

# UNRBA Board Meeting Agenda

## April 8, 2005

11:30 Lunch

12:00 Welcome and introductions

12:10 Spring 2005 projects update

12:30 Upper Neuse Site Evaluation Tool

1:00 Falls Lake nutrient management strategy

1:45 UNRBA FY 2006 Budget\*

2:00 Adjourn

\*Decision item

## **Upper Neuse Implementation Plan**

### *Finished:*

- Draft Gap Analysis (gaps between recommendation and current practice)

### *Next:*

- Characterize watersheds for management focus
- Hire consultant

## **Upper Neuse Watershed Evaluation Tool**

*Goal:*

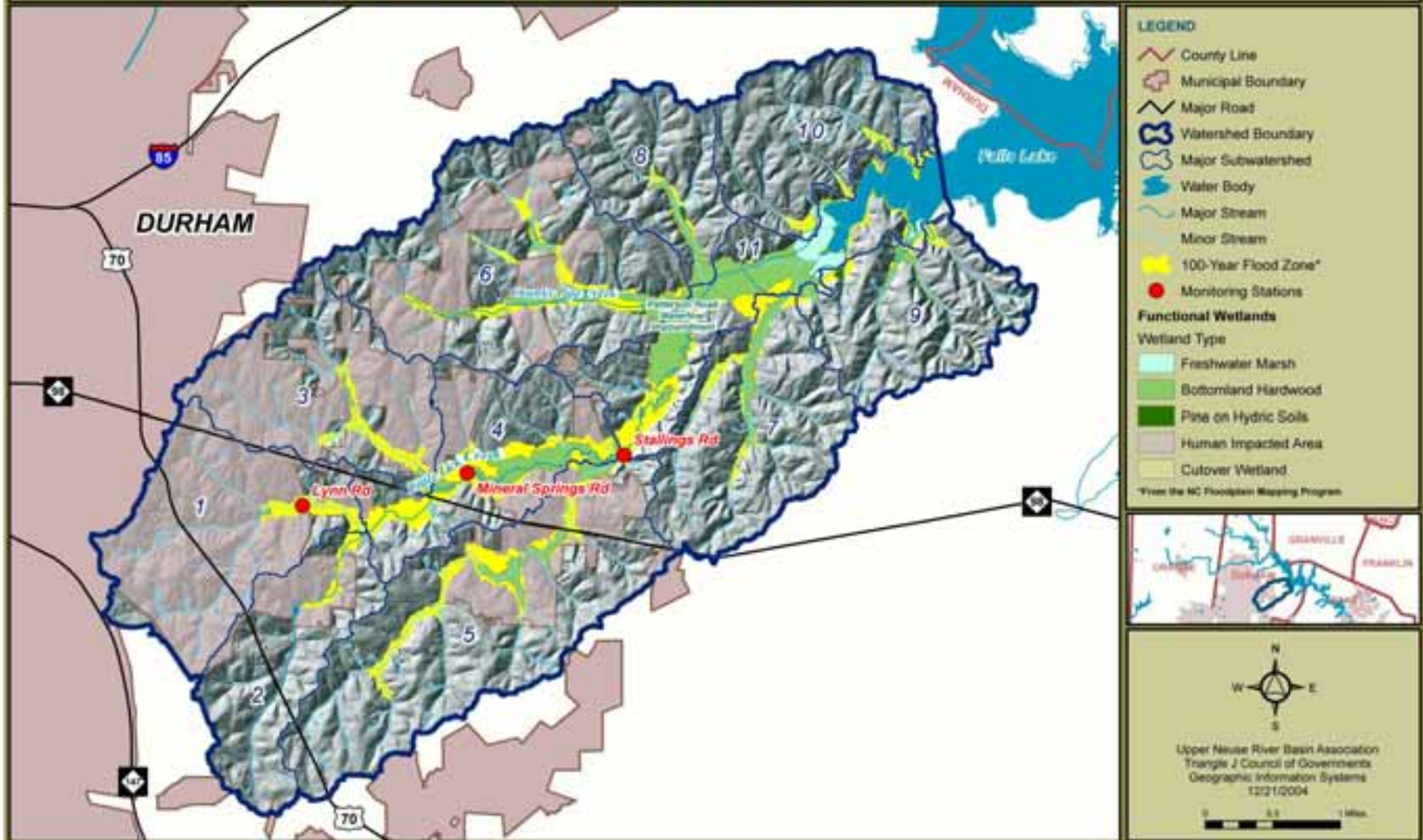
Provide an innovative GIS tool for local governments for watershed management.

*Next:*

Training for local partners: May 3, 2005

# UNRBA Projects Update: WET

Figure 4: Little Lick Creek Watershed Hydrology



## **Little River Riparian Corridor Conservation Plan**

Goal: Prioritize lands for protection in the Little River Watershed

*Finished:*

Identified potential restoration areas

*Next:*

ERA will meet with Orange and Durham County staff

UNRBA proposing additional study for lower Falls Lake

# **Little Lick Creek Local Watershed Plan**

*Finished:*

- Subwatershed analysis
- Fieldwork

*Next:*

- Prioritize projects



















2005/01/27

# *UNRBA Projects Update*

**For more information on any of these projects,**

**[www.unrba.org](http://www.unrba.org)**

# Upper Neuse Site Evaluation Tool



# Upper Neuse SET

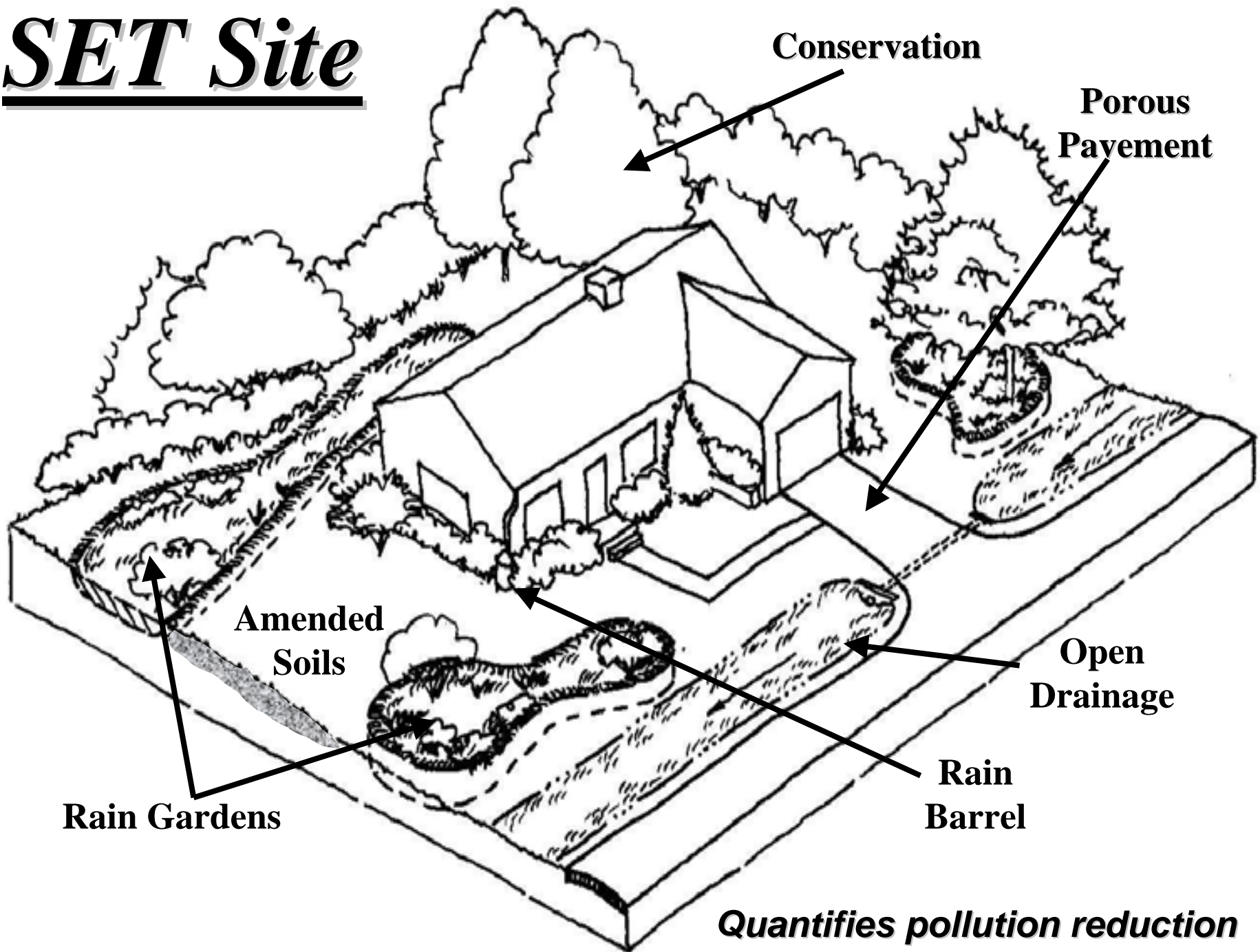
Two-part presentation to UNRBA Board:

- 1) Sep. 30, 2004: Upper Neuse SET Introduction
- 2) Jan. 26, 2005: Real-world examples

# SET: Program Uses

1. Estimate impacts on water quality
2. Predict effectiveness of a suite of best management practices
3. Estimate costs of stormwater management

# *SET Site*



# SET: Potential Applications

Think about design when you need to most...early!

Helps local governments meet ever more complex water quality goals:

- Upper Neuse management goals
- Neuse nitrogen reduction requirements
- NPDES Phase II stormwater requirements
- Falls Lake Nutrient Management Strategy

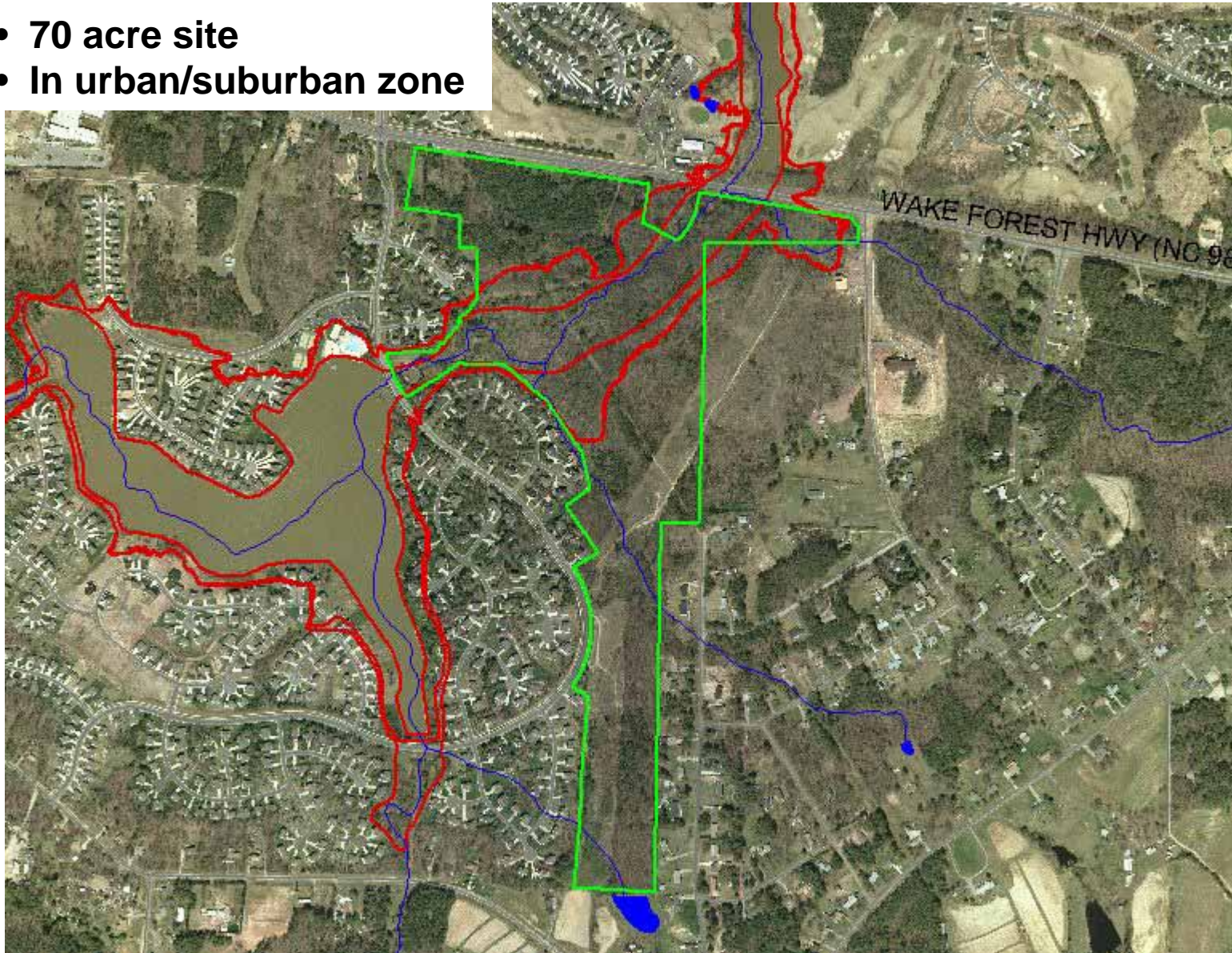
# SET: Example Sites

1. Single Family Residential Site: The Woodlands
2. Single Family Residential Site: Cameron Estates
3. Commercial Site: BB&T Branch Office
4. *Institutional Site: Durham County Library*



# Durham County Library Site

- 70 acre site
- In urban/suburban zone





# Durham County Library Site

- 9 acres of site to be developed





# Durham County Library Site

- Library (29,000 sq. feet)
- Fire station



# Durham Library: Stormwater Requirements

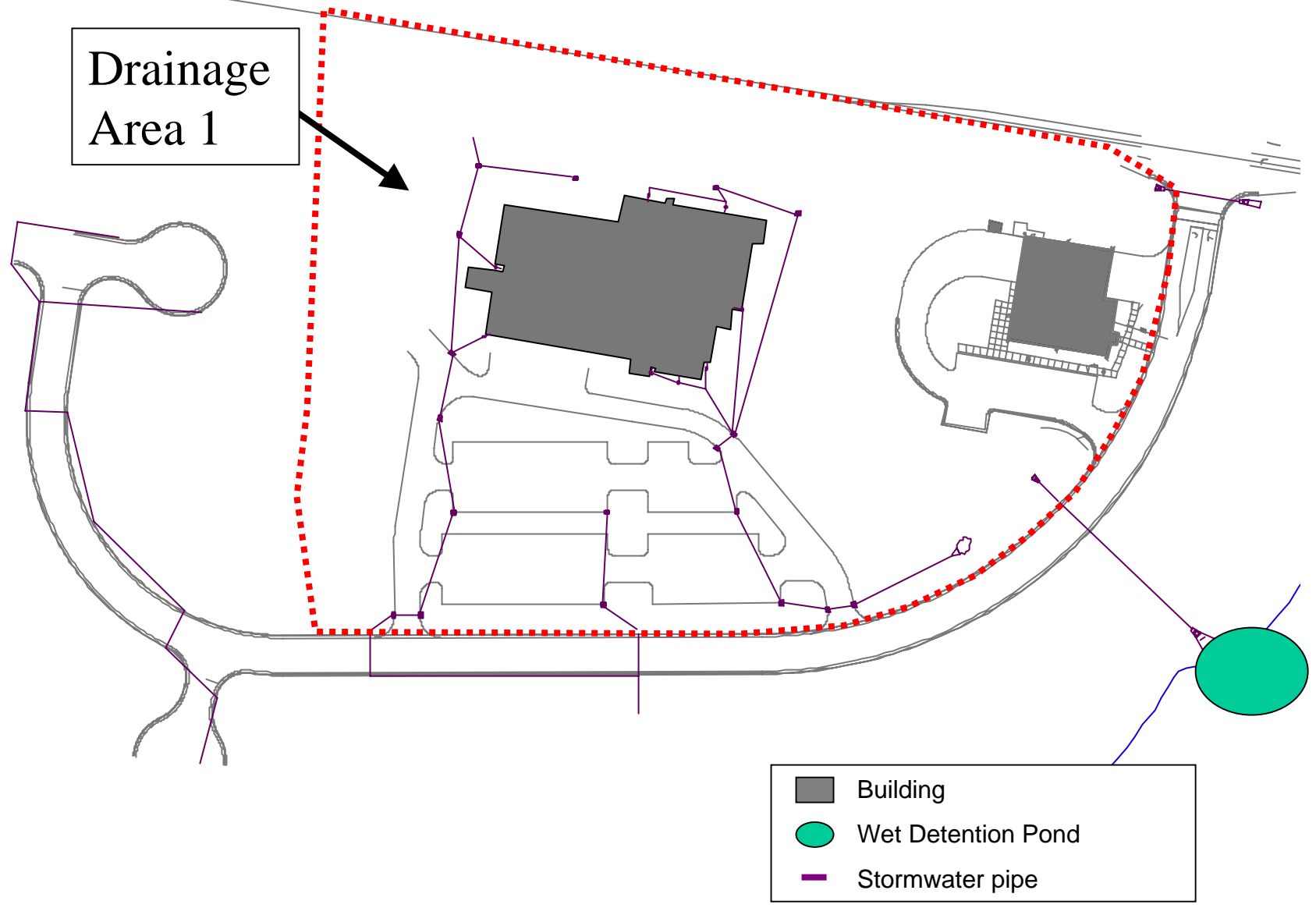
- Meet Neuse Nitrogen Reduction Targets (less than 10 lbs/acre/year loading)
- Match post-development peak flow to pre-development peak flow
- Match post-development stormwater volume to pre-development volumes for the 1-year, 24-hr. storm

# Durham Library: Conventional Stormwater Design

- Curb and gutter with storm drainage pipes
- Send stormwater offsite into regional pond



# Durham Library: Conventional



# Durham Library: Conventional

Go to SET model output

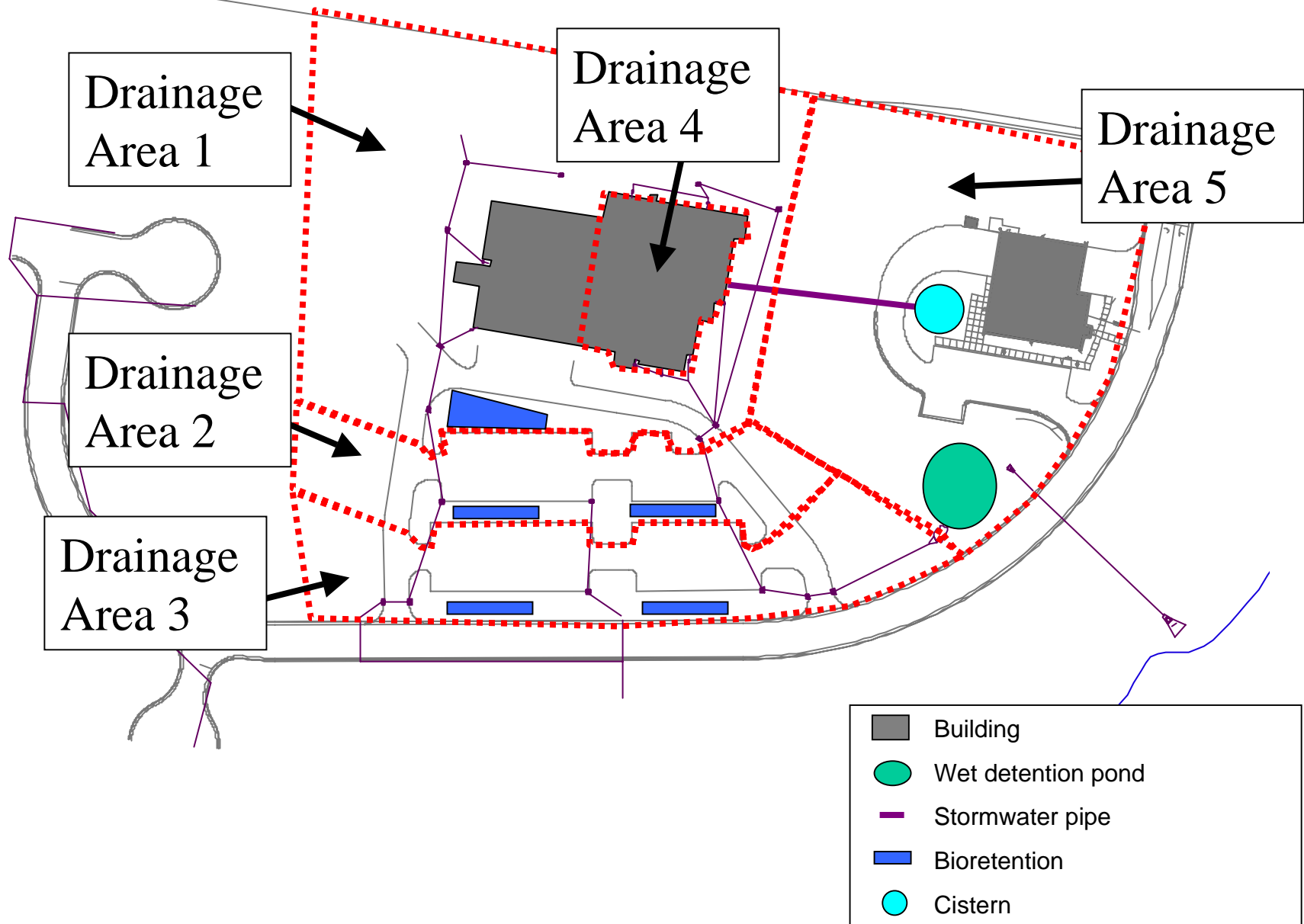
# Durham Library: Water Quality Goals

- Meet Neuse nitrogen reduction targets (less than 10 lbs/acre/year loading)
- Meet phosphorous reduction target (less than 1.33 lbs/acre/year loading)
- Meet 85% total suspended solids (TSS) removal
- Match post-development peak flow to pre-development peak flow
- Match post-development stormwater volume to pre-development volumes for the 1-year, 24-hr. storm

# Durham Library: Innovative Stormwater Design

- Bioretention
- Cistern and water reuse
- Wet detention pond

# Durham Library: Innovative



# Durham Library: Innovative

Go to SET

# Conventional vs. Innovative Design

Management Goal	Conventional	Innovative
UN N removal	Yes	Yes
UN P removal	Yes	Yes
Peak flows	No	Yes
Volume control	No	Yes
Sediment removal	0%	91%
Cost comparison	\$160,000	\$340,000



# SET: Next Steps

**Spring, 2005: Continue beta testing SET**

**Summer, 2005: Conduct trainings with local government planners and stormwater managers**



# Falls Lake Nutrient Management Strategy

# NC Div. of Water Quality Presentation 3-29-05

- Timeline
- Monitoring and modeling
- Stakeholder process

# Project Timeline

- Field study: 2005-2006
- Modeling (intermittent): 2005-2007
- Preliminary assessment: Late 2005
- Draft basin-wide management plan: Late 2006
- Target and allocations\*: 2007-2008
- Strategy development\*: 2008-2009

\* *Tentative, assumes some stakeholder process in place.*

# Monitoring and Modeling

## *Step 1:*

### Build the models

- Systematic planning
- Monitoring
- Modeling

## *Step 2:*

### Develop the strategy

- Target setting
- Allocations
- Point and nonpoint strategies
- Environmental Management Commission

# Stakeholder Process

## **Stakeholder group**

- To influence nutrient targets, allocations, and management strategies
- Wide stakeholder group representing many interests
- Meet at end of 2005 and once initial modeling completed

## **Technical committee**

- Assist DWQ in developing modeling and monitoring tools
- 3-4 members of the general stakeholder group and DWQ Modeling & TMDL Unit
- Meet on as-needed basis

# Questions?

See [www.unrba.org](http://www.unrba.org) for links (coming soon) to NC DWQ's meeting presentations, technical documents, etc.

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# UNRBA Budget