

Creative Collaboration and Restoration in Baltimore

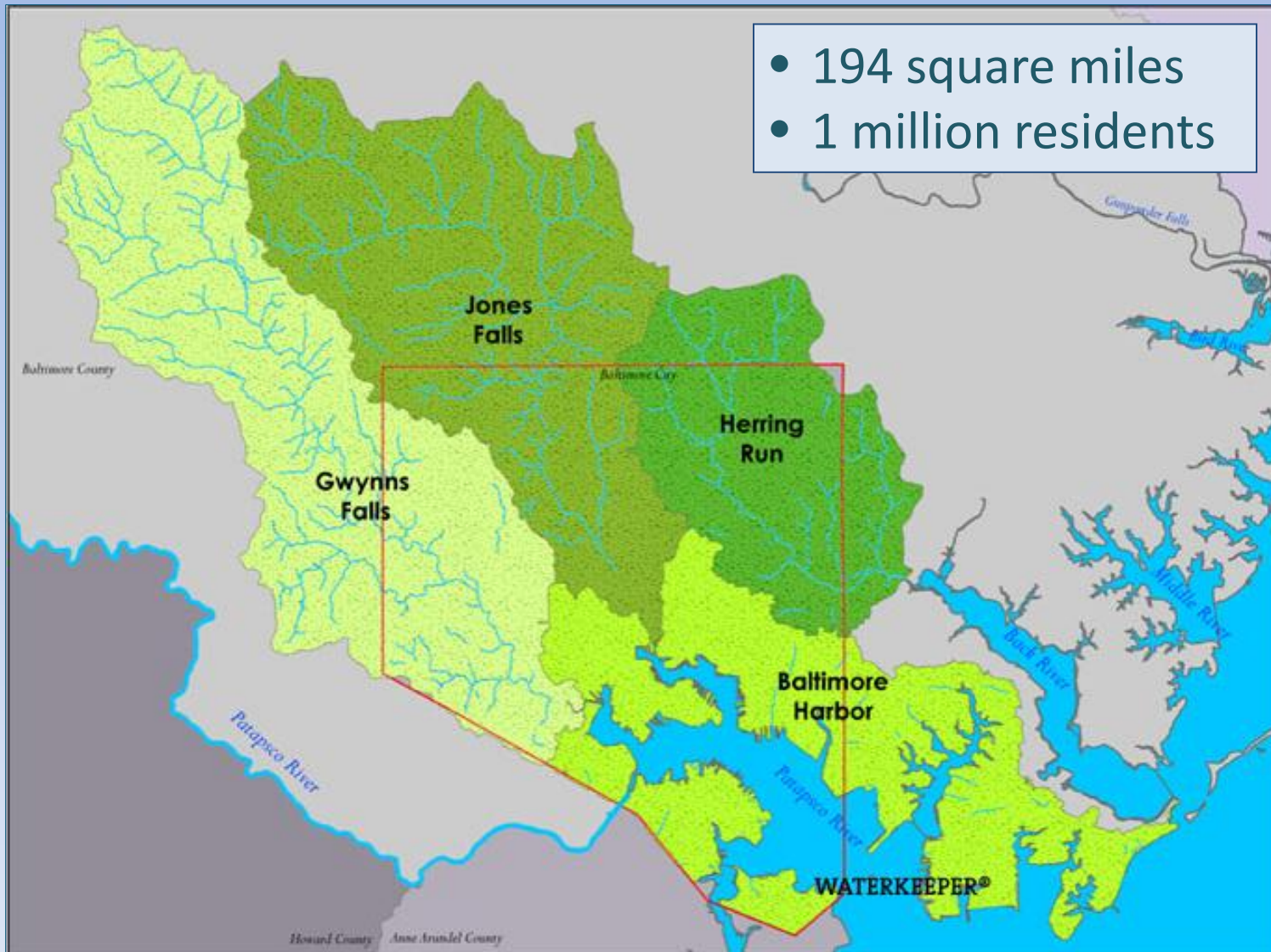
Turning a New Leaf Conference

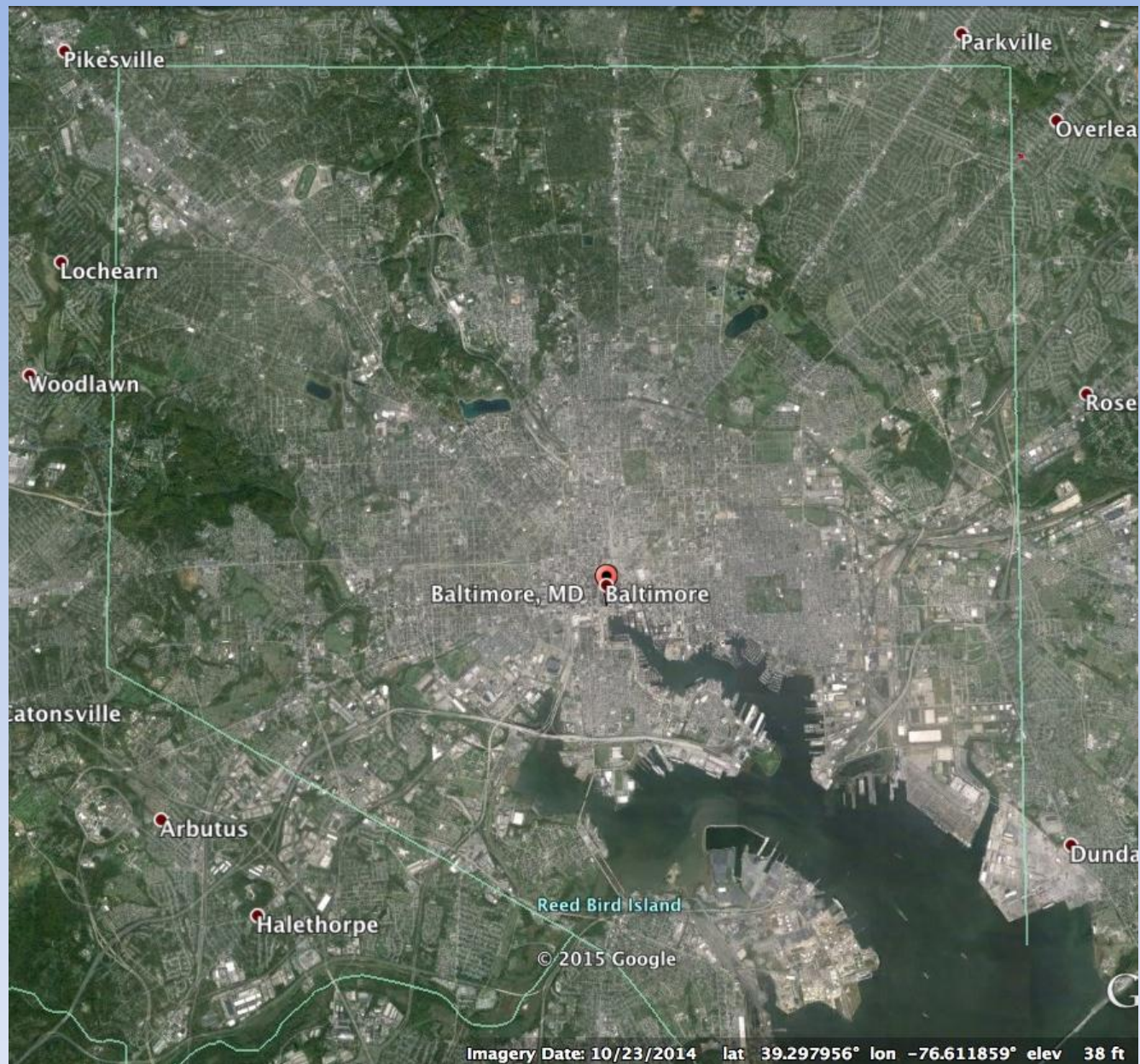
November 13, 2015



Baltimore's watersheds

- 194 square miles
- 1 million residents







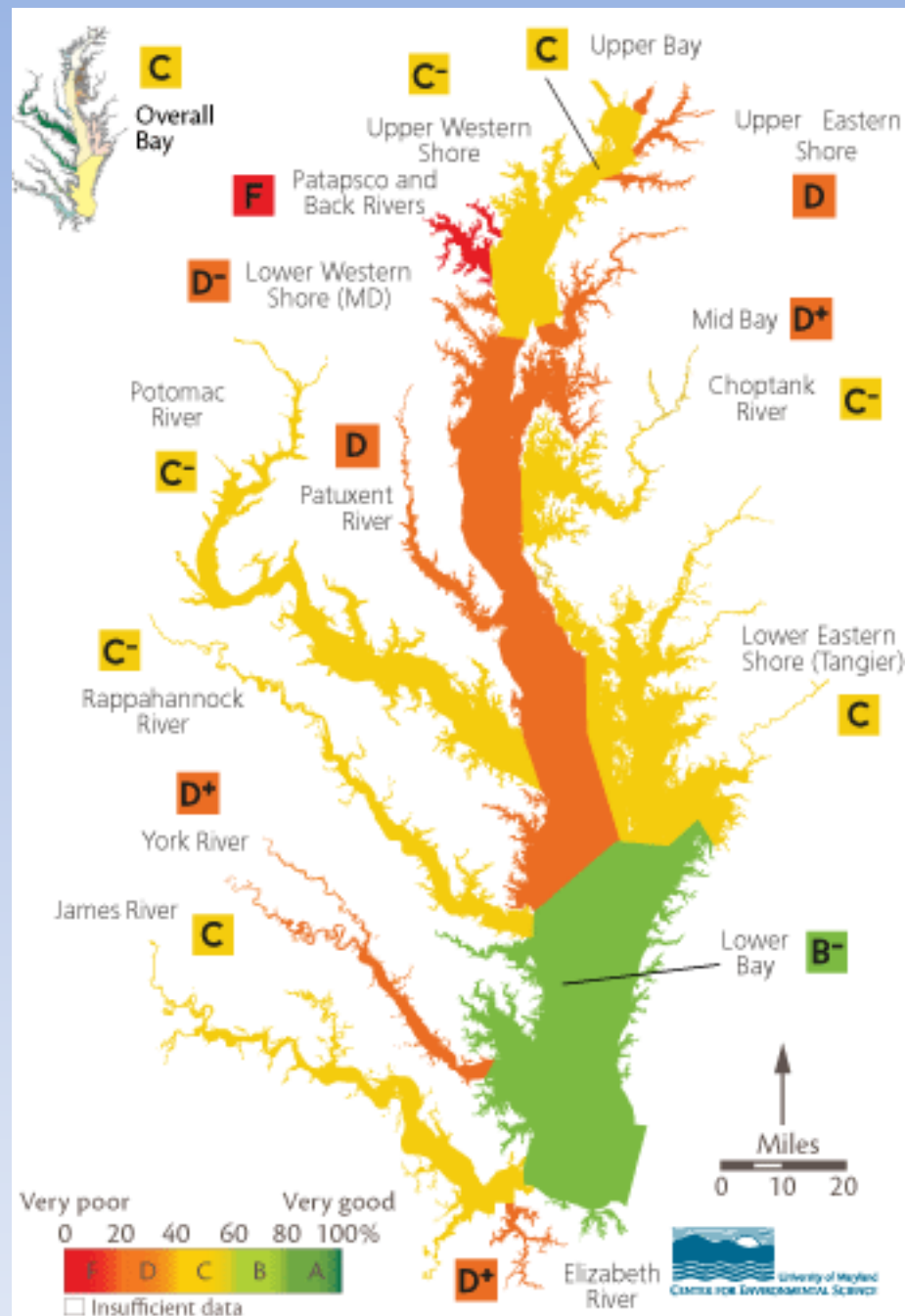












Source: University of MD, EcoCheck <http://www.eco-check.org/reportcard/chesapeake/2013/>



PANIC
AND
RUN
AWAY



HOW WE WORK:

POLLUTION ↓



SOLUTIONS ↓



CLEAN WATER. STRONG COMMUNITIES.

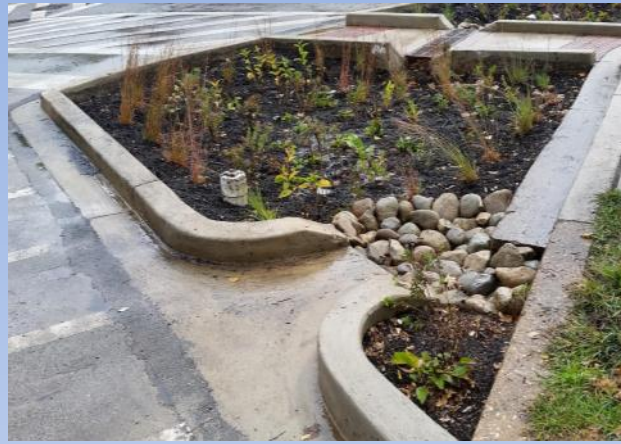
WWW.BLUEWATERBALTIMORE.ORG



Collaborative Urban Restoration

- The Water Audit Program
- Blue Water Congregations
- Deep Blue





What does success look like in the urban environment?





Water Audit Program

- Started in 2010
- \$450k, National Fish & Wildlife Foundation
- 3 years
- Goal: “Implement and monitor a cost-effective nutrient and bacteria reduction strategy for small urban watersheds in Baltimore”

the problem with RUNOFF:

- The average Baltimore home produces 35,000 gallons of runoff each year.
- This runoff contaminates local streams and the Chesapeake Bay.
- Stormwater causes flooding in the streets.
- Common pollutants found in stormwater include sediment, nutrients, fertilizer, bacteria, trash, leaked oil and gasoline.

There are ways you can reduce your home's impact on the Bay. When you register for the Water Audit program, a representative from Blue Water Baltimore will assess your property for ways that you can save water and reduce the runoff from your home.

INDOOR WATER AUDIT

Benefits:

- Save water, energy, and money

Details:

- Free audit of your water use
- Free aerators, toilet bladders, and high-efficiency shower heads

HARDSCAPE REMOVAL

Benefits:

- Eliminate unused pavement and concrete
- Replace with plants and healthy soil

Details:

- Up to \$200 rebate
- FREE project review
- Must have runoff reduction impact to qualify

RUNOFF SOLUTIONS FOR THE HOME:

RAIN BARRELS

Benefits:

- Capture rainwater
- Cut down on water bills

Details:

- \$25 rebate
- FREE barrel installation

SHADE TREES

Benefits:

- Reduce home heating and cooling costs
- Provide shade and habitat
- Improve air quality

Details:

- FREE tree planting (restrictions apply)

DOWNSPOUT DISCONNECTION

Benefits:

- Redirects water to your yard
- Ground soaks up rainwater. Vegetation and soil provide natural filtration of pollutants.

Details:

- FREE!

CONSERVATION LANDSCAPING

Benefits:

- Native plants require less maintenance
- Attract butterflies and other pollinators

Details:

- Up to \$300 rebate
- FREE project review
- FREE landscape design

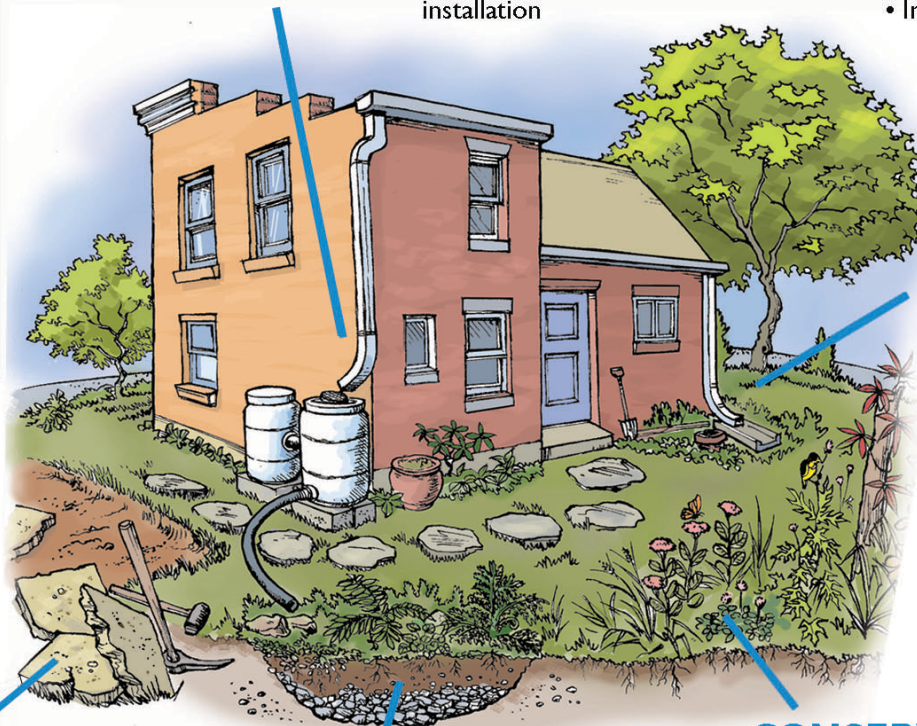
RAIN GARDENS

Benefits:

- Capture rainwater
- Recharge groundwater
- Attract butterflies and other pollinators

Details:

- Up to \$500 rebate
- FREE project review
- FREE rain garden design

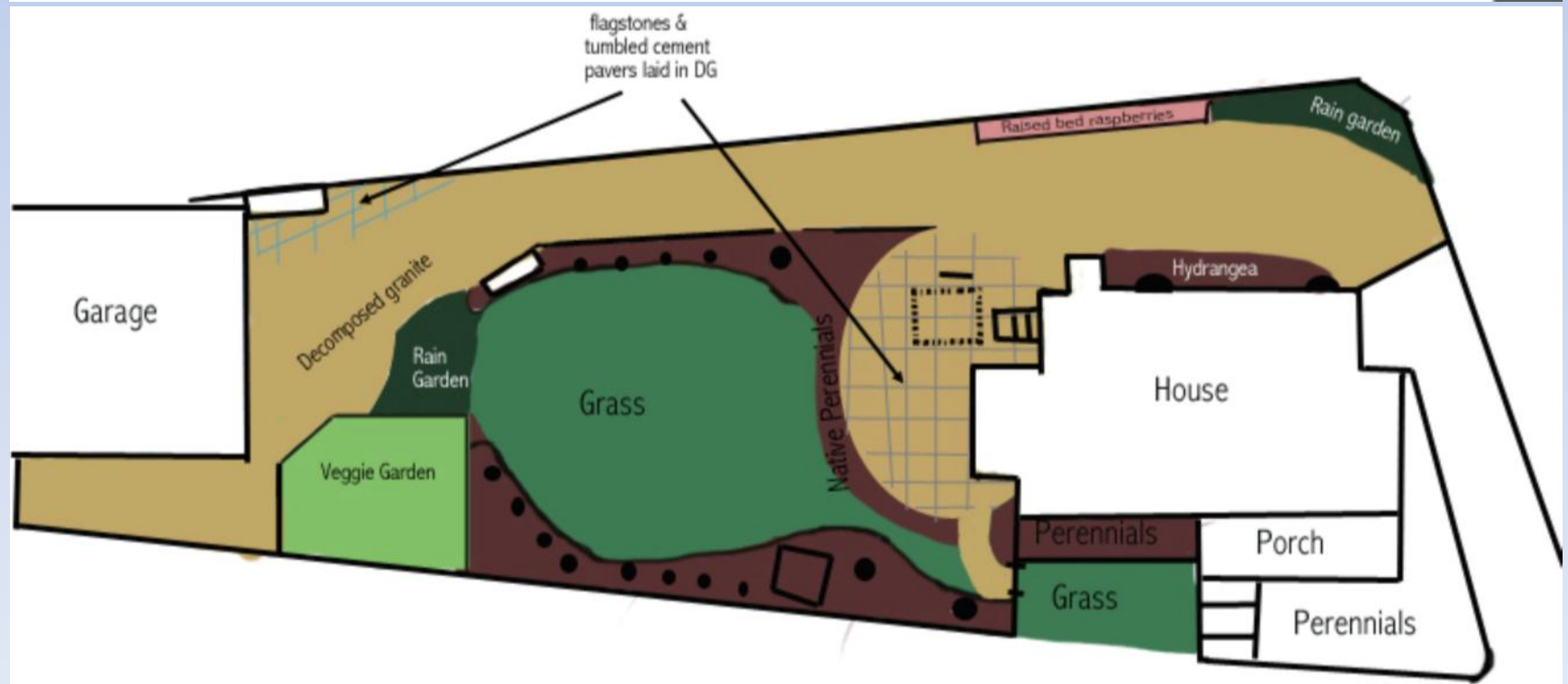
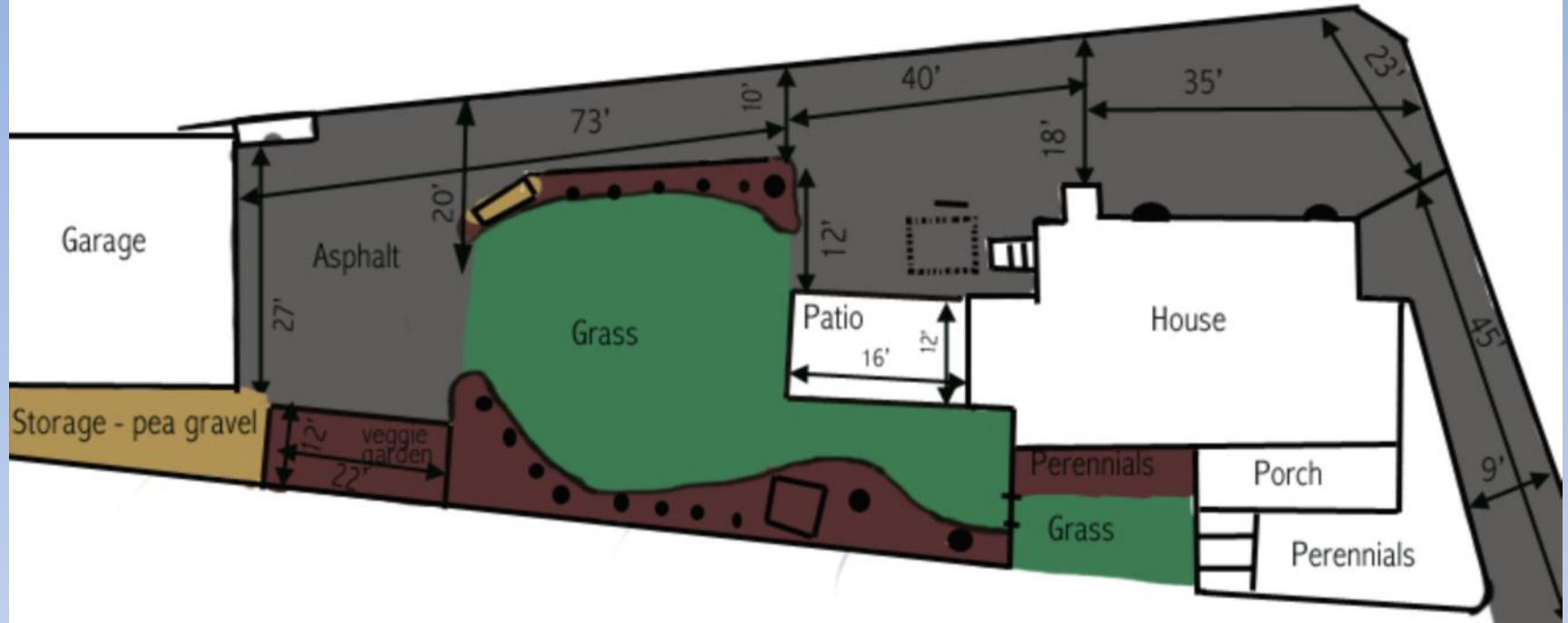




Water Audit Program

Targets

Conservation Activities	Proposed	Measure
Rain gardens	8,000	Square feet of bioretention installed
Rain barrels and cisterns	440	Number of rain barrels/cisterns installed
Impervious surface removal	120,000	Square feet of impervious surface removed
Turf to conservation landscaping	8,000	Square feet of turf converted to conservation landscaping
Educate and motivate residents on stormwater issues	5,000	Number of landowners targeted by program
Educate and engage students on stormwater issues	600	Number of students targeted by program
Downspout Disconnects	200	Number of downspouts disconnected
Green Roofs	3,500	Square feet of green roof installed



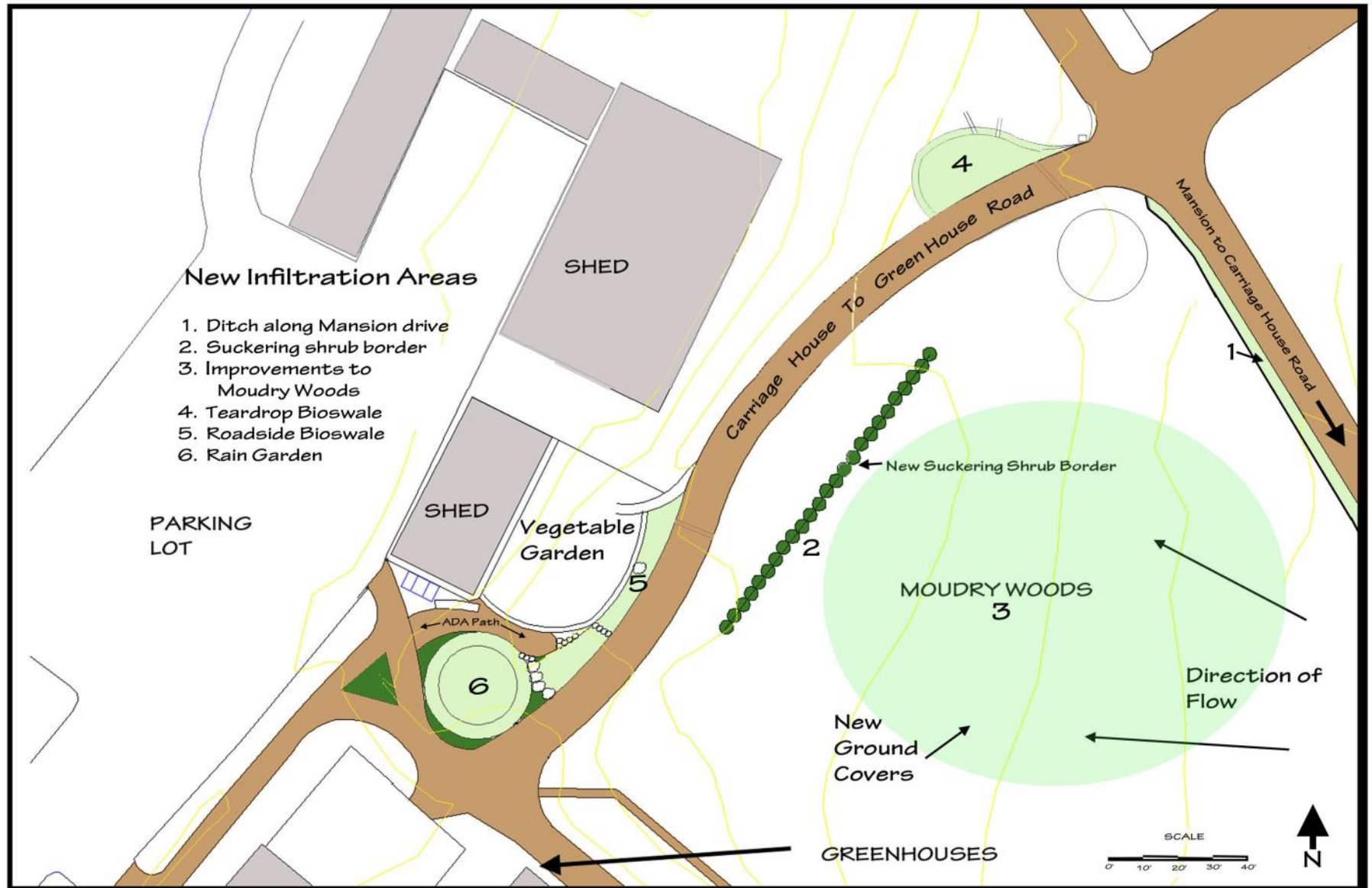






CYLBURN ARBORETUM STORM WATER MANAGEMENT PLAN

NOVEMBER 2012











Water Audit Program

Results

Conservation Activities	Proposed	Actual
Rain gardens (sf)	8,000	18,884
Rain barrels and cisterns (#)	440	169
Impervious surface removal (sf)	120,000	126,722
Turf to conservation landscaping (sf)	8,000	10,804
Educate and motivate residents on stormwater issues (#)	5,000	3,608
Educate and engage students on stormwater issues (#)	600	2,975
Downspout Disconnects (#)	200	58
Green Roofs (sf)	3,500	376



Blue Water Congregations

- Started in 2014
- \$250k, National Fish & Wildlife Foundation
- 3 years
- Partnering with Interfaith Partners for the Chesapeake
- Engage 84 institutions
- Help congregations throughout process:
 - Visioning
 - Feasibility assessments
 - Fundraising
 - Design
 - Construction
 - Outreach & continuing engagement

Blue Water Congregations

Congregations as Property Owners

- Rain gardens
- Green roofs
- Rain barrels
- Depaving
- Pervious paving
- Decrease pollution (fertilizers & pesticides)
- Tidy housekeeping



Cathedral of the Incarnation,
Baltimore, MD



Blue Water Congregations

Congregations as Community Leaders

- Educate others (drain stenciling, speakers)
- Spiritual reflection (discussion circles)
- Legislative engagement
- Cross-denominational collaborations





Blue Water Congregations

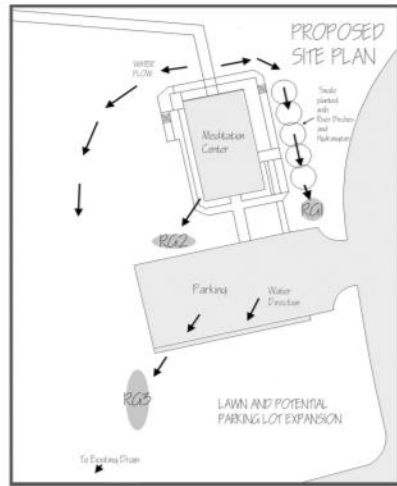
Targets

- 75 downspout disconnects
- 20 cisterns
- 12,000 sf of bioretention
- 6,000 sf of native landscaping
- 25,000 sf impervious surface removed
- 250 trees



KADAMPA MEDITATION CENTER STORMWATER INFILTRATION PROJECT

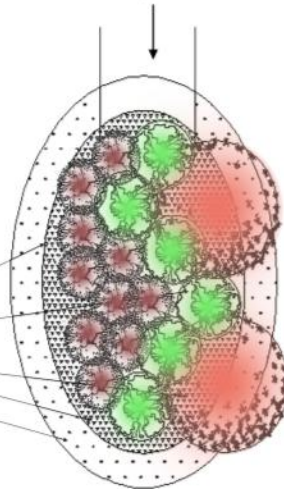
Blue Water Baltimore



Water entering from Bioswale

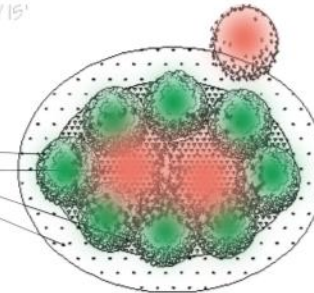
RAIN GARDEN 1
20' BY 12'

10 Ilex 'Little Henry'
6 Morica cerifera
2 Ilex verticillata
Perennial and Grass Mix 1
Perennial and Grass Mix 2

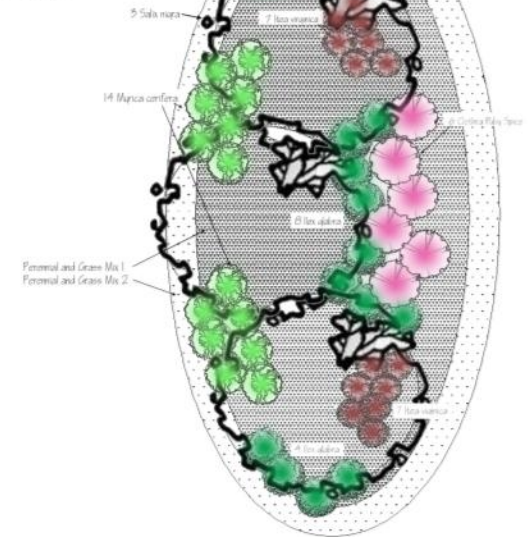


RAIN GARDEN 2
10' BY 15'

8 Ilex opalra
5 Ilex verticillata
Perennial and Grass Mix 1
Perennial and Grass Mix 2



RAIN GARDEN 3
25' BY 60'



TREES AND SHRUBS



Betula nigra



Morica cerifera



Ilex verticillata



Ilex virginica



Ilex opalra



Salix nigra



Clitoria alfolia



Panicum virgatum



Chelone glabra



Lobelia siphilitica



Lobelia cardinalis



Senecio aurea

TYPICAL PERENNIALS





Amazing Grace Lutheran Church
2426 McElderry St.
Baltimore, MD 21205



Stormwater Concept Plan
November 7, 2015

Rain Garden
(1000 sf)

Pollinator
Garden
(350 sf)

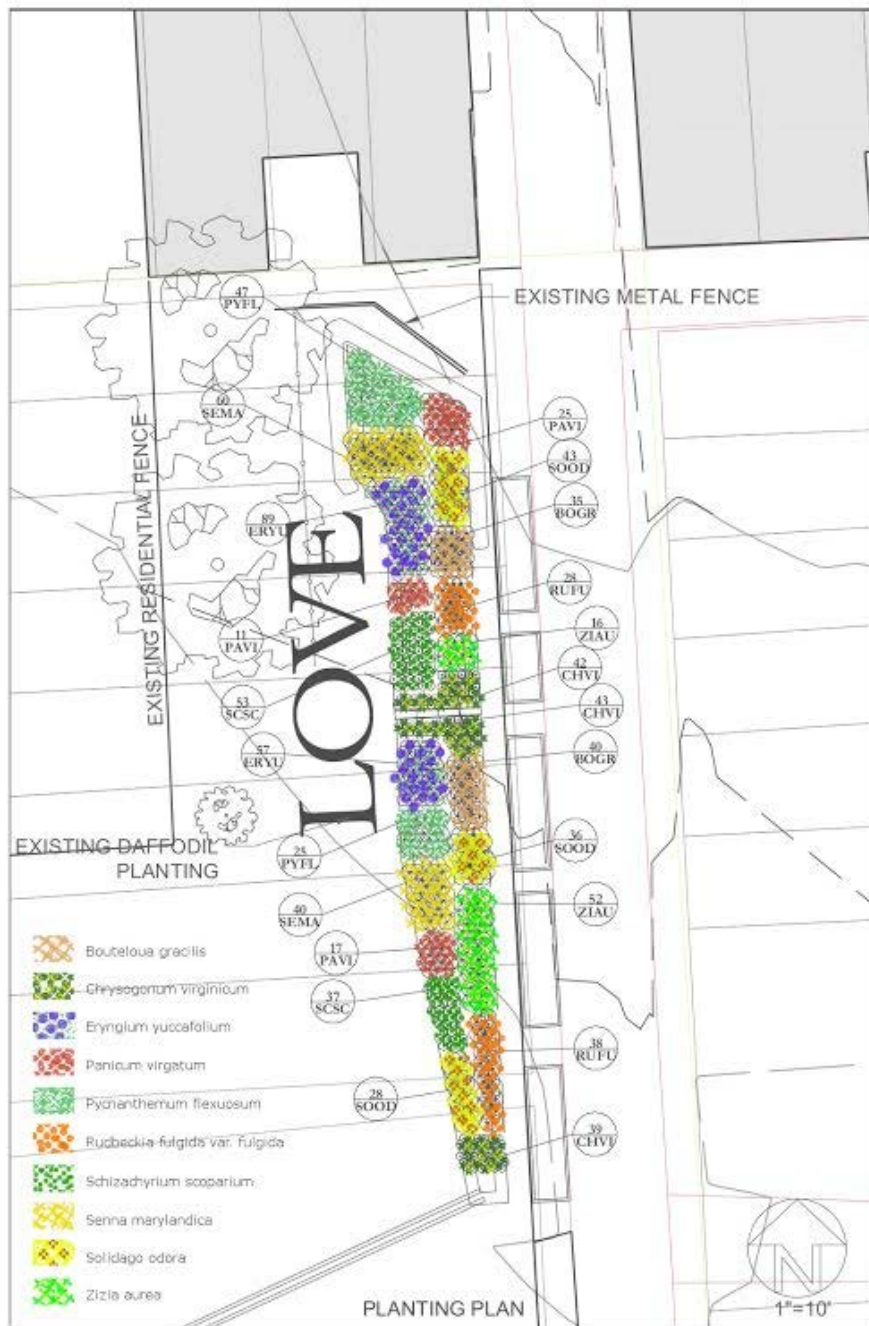
Conveyance
pipe

Pervious paving
(funded by NFWF)

Drainage
Area
(10,120 sf)

© 2015 Google

Imagery Date: 10/23/2014 lat 39.298147° lon -76.583131° elev

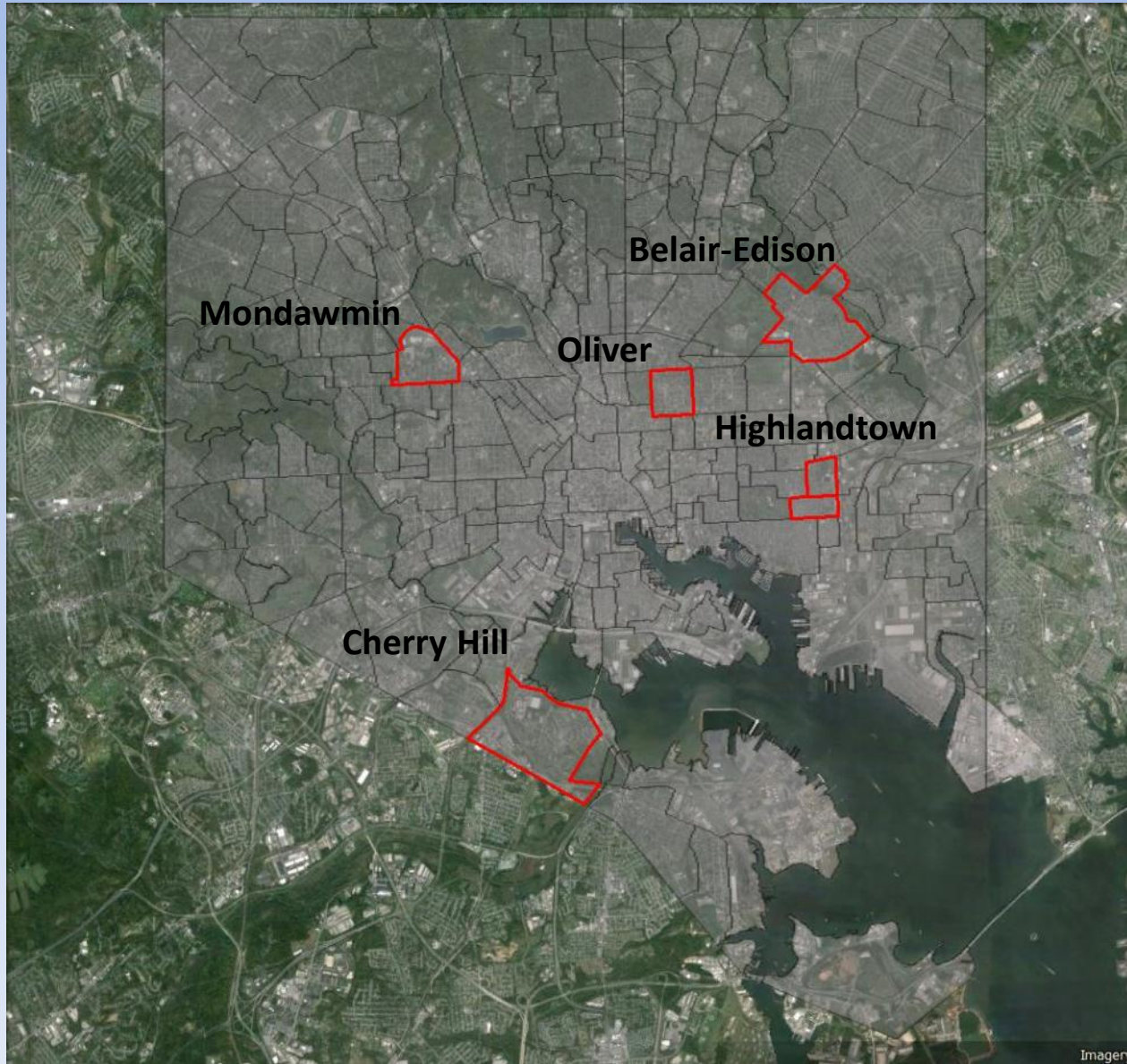




Deep Blue

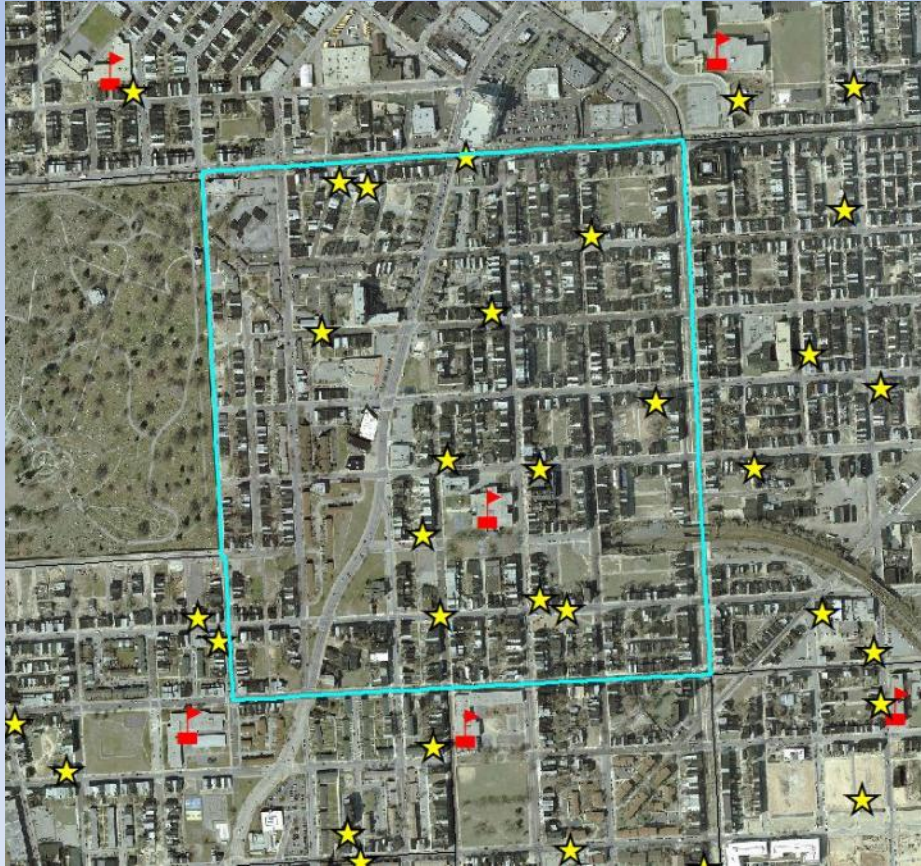
- Just started
- \$500k, National Fish & Wildlife Foundation
- 2 years
- Partnering with Neighborhood Design Center and City of Baltimore
- Engage 5 under-served communities
- Goal: Use Green Infrastructure as a framework for collaborative community planning

Deep Blue



Deep Blue

Oliver

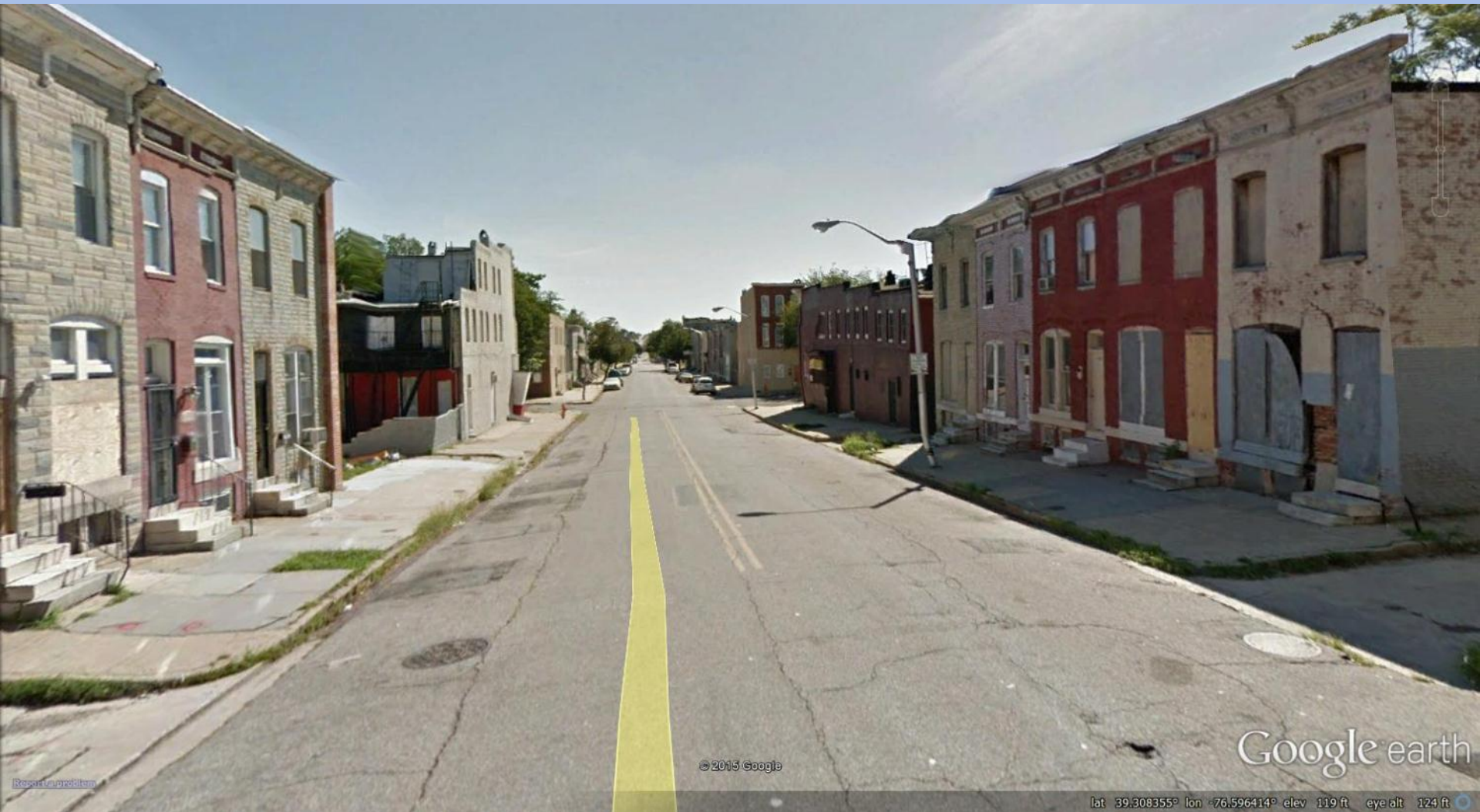


32 Churches & 6 Schools



570 Vacant Lots

Deep Blue



< 10% Tree Canopy



Progress

- Strong, synergistic partnerships
- Community driven
- One-on-one connections
- Adaptive management
- Investment in the process
- Creativity
- Patience

Our sincere thanks to our funders
without whom none of this work
would be accomplished



And to our fantastic partners
who help bring our ideas to life



Success?





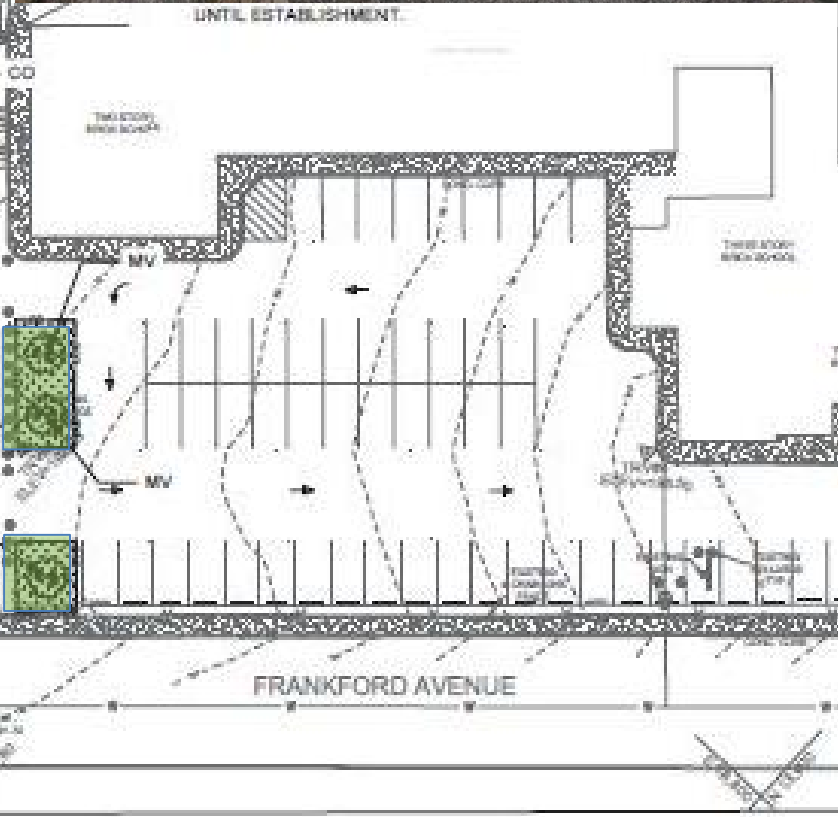
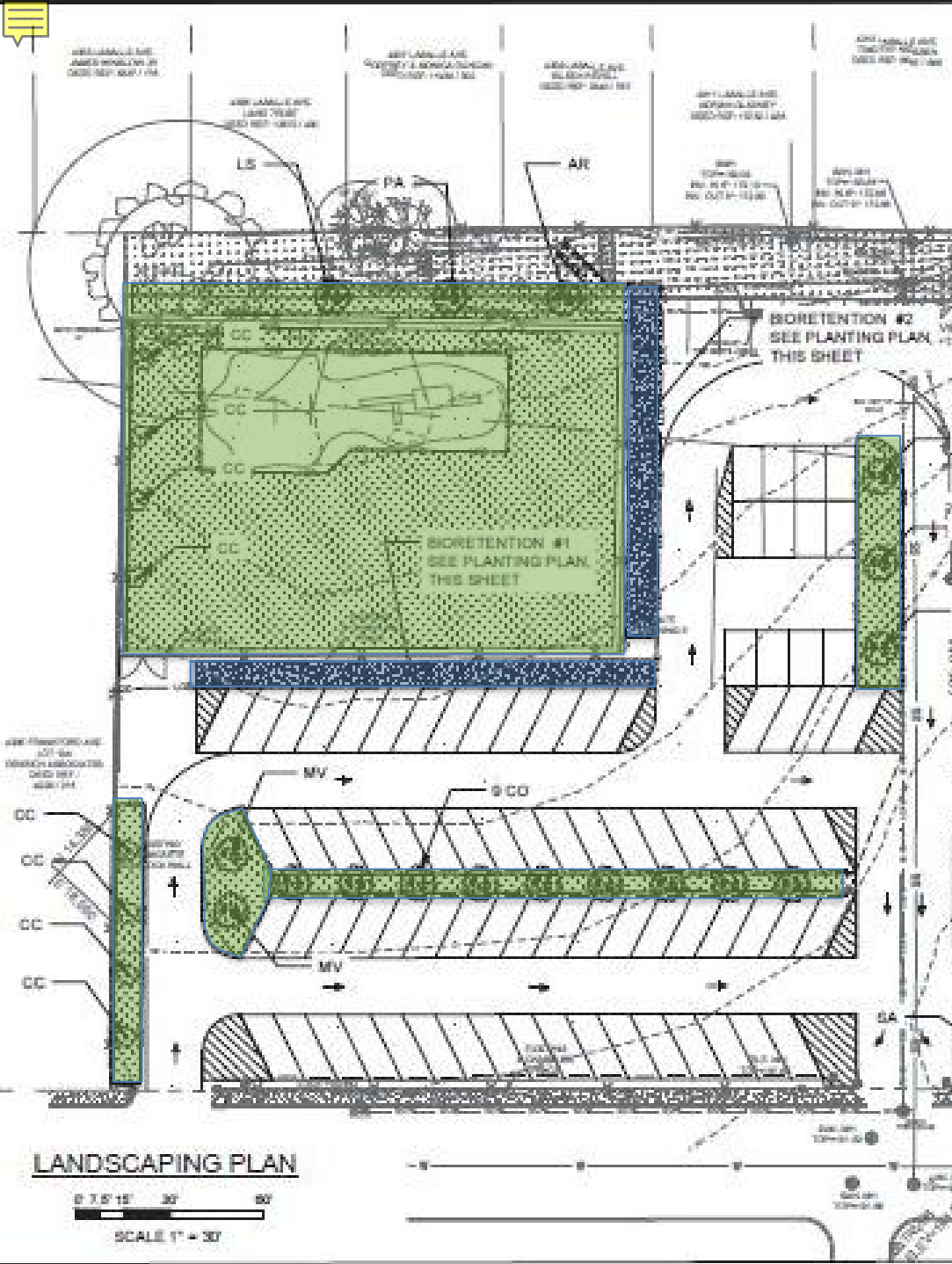
Ashley Traut

atraut@bluewaterbaltimore.org

410-254-1577 x 103

www.bluewaterbaltimore.org

Baltimore International Academy



A large photograph of a brick school building with a colorful mural in the foreground and a small inset photo in the bottom left corner. The main image shows a large, multi-story brick building with many windows. In the foreground, there is a grassy area with a colorful mural. A small inset photo in the bottom left corner shows a different view of the building.

