed to the original list.



Phase I: Update Existing List

Original Repository	
Total broken links:	71
Total working links:	111
Percentage of broken links:	39%



Adjusted Repository	
broken links	0
working links	182
percent broken	0%

Main organizations with broken links: MWRD, DuPage County, USACE



Phase II: Compile New Resources

Interviewed:

Cyatharine Alias, *Center for Neighborhood Technology*

Tyler Carpenter and Kelsey Bowe, *Greater Egypt Regional Planning Commission*

Mary Beth Falsey and Raul Galvan, *DuPage County*

Carmen Franks, *City of Urbana*

Andrea Klopfenstein, *City of Peoria*

Glenn Heistand, *ISWS, CHAMP*

Emily Jenkins, *Farnsworth Group*

John Watson, *Cook Co. Forest Preserve District*

Ryan Wilson, *Metropolitan Planning Council*

***Thank you to all
who contributed!***



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Questions asked

- What are some stormwater resources that you use day to day? Ones that you rely on?
- What type of resource is this and what is its purpose?
- Who is the tool/information intended for? Who would benefit from this resource?
- Are there any resources that you wish existed?
- Is there anyone you would recommend I reach out to for more stormwater resources?



Resource Repository Nominations

Approximately 60 nominations were organized by category, type, and target user

Resource Name	Link	Repository Category	Resource Type	Organization	Description	Target Users	Nominator
Water Quality Management Grant Program	https://epa.illinois.gov/topics/water-quality/watershed-management/wqmp/grants.html	Funding and Financing	Financing Opportunities	Illinois EPA	Grants are available to determine the nature, extent, and causes of point and nonpoint source water pollution; develop water quality management plans; develop technical and administrative guidance tools for water pollution control; develop preliminary designs for best management practices (BMPs) to address water quality problems; implement administrative water pollution controls; and educate the public about the impact and importance of water pollution control.	Areawide Planning Agencies and other entities to carry out water quality management planning activities that protect water quality in Illinois	Tyler&Kelsey from Greater Egypt
ILHMP LiDAR Data	https://clearinghouse.isgs.illinois.edu/data/elevation/illinois-height-modernization-ilhmp	Data and Tools	Data and Imagery	Illinois Geospatial Data Clearinghouse	Elevation data have been acquired using Light Detection And Ranging (LiDAR) technology. Data are offered as originally deliver LAS tile or as the derivative product of DEM/DTM or DSM.	Stormwater planners, anyone involved with stormwater modeling	Tyler&Kelsey from Greater Egypt
Greater Egypt Outreach Materials	https://greateregypt.org/stormwater-management-and-education/	Education and Engagement	Reports and Manuals or Factsheets and Pamphlets (resource for all types)	Greater Egypt	Site includes a number of resources to engage the public including a Water Resources Survey, activity books, brochures, and story maps. The story maps present GIS data and report findings in a tangible, aesthetic way	Local government, planning agencies, anyone trying to engage the public	Tyler&Kelsey from Greater Egypt
International Stormwater BMP Database	https://bmpdatabase.org	Design and Implementation? Very broad	Resource Database	International Stormwater BMP Database	The International Stormwater Best Management Practices Database (BMPDB) is a repository of BMP field studies and related web tools, performance summaries, and monitoring guidance	Stormwater planners, anyone involved with stormwater modeling	Carmen from City of Urbana
...



Brief overview of collected resources

- **Data and Tools:** updated data available including LiDAR, FEMA, Bulletin 75, and GIS portals
- **Design and Implementation:** Illinois State Water Plan, various BMP resource databases, stormwater design guidelines
- **Education and Outreach:** public outreach materials, educational YouTube channels, cost-benefit analyses and reports
- **Funding and Financing:** several new grants, information on stormwater credits and markets, stormwater utilities
- **Policies and Regulations:** Urbana Credit and Incentive Manual, DuPage Co. Stormwater Ordinance (more stringent than federal guidelines)
- **Training and Maintenance:** pervious concrete maintenance, 2023 GSI Maintenance Working Group Report



Brief overview of wish list items

- List of human contacts
 - regional stormwater experts, interested stakeholders, groups like Illinois Extension, municipalities with successful outreach programs, etc.
- Comparative cost-benefit analysis of various BMPs
 - Updated costing tools
 - What are the benefits and how can they be quantified
 - Justification for BMPs when speaking with municipalities – why should we implement green infrastructure in the first place?
- Funding and grant navigation resources
 - Compiled list of funding resources and when they are applicable



Next steps

- Have a spreadsheet and will send it as a follow up from today.
 - Please review by April 19
- Will be integrating resources into Illinois Groundwork.
 - <https://illinoisgroundwork.org/resources/resource-library/>



Round Robin Member Updates (time permitting)

*Members provide a 1- to 3-minute update
on current programs or projects*



Thank you



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