Waukesha County 2024
Stormwater Workshop

Stormwater Myths and Sometime Truths

April 3, 2024

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Topics:

1. First Flush for Pollution – Always?
2. Moving Watershed Boundaries
3. What's in my Hopper? Is it Street Dirt or Pollution?

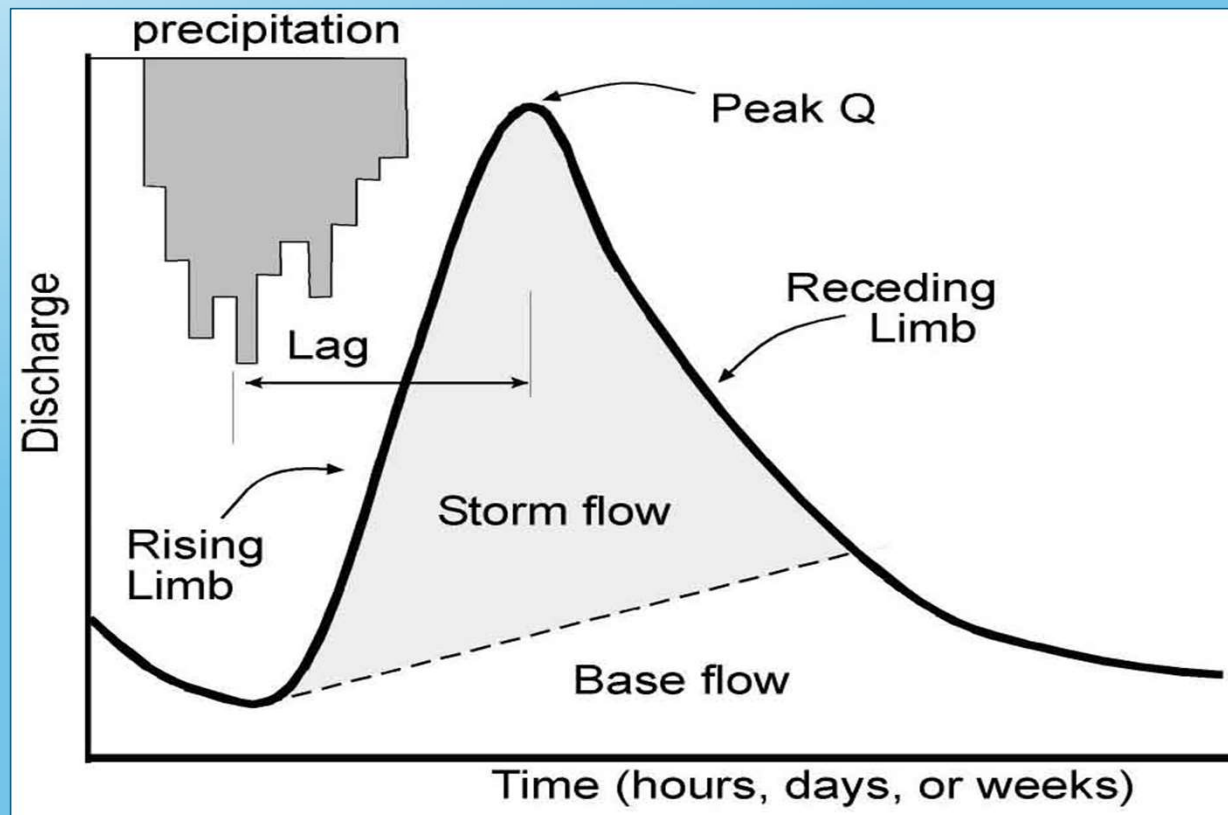## *1. First Flush for Pollution ... Always?*

What is "First Flush"?

  --- the concept that the highest concentrations of
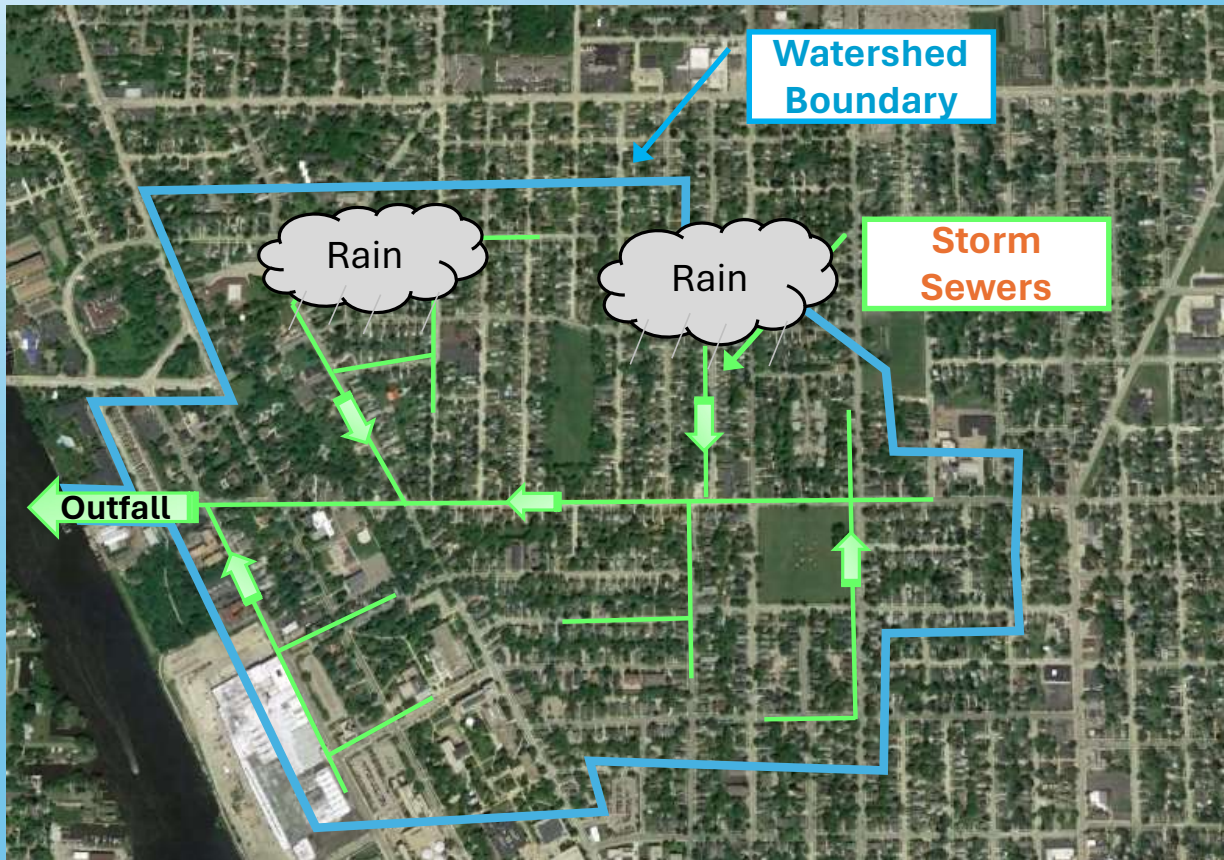 pollutants are always found in the initial stages of a
  runoff event.

1. First Flush for Pollution … Always?
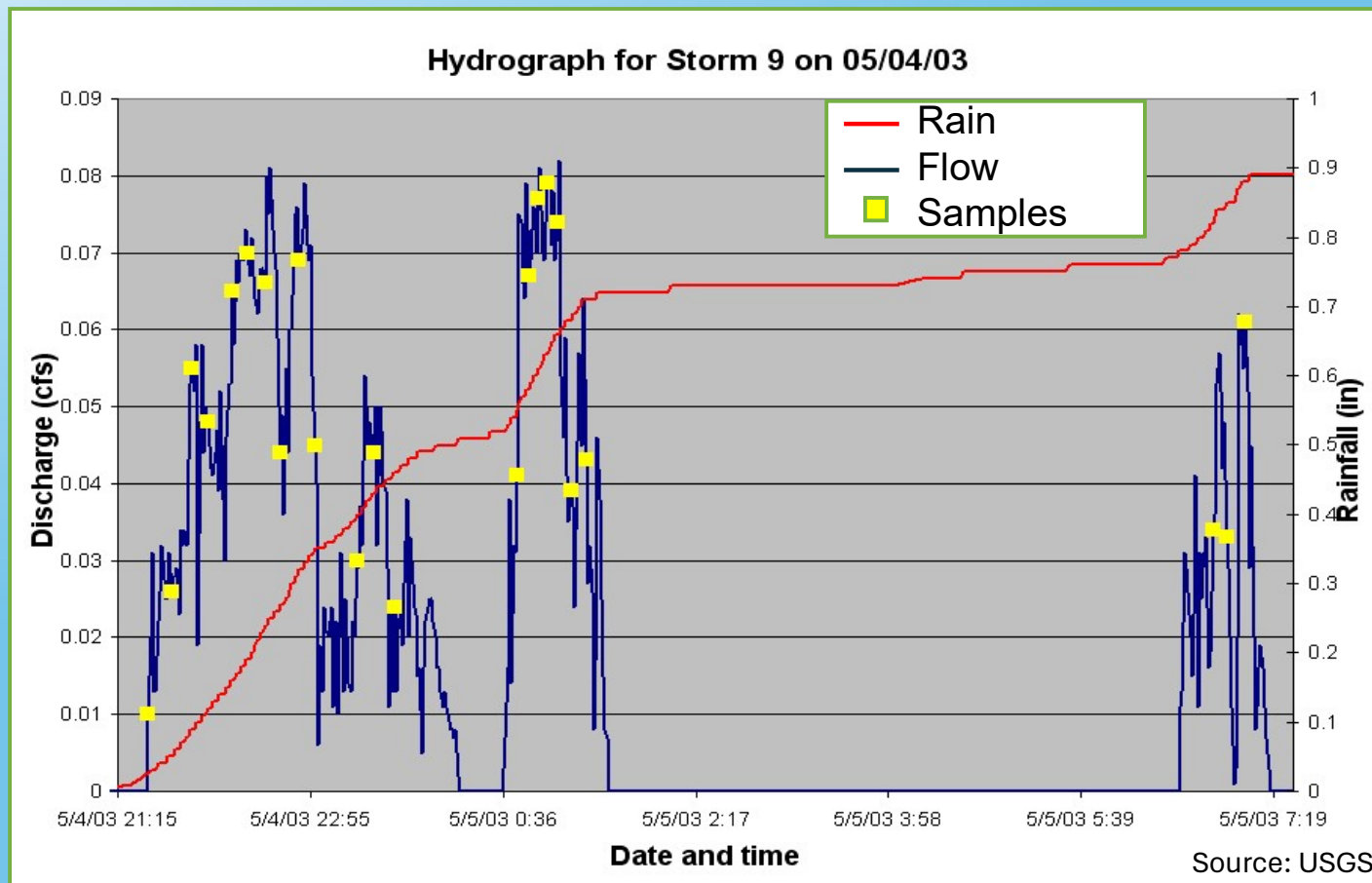
Textbook hydrograph:

… may or may NOT occur in urban watersheds

First Flush for Pollution ... Timing of Flow

First Flush for Pollution ...Timing of Flow
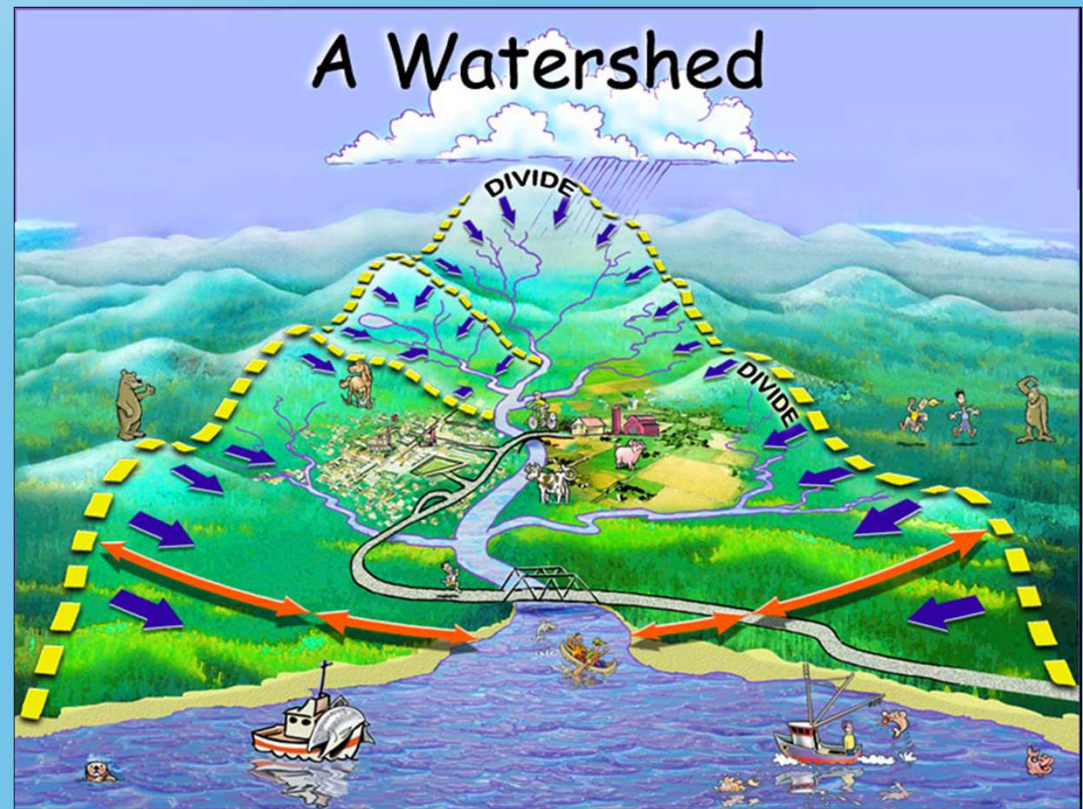

Measured Urban Hydrograph

First Flush for Pollution ... Source Areas

. . . Sometimes the "source" is unlimited

2. The Trouble with Moving Watershed Boundaries

People generally know what a "cartoon" watershed boundary looks like . . . . . .

A Watershed

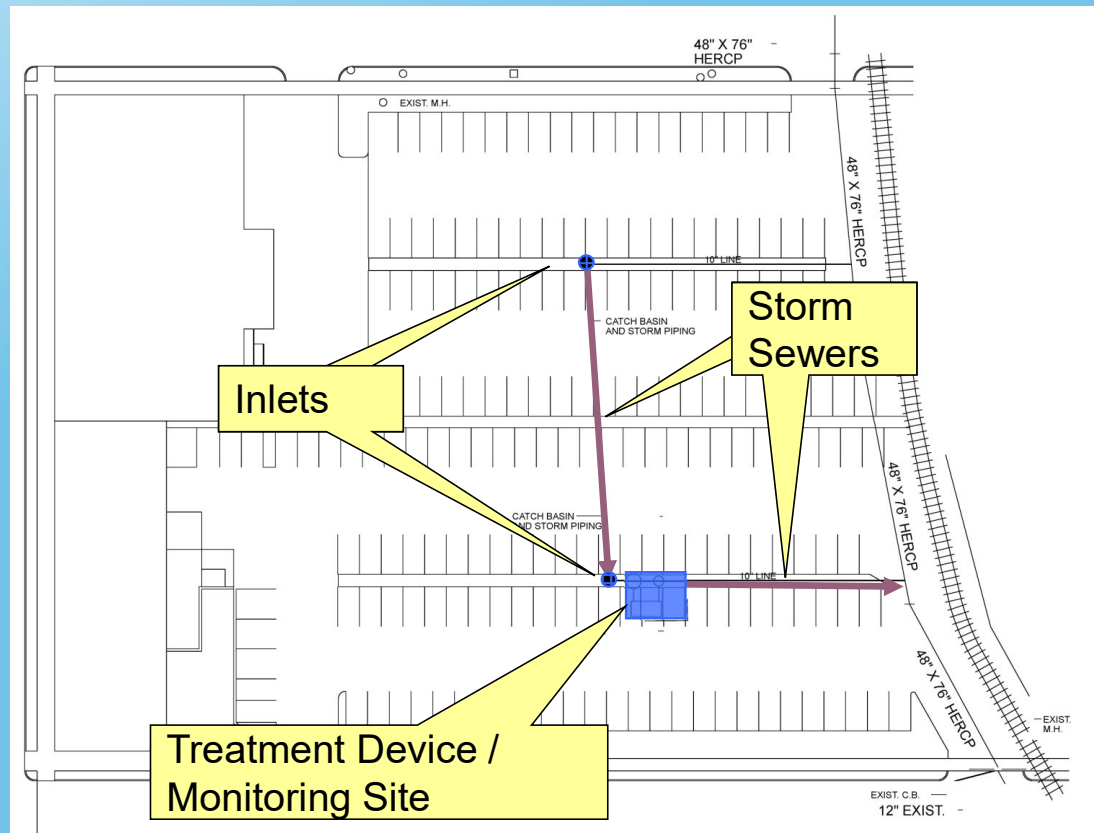# The Trouble with *Moving* Watershed Boundaries

. . . Now let's look at a real urban example

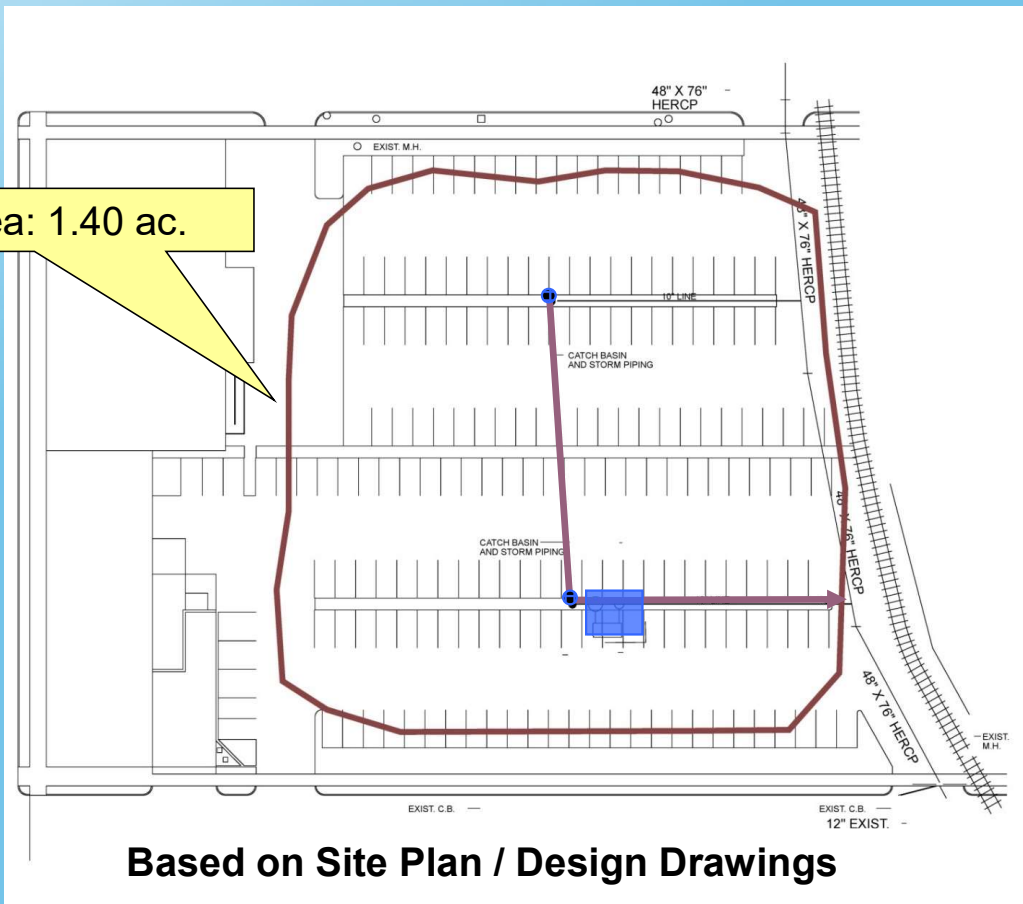**Parking Lot Draining to a Monitored Treatment Device**

The Trouble with Moving Watershed Boundaries

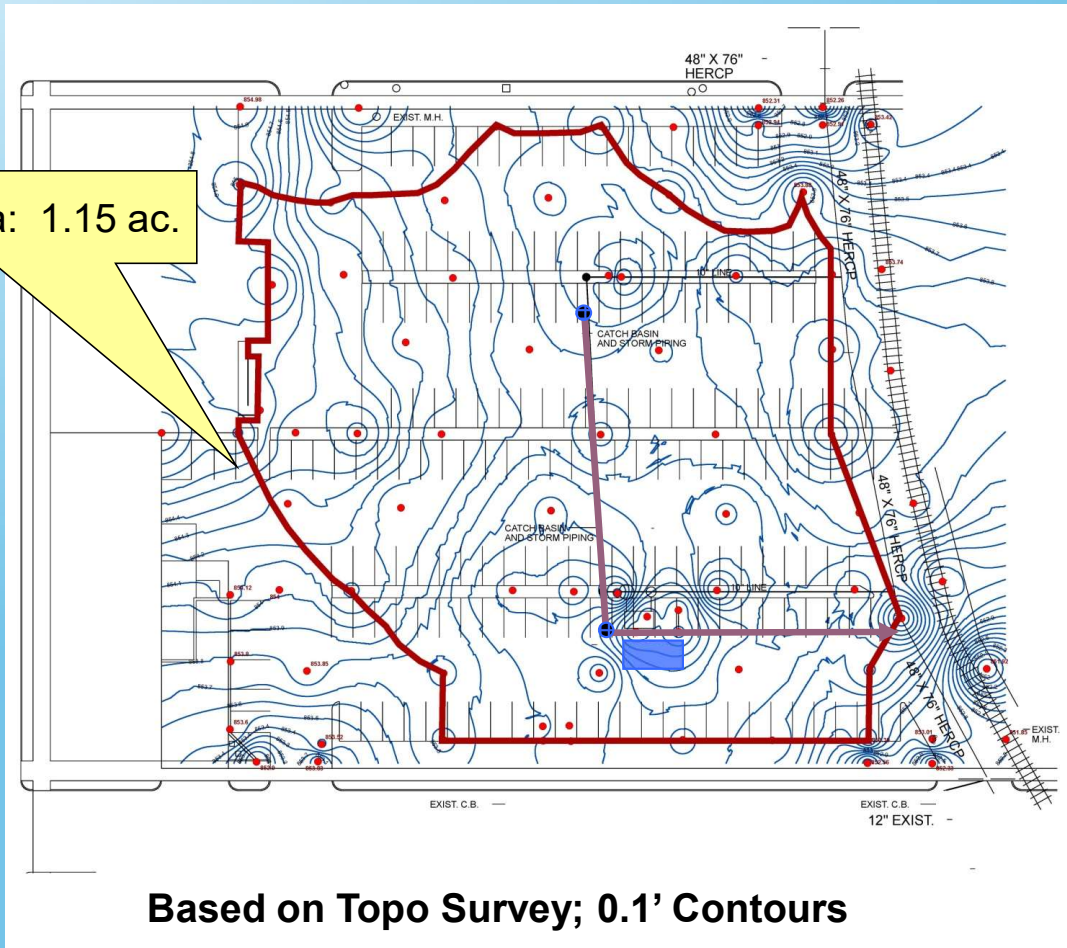. . . Now let's look at a real urban example

The Trouble with *Moving* Watershed Boundaries

Watershed Area: 1.40 ac.

Based on Site Plan / Design Drawings

Watershed Delineation #2

Watershed Area: 1.15 ac.

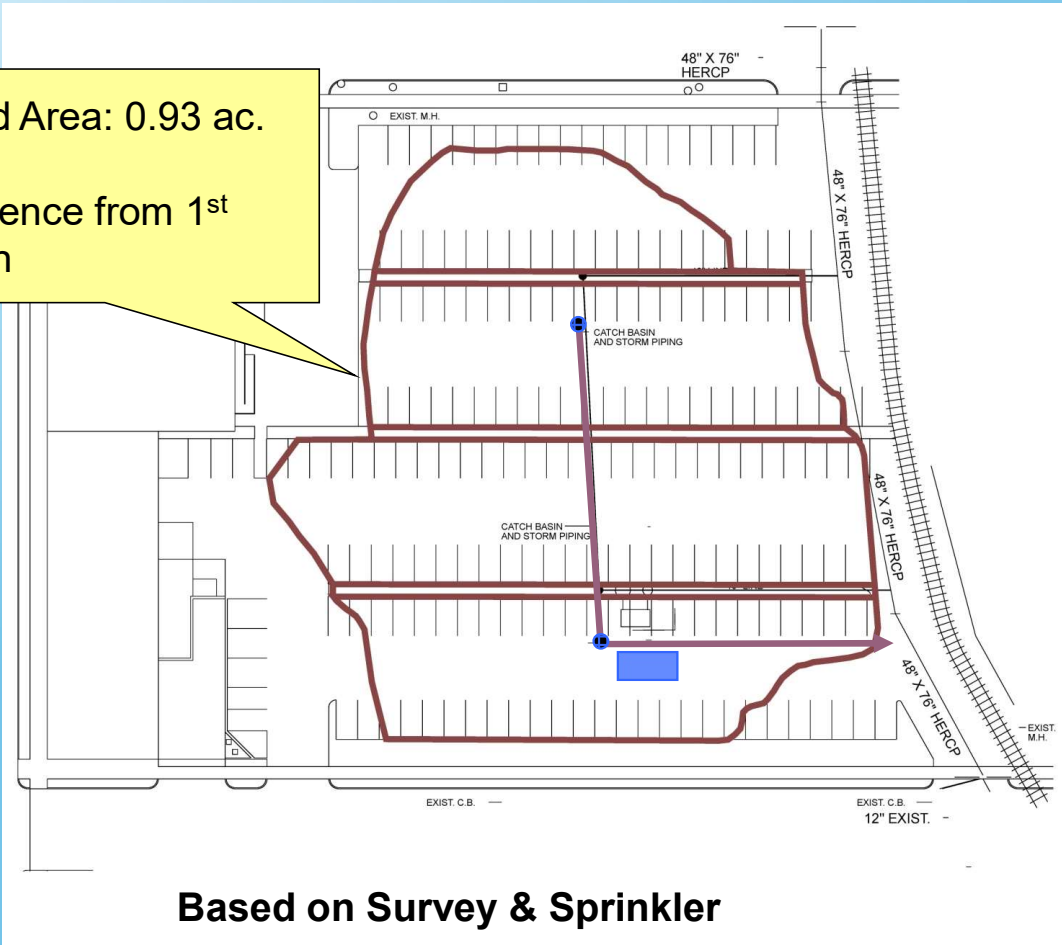48" X 76" HERCP

Based on Topo Survey; 0.1' Contours

Watershed Delineation #3

Watershed Delineation #3

Watershed Area: 0.93 ac.

33% difference from 1st delineation

Based on Survey & Sprinkler
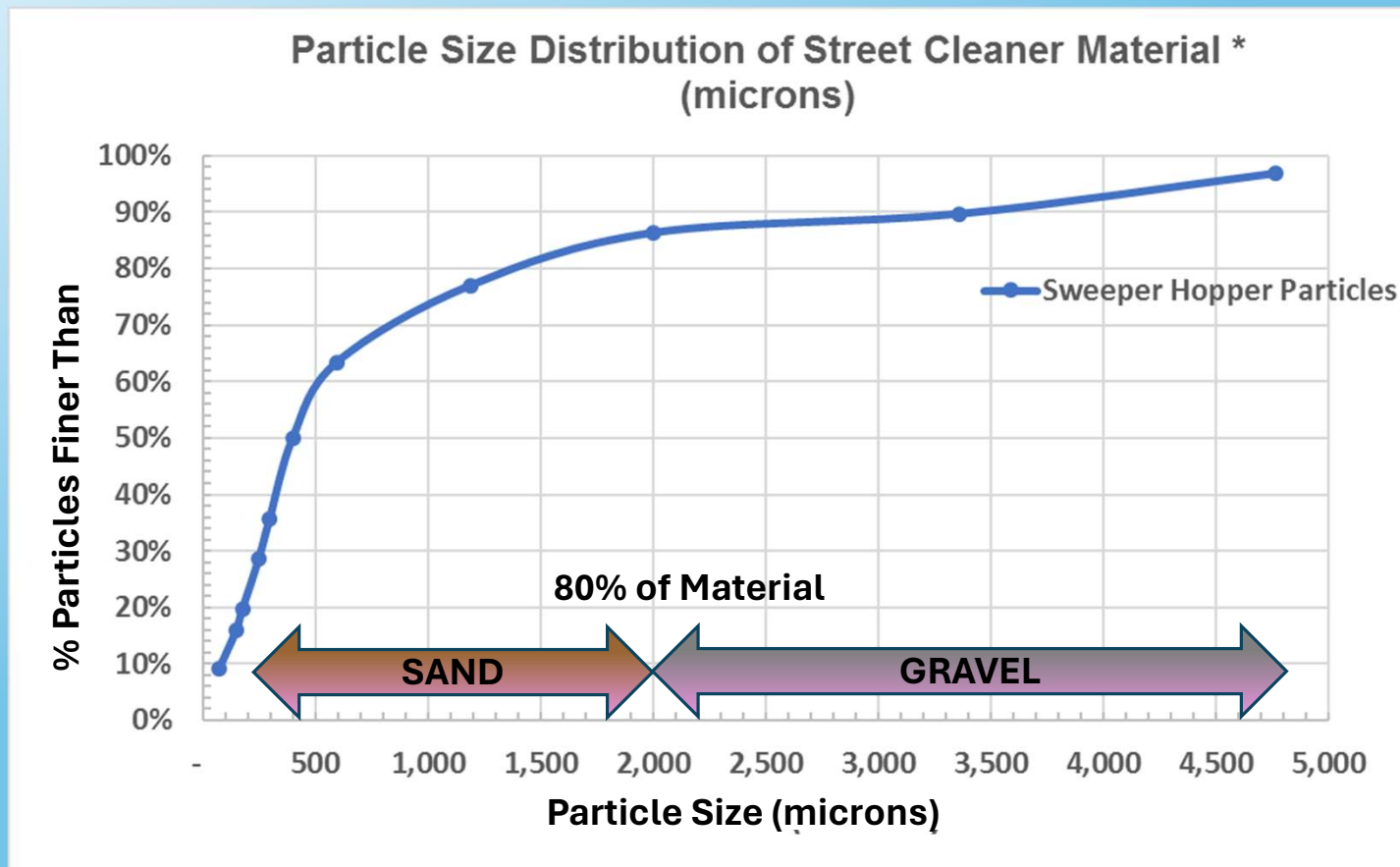
3. Let's Talk About Street Dirt & Street Cleaning

What Do Street Cleaners Pick Up?
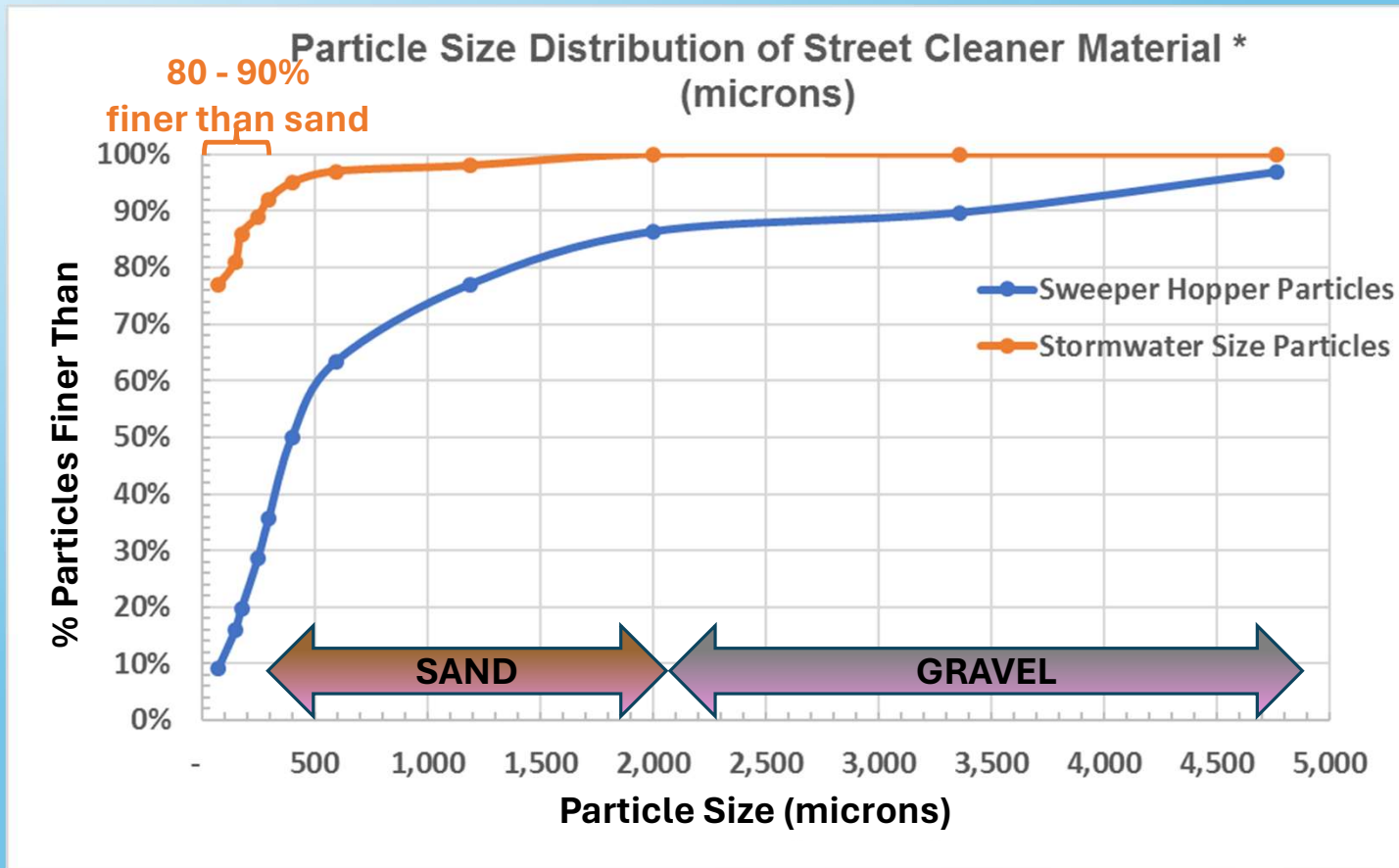
What Do Street Cleaners Pick Up?

Particle Size Distribution of Street Cleaner Material *
(microns)

% Particles Finer Than

Sweeper Hopper Particles

80% of Material

SAND

GRAVEL

Particle Size (microns)

*City of Madison, WI study 1999

What's In the Stormwater? *(at end of pipe?)*

*City of Madison, WI study 1999

What Do Street Cleaners Pick Up?

Are Street Cleaners Helpful? – YES!

- Pick up trash, debris from streets

- Remove gross solids and keep them from downstream systems

- *Some* TSS reduction

- Fall leaf pick can reduce phosphorus in stormwater

What Did We Learn?

1. First Flush for Pollution – **<u>Not</u>** Always?

2. Watershed Boundaries **<u>Can</u>** "Move"

3. Street Dirt ≠ Pollution (TSS) -- but street cleaning is still a good practice!

Questions?