

Huntersville's Water Quality Ordinance

Why & How Was the Ordinance Developed

What is the Purpose of the Ordinance

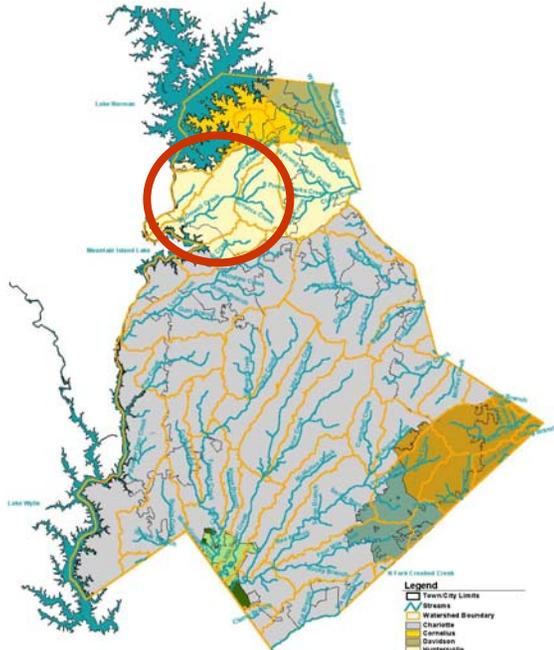
Where Does It Apply

What Other Water Quality Restoration Efforts Are Underway

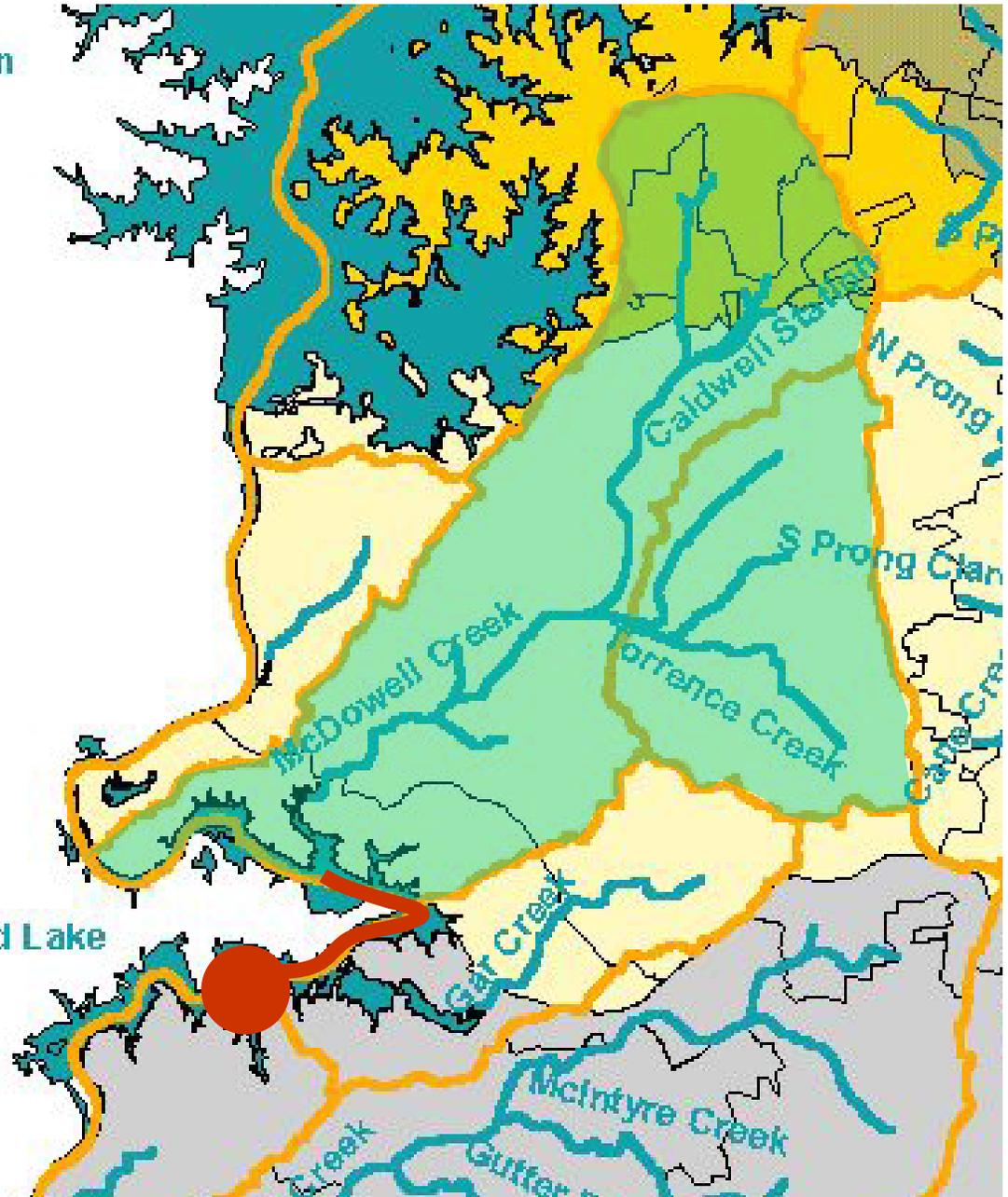


McDowell Creek

Lake Norman



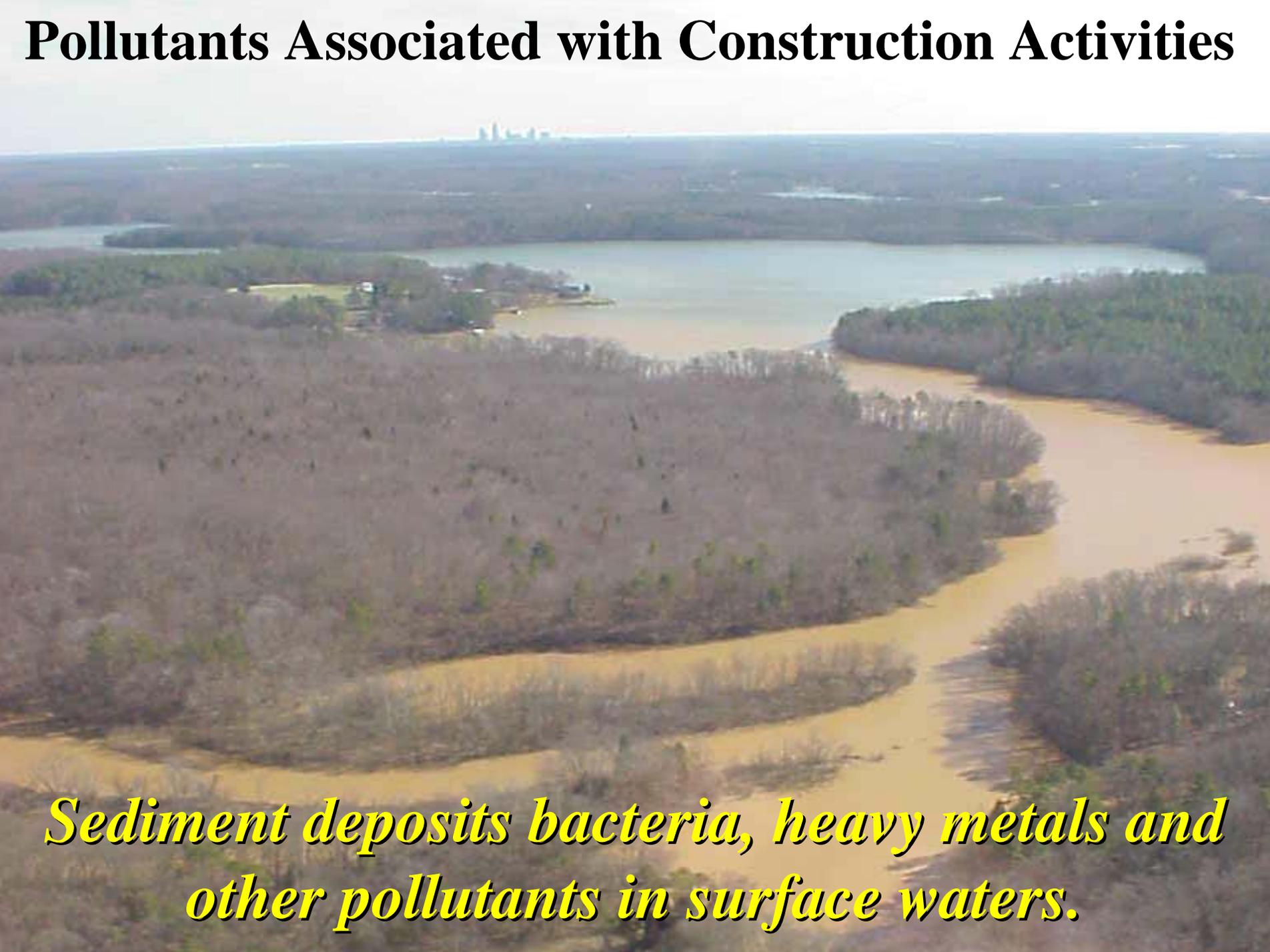
Mountain Island Lake





Tremendous Growth in the Watershed with Population Increases
>400% Over 10 Years

Pollutants Associated with Construction Activities

An aerial photograph showing a large body of water, possibly a reservoir or lake, with a river flowing into it from the right. The river is significantly discolored with a thick, yellowish-brown sediment runoff. The surrounding landscape is mostly forested, with some cleared areas and buildings visible near the water's edge. In the far distance, a city skyline is visible under a hazy sky.

Sediment deposits bacteria, heavy metals and other pollutants in surface waters.



Post-Construction Pollutants

Sediment

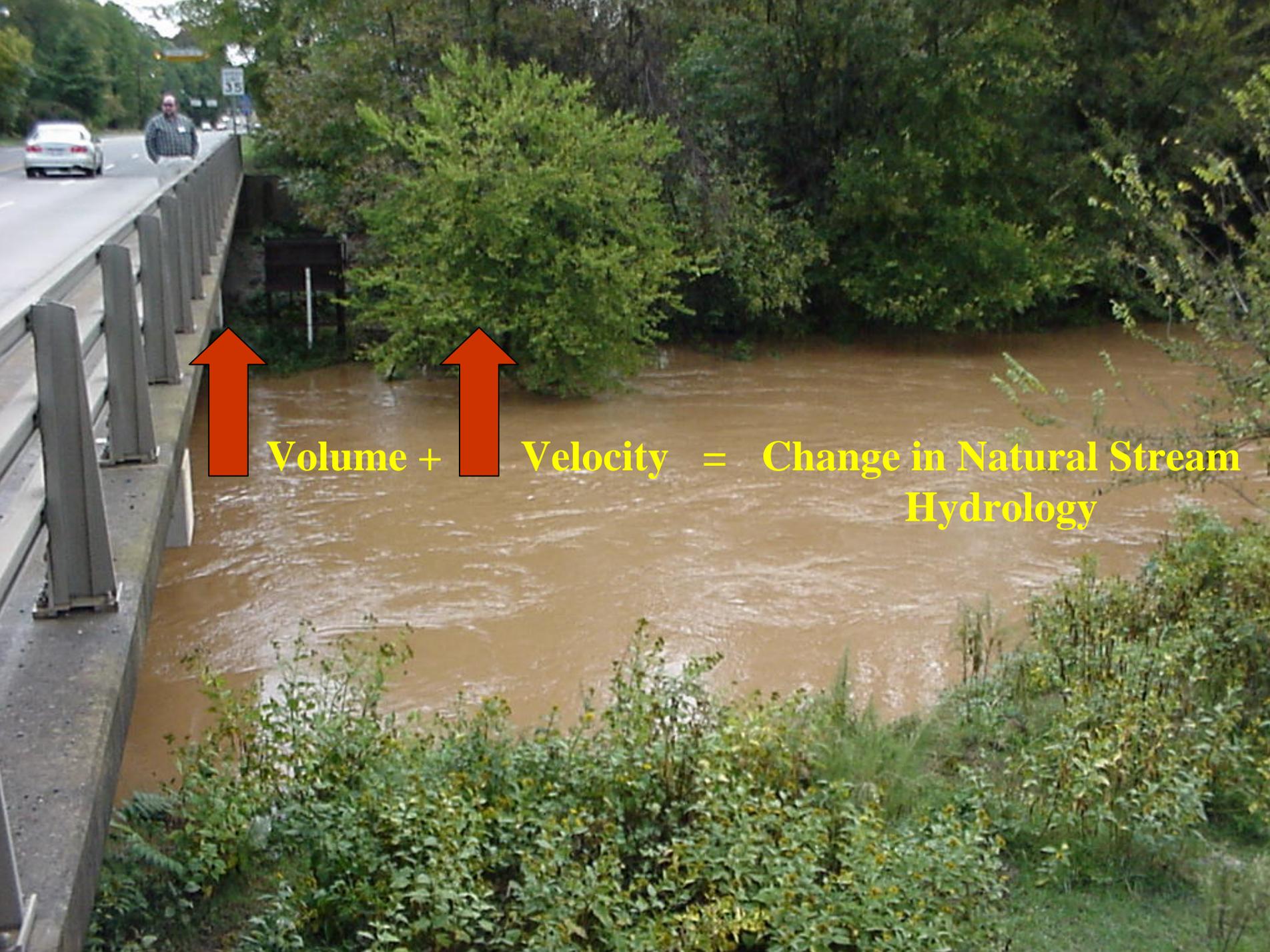
Bacteria

**Toxic & Mineral
Metals**

Pesticides

Fertilizers

**Petroleum
Products**



Volume + Velocity = Change in Natural Stream Hydrology



10 feet



Negative impacts to aquatic life.

McDowell Creek's Dilemma

- Increasing Sediment/Pollutant Loads
- Decreasing Macroinvertebrate Populations
- Degraded Water Quality Conditions
- Listed as Impaired Water Body with EPA
- Upstream of Drinking Water Intake

McDowell Creek Water Quality Model

Developed by Tetra Tech, Inc. – Private consulting firm

Objectives:

**Quantify the
negative impacts**

Identify causes

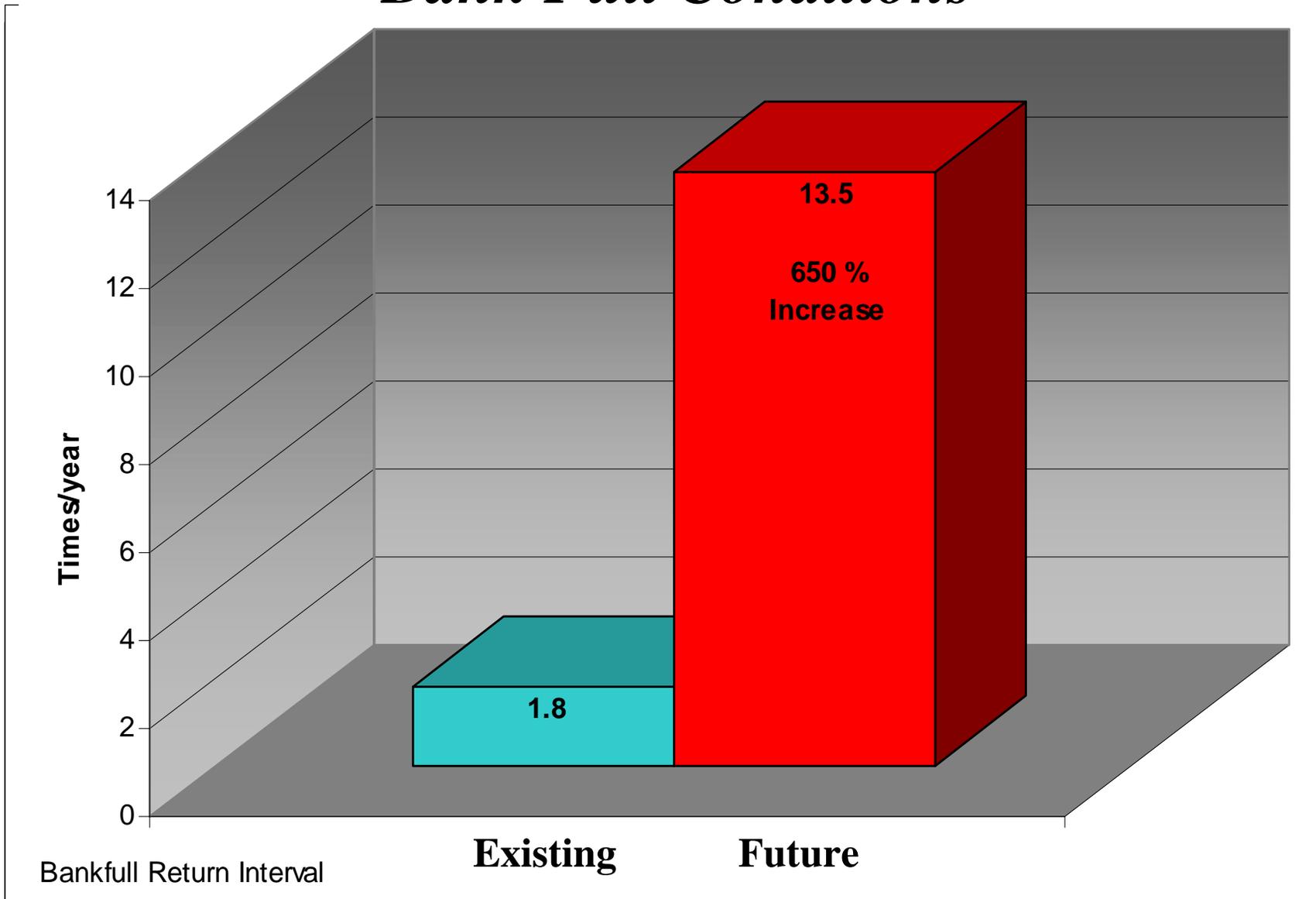
**Predict future
impacts**

Develop solutions



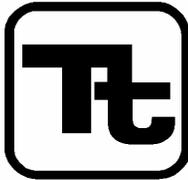
Modeling Results

Bank Full Conditions



October 2002: Huntersville Town Board requested the development of an ordinance to prevent further water quality degradation in their jurisdiction.





Post-Construction Ordinance



Low Impact
Development Center, Inc.

Huntersville Water Quality Ordinance

Adopted February 17, 2003

Purpose: Establish storm water management requirements and controls to prevent surface water quality degradation to the extent practicable in the streams and lakes within the Town of Huntersville. This regulation seeks to meet this purpose by fulfilling the following objectives:

- Minimize increases in storm water runoff from development or redevelopment to reduce flooding, siltation and streambank erosion, and maintain the integrity of stream channels;
- Minimize increases in non-point source pollution from development or redevelopment;
- Minimize the total volume of surface water runoff that flows from a site during and following development to replicate pre-development hydrology to the maximum extent practicable;
- Reduce storm water runoff rates and volumes, soil erosion and non-point source pollution, to the extent practicable, through storm water management controls (BMPs) and ensure that these management controls are properly maintained; and
- Meet the requirements of the NPDES Storm Water Permit and other requirements as established by the Clean Water Act.
- Encourage the use of Low Impact Development (LID) practices, which more closely replicate a site's predevelopment characteristics compared to conventional storm water management techniques.

Basic Principle Behind the Ordinance

Uses a combination of conventional and LID techniques to mimic, to the extent practicable, the natural hydrology of a site by:

- infiltrating,
- storing,
- retaining, and
- detaining

storm water.

LID

Rain Garden

Conventional

Wet Ponds

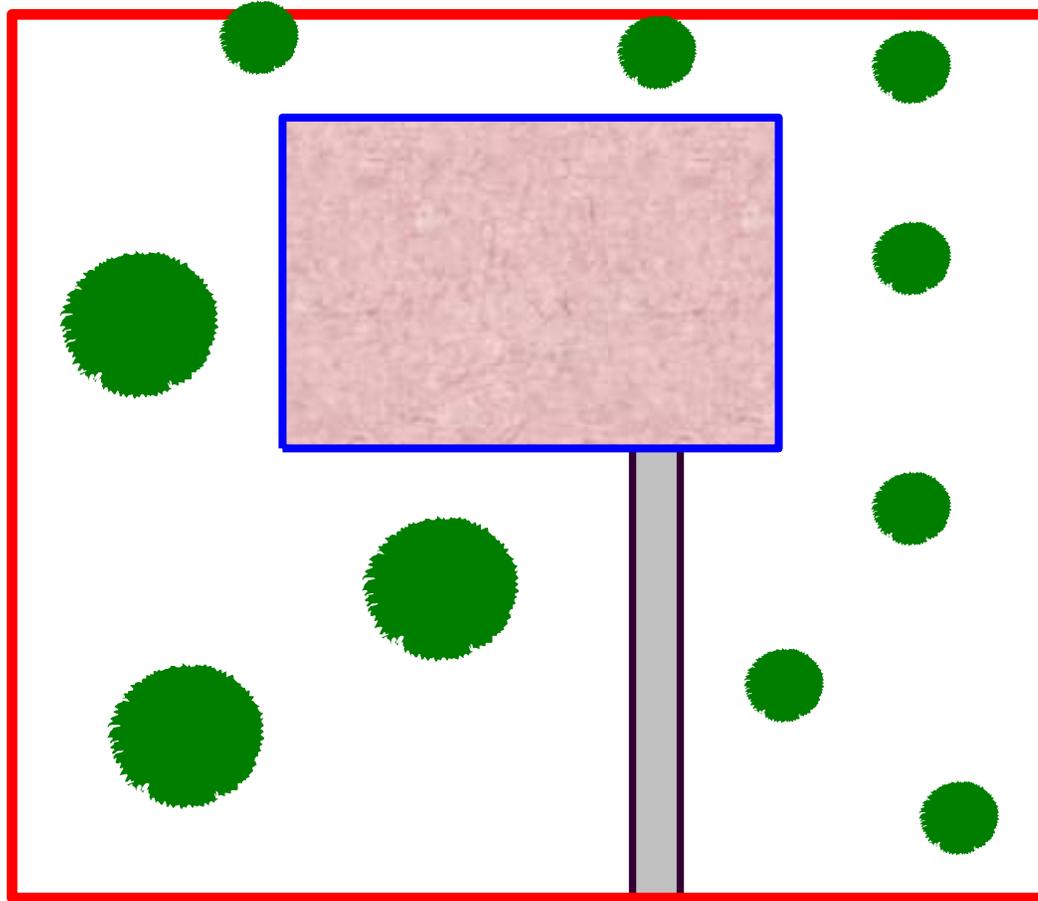
Grassed Swale

Dry Pond

The conventional methods alone do not work effectively.



**The Ordinance will apply to all development and redevelopment
except:**



**new development, redevelopment or expansions that include the
creation or addition of less than 5,000 square feet of new impervious
area, provided they are not part of a larger subdivision plan, are not
subject to the provisions of this regulation.**



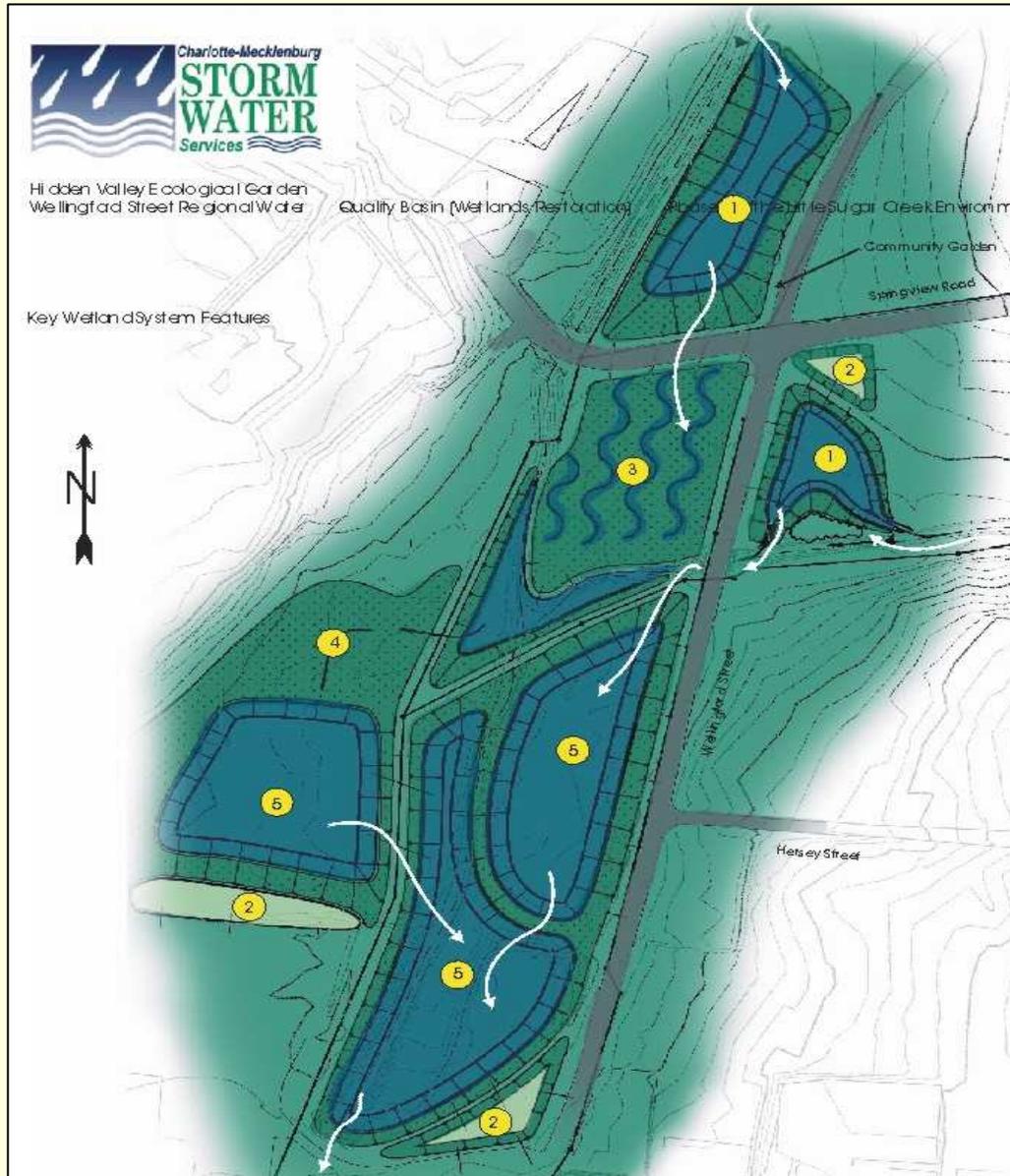
The ordinance does not apply if the development

has been issued a Certificate of Building Code Compliance;

has a valid building permit; or

is included on a valid preliminary subdivision plan and/or a valid sketch plan.

Additional Actions To Be Taken



Install best management practices (BMPs) to treat storm water and remove pollutants from major stream systems.





Sheffield Park Wetland on Edwards Branch

Questions??



