

Orange Creek Basin Management Action Plan:

Gainesville Urban Creek Watersheds Hot Spots Project Overview and Implementation

Orange Creek Basin Working Group
September 11, 2009

Evaluation of Fecal Coliform Bacteria “Hot Spots” in Gainesville Urban Creeks (Orange Creek Basin)

Summary Report

Revised Draft March 2009

Prepared For:



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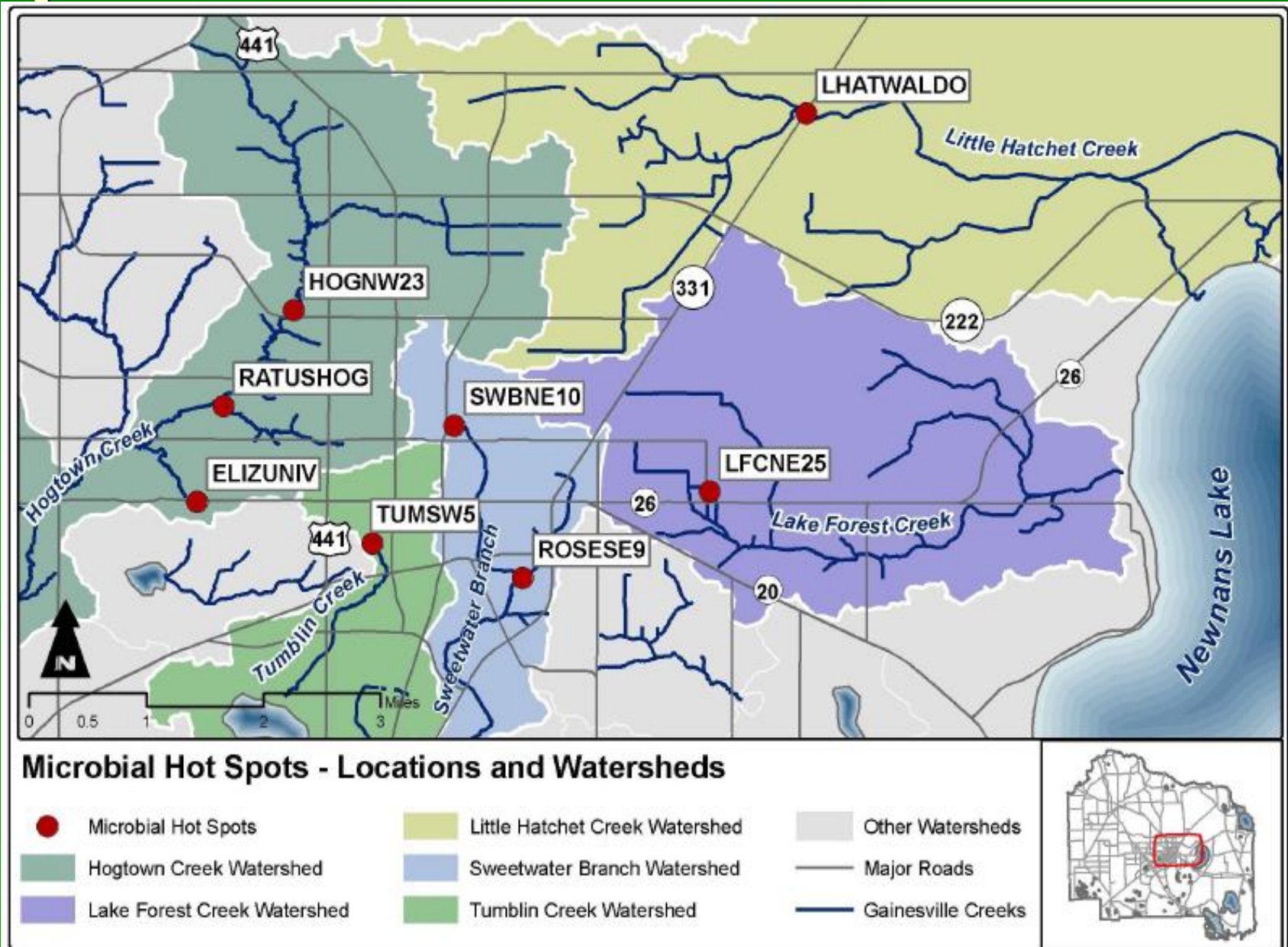


**7406 Fullerton Street
Suite 350
Jacksonville, Florida 32256**

FDEP contracted with PBSJ and worked with stakeholders to assemble information and produce a plan to address the urban creek Fecal Coliform impairment and TMDLs

- Document created is to be a living record of past and current efforts, data and information (along with BMAP/GRU/ACEPD Reports, etc.) – “Living Document”
- In the end – stakeholders felt that their knowledge of the watersheds surpassed the 3rd party view
- Path forward towards implementation is already underway (detailed further in next presentation)

Locations of Eight Priority Microbial “Hot Spots” within the Gainesville Urban Area

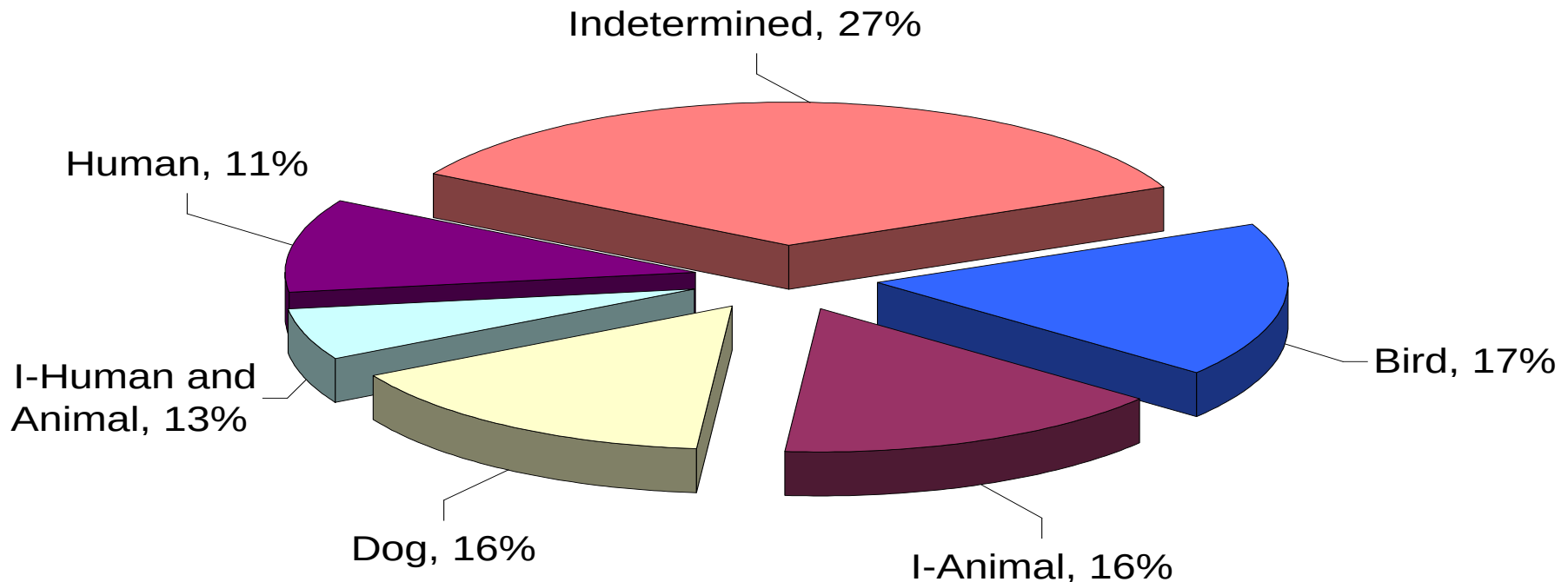


Many Potential Sources of Fecal Coliforms

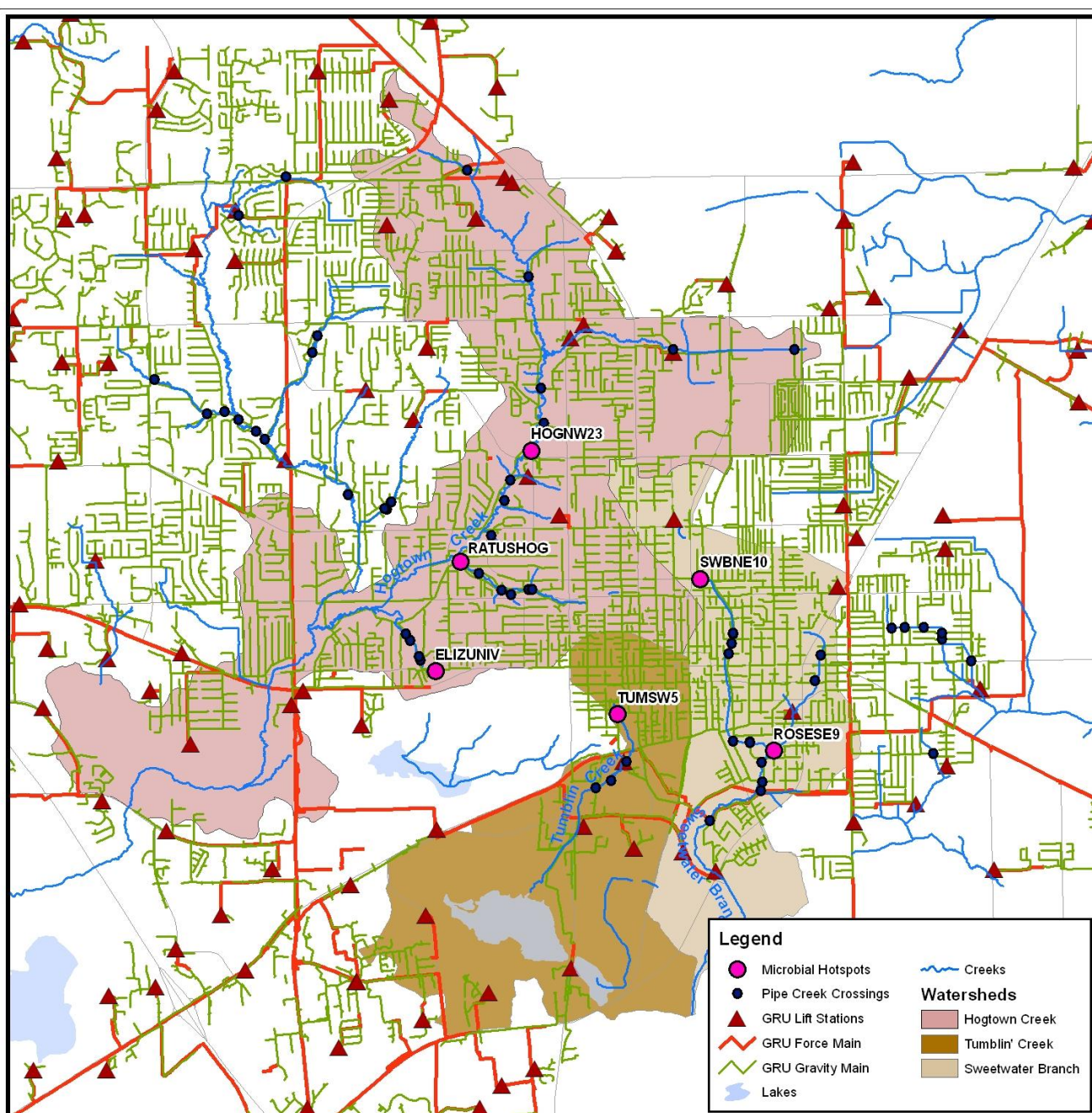
- **Wastewater infrastructure (private and public)**
- **OSTDS (i.e. Septic tank/drainfield systems)**
- **Wildlife and Domesticated Animals**
- **Stormwater collection systems (conveyor, storage, illicit connections, cross connections)**
- **Specific land uses (runoff from areas containing animals, livestock grazing, dog parks / walking areas, homeless camps)**

Majority of FC could be animal, but Hot Spots believed to have a greater % of human – Stakeholders working on reducing both sources

Ribotyping Results (All Creeks Combined) *

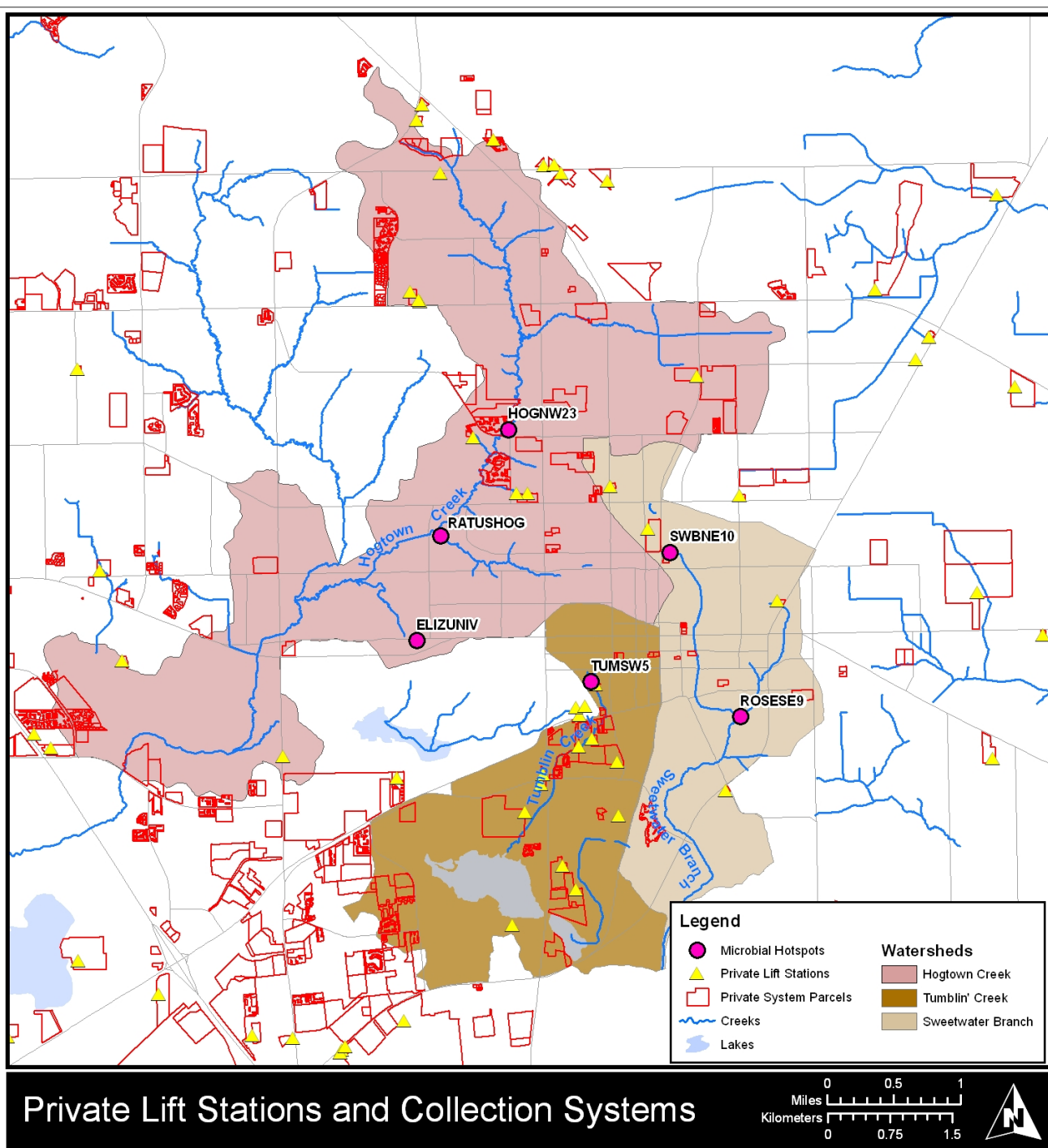


* 2007 GRU/CH2M HILL Tracking and Investigating Microbial Sources in Gainesville

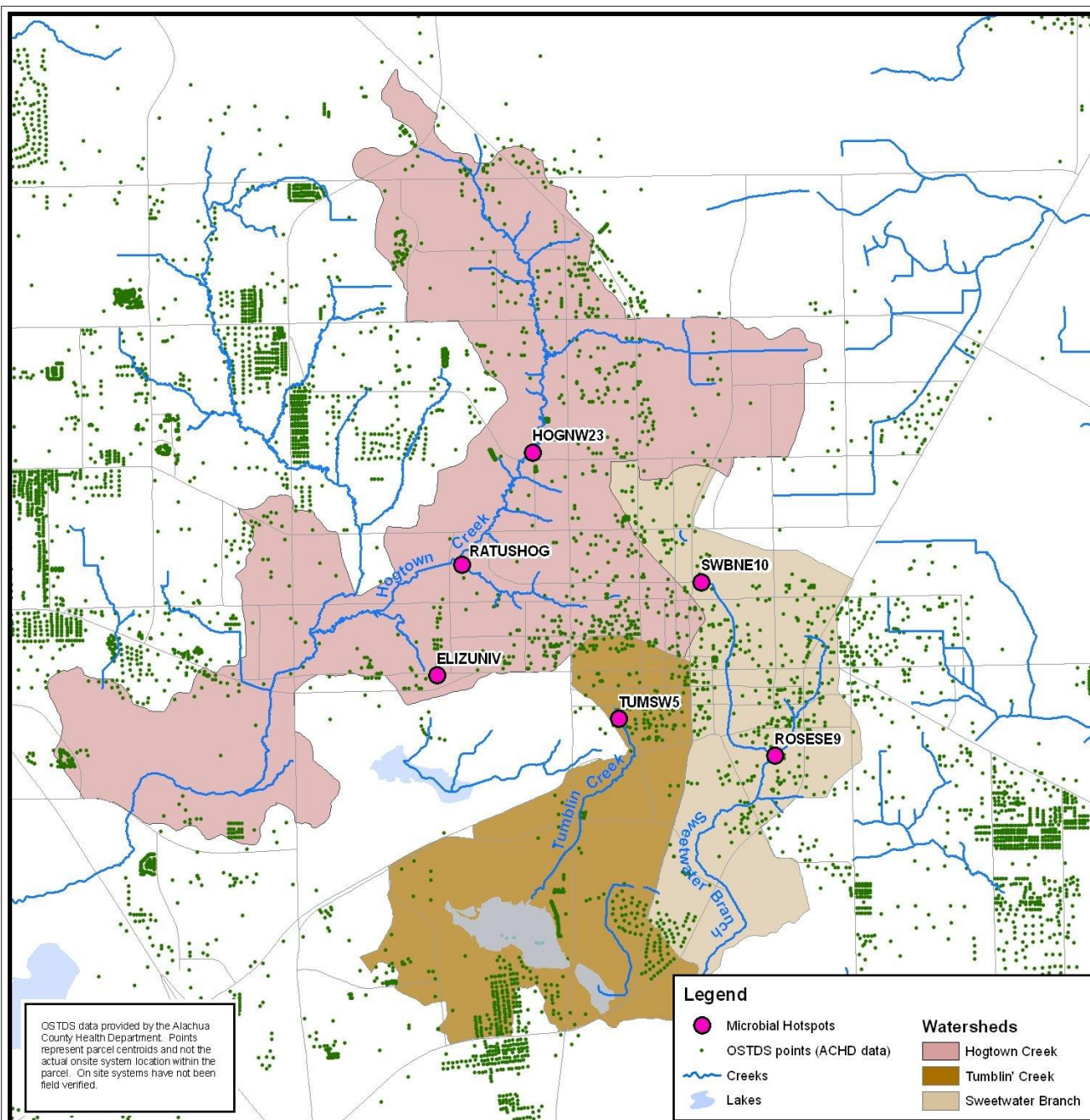


GRU Wastewater Collection System

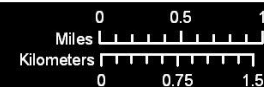


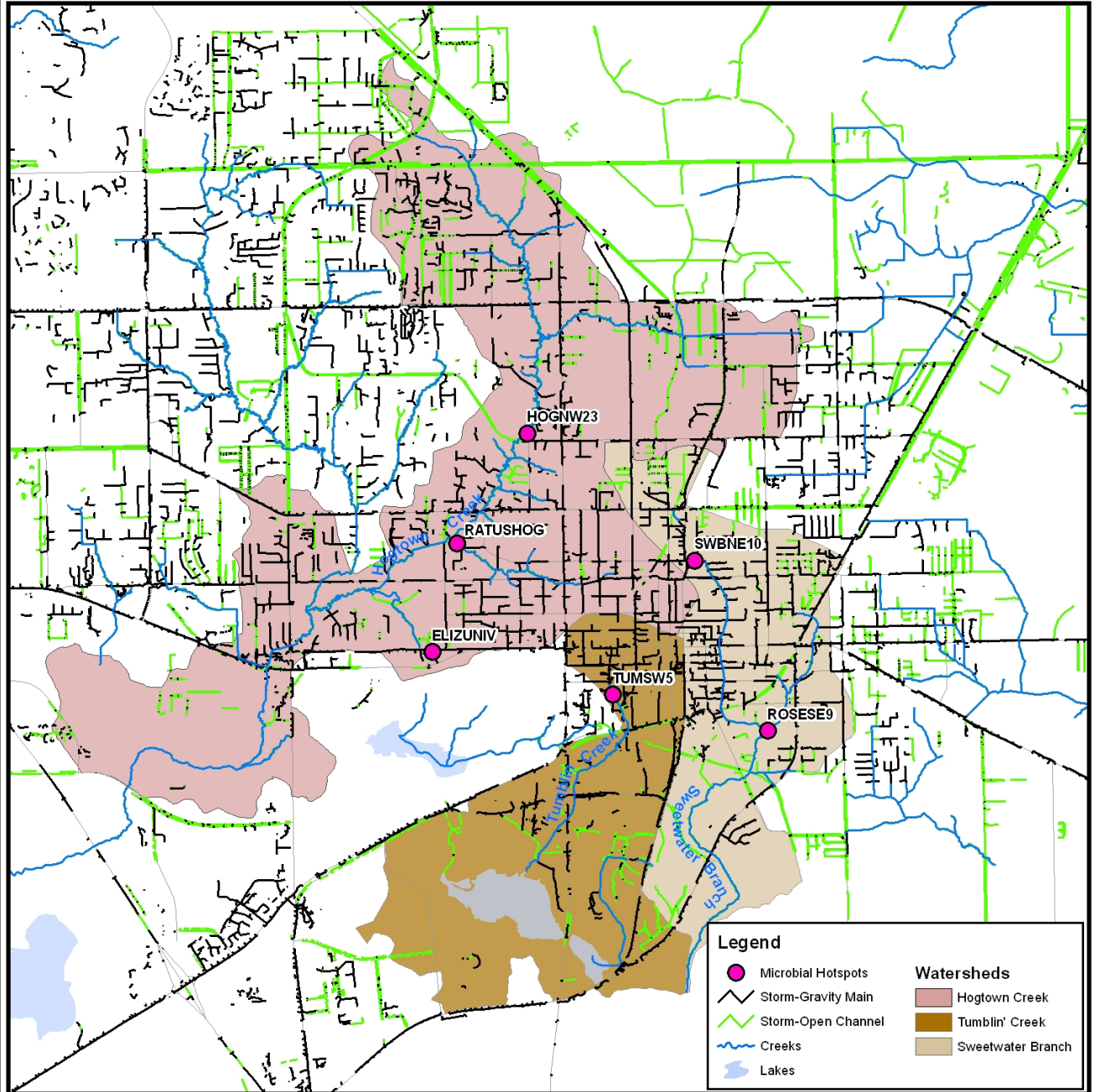


Private Lift Stations and Collection Systems



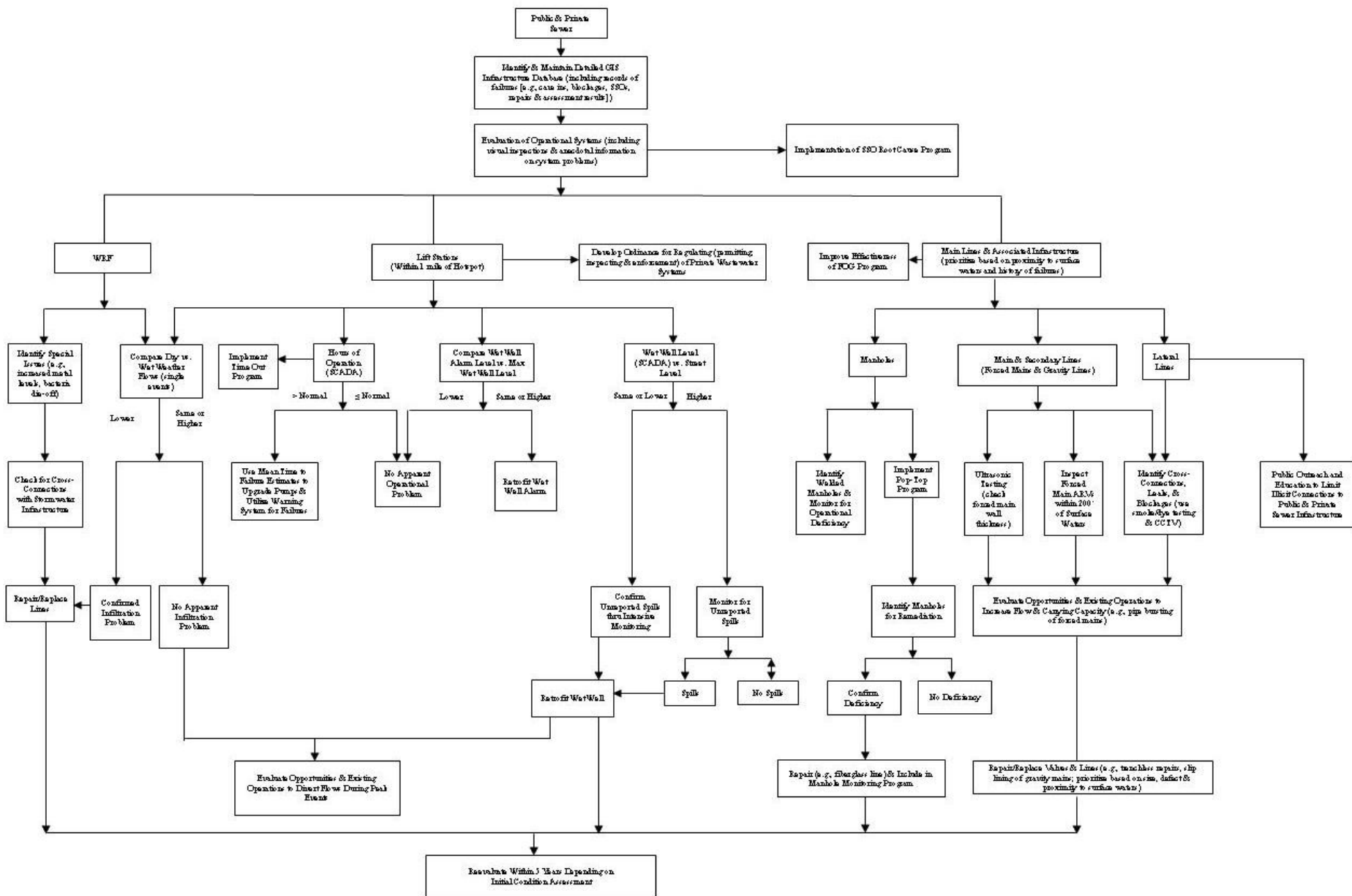
Alachua County OSTDS Inventory: Urban Creek Basins



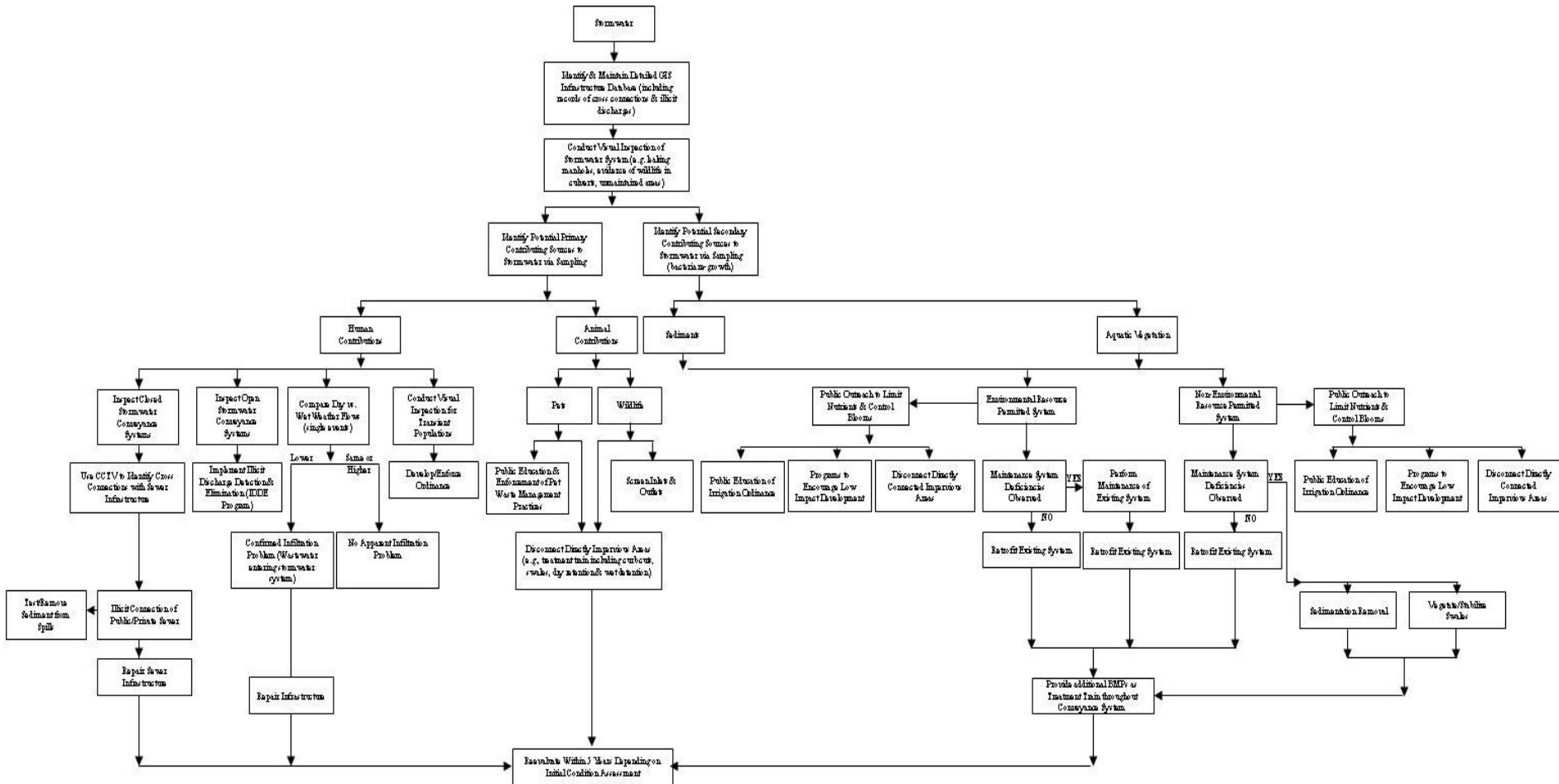


Stormwater Collection System

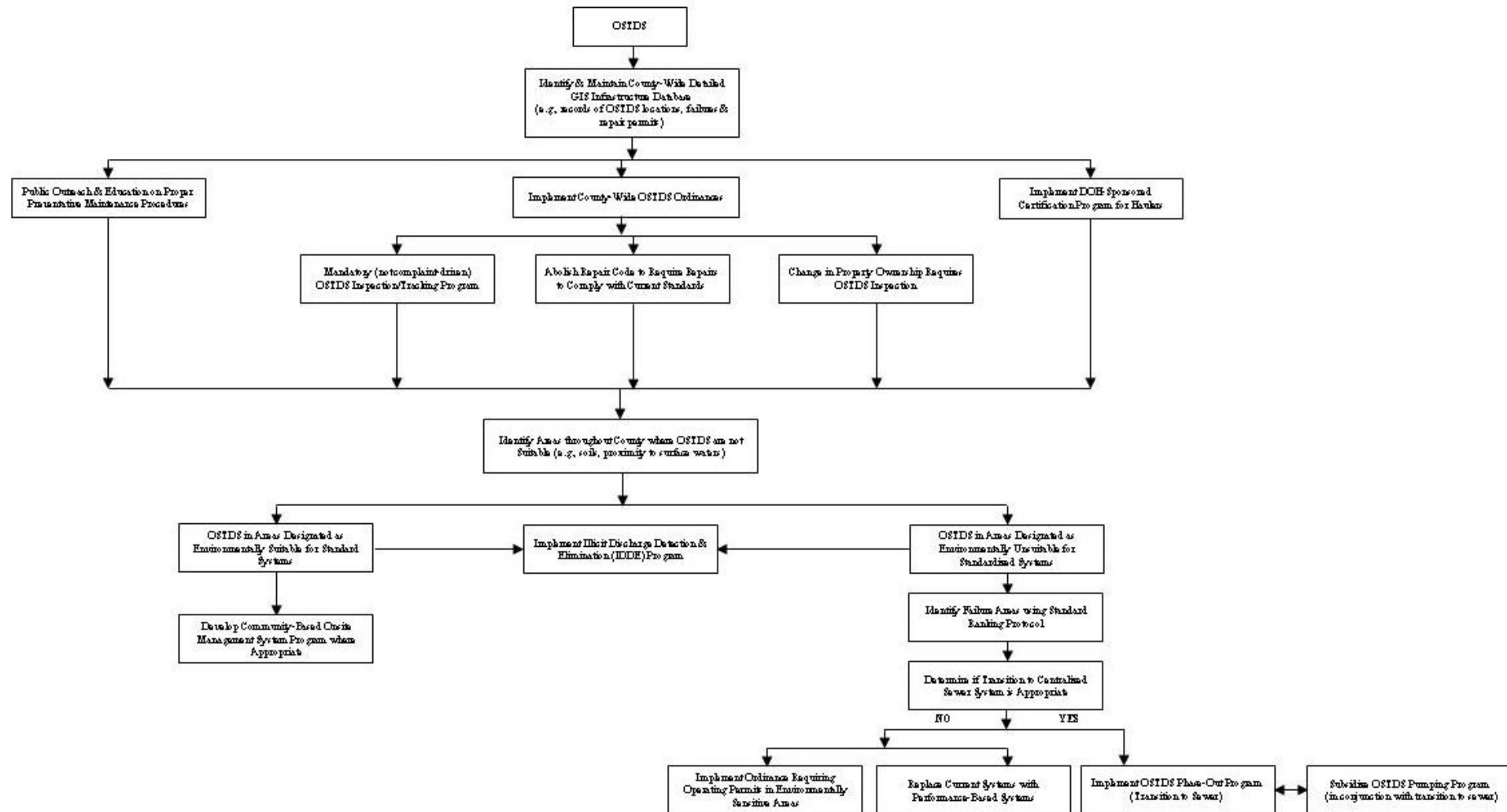
Public & Private Sewer Decision Tool Draft



Stormwater Decision Tool Draft



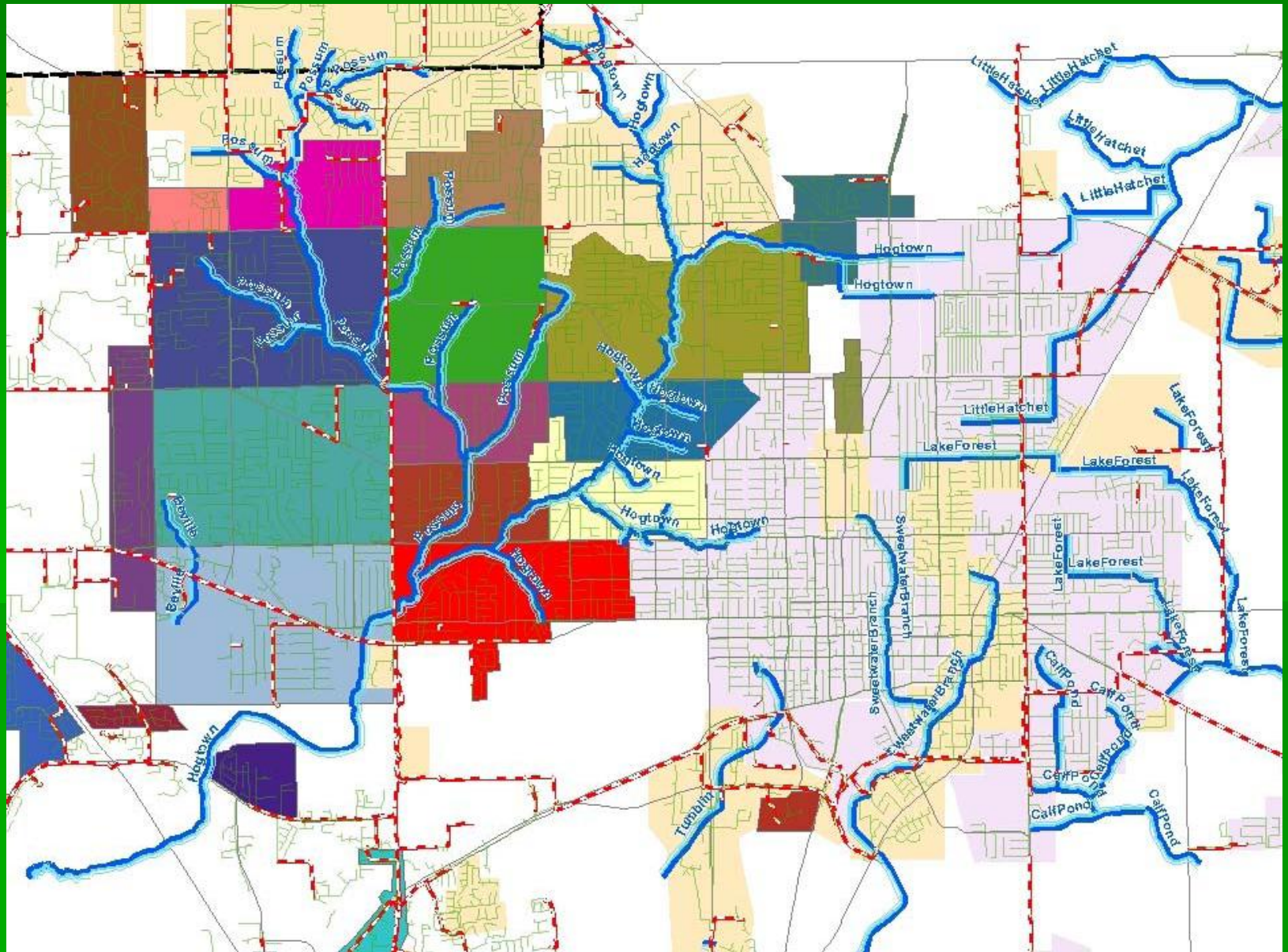
OSTDS Decision Tool



GRU has many activities to both prevent and investigate potential sources

- *Closed-Circuit TV Inspection/Repair and Cleaning,*
- *Infiltration & Inflow (I&I) Testing Including Smoke and Dye Testing*
- *Sliplining of Gravity Mains Adjacent to Urban Creeks,*
- *Force Main Integrity Testing,*
- *GIS Asset Management System – Mapping and Targeted*
- *Maintenance,*
- *Plan Review and New Development Inspection –*
- *Redundancy,*
- *Oversizing, and New Standard Practices to Improve Reliability,*
- *Annual Water/Wastewater Engineering Operation and Maintenance*
- *Services, and*
- *Wastewater Spill Prevention Program*

GRU Inflow and Infiltration Program



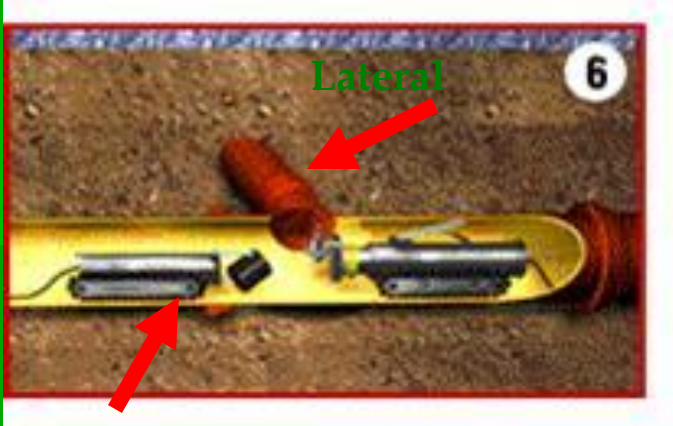
I & I Inspection – Smoke Testing



Closed-Circuit TV Inspection Crew and Equipment – Used in recent implementation work with ACEPD Stormwater Recon



TV Inspection



CCTV Camera

- Approximately 220,000 LF of pipe inspected per year
- Average Annual O & M Cost \$130,000



Identifying sources of fecal coliform is limited by conventional testing methods that don't reliably distinguish between potential sources:

- Public and private wastewater collection systems
- Stormwater collection systems (storage/conveyance/illicit connections/cross c.)
- Malfunctioning septic systems
- Homeless populations near creeks
- Domestic animals and Wildlife

But a stormwater reconnaissance and sampling approach being utilized now by ACEPD with the OCB Hot Spot working group provides an alternative implementation methodology

New Approach to Finding the Sources

OCB Hot Spots
“STORMTROOPERS”

Hot Spots Stormtrooper (HSS)



Hot Spots Stormtroopers (HSS)



ACEPD, ACHD, CGPWD, GRU, FDEP

JIM MYLES

The background image is a photograph of a concrete storm sewer outlet. A dark, circular opening is visible in the center, with a metal pipe protruding from the bottom. The concrete is covered in green moss and algae. There are some brown leaves and debris scattered around the base of the pipe.

Outfall and Storm Sewer Reconnaissance and Sampling

Hogtown Creek Tributaries:
Elizabeth Creek, Rattlesnake
Branch and North GHS Tributary