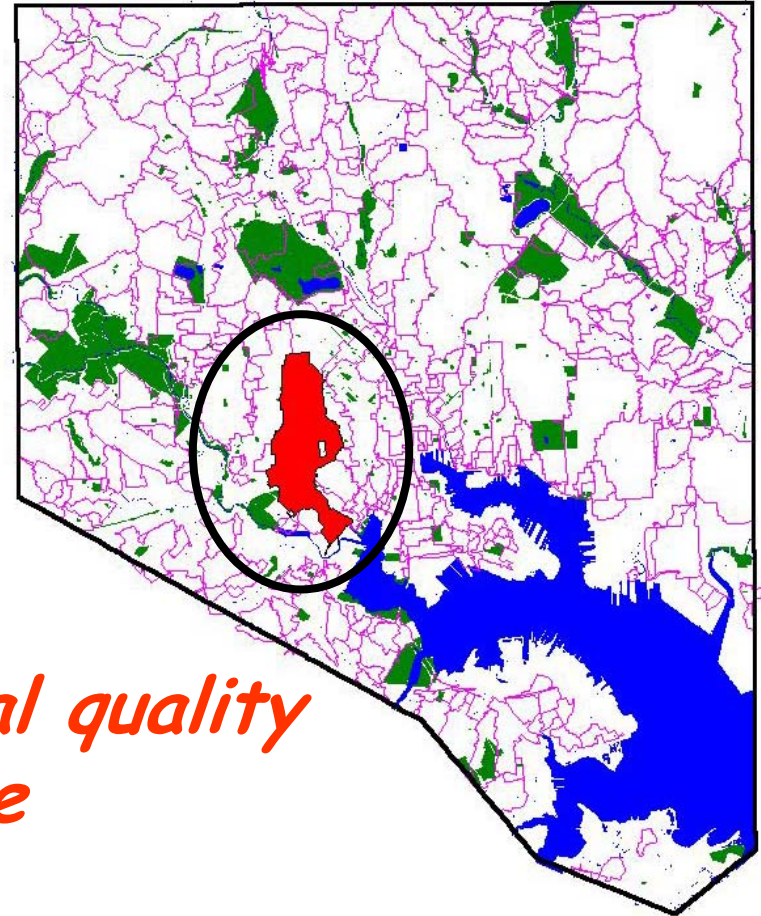


# WATERSHED 263

Baltimore Urban Watershed  
Restoration Cooperative



*Improving both environmental quality  
and community quality of life*

# Baltimore's Watersheds & stormsheds



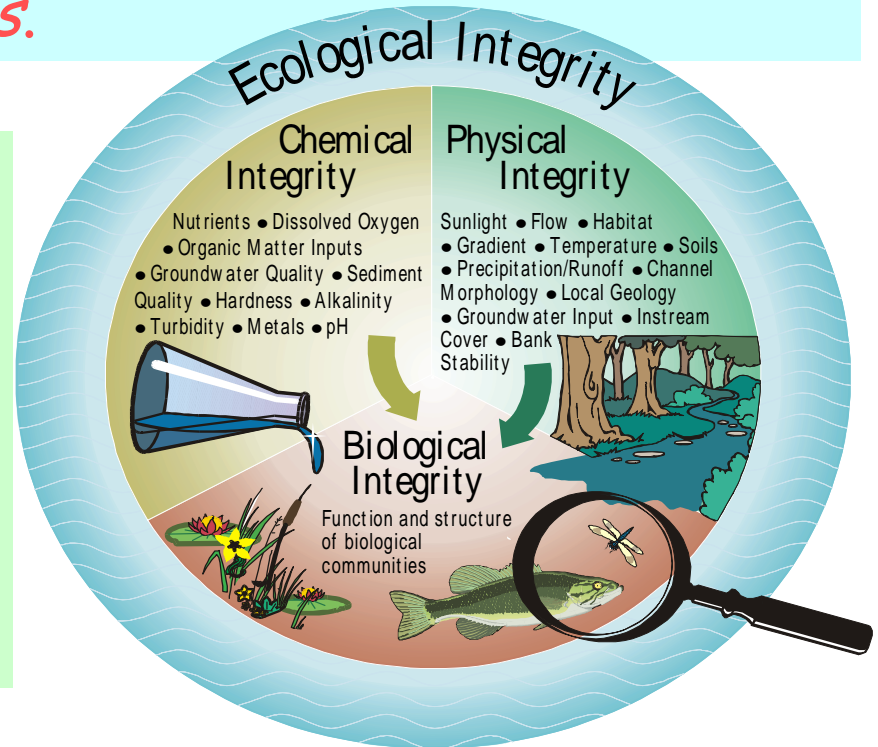
**Watershed 263 is one of 355 storm watersheds in the City**

# Watershed restoration

# WHY

The primary goal of the 1972 Clean Water Act is to *restore and maintain the chemical, physical, and biological integrity of the Nation's waters.*

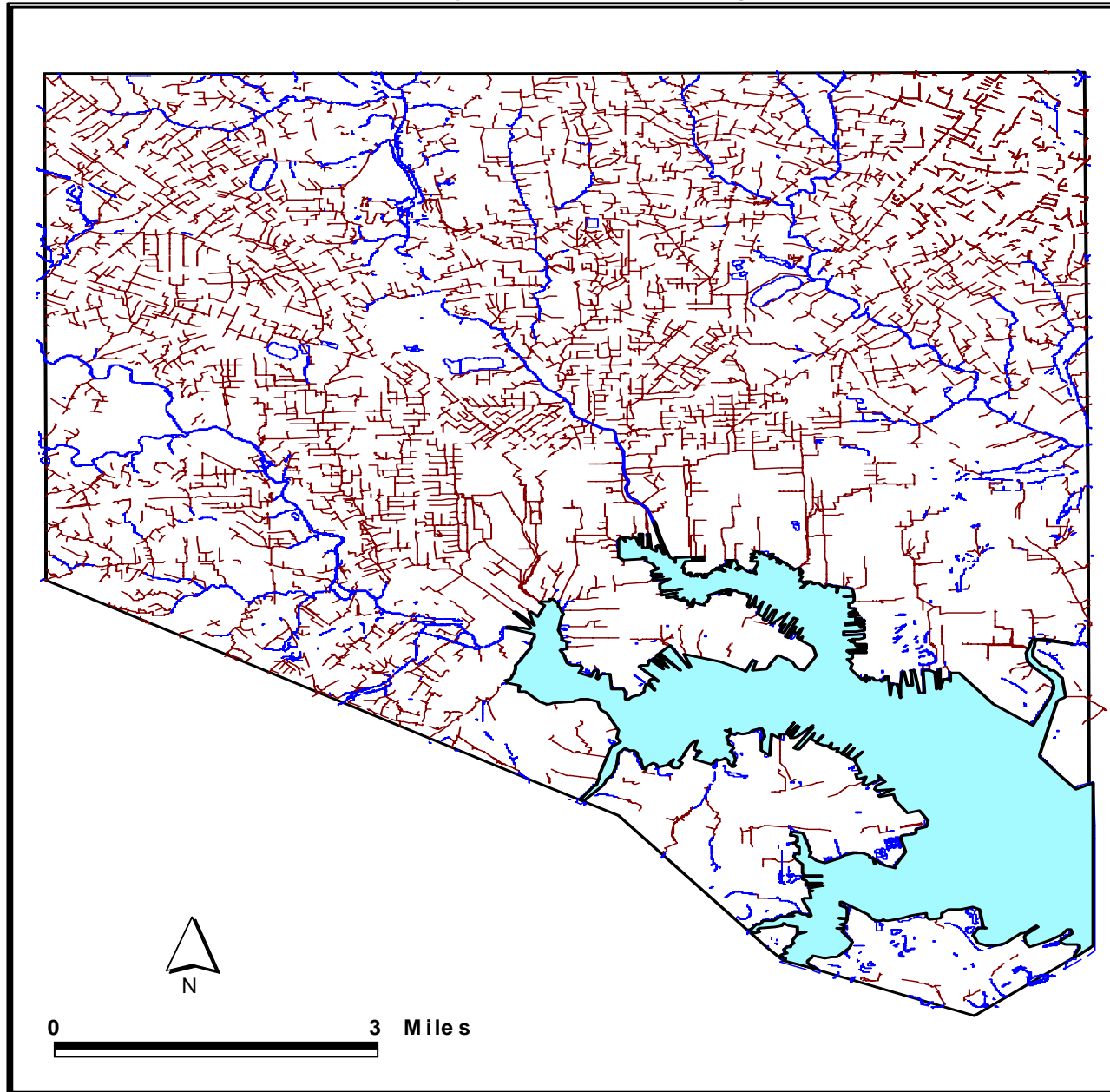
One of the goals of Chesapeake 2000 is...*achieve and maintain the water quality necessary to support the aquatic living resources of the Bay and its tributaries and to protect human health.*



Working with neighboring jurisdictions, the State, and federal authorities, the City is responsible for addressing these goals.



# Baltimore City Storm Drainage Network



SO...

How do we develop a watershed restoration strategy for enclosed streams where the environmental quality and community structure of the watershed are impaired?

# THE RESTORATION PLAN



WHAT

USE A WATERSHED APPROACH TO  
RESTORE, REVITALIZE, & SUSTAIN

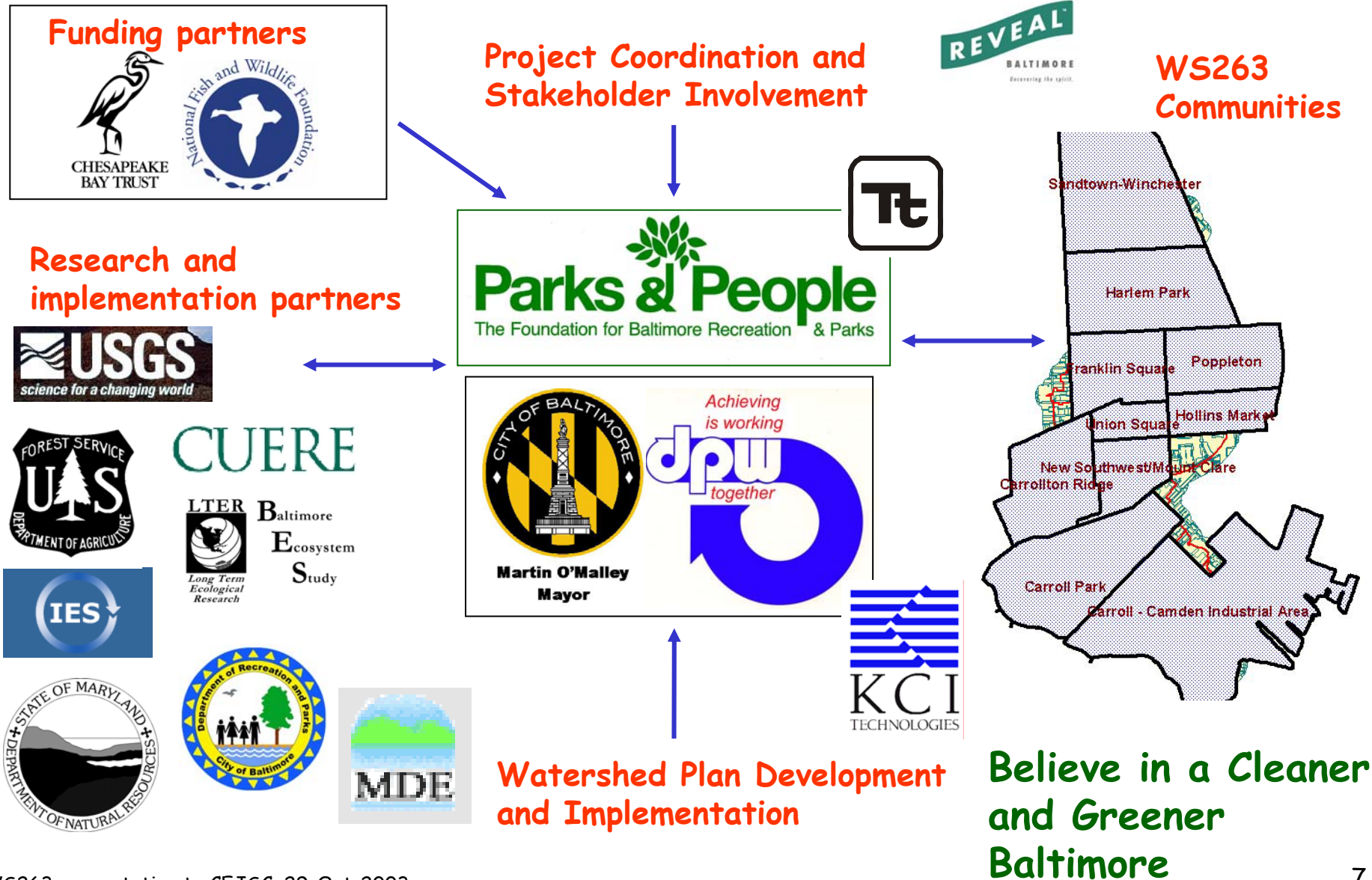
ENVIRONMENTAL QUALITY &  
COMMUNITY QUALITY OF LIFE





# WS263 Project Partners (so far...)

**WHO**



# Environmental restoration plans typically focus on improving the habitat





# Our RESTORATION PLAN must...

- ✓ Have realistic goals
- ✓ be community based & driven
- ✓ focus on both structural & non-structural ("greening") measures
- ✓ **target both environmental quality & quality of life goals.**



Prioritize  
restoration  
strategies

that will have  
the greatest  
impact on the  
goals  
identified by  
the community  
and partnering  
organizations  
(stakeholders)  
and selected  
by consensus  
and  
commitment



# We screened dozens of watersheds using GIS

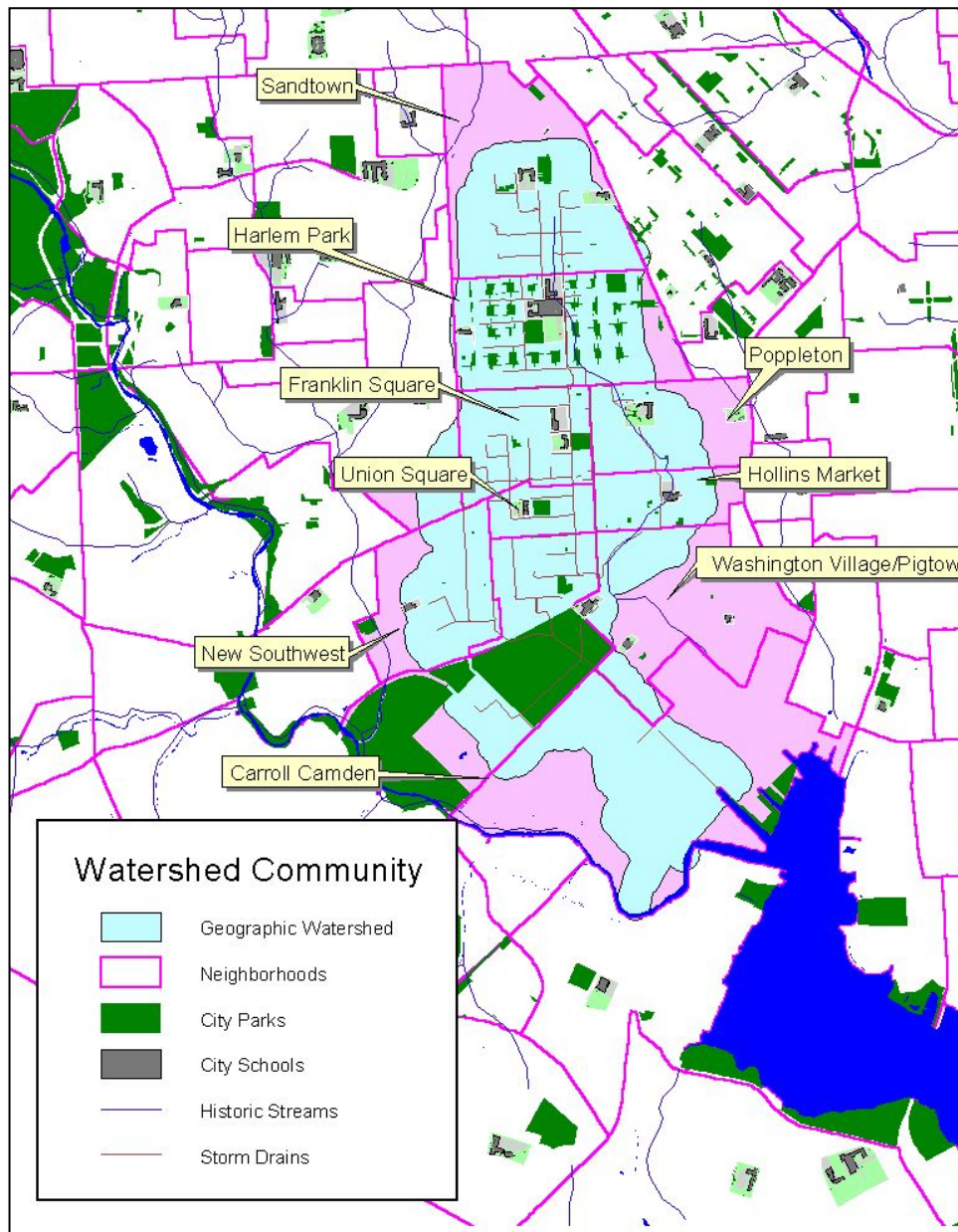
- ✓ Watershed 263 is an area where there is already a high level of
  - **community readiness &**
  - **potential for sustainability...**



- ✓ Potential for greening and removing impervious cover
- ✓ Existing community-based greening and environmental stewardship efforts
- ✓ Potential for quality-of-life improvements
- ✓ Available resources from partnering organizations
- ✓ Community readiness...many of the communities are organized and have already identified goals
- ✓ Several allied organizations and programs active in the watershed



# WATERSHED 263



- ✓ 900-acre area containing part of 12 City neighborhoods
- ✓ Many minority and economically disadvantaged communities
- ✓ High impervious surface (75%) and small area in ground cover (19%) and tree canopy (5.5%) — No longer any surface streams
- ✓ Home to 30,000 people
- ✓ Entirely urbanized with mixed industrial, institutional, and residential land uses
- ✓ Significant but dispersed public parks and private open space (about 30%)

# Fuzzy Watershed Area



**WS 263 MANAGEMENT PLAN  
NEIGHBORHOOD MAP**

# Next...three things happening at once (where we are now)

1. Identify water/environmental quality goals, such as reducing runoff pollutants (nitrogen, salt, sediment, lead, etc.)

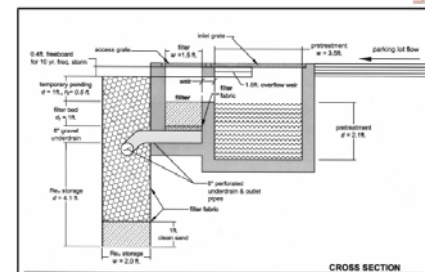


2. Develop community quality of life goals, such as

- ✓Reducing summer temperatures
- ✓Reducing trash, rodent & pests, & soil contamination
- ✓Beautifying neighborhoods



3. Develop universe of environmental restoration opportunities that will reduce volume/quantity and improve quality of stormwater (initially prioritize based on cost-effectiveness, ease of maintenance, and multiple benefits)





# Our initial community participation goals...

- ✓ Strengthen community-based partnerships to sustain watershed restoration efforts
- ✓ Build community capacity to participate in planning and implementation
- ✓ Train community and education leaders about watershed restoration practices to foster sustainability and improve the effective use of volunteers
- ✓ **Build consensus** among stakeholders along every step of the restoration plan process.



# We asked residents, *What are the critical issues affecting the quality of life in your community?*

- ✓ Trash
- ✓ Open-air drug markets
- ✓ Vacant housing
- ✓ Lack of street trees
- ✓ Irresponsible and unresponsive landlords
- ✓ Apathy

- ✓ Lack of education
- ✓ Crime
- ✓ Poor playgrounds
- ✓ Prejudices against the neighborhood
- ✓ Poor health (addiction, rodents, etc.)
- ✓ Graffiti

We then asked, *How do you think the Watershed 263 project can help with these issues?*

Beautification -  
physical improvements

Tearing down  
vacant housing

City involvement &  
accountability

Cleaning-up  
trash

Engaging  
residents

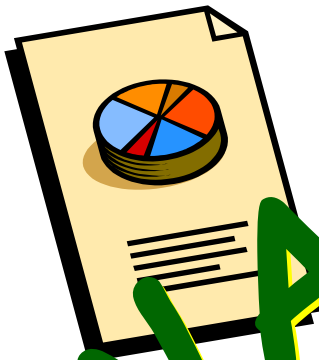
Redevelopment  
projects

Greening

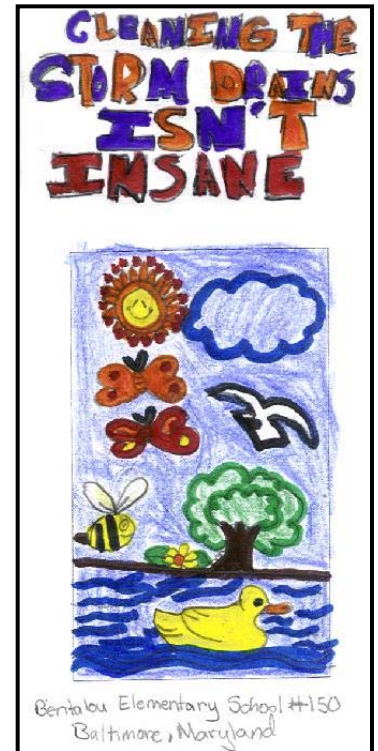
Environmental  
education



# WATERSHED 2003 RESTORATION PLAN



# Informational Outreach- Education





# Housekeeping Practices





# Street Sweeping - Inlet Cleaning



Municipalities can hire professional plumbing services to remove trapped sediment and debris from storm drains with periodical flushing (Source: Drain Patrol, no date)

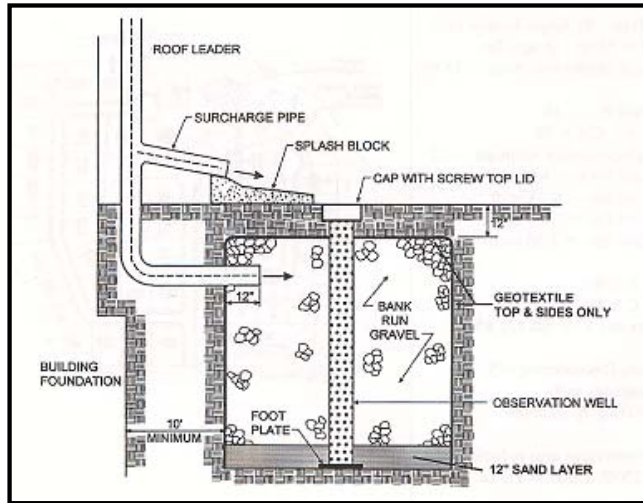


# Low Impact Redevelopment



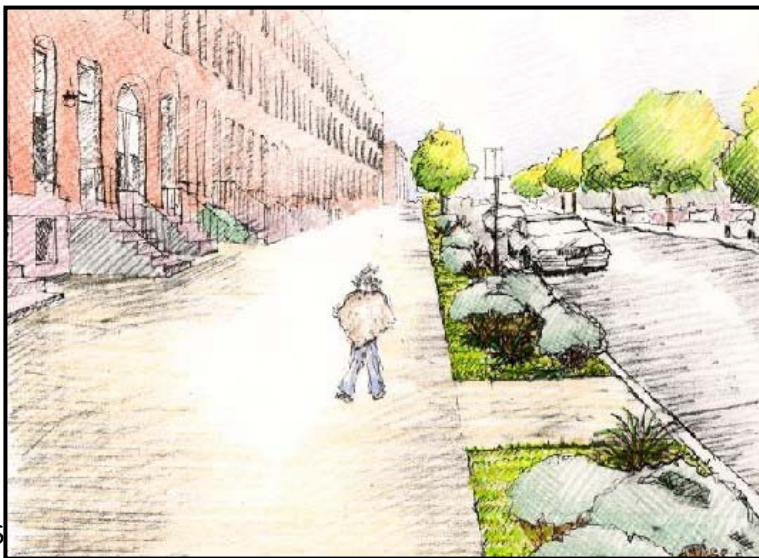
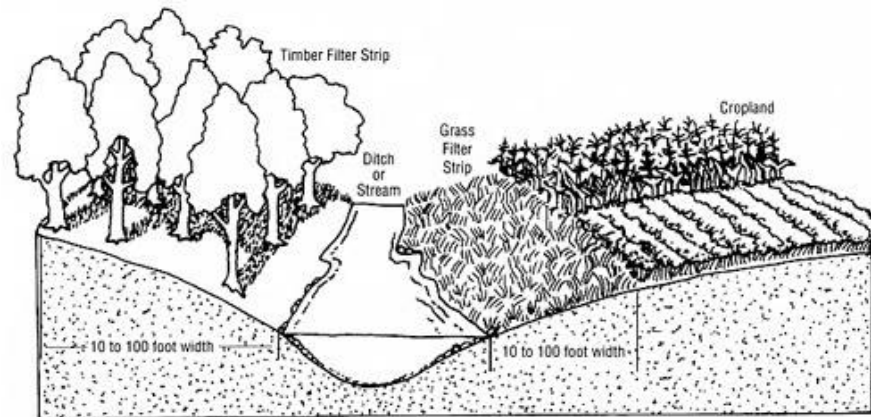
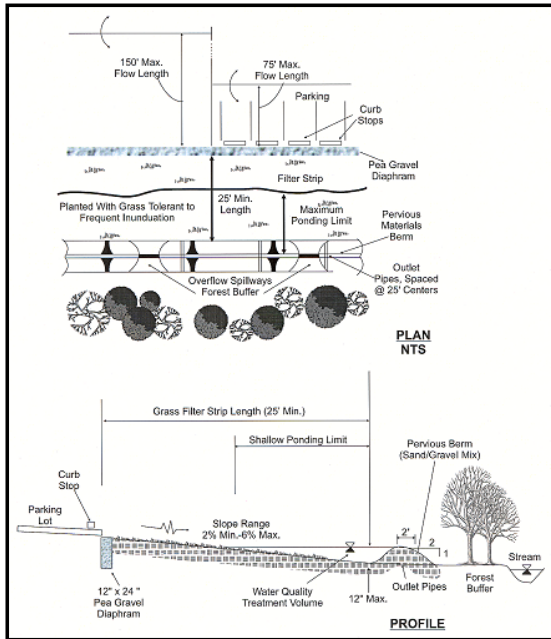


# On-lot Treatments





# Vegetative Filter Practices



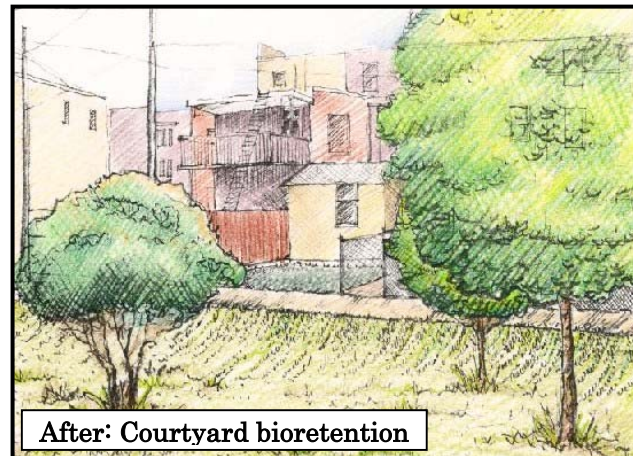
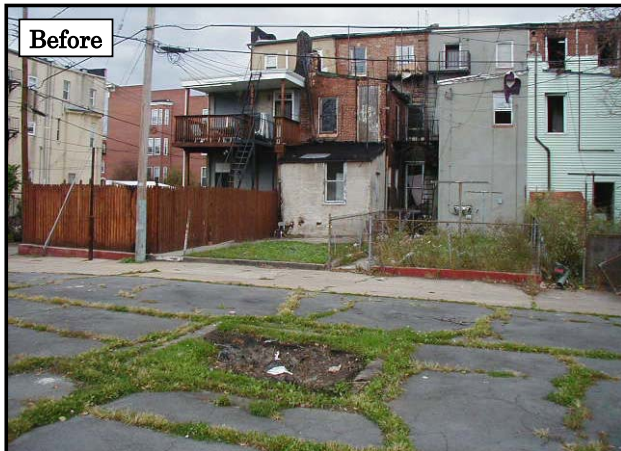


# Tree Plantings





# Stormwater Filtering Systems

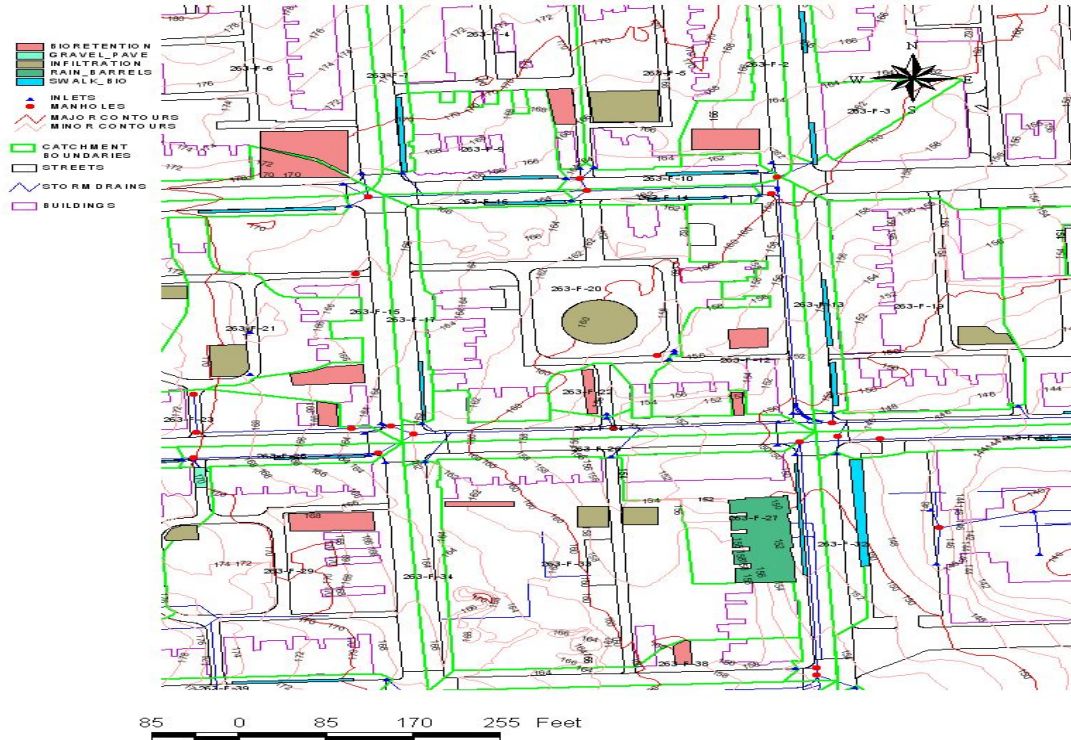




# Infiltration Systems



# Neighborhood scale management plans



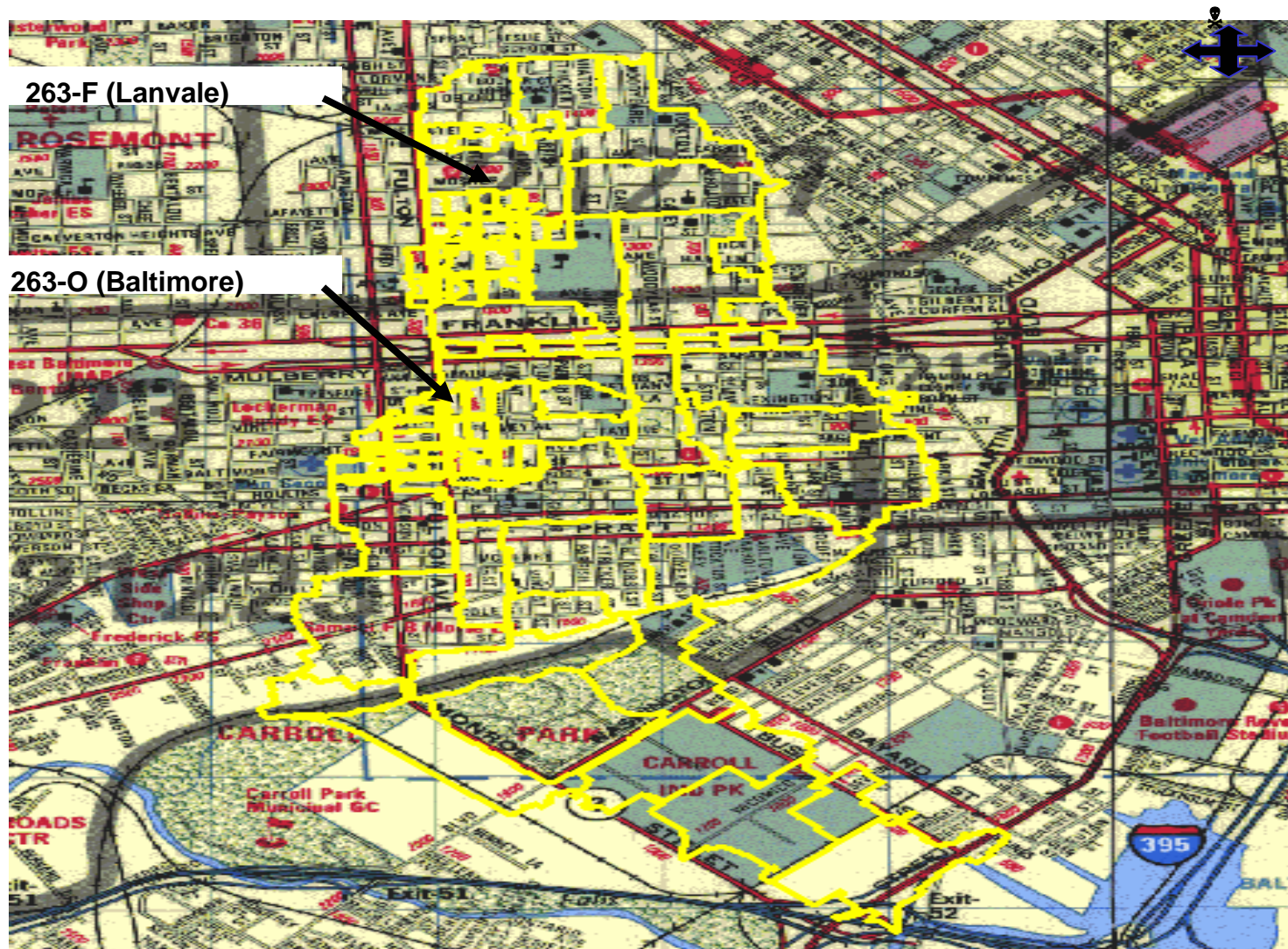
## POTENTIAL BMP'S

1 IN = 1,200 FT

**WS 263 MANAGEMENT PLAN**  
**RANDOMLY SELECTED BLOCKS**



# Paired watershed monitoring



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1 IN = 1,400 FT

## WS 263 MANAGEMENT PLAN SUBCATCHMENT BOUNDARIES