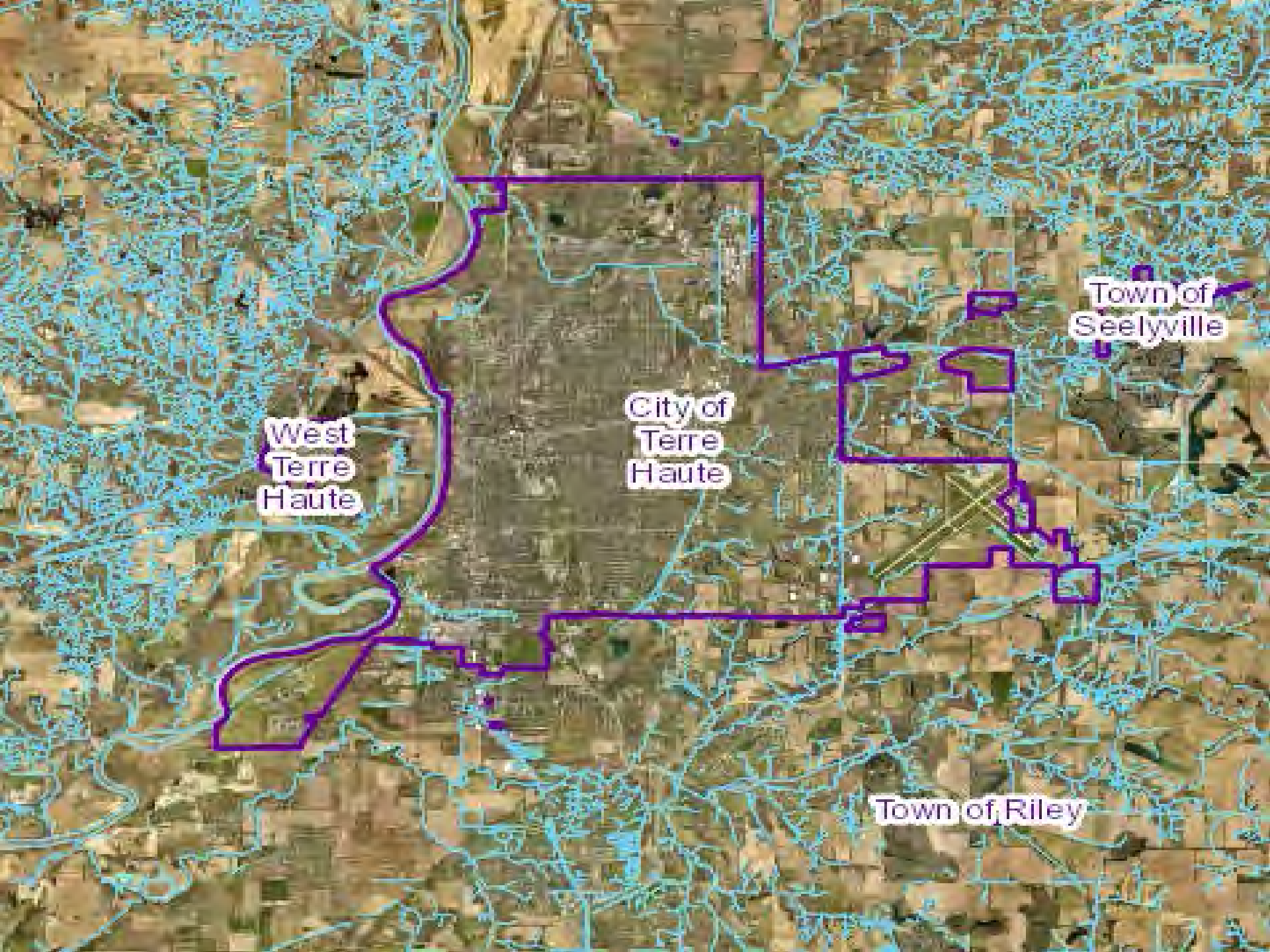
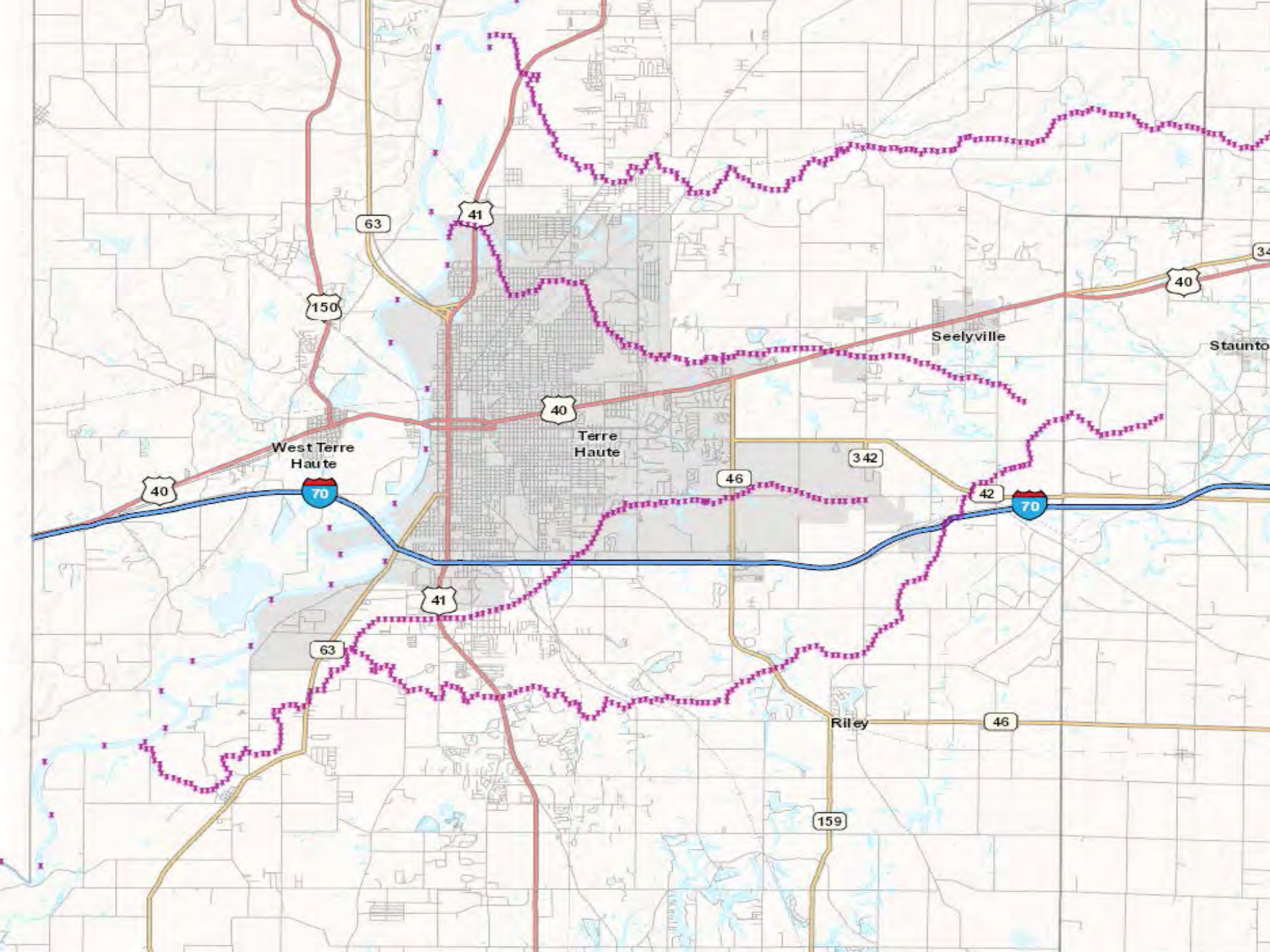
Innovative Illicit Discharge Reporting Concept

Alicia Barnard, Terre Haute MS4 Coordinator
FIRST LEGO League: Team Storm


Town of
Seelyville
City of
Terre
Haute
West
Terre
Haute
Town of Riley

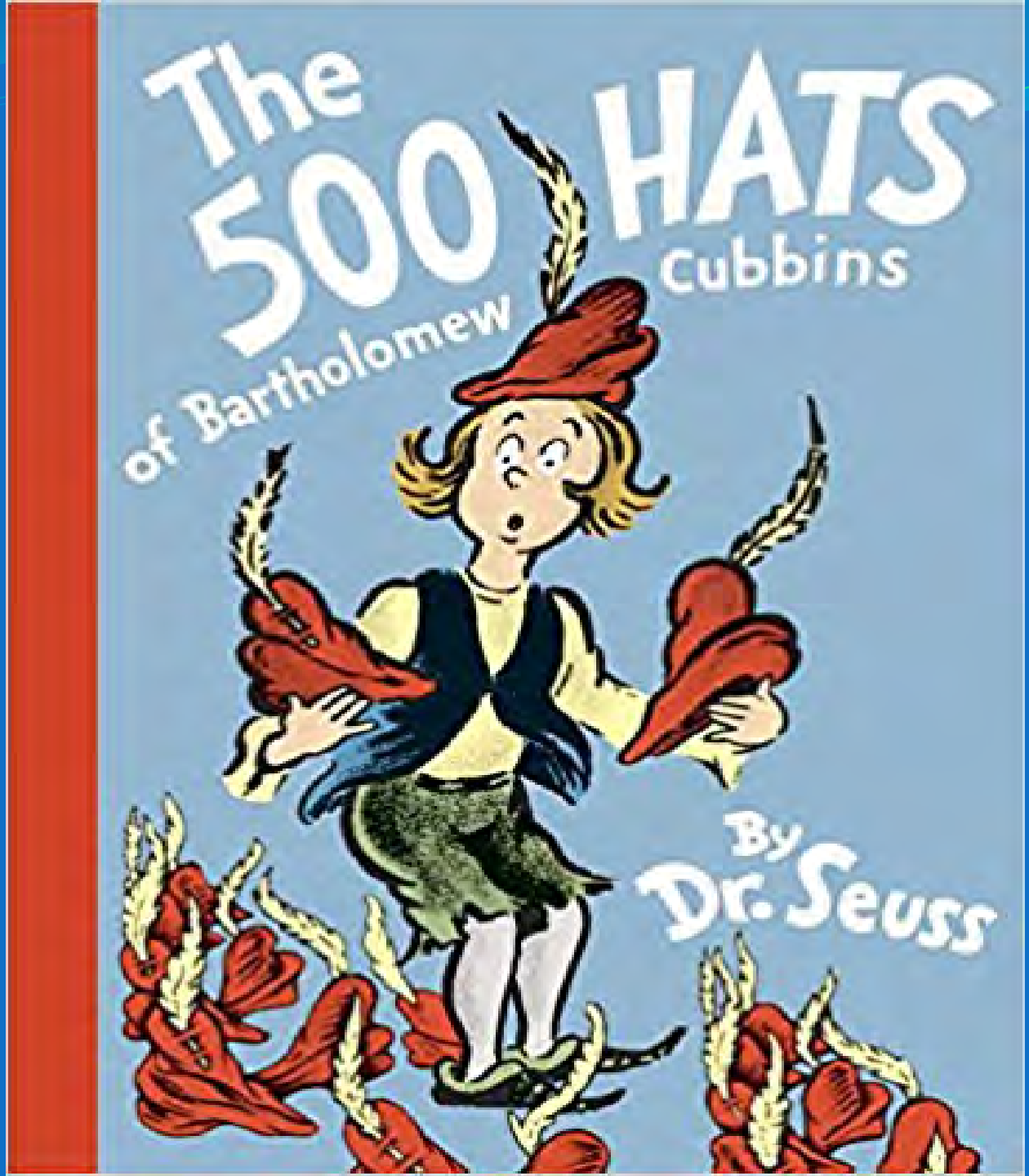

63
41
150
40
Seelyville
Staunto
40
Terre
Haute
West Terre
Haute
40
70
46
342
42
70
41
63
Riley
46
159

The City of Terre Haute has 87 miles of storm sewer

More than 6,000 inlets and 180 outfalls to surface water

Our MS4 general permit covers the following entities:

- Terre Haute
- Vigo County
- West Terre Haute
- Seelyville
- Indiana State University
- Ivy Tech Community College
- Rose-Hulman Institute of Technology


The 500 HATS
of Bartholomew Cubbins
By Dr. Seuss

Industrial Pretreatment

- Regulate Industrial discharges to the wastewater treatment plant
- Monitor Restaurant Grease Trap maintenance
- Monitor Automotive shop Oil/water separator maintenance
- Manage hauled waste delivered to the disposal facility by truck

Code Enforcement Officer

- Local Enforcement of the Federal Clean Water Act
- High Strength Waste
- Illegal Pollutants
- Illicit Discharges

- Public
- Private
- Commercial
- Industrial
- Sanitary
- Storm
- Combined

The City of Terre Haute has 87 miles of storm sewer

383 miles of sanitary sewer

156 miles of combined sewer

Pollutants of Concern

Stormwater

Storm Water Pollution Found in Your Area!

This is not a citation.

This notice is to inform you that our staff found the following pollutants in the separate storm sewer system servicing your area.

- ☐ Motor Oil
- ☐ Oil Filters
- ☐ Antifreeze/Transmission Fluid
- ☐ Paint
- ☐ Solvent/Degreaser
- ☐ Cooking Grease
- ☐ Detergent
- ☐ Home Improvement Waste (concrete, mortar, etc.)
- ☐ Pet Waste
- ☐ Yard Waste (leaves, grass, mulch)
- ☐ Excessive Dirt and Gravel
- ☐ Trash
- ☐ Construction Debris
- ☐ Pesticides/Fertilizers
- ☐ Other _____

For more information or to report an illegal discharge of pollutants into stormwater call (812) 244-5500.

Pretreatment Department
Terre Haute Wastewater Utility
3200 South State Road 63
Terre Haute, IN 47802

Wastewater

Waste Water Pollution Found in Your Area!

This is not a citation.

This notice is to inform you that our staff found the following pollutants in the waste water collection system serving your area.

- ☐ Fuel (gasoline, diesel, kerosene, etc.)
- ☐ Solvent/Degreaser
- ☐ Motor Oil
- ☐ Antifreeze
- ☐ Medications
- ☐ Paper, Plastic, or Foam Tableware
- ☐ Cooking Grease
- ☐ Home Improvement Waste
- ☐ Shop Towels/Rags/Baby Wipes
- ☐ Paint/Paint Thinner
- ☐ Un-ground Garbage
- ☐ Radioactive Material
- ☐ Metal Shavings
- ☐ Ashes, Cinders, Sand, Rocks, or Straw
- ☐ Whole Blood, Hair, Fleshing, or Entrails
- ☐ Other _____

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Illegal Dumping & Illicit Discharges occur more frequently than we would like to admit.

REPORT A PROBLEM

The BIGGEST hurdle in illicit discharge reporting is the HASSLE of the COMMUNICATION PROCESS

Group Participation TIME!

verizon
Galaxy S7 edge

HUAWEI

Stormwater Community Watch

LEGO

FIRST®
LEGO®
LEAGUE

FIRST® LEGO® League

Team
Team

Quality
On Tap!
r Profession
When you're fertilizing the lawn, remember you're not just fertilizing the lawn.
EXIT
FLL 100
Terre Haute Indiana

FIRST
LEGO
LEAGUE

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

TerreHauteCleanWater.com

NO DUMPING
ONLY RAIN IN THE DRAIN

18:30

PROTECT OUR WATERWAYS
FLL 100
Team Storm
SCAN TO REPORT SPILLS AND POLLUTION
Completely clogged storm drain.

PROTECT OUR WATERWAYS
FLL 100
Team Storm
SCAN TO REPORT SPILLS AND POLLUTION

NO DUMPING
DRAINS TO WATERWAYS

08/11/2015

08/11/2015

NEENAH FOUNDRY CO
PROTECT OUR WATERWAYS
by Team Storm
SCAN TO REPORT SPILLS AND POLLUTION

3:05
https://fll100teamstorm.wixsite.com/
Stormwater Community Watch™
Report Spills and Debris
Please take a photo of the storm drain.
What is Stormwater Community Watch?

Excessive sediment around drain

Algae present in water

Rainbow-like sheen present

Navigation
Menu
mobile

The Business Model Canvas

Designed for: **Stormwater Community Watch™**

Designed by: Team Storm

On: 2018

Iteration: 3

Key Partners

Who will help you?

- Free dynamic QR code generator www.qr-code-generator.com
- Commissioner Pigott or the Indiana Department of Environmental Management (IDEM)
- Ms. Alicia Barnard of the Terre Haute Wastewater Treatment Facility
- Mr. Toby Days of the Alliance of Indiana Rural Water (source water specialist)
- Indiana American Water (grant)

Key Activities

How do you do it?

- User-friendly interface using QR codes
- Check list for additional information
- GPS attached to the photo file so the facility knows exactly how to locate drain

Key Resources

What do you need?

- Website maintenance
- Polyurethane QR plaques
- Adhesive for QR plaques
- Installation of QR plaques

Value Propositions

What do you do?

- Provide an easy way for people to report problems with local storm drains by simply scanning a QR code
- Provide a data base for wastewater facilities to track the history of storm drains with photos and data

Customer Relationships

How do you interact?

- Water bills
- Water treatment websites
- Wastewater treatment websites
- Earth Day Events
- City websites

Channels

How do you reach them?

- *Stormwater Community Watch™* website (accessed with QR code) where users upload photos of storm drain pollution

Customer Segments

Who do you help?

- Everyone benefits from clean water
- Any users within our watershed
- Anyone using surface waters for recreation
- Plants / Animals

Cost Structure

What will it cost?

- QR codes are free to generate and register
- $5 monthly fee for access to QR code data
- Website design will initially cost about $5,000
- Website maintenance
- QR code plaques (under $2 per plaque)
- QR code adhesive and installation

Revenue Streams

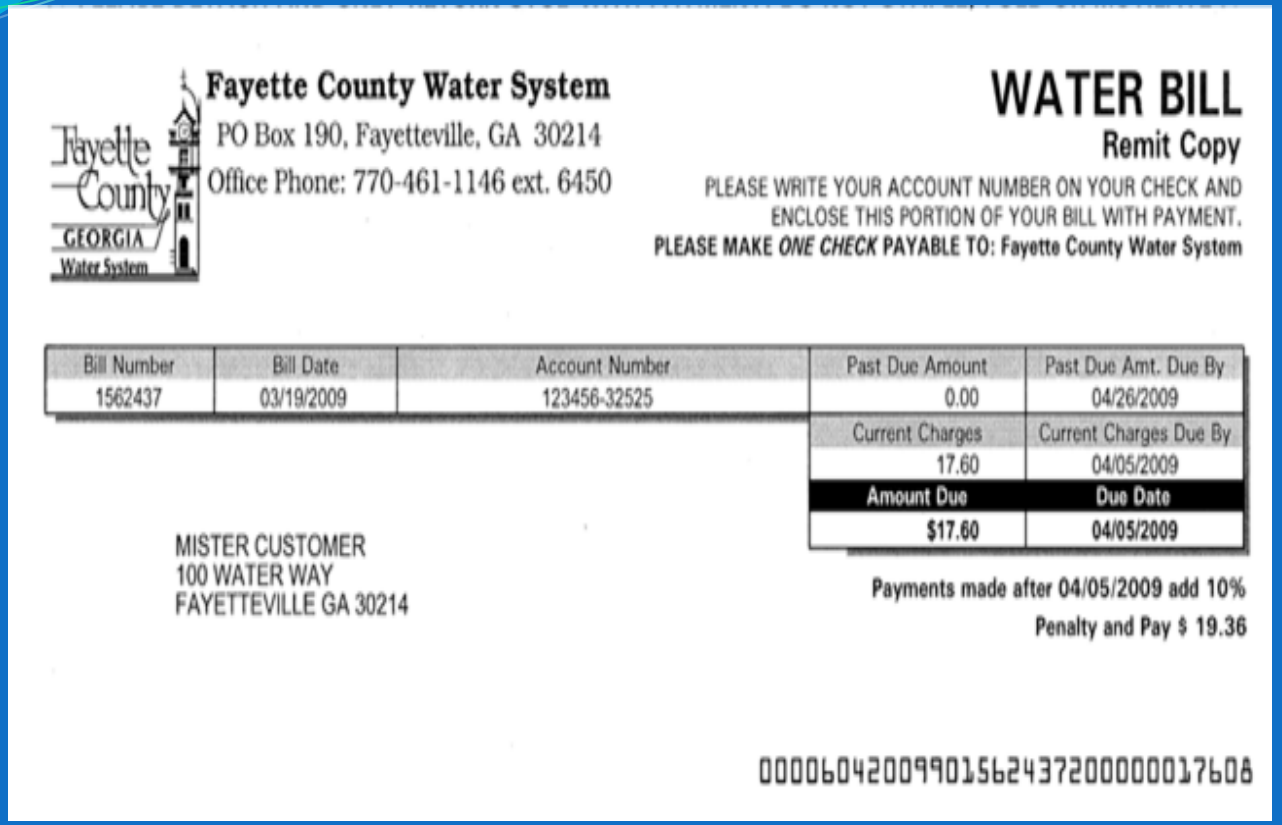
How much will you make?

- Non-profit

The Business Model Canvas is a tool that can be used to figure out everything needed to implement an idea.

INDIANA

AMERICAN WATER



Fayette County Water System
PO Box 190, Fayetteville, GA 30214
Office Phone: 770-461-1146 ext. 6450

WATER BILL

Remit Copy

PLEASE WRITE YOUR ACCOUNT NUMBER ON YOUR CHECK AND ENCLOSE THIS PORTION OF YOUR BILL WITH PAYMENT.
PLEASE MAKE *ONE CHECK* PAYABLE TO: Fayette County Water System

Bill Number	Bill Date	Account Number	Past Due Amount	Past Due Amt. Due By
1562437	03/19/2009	123456-32525	0.00	04/26/2009
			Current Charges	Current Charges Due By
			17.60	04/05/2009
			Amount Due	**Due Date**
			$17.60	**04/05/2009**

MISTER CUSTOMER
100 WATER WAY
FAYETTEVILLE GA 30214

Payments made after 04/05/2009 add 10%
Penalty and Pay $ 19.36

0000604200990156243720000001760 8

HYDRO DYNAMICS

TEAM STORM
presents

Stormwater Community Watch™

Our solution will improve the way we dispose of stormwater because problems can be reported quickly and addressed immediately before they become too unmanageable. *Stormwater Community Watch* allows you to report a problem to wastewater management facilities as soon as you see it just by scanning the QR code which will be installed near each storm drain. GPS will be attached to the photo file so the problem can be located by water management facilities.

Newer phones have built-in QR code scanners!

Thank you to all those who helped us develop our solution this season:

- Commissioner Pigott of the Indiana Department of Environmental Management
- Mr. Adam Christianson -- web developer and tech expert
- Dr. Jennifer Mueller Price and Dr. Michael Robinson -- environmental engineers from Rose Hulman Institute of Technology
- Mr. John Allen, Seelyville Water Treatment Plant Operator
- Mr. Pat Goodwin, former city engineer, Terre Haute, Indiana

With Special Thanks to

Alicia Barnard
MS4 Coordinator
City of Terre Haute Wastewater Utility

and

Toby Days
Source Water Specialist
Alliance of Indiana Rural Water

IDEM
...and Commissioner Pigott and his staff
THE PROBLEM
THE BUSINESS PLAN
Team Storm
Notebook

Thank You!

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MCM 1 :
Public Education & Outreach

The website will be designed to provide education to those people who just happen to see a QR code and scan it to see what it is.

MCM 2 : Public Participation & Involvement

The website will provide information about upcoming events like community clean-ups or storm drain marking opportunities to encourage participation

MCM 3 :
Illicit Discharge Detection & Elimination

The main goal of the program:

Make reporting problems EASIER

Program Benefits

- Creation of a database/photo log of each issue reported
- Track number of site visits & illicit discharge reports received annually
- Track the number of corrective actions initiated in response to reports received annually
- Track the estimated volume of stormwater pollution removed in response to reports received

Implementation

- We have been awarded a $5,000 grant from Indiana American Water to be put toward purchasing supplies.
- We will begin developing Public Service Announcements, newspaper articles and similar forms of public proclamations to announce the rollout of the *Stormwater Community Watch* program in the near future.
- We are currently seeking additional funding or the donation of in-kind services to further develop and expand on the website.

QUESTIONS?