

# The Use of ArcGIS Online Applications for Permit Required Storm Sewer System Mapping

Adapted to Poster & Originally Presented May 3, 2022 by Jacob Mabrey, EIT & Lindsay Wilson-Kokes, TN-QHP-IT for the IECA Southeastern Annual Conference

## Why Map?

Phase I and II MS4s are required to develop an illicit discharge detection and elimination (IDDE) program.

## How to Map?



Mapping begins with field measurements. Collection methods aren't dictated by the Permit.

Outfall Reconnaissance Inventory  
Sample Collection Field Sheet

Background Data

Outfall ID: 014143 Stream Segment ID: Babbling Brook

Date: 2019 Time: 10:25 Team: TDCB

Temperature: 51°F Rainfall (In): Last 24 Hours: 4.5 Last 48 Hours: 5

Land Use in Drainage Area (Check all that apply):  
 Industrial  Suburban Residential  Commercial  Open Space  Institutional

Notes: LAT = N = 12.345 Long = E = 67.890

Location	Material	Shape	Dimensions (In)	Count	Submerged
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Other	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other	Circle Diameter, Elliptical Width, Height, Box Length, Width, Height	Single, Double, Triple, Other, Fully, Partially	In Water, In Sediment
<input type="checkbox"/> Open Drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-rap <input type="checkbox"/> Other	<input type="checkbox"/> Trapezoidal <input type="checkbox"/> Parabolic <input type="checkbox"/> Other	Depth, Top Width, Bottom Width		Additional Comments:

Stream:  Yes  No Flow Present:  Yes  No Flow Amount:  Trickle  Moderate  Substantial

Physical Indicators

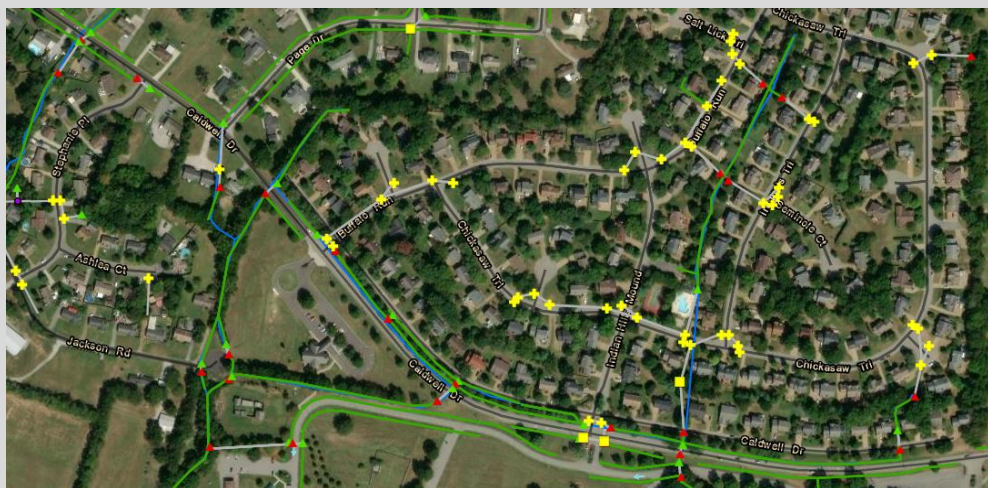
Indicator	Description
Color: NA	<input type="checkbox"/> Sewage <input type="checkbox"/> Runoff/Sour <input type="checkbox"/> Gas/Oil <input type="checkbox"/> Sulfur <input type="checkbox"/> Other
Turbidity: NA	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other
Floatables (not trash): NA	<input type="checkbox"/> Slime AS (Severity Indicators) <input type="checkbox"/> Slight Cloudiness <input type="checkbox"/> Cloudy <input type="checkbox"/> Tipaque
Outfall Damage	<input type="checkbox"/> Spoiling/Cracking/Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion <input type="checkbox"/> Other
Cracks/Stains	<input type="checkbox"/> Flow Line <input type="checkbox"/> Only <input type="checkbox"/> Faint <input type="checkbox"/> Other
Unusual Temperature: NA	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited
Type Benthic Growth	<input type="checkbox"/> Brown <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Other



The IDDE program must include "a storm sewer system map, showing location of all outfalls and the names/location of all WOTUS that receive discharges from those outfalls."

Stormwater Inventory - Inlets (Features: 13442, Selected: 0)

Inlet Type	Number	Acceptable	Flow_Dir	Inf_Down	Notes	Photos and Files
Headwall (In)	SINGLE	Yes	West	Storm Sewer System	24" RCP	(1) Show
Headwall (Out)	SINGLE	Yes	West	None	24" RCP	(1) Show
Headwall (In)	SINGLE	No	Southwest	Storm Sewer System	30" RCP	(1) Show
Headwall (Out)	SINGLE	Yes	South	Storm Sewer System	30" RCP	(1) Show
Headwall (In)	SINGLE	Yes	Northwest	Storm Sewer System	24" RCP	(1) Show
Headwall (Out)	SINGLE	Yes	Northwest	Channel	24" RCP	(1) Show
Headwall (In)	SINGLE	Yes	Northwest	Storm Sewer System		
Headwall (Out)	SINGLE	Yes	Northwest	Channel		



Field data collection can be costly, no matter the method. ArcGIS Online provides streamlined data review, organization, visualization, analysis, and storage.

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