

# *Presentation*



**City of Atlanta**

## **Stormwater Quality Management**

*August 23, 2002*





# Storm Water Management: Two Approaches

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- Storm Water Quality Management Features (QMF)
  - Goal: Water Quality Improvement
  
- Greenways
  - Goal: Water Quality Improvement
  - Goal: Address Quality of Life Issues



# Storm Water Quality Management Features:

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- Non Structural

- Ordinances
- Planning/Zoning Restrictions
- Housekeeping (I.e. Street sweeping, litter control)

- Structural

- Ponds
- Bioretention Areas/Rain Gardens
- Sand Filters/Perimeter Filters
- Enhanced Swales
- Proprietary Technology



# Storm Water Ponds

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Constructed storm water retention basin that has a permanent pool (or micropool). Runoff from each rain event is detained and treated in the pool primarily through settling and biological uptake mechanisms.

# Storm Water Ponds: Micropools

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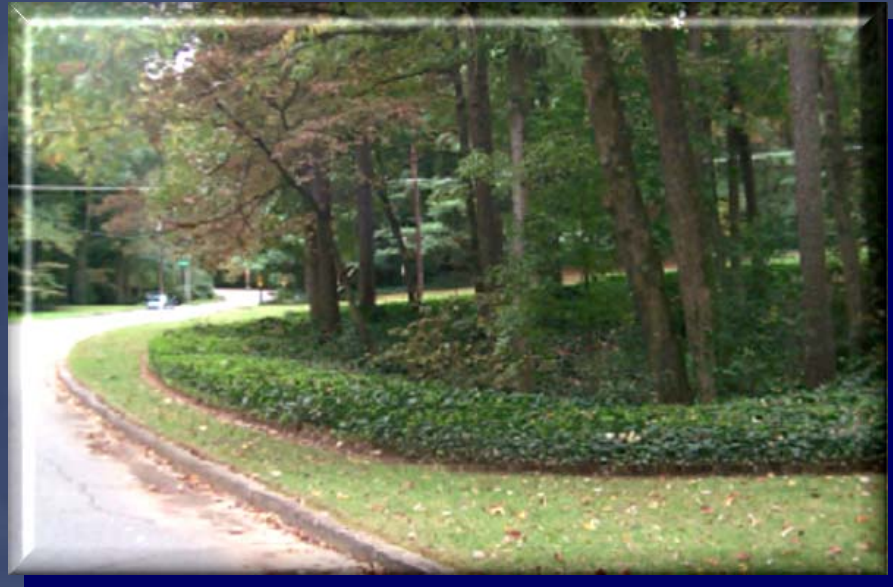




# Bioretention Areas/Rain Gardens

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Shallow storm water basin or landscaped area which utilizes engineered soils and vegetation to capture and treat runoff.



# Bioretention Areas/Rain Gardens

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# Sand Filters



A multi-chamber structure designed to treat runoff through filtration, using a sediment forebay, a sand bed as its primary filter media and typically, an underdrain collection system.



# Enhanced Swales

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Vegetated open channels that are explicitly designed to capture and treat storm water runoff within dry or wet cells formed by check dams or other means.



# Storm Water Quality Management Features: Selection Criteria

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- Hydrology/Hydraulics
  - Volume of Runoff
  - Direction of Flow
  - Percent of basin runoff to capture and treat
- Land Use and Development Density
  - What is the character of drainage basin?
  - What style of QMF is suitable?
- Available Space
  - QMF Footprint – amount of space needed
  - Immediate area land use





# Storm Water Quality Management Features: Preliminary Plan

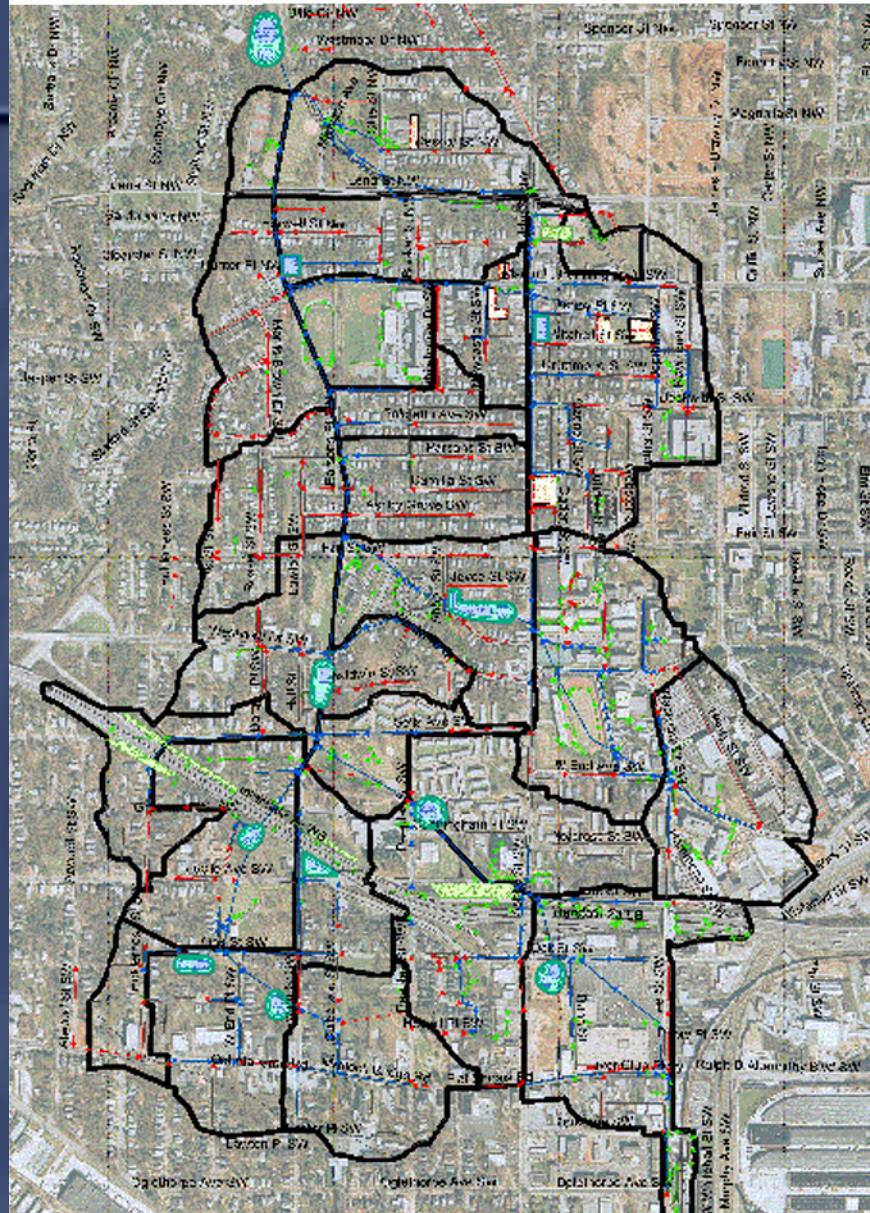
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- Hydrology/Hydraulics
  - First Flush (1.2 inches)
  - Define flow path by topography
  - 80% reduction in Total Suspended Solids
- Land Use and Development Density
  - Development evaluated by aerial photos & site visits
  - What style of QMF is suitable?
    - Sand filters in commercial areas
    - Ponds in residential areas
    - Bioretention areas in Right-of-Ways
- Available Space
  - Size of QMF as determined by 1 & 2 above
  - Vacant / Inactive / Residential / Commercial



# Preliminary Plan: Greensferry

## Greensferry Basin Stormwater Quality Plan







# Criteria for Greenways Plans

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- Provide Storm Water Quality Improvement as in QMF Plan
- Add Quality-of-Life Issues
  - Connected Basin-wide system
  - Amenities- Parks and Trails, restore above-ground streamways
  - “Smart Growth” planning around features
  - Develop “scrap lands” and eyesores into community benefits
  - Flooding Reduction via larger detention features



# Storm Water Management and Greenways

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"...we continue to address storm water as a hazard that should be collected, treated, and removed rather than as a valuable natural resource that needs to be managed to restore aquatic ecosystems."

*Stuart Patton Echols*

*August 2002*





# Consolidating Storm Water Management into Greenways

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## Greenways:

- Connect a basin-wide system
- House fewer bigger ponds
- Consolidate structural storm management facilities
- Have connectivity with linear linked green spaces – part of a bigger plan.
- Address non-point source pollution
- Parks become integral to the plan



# Consolidating Storm Water Management into Greenways

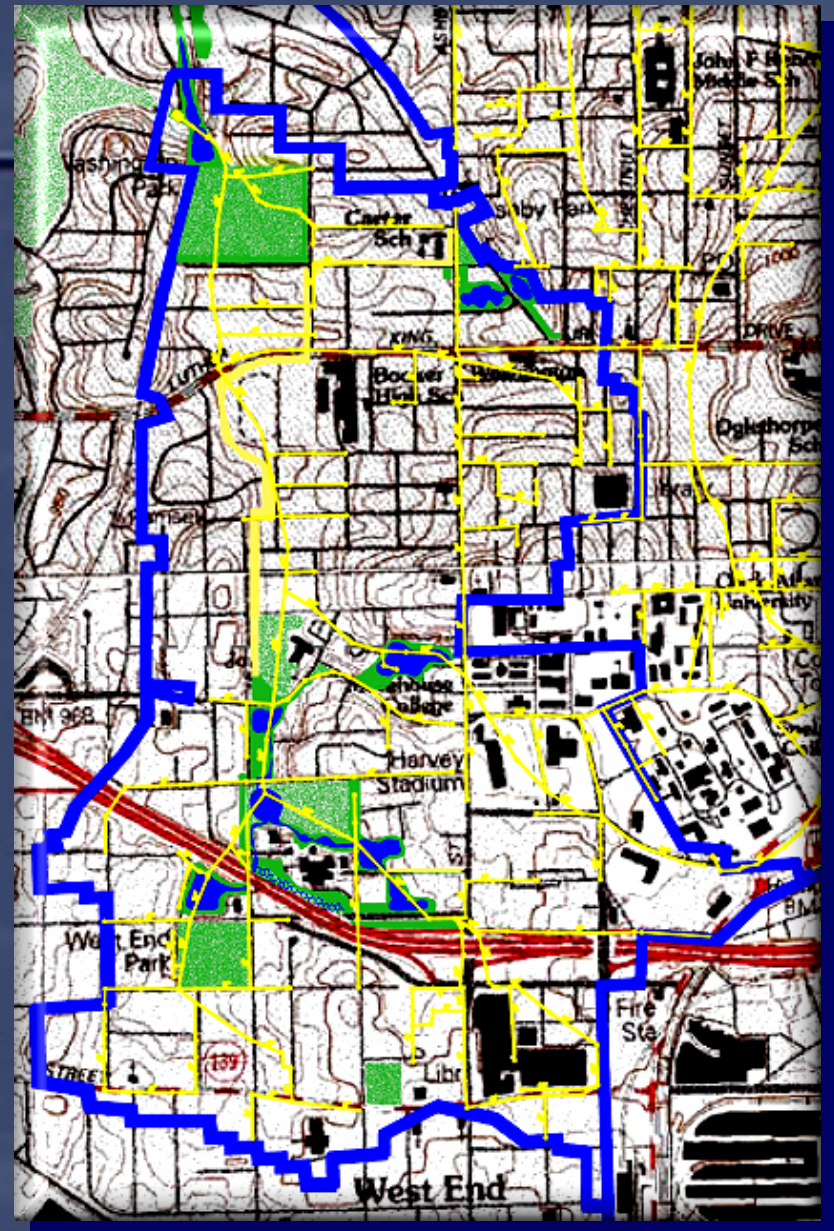
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## ■ Concerns:

- Future availability and accessibility of sites
- Commitment to operating and maintaining the basin-wide system

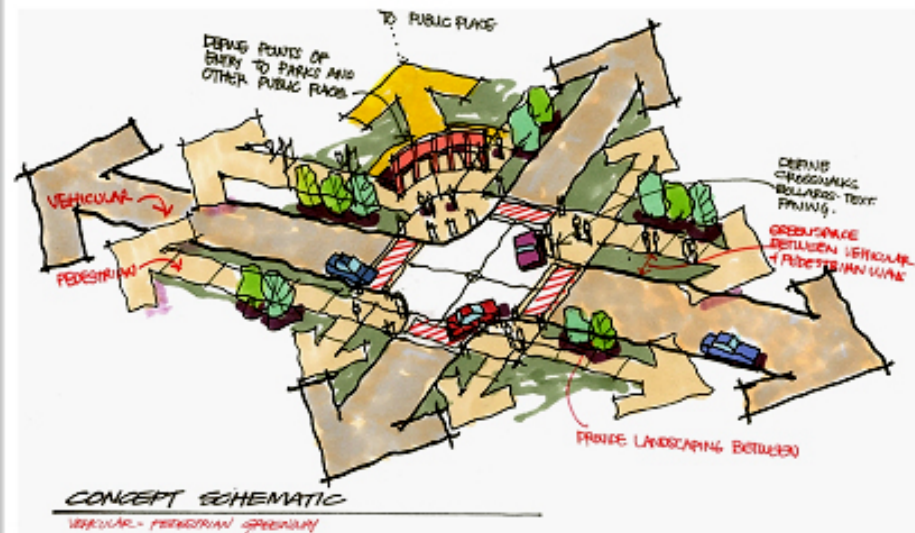
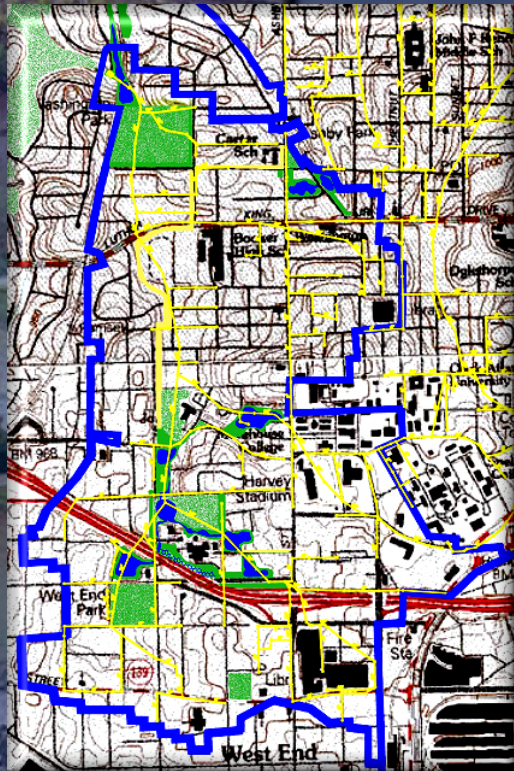
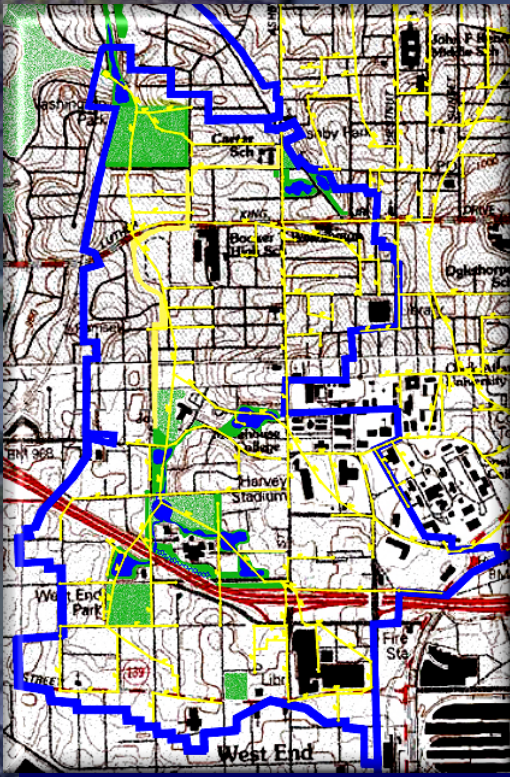


# Preliminary Plan: Greensferry





# Preliminary Plan: Greensferry



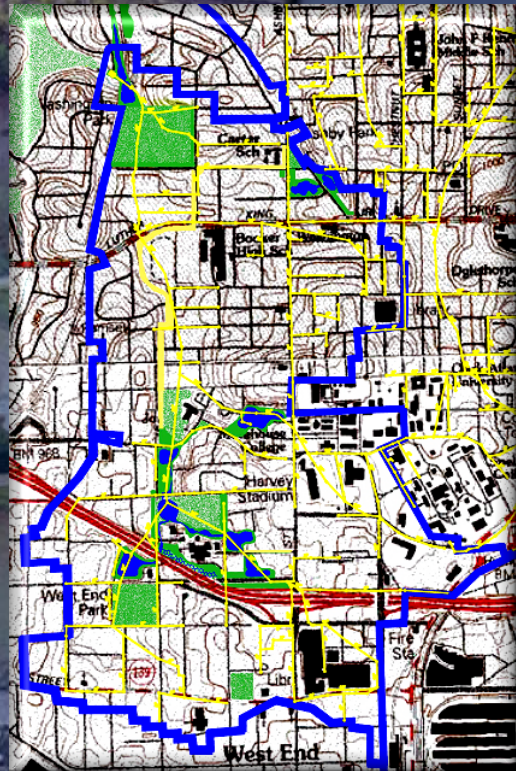
- Taking care of the first flush
- Regulating the flow above ground



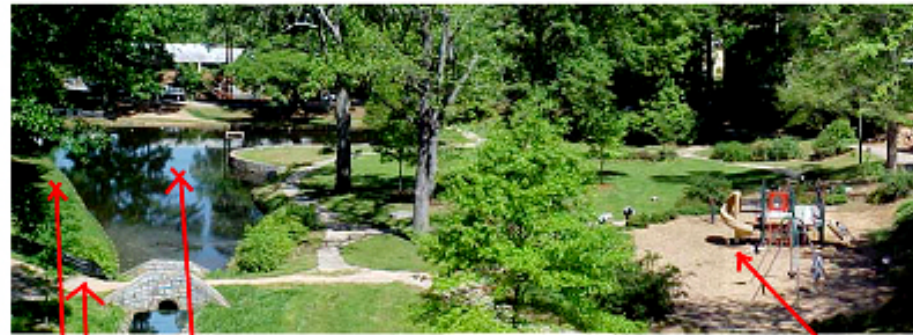
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# Preliminary Plan: Greensferry



CLEARCREEK RMP AT SPRINGVALE PARK



HARD-SCAPE AND  
SOFT-SCAPE

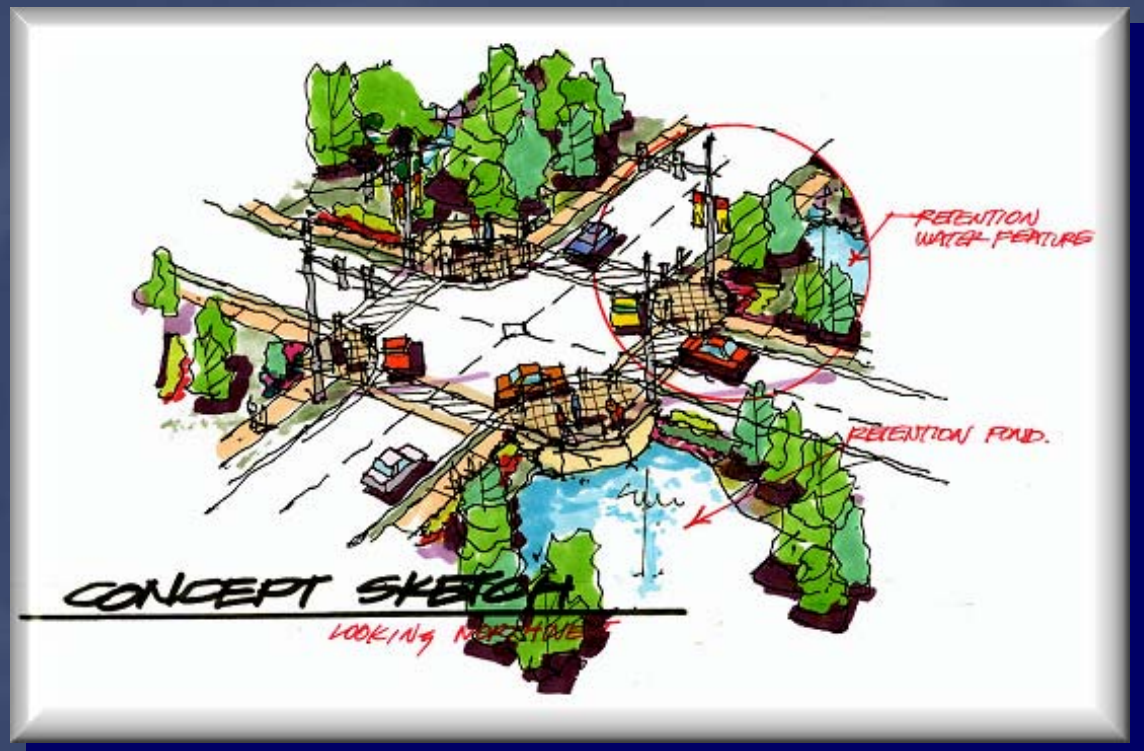
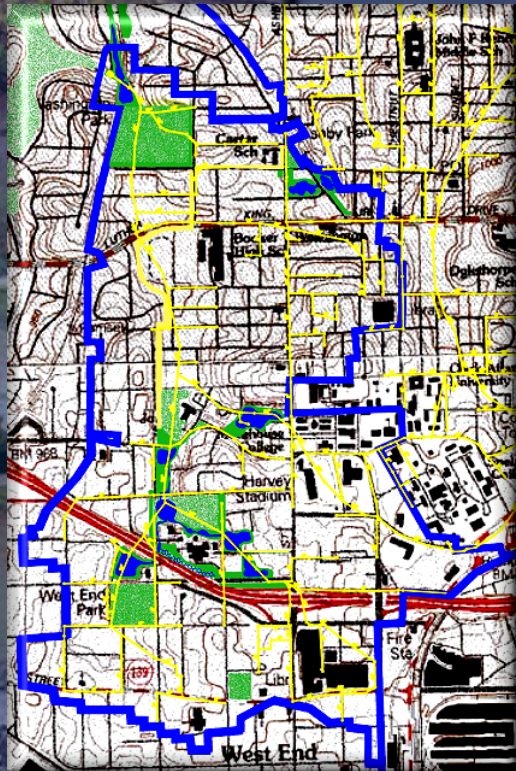
BLUE WATER

PLAYGROUND



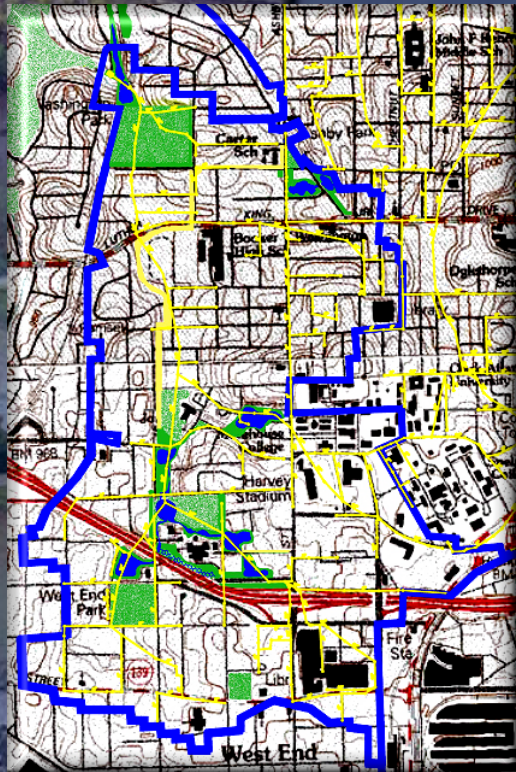


# Preliminary Plan: Greensferry



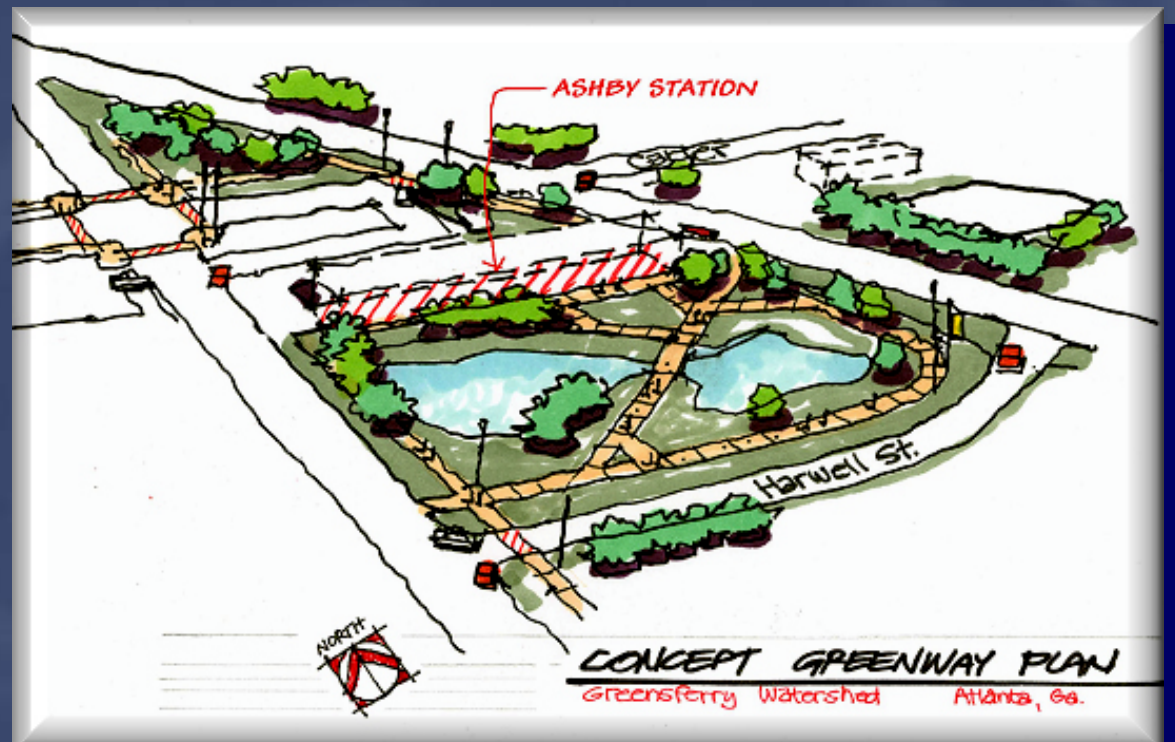
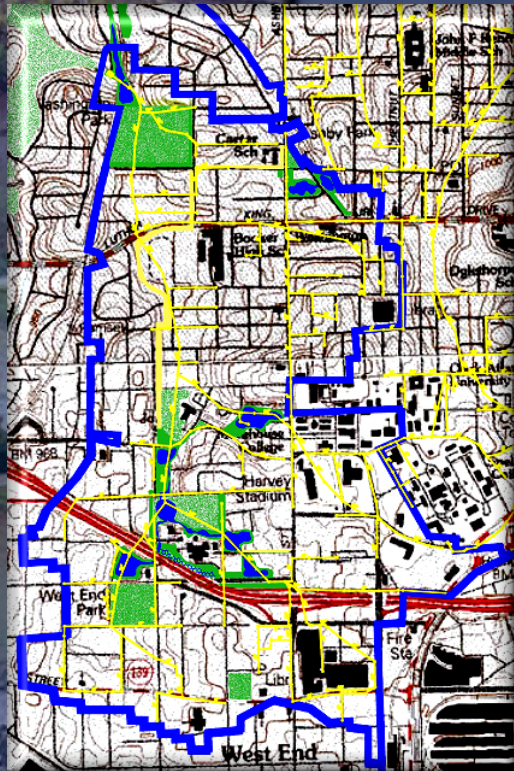


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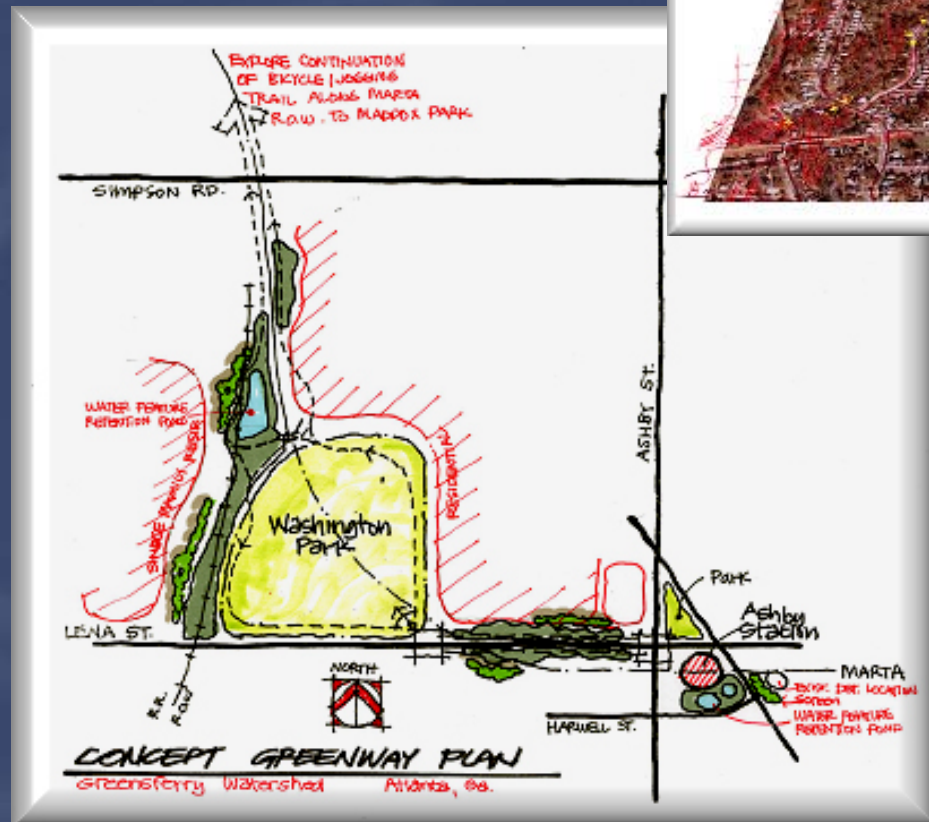
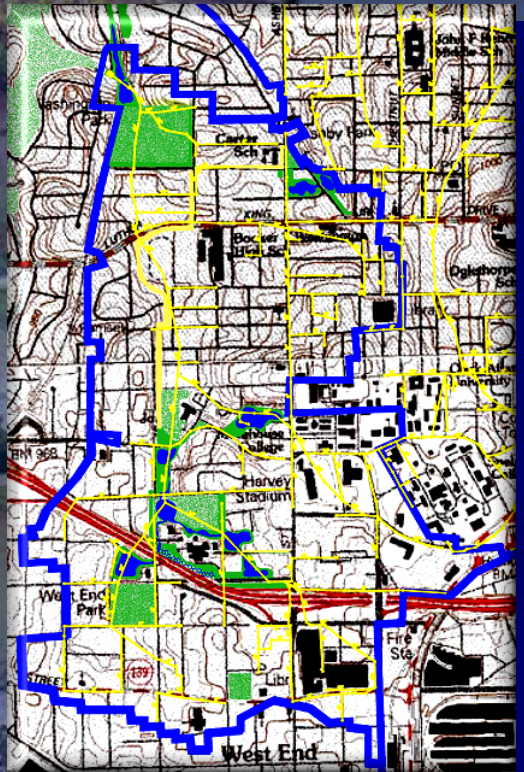


# Preliminary Plan: Greensferry



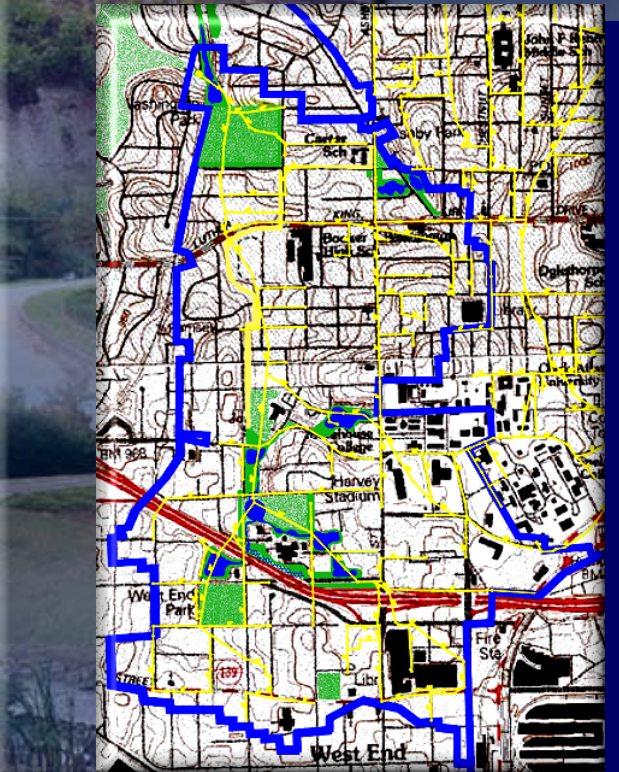


# Preliminary Plan: Greensferry





# Preliminary Plan: Greensf

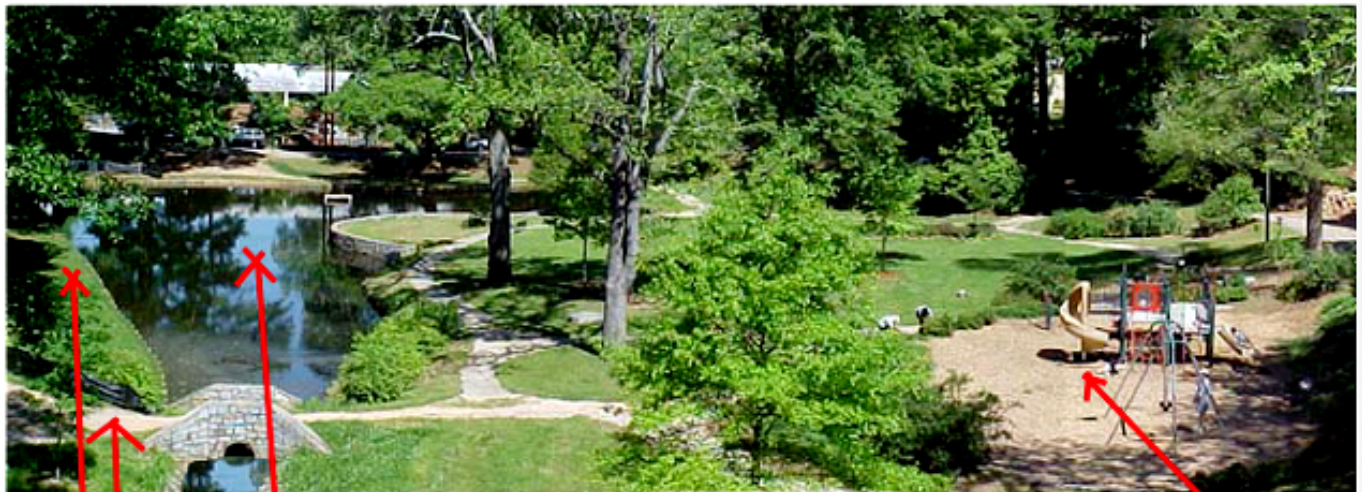




# Preliminary Plan: The Potential



CLEARCREEK BMP AT SPRINGVALE PARK



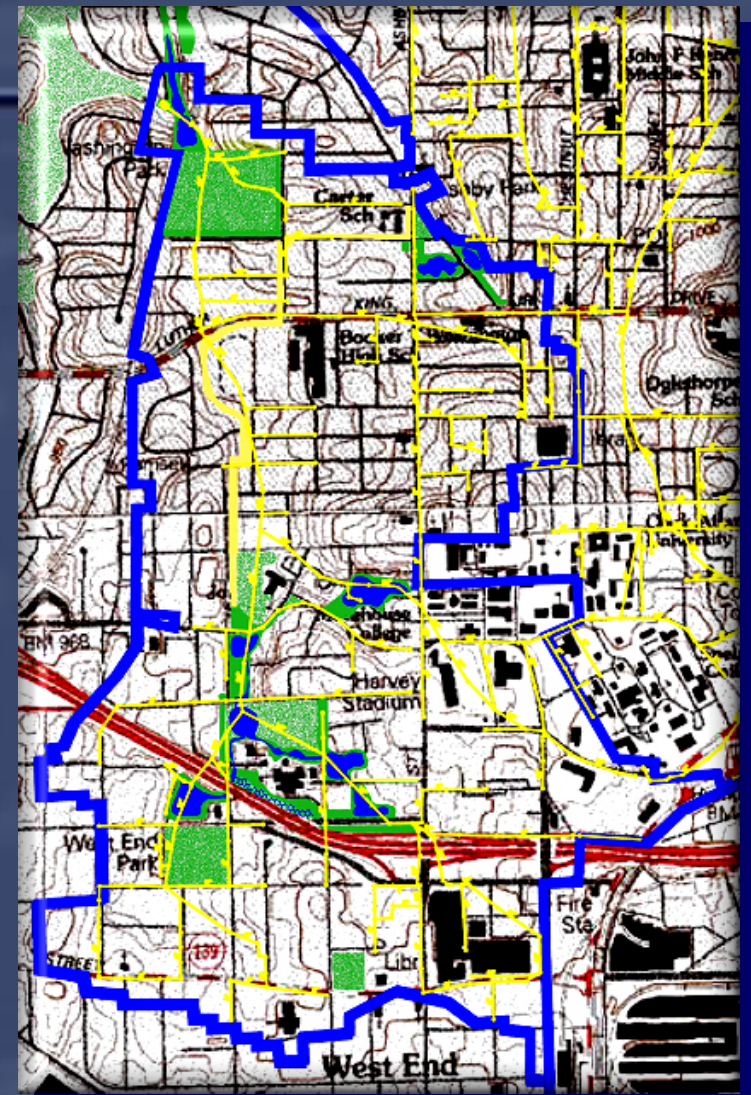
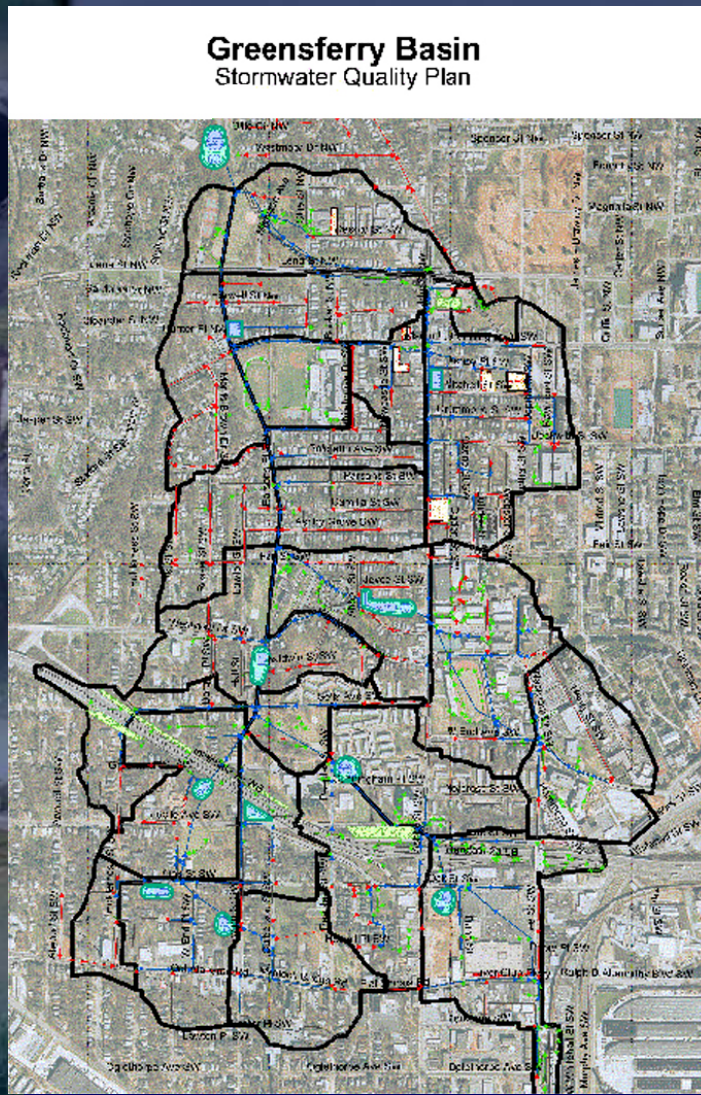
BLUE WATER

HARD-SCAPE AND  
SOFT-SCAPE

PLAYGROUND



# Storm Water Management



It's Not Just Pipes Anymore!



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