

IDDE Plan Development & Management

Panelists: Joe Foy, Karan Barnhill, Laura Bowley,
Tim Stottlemeyer & Tom Clevidence

Moderator: Amanda Vandenoever

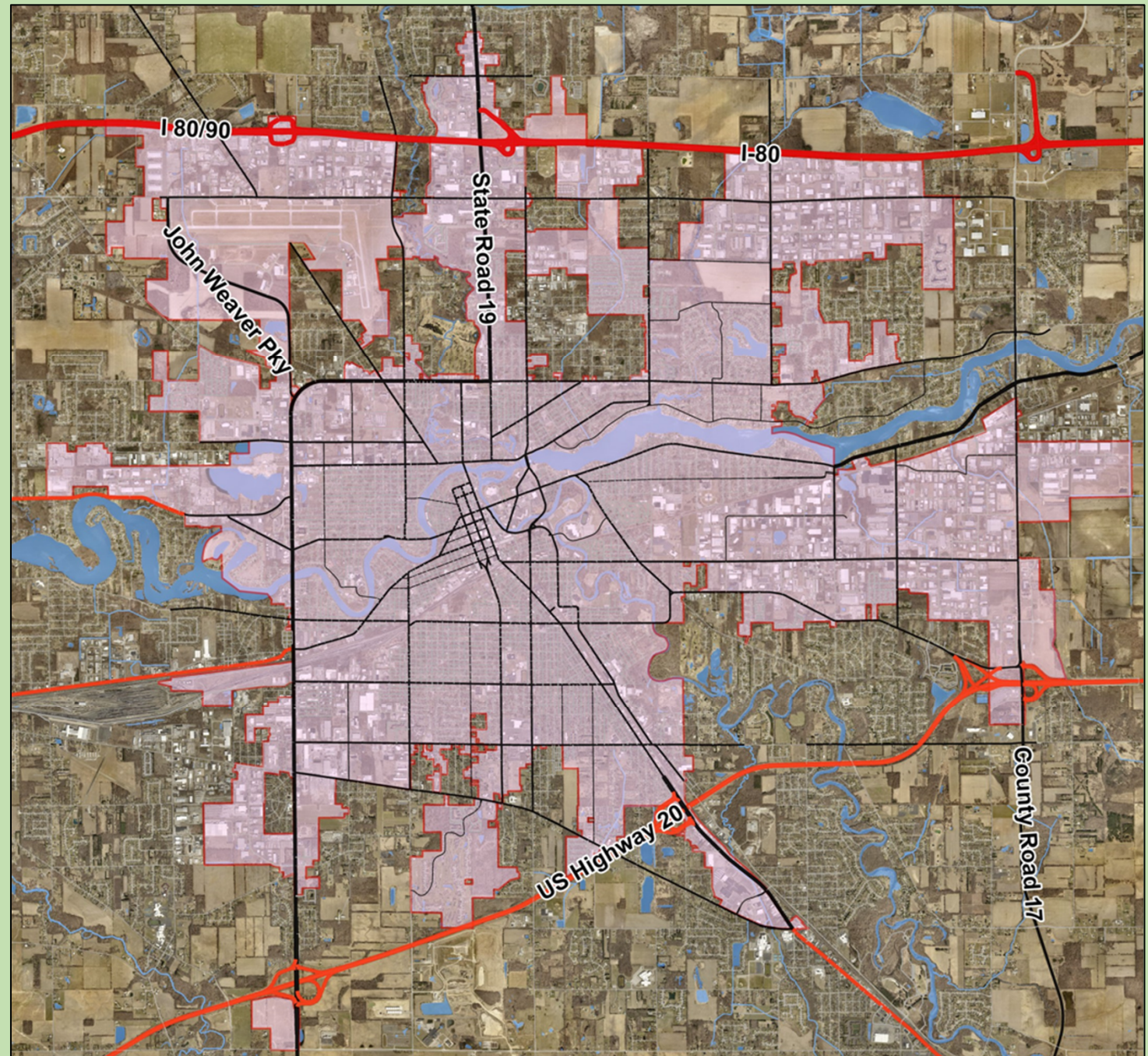
City of Elkhart

Joe Foy

Stormwater Utility Manager

Waterways:

- St. Joseph River
- Elkhart River
- Christiana Creek
- Yellow Creek
- Puterbaugh Creek
- Osolo Twp Ditch
- Pine Creek



City of Elkhart

Joe Foy

Stormwater Utility Manager

Greater Elkhart Co. SW Partnership

Established: 2005



- Town of Bristol
- City of Elkhart
- Elkhart County
- City of Goshen

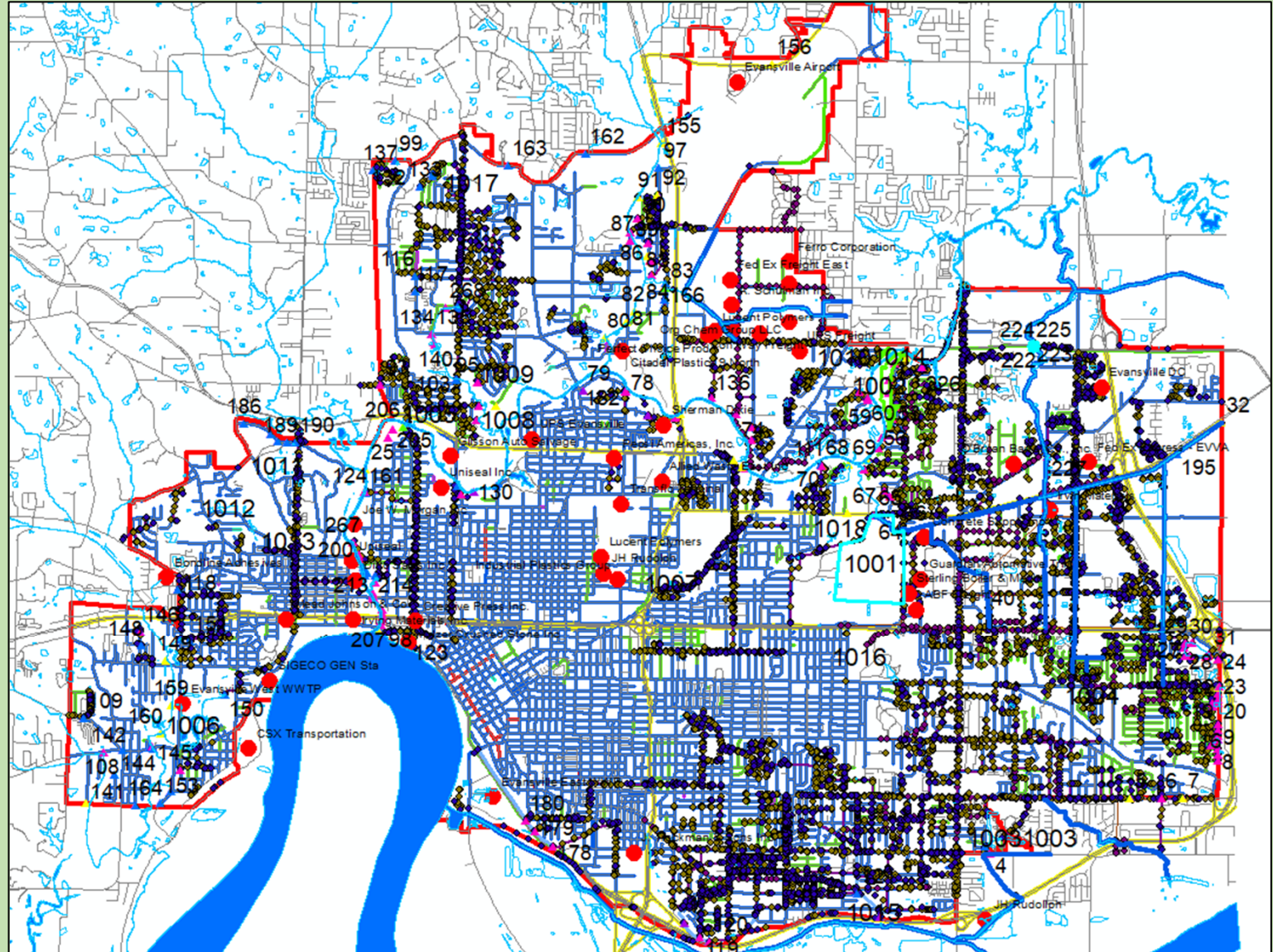
City of Evansville

Karan Barnhill

Storm Water Coordinator
& Inspector

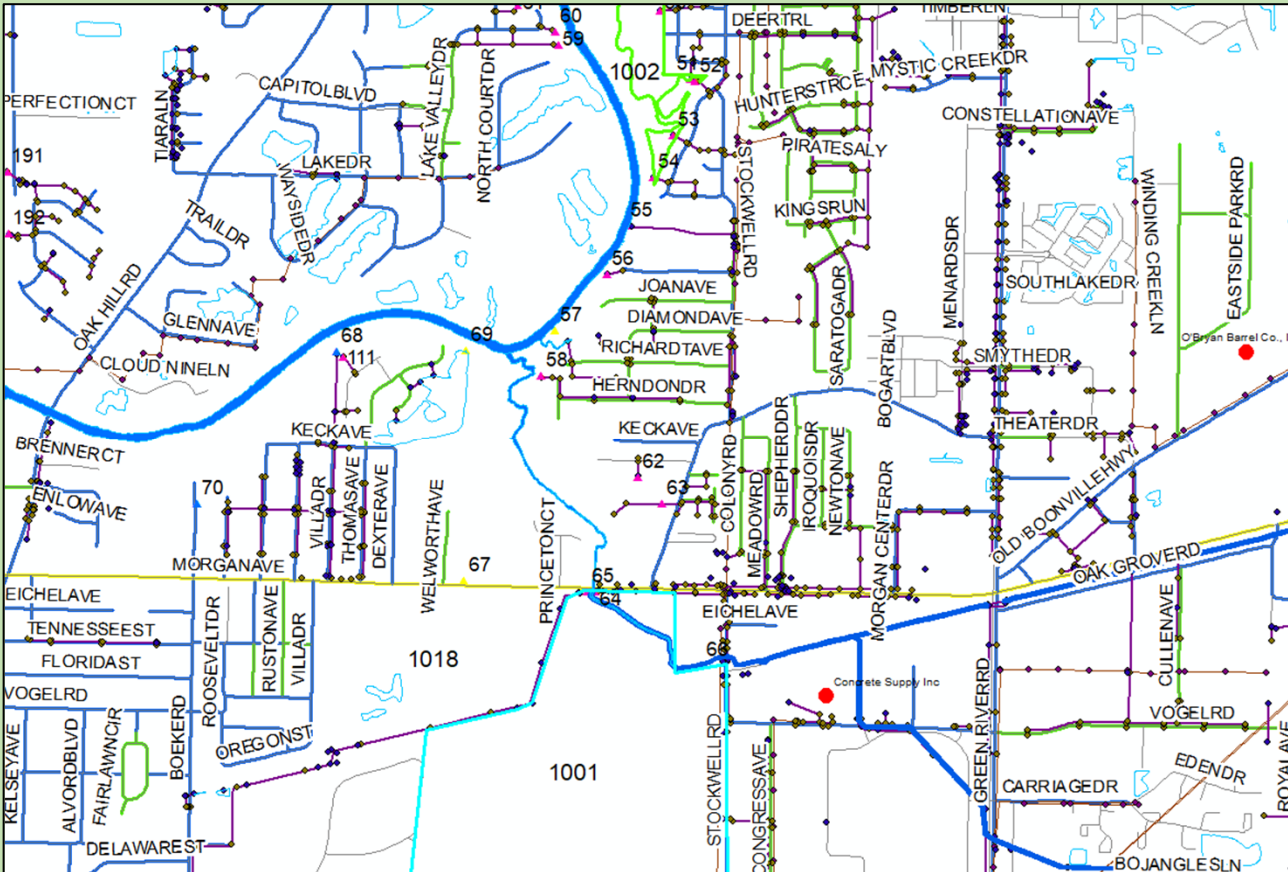
Waterways:

- Ohio River
- Pigeon Creek
- Locust Creek
- Carpentier Creek



City of Evansville

Karan Barnhill - Storm Water
Coordinator & Inspector



Partnerships:

- Evansville Water Sewer Utility – testing, inspections & locating illicit discharges
- Keep Evansville Beautiful (non-profit) – monthly trash clean ups & green space enhancement
- Neighborhood Associations – United Neighborhoods of Evansville – Leaf & Yard Waste Clean Up

<- GIS outfall locations, industrial site locations, creek/regulated drains, storm system, water and sewer lines

Muncie Sanitary District

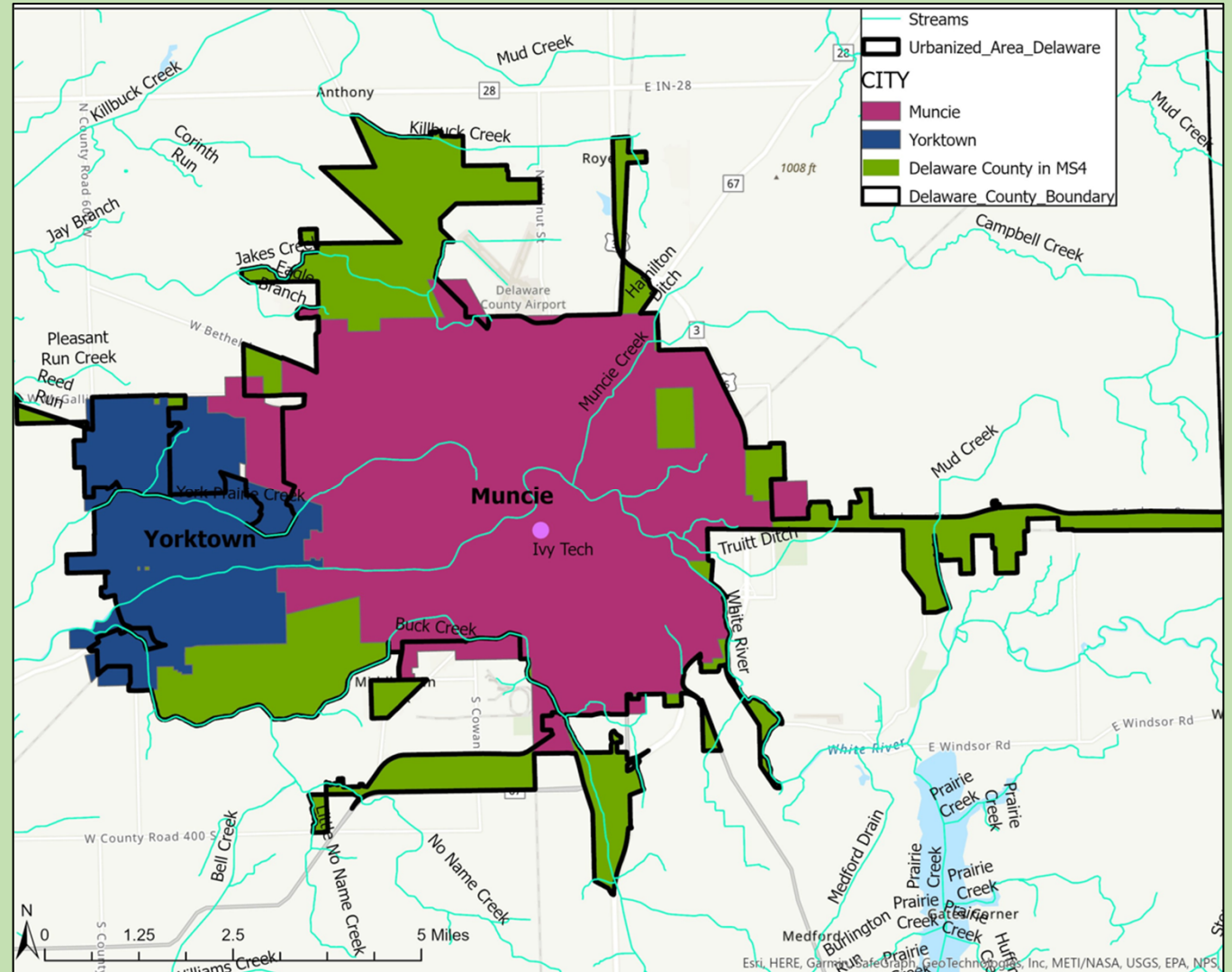
Co-partnership Muncie Sanitary District/Delaware County/Town of Yorktown/Ivy Tech-Muncie

Laura Bowley

MS4 Coordinator

Waterways:

- West Fork White River
- Buck Creek
- York-Prairie Creek
- Muncie Creek
- Greenfarm Ditch
- Killbuck Creek



Muncie Sanitary District

Laura Bowley

MS4 Coordinator

MS4 Partnership

Established: 2006

- Muncie Sanitary District/City of Muncie
- Delaware County
- Town of Yorktown
- Ivy Tech-Muncie

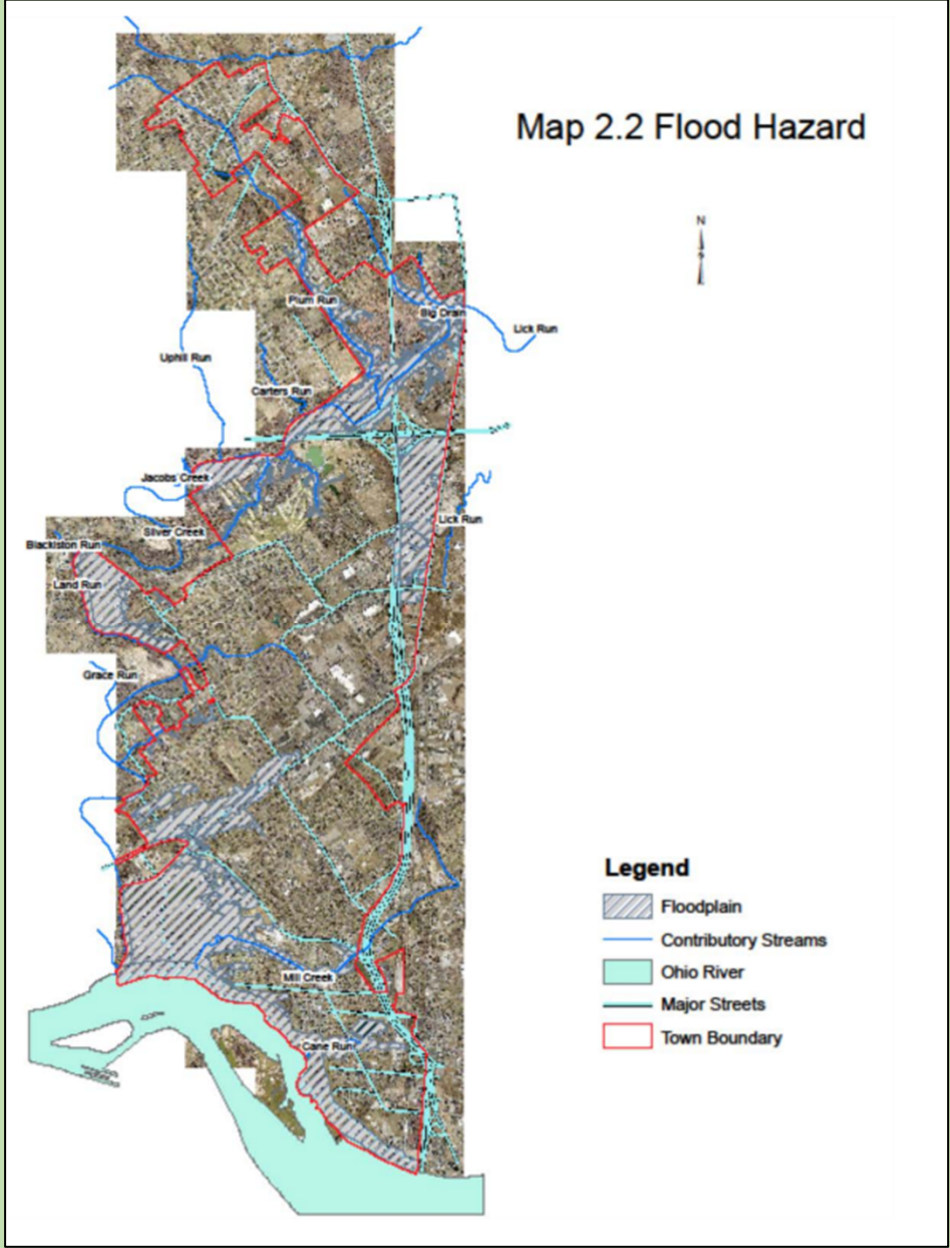
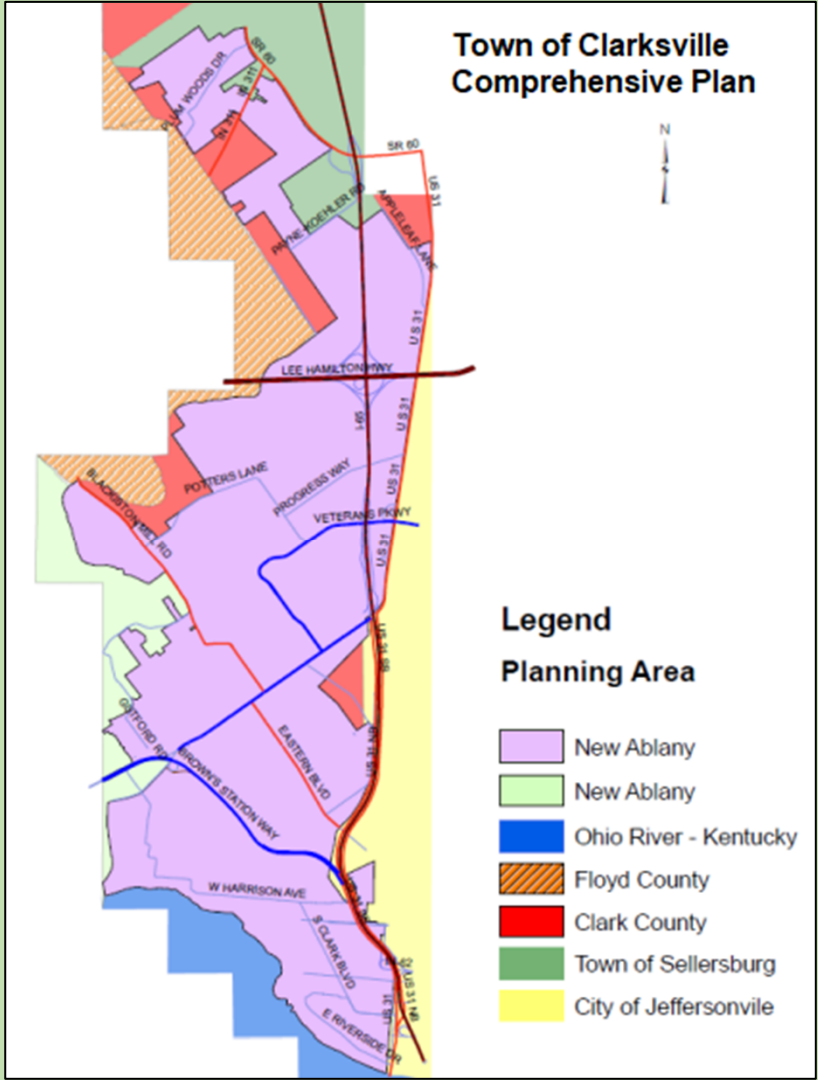


Town of Clarksville

Tom Clevidence
MS4 Coordinator

Waterways:

- Ohio River
- Silver Creek
- Plum Creek



Town of Clarksville

Tom Clevidence

MS4 Coordinator



SWAC: Stormwater Advisory Committee
Southern Indiana Established: 2005

- Town of Clarksville
- Town of Sellersburg
- City of Jeffersonville
- City of New Albany
- City of Madison
- Floyd County
- Oak Park Conservancy District
- Clark County
- Town of Georgetown

City of Noblesville

Tim Stottlemyer
MS4 Coordinator

Waterways:

- White River (West Fork)
- Stony Creek
- Cicero Creek
- Morse Reservoir
- Sly Run

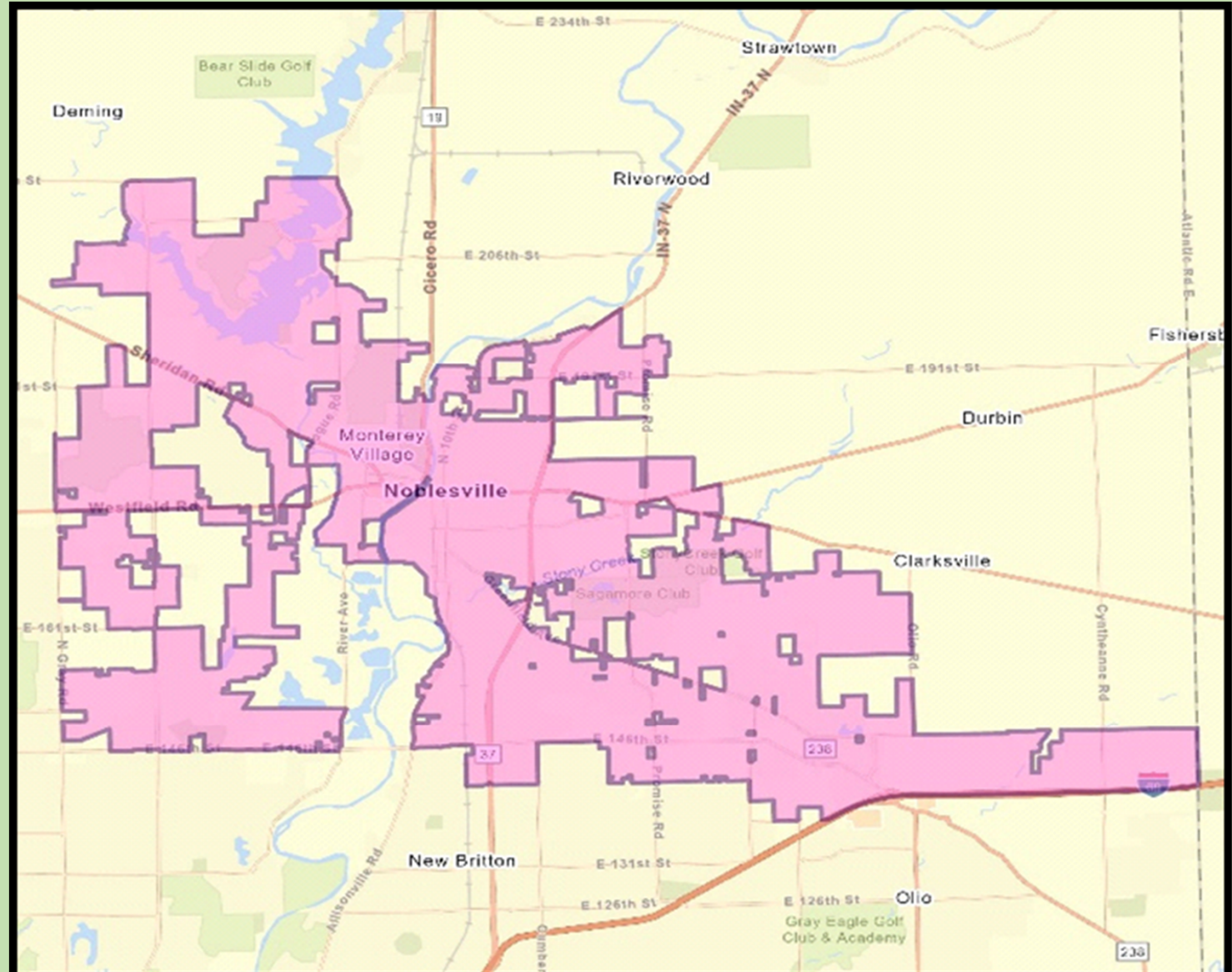


Figure 1: MS4 Boundaries, City of Noblesville

City of Noblesville

Tim Stottlemyer
MS4 Coordinator



No - Partnership for IDDE Outfall Screening

- Each MS4 entity in Hamilton County conducts their own.
- We do coordinate and share data when & where we have overlap. (annexations)

Yes - Partnership MCM 1 & 2 for stream sampling & assessment – citizen science.

- Data goes to IDEM and used in our WQCR.

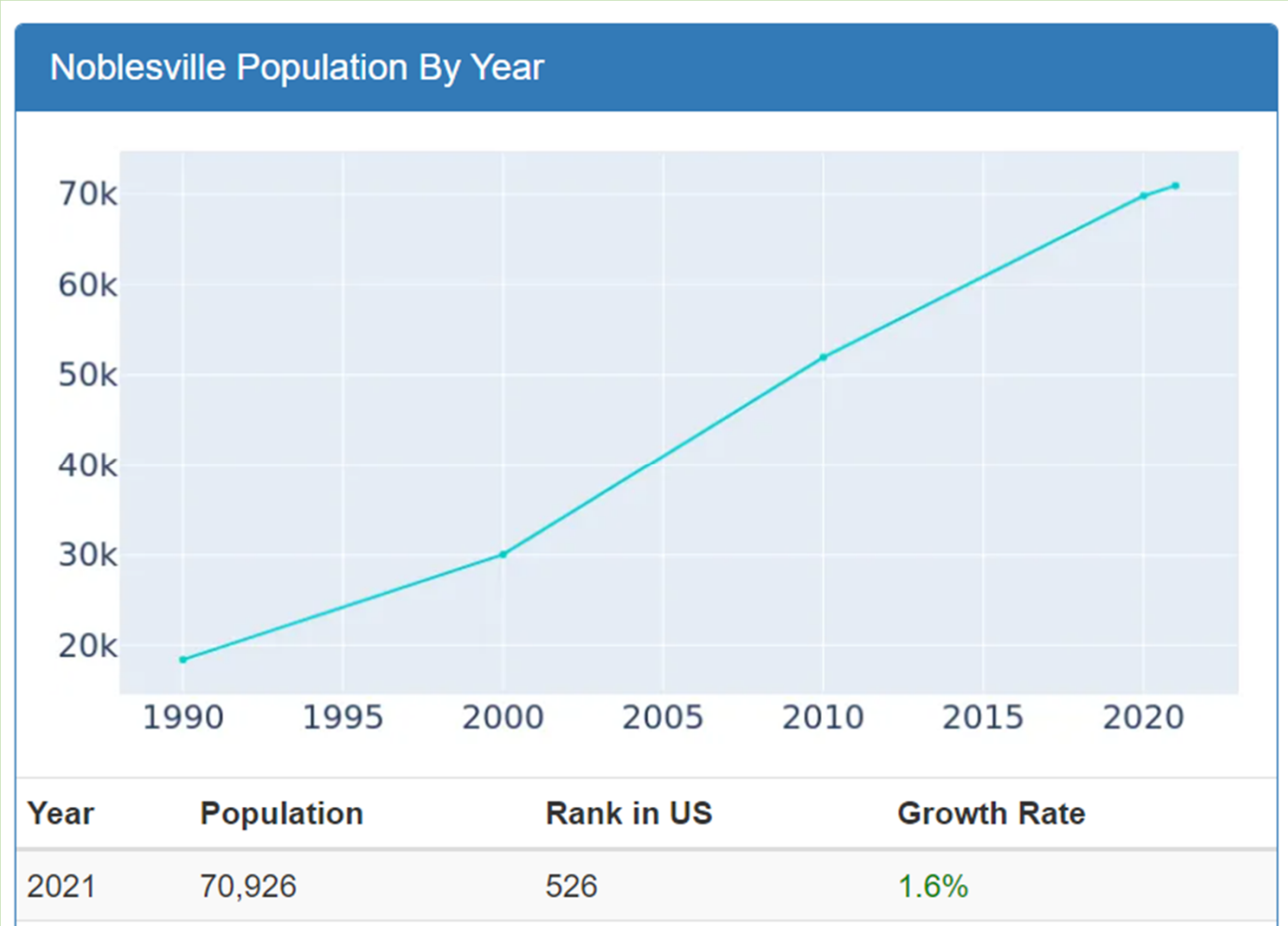


City of Noblesville

Tim Stottlemyer
MS4 Coordinator



Prioritized Approach



Question 1: How was your IDDE Plan Developed?

- When was the process started? Were you involved?
- How have the updates been integrated?

- All Panelists

8:50am

Question 2: IDDE Ordinance or Regulatory Mechanism

- Confirmation on Ordinance or Explanation of Other Method
- Does your program utilize a ticket or fee for enforcement?
- Does each entity in your partnership have their own regulatory tools or is there a shared mechanism?

- All Panelists

Question 3: How to identify MS4-owned outfalls?

- How were your outfalls located? How many do you have?
- Is routine screening a challenge still or is system established?
- Who maintains these records?

- All Panelists

Question 4: Dry Weather Screening SOP

- Who conducts this process?
- Handout from Center for Watershed Protection Guidance: *Illicit Discharge Detection and Elimination* - October 2004



Illicit Discharge Detection and Elimination

A Guidance Manual for Program Development and Technical Assessments

by the
Center for
Watershed Protection

and
Robert Pitt
University of Alabama

October 2004

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed		Outfall ID	
Today's date		Time (Military)	
Investigator		Form completed by	
Temperature (°F)	Rainfall (in.) Last 24 hours	Last 48 hours	
Latitude	Longitude	GPS Unit	GPS LMK #
Camera		Photo #s	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial	<input type="checkbox"/> Open Space		
<input type="checkbox"/> Ultra-Urban Residential	<input type="checkbox"/> Institutional		
<input type="checkbox"/> Suburban Residential	Other _____		
<input type="checkbox"/> Commercial	Known Industries _____		
Notes (e.g., origin of outfall, if known)			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP	<input type="checkbox"/> Circular	Diameter/Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially Fully
	<input type="checkbox"/> PVC <input type="checkbox"/> HDPE	<input type="checkbox"/> Elliptical		
	<input type="checkbox"/> Steel <input type="checkbox"/> Other _____	<input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other _____		
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Depth: _____	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Top Width: _____	
	<input type="checkbox"/> rip-rap <input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____	Bottom Width: _____	
<input type="checkbox"/> In-Stream (applicable when collecting samples)				
Flow Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 3</i>				
Flow Description (if present) <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

PARAMETER	FIELD DATA FOR FLOWING OUTFALLS		
	RESULT	UNIT	EQUIPMENT
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
	Flow depth	In	Tape measure
	Flow width	ft, in	Tape measure
<input type="checkbox"/> Flow #2	Measured length	ft, in	Tape measure
	Time of travel	S	Stop watch
	Temperature	°F	Thermometer
	pH	pH Units	Test strip/Probe
	Ammonia	mg/L	Test strip

Illicit Discharge Detection and Elimination: Technical Appendices D-3

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only
Are Any Physical Indicators Present in the flow? Yes No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls
Are physical indicators that are not related to flow present? Yes No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Only <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other	

Section 6: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam</i>

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Illicit Discharge Detection and Elimination: Technical Appendices D-4

Question 6: Stream Assessments via Kayak

- Walking streams, kayaking, how to access your waters?
- Staffing, equipment, storage?
- Volunteer citizen science through White River Alliance, approved process by IDEM

- Tim Stottlemyer – your SOPs



Question 7: SOPs for Investigators – what is key?

- How many staff are available for this work?
- How does communication with staff or other departments work?
- Successes vs challenges
- How often does your community have these issues reported?

Karan Barnhill – Utilize other departments

Question 8: Pollutograph

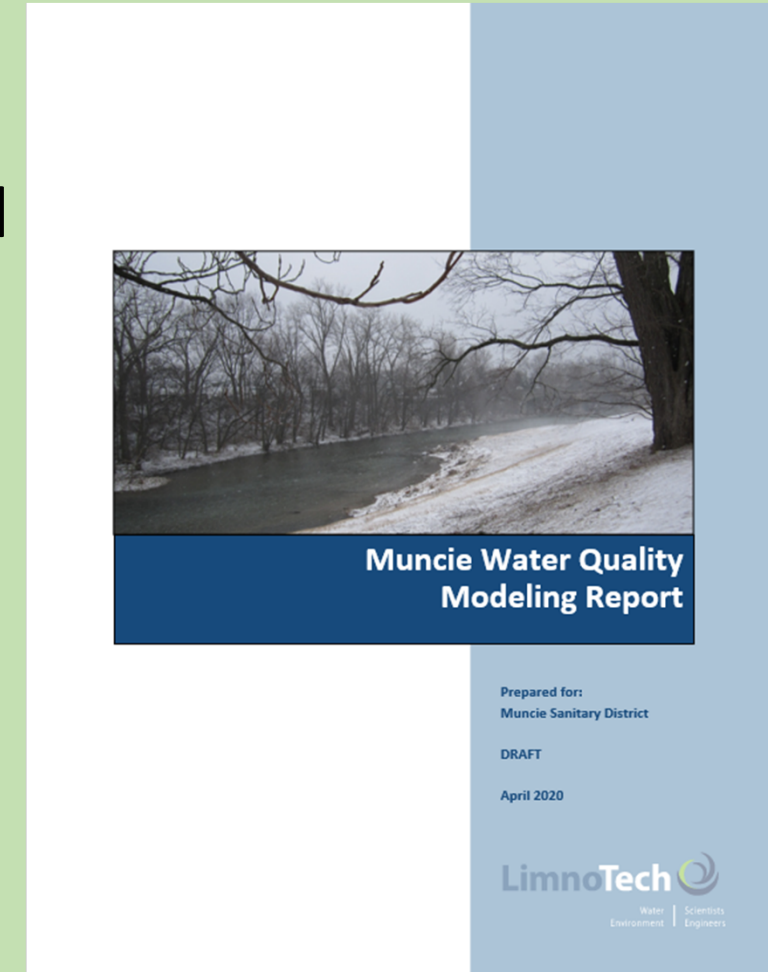
-BWQ study- complete CSO separation the best option to improve water quality?

-E. coli concentrations in the first flush (first 6 hours after the rain event) of stormwater comparable to those found in a CSO release

-Majority of the bacterial load went through in the first flush

-E. coli concentrations upstream of all CSOs consistently exceeded 235cfu's/100 ml after a rain event.

Laura Bowley



Question 9: Encourage BMP Success

- Illicit discharge of sediment from construction sites
- Rewards and recognition for clean construction sites
- BMPs fact/guidance sheets

Compliance Guidance

Please feel free to view or download any volume of *The Compliance Connection Newsletter* and volumes keeping you up to date on construction site compliance and best management practices.

- [Compliance Connection Newsletter Volume 1- Silt Fence \(PDF\)](#)
- [Compliance Connection Newsletter Volume 2- Inlet Protection \(PDF\)](#)
- [Compliance Connection Newsletter Volume 3- Posting \(PDF\)](#)
- [Compliance Connection Newsletter Volume 4- Prairie Creek Examples \(PDF\)](#)
- [Compliance Connection Newsletter Volume 5- Notice of Termination \(NOT\) \(PDF\)](#)
- [Compliance Connection Newsletter Volume 6- Self Inspection \(PDF\)](#)
- [Compliance Connection Newsletter Volume 7- Concrete Washout \(PDF\)](#)
- [Compliance Connection Newsletter Volume 8- Dewatering \(PDF\)](#)
- [Compliance Connection Newsletter Volume 9- The Great Thaw \(PDF\)](#)
- [Compliance Connection Newsletter Volume 10- Individual Lot \(PDF\)](#)
- [Compliance Connection Newsletter Volume 11- Site Stabilization \(PDF\)](#)
- [Compliance Connection Newsletter Volume 12- Post Construction BMP's \(PDF\)](#)
- [Compliance Connection Newsletter Volume 13- Post Training \(PDF\)](#)

Laura Bowley

Muncie / Yorktown / Delaware County
Stormwater Management

Subject: Dewatering

COMPLIANCE CONNECTION

STORMWATER MANAGEMENT
MUNCIE - DELAWARE COUNTY

Volume 8

DEWATERING GUIDELINES

Why are dewatering operations regulated?

Untreated water from construction dewatering operations may contain pollutants that, if discharged to a storm drainage system or natural water course, would cause the water quality standards of the receiving water to be violated. The intent of Federal and State regulations is to prevent discharges from dewatering operations from contributing to the violation of water quality standards.

Water Quality

Water must be free of pollutants and must consist solely of accumulated precipitation

Don't let your dewatering practices put you in violation. There are some simple guidelines to follow that will protect you, and local waterways.

- Never dewater over disturbed ground. Direct hose ends to a vegetated area.
- Temporarily protect the area from scouring by dewatering over heavy plastic sheeting.
- Never dewater directly to a storm drain unless it is clean water
- Use a dewatering bag, sized appropriately according to the manufacturer
- Dewater to a sediment trap or basin

WHAT ARE THE OPTIONS FOR MANAGING DEWATERING?

<https://www.munciesanitary.org/departments/stormwater-management/construction/compliance-guidance/>

Question 10: How does your complaint system function?

- Online reporting, follow up time, i.e. Emergency Management Agency
- Documentation – I use GIS points for logging complaints received and responses
- Compliance Go Webtool

- Tom Clevidence

Question 11: Mapping of all Stormwater Conveyance

- What does this mean to your program?
- How did you accomplish this mapping?
- County ditches vs city sewer

- Karan Barnhill

Question 12: Outfall Maintenance

- Alphanumeric Identifier
- How have the updates been integrated?

- All Panelists

Question 13: How do you characterize outfalls?

- By watershed? By neighborhood?
 - City areas/wards/districts
 - Functionality for solving issues
-
- Joe Foy

Question 14: Outfall Screening SOP

- Who conducts this process?

- Joe Foy

Question 15: Enforcement Methods

- When a habitual illicit discharge occurs, how do you (your entity) handle the situation?
- Citation established

- Tom Clevidence

Question 16: Is your community industrial?

- Mapping industrial facilities
- Are they permitted?

- Tim Stottlemyer

Question 17: Documentation & reporting

- Forms for inspections (FIND ONE THAT WORKS FOR YOU)
- Spreadsheets for recording and tracking
- GIS for tracking and locating possible sources
- How to make time to follow up and assure the corrections are made
- Photos and Date Stamps
- Keep files by address and geographic locations

- Karan Barnhill

Questions from the Audience

THANK YOU EVERYONE!

Contact info:

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- Karan Barnhill kbarnhill@evansville.in.gov
- Amanda Vandenoever amanda.Vandenoever@porterco.org



**CHARTING OUR COURSE
TO CLEAN WATER
FOR INDIANA**

**2023
Indiana MS4
Annual Meeting**

Supporting Permit Holders,
Contractors, Developers
and Communities

**INDIANA MS4
PARTNERSHIP**

Tuesday, May 16, 2023