

ENHANCE CURRENT TREE PROTECTION ORDINANCE

- **Change the Definition of Significant Trees**

Today, only trees greater than 8" dbh require mitigation and only when part of new development projects.

- **Create an "Exceptional Tree" category**

The addition of an "Exceptional Tree" category in the City's Tree Protection Ordinance would allow for a more stringent set of protections than those currently applied to Significant Trees in order to protect the city's most valuable trees.

- **Change Mitigation Requirements**

- **Enhance the Role of the Committee on Public Planting**

Provide the Public Planting Committee with resources to extend the discussion of subjects raised by the UFMP, including

- interpreting recommendations
- updating analysis based on current research
- reviewing pilot projects
- reviewing progress toward targets

- **Expand Tree Protections to Private Property**

Many cities locally and across the country have expanded the jurisdiction of local governments through tree protection ordinances by requiring a removal permit for all trees, regardless of whether they are on public or private property. Circumstances under which the city approves a tree removal permit vary in stringency but could range from approving every request to prohibiting removal of any healthy tree. However, the success of this approach has not been well established.

- **Earmark Tree Replacement Fund dollars for Community Grants**

The city could earmark some of the funds in the Tree Replacement Fund for community-based grant making that could help fund operations to encourage planting on private property.

FORMALIZE CITY PRACTICES

- **Align Planting Priorities by City's Commitment To Equity**

- **Increase Oversight to Ensure Compliance**

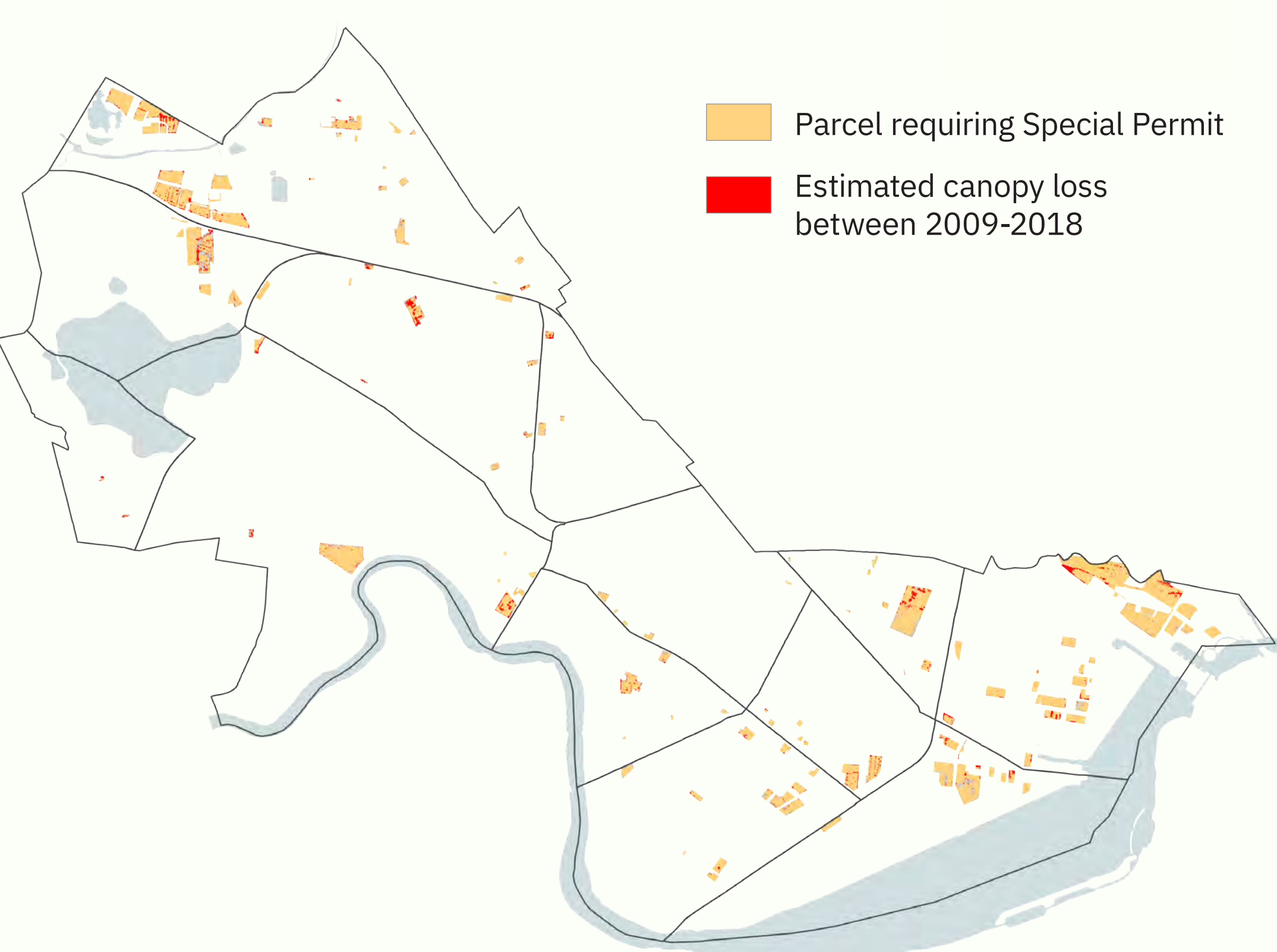
Currently, there is limited City oversight to ensure compliance. The Tree Protection Ordinance does not currently define standards for tree protection during construction.

- Require increased offset from tree dripline to protect tree roots
- Require periodic review per an order of conditions to improve tree protection measures (fencing, watering) during construction
- Require city arborist/city engineer inspection prior to obtaining Certificate of Occupancy

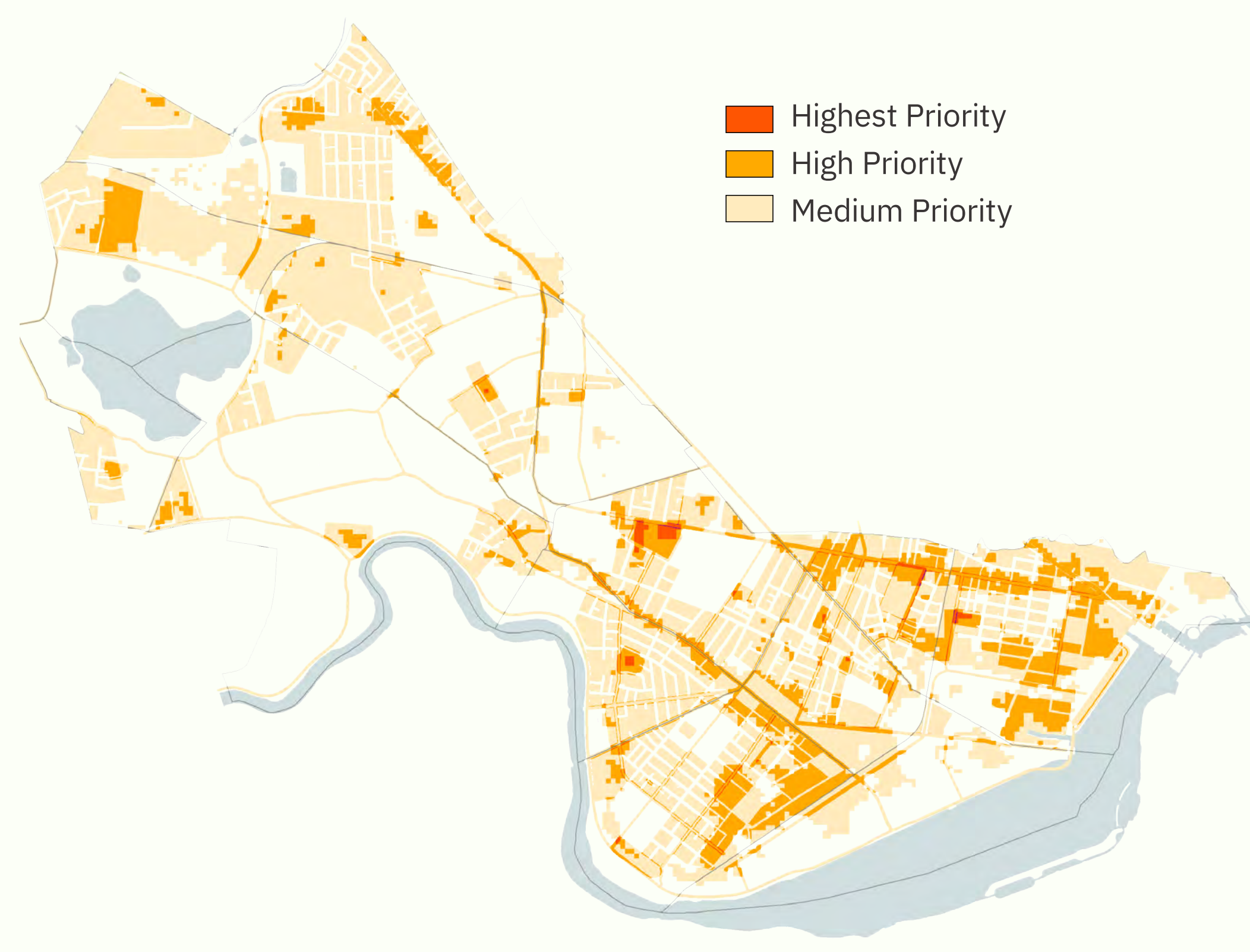
INTEGRATE CANOPY VALUES INTO PLANNING AND ZONING

- **Broaden and Align Zoning Requirements**

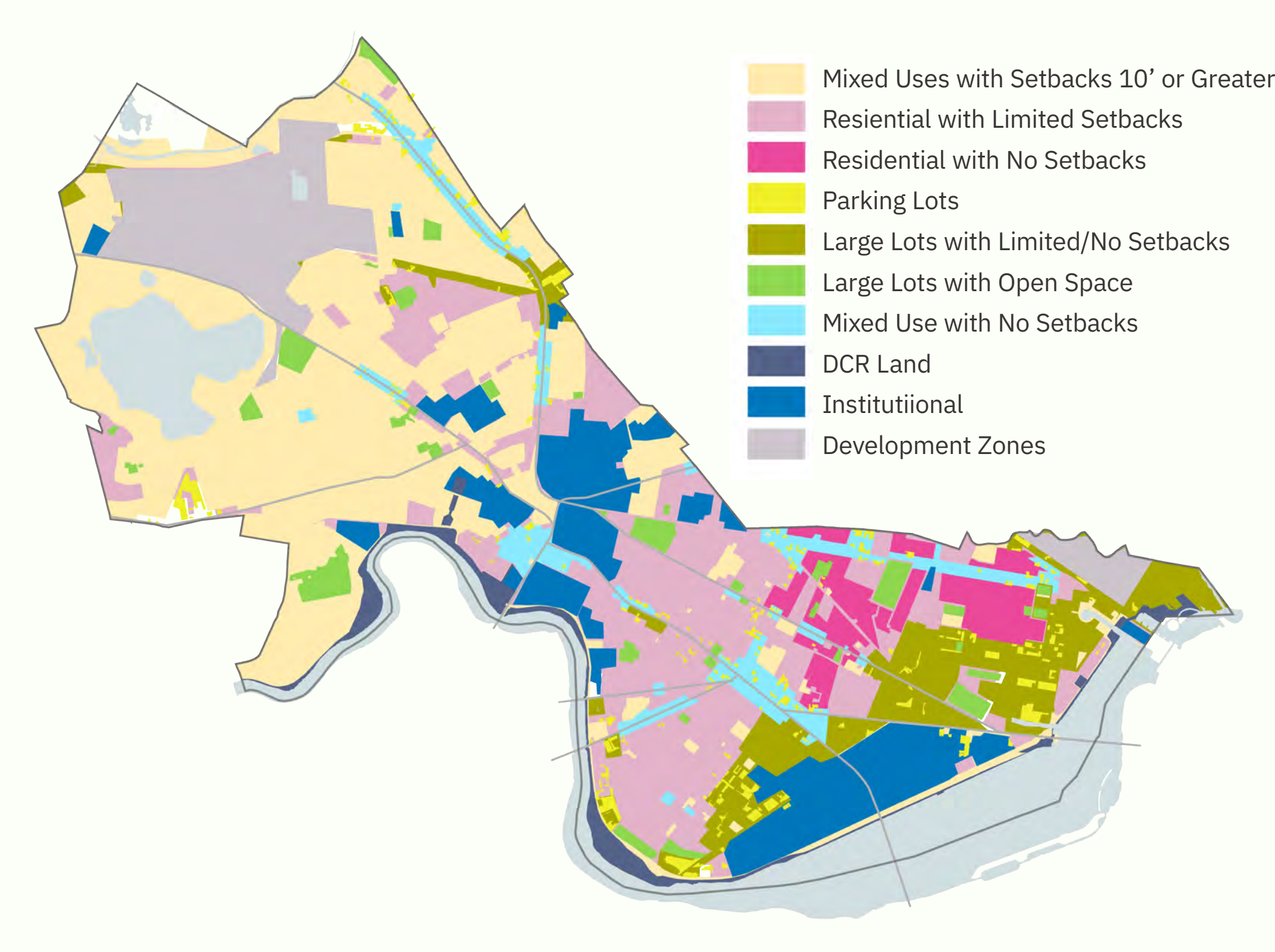
- Establish canopy coverage requirements
- Increase ratios for trees to parking spaces and/or dwelling units
- Increase setback and open space requirements in priority areas
- Establish flexible landscape mandate like Green Factor or Green Area Ratio
- Resilient Task Force zoning opportunity



SPECIAL PERMITS (2009-2018)



PLANTING PRIORITY AREAS



SITE CONDITIONS AND USES

MONITOR

- Increase tree assessments
- Expand pest monitoring
- Expand Cartegraph tracking to monitor success of practices

REMEDIATE

- Manage soils
 - Liquid biological amendments
 - Decompaction/Aeration
- Treat private trees during severe pest outbreaks (EAB)

PLANT

- Enhance soil specs
- Ensure proper drainage
- Plant bare root trees

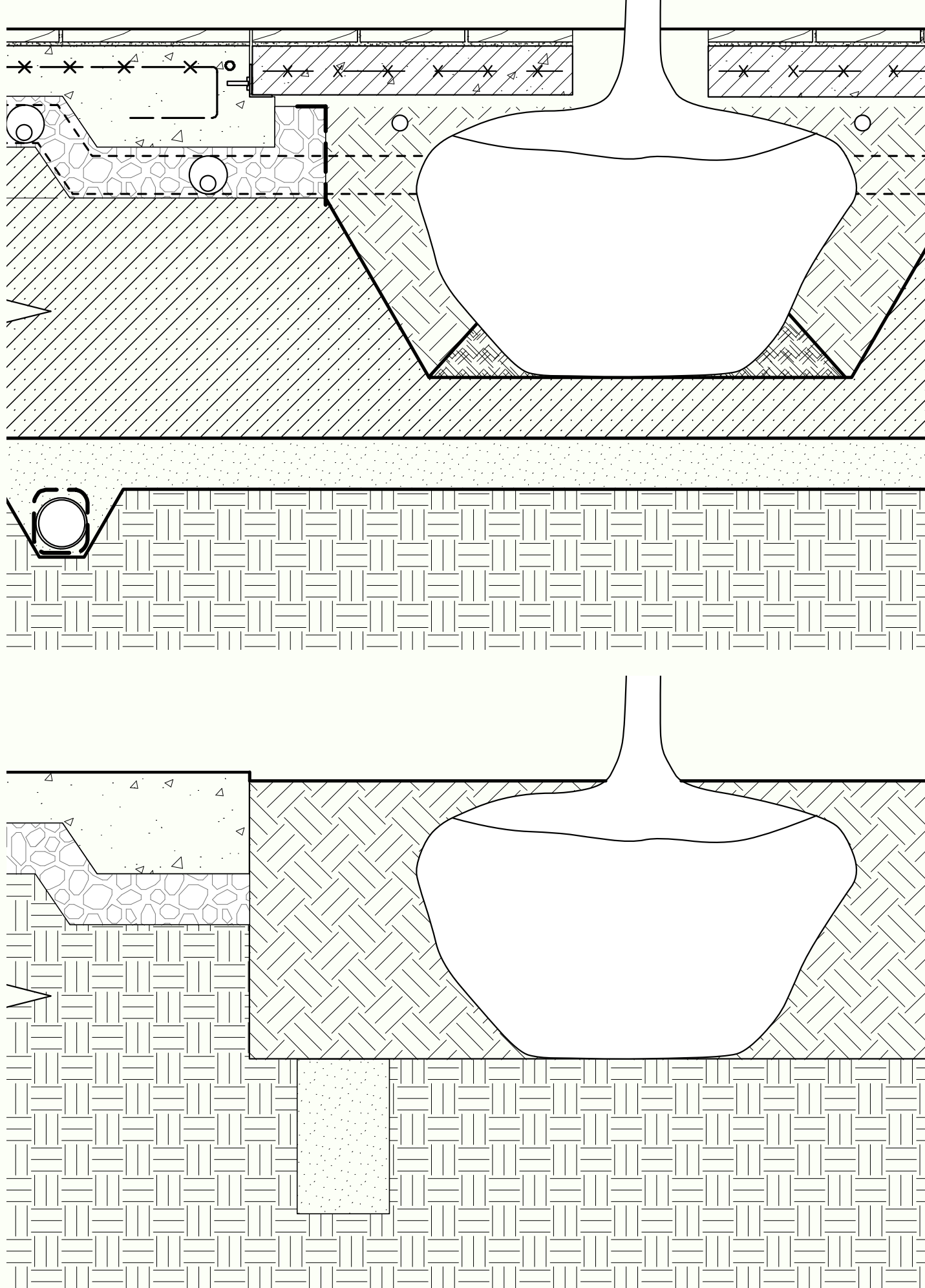
MAINTAIN

- Formalize a City-wide management plan
- Manage soils
 - Mulching
 - Liquid biological amendments
- Structural pruning for young trees
- Expand watering program

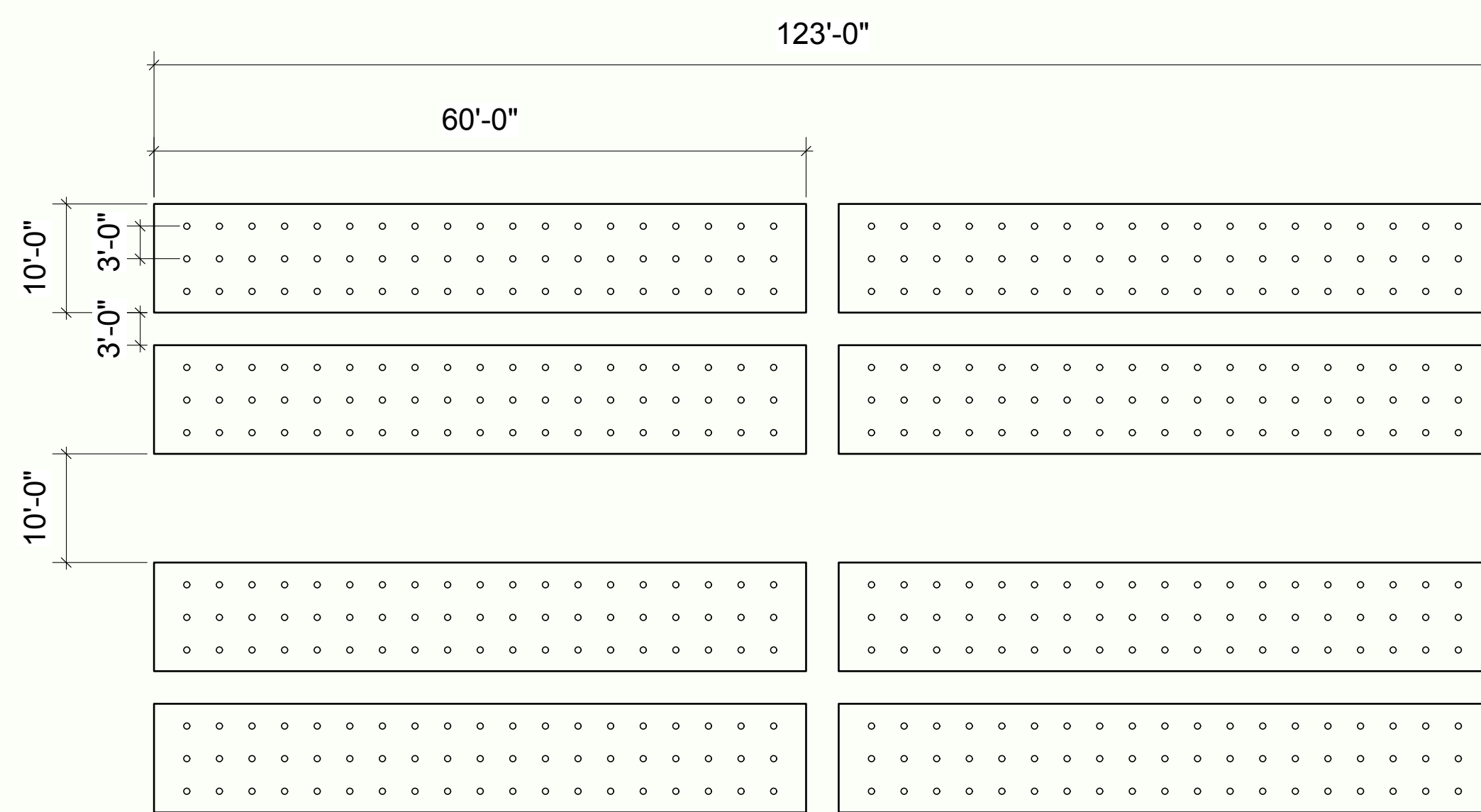
ENHANCE SOIL SPECS



ENSURE PROPER DRAINAGE



PLANT BARE ROOT TREES

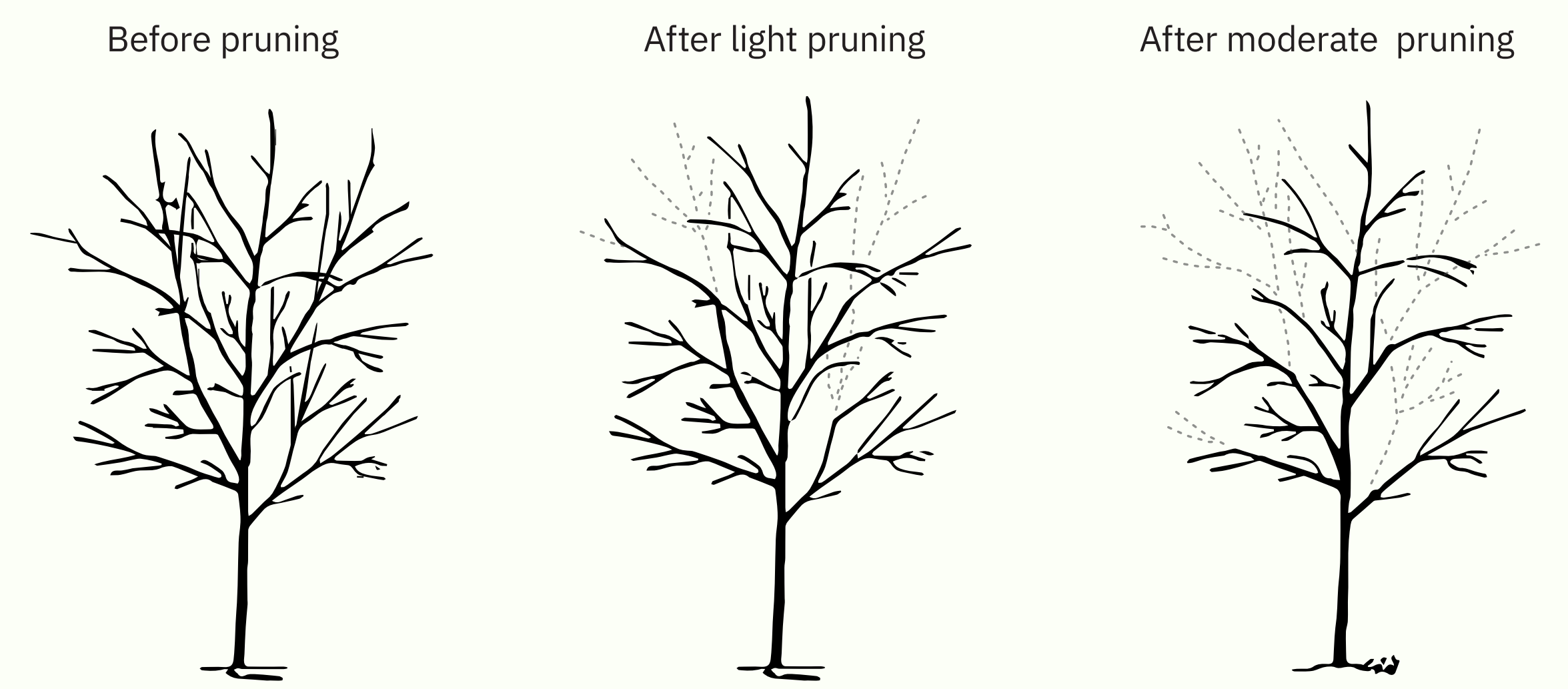


8,200 sf required to store 456 2.5"-3" Caliper bare root trees.

MANAGE SOILS

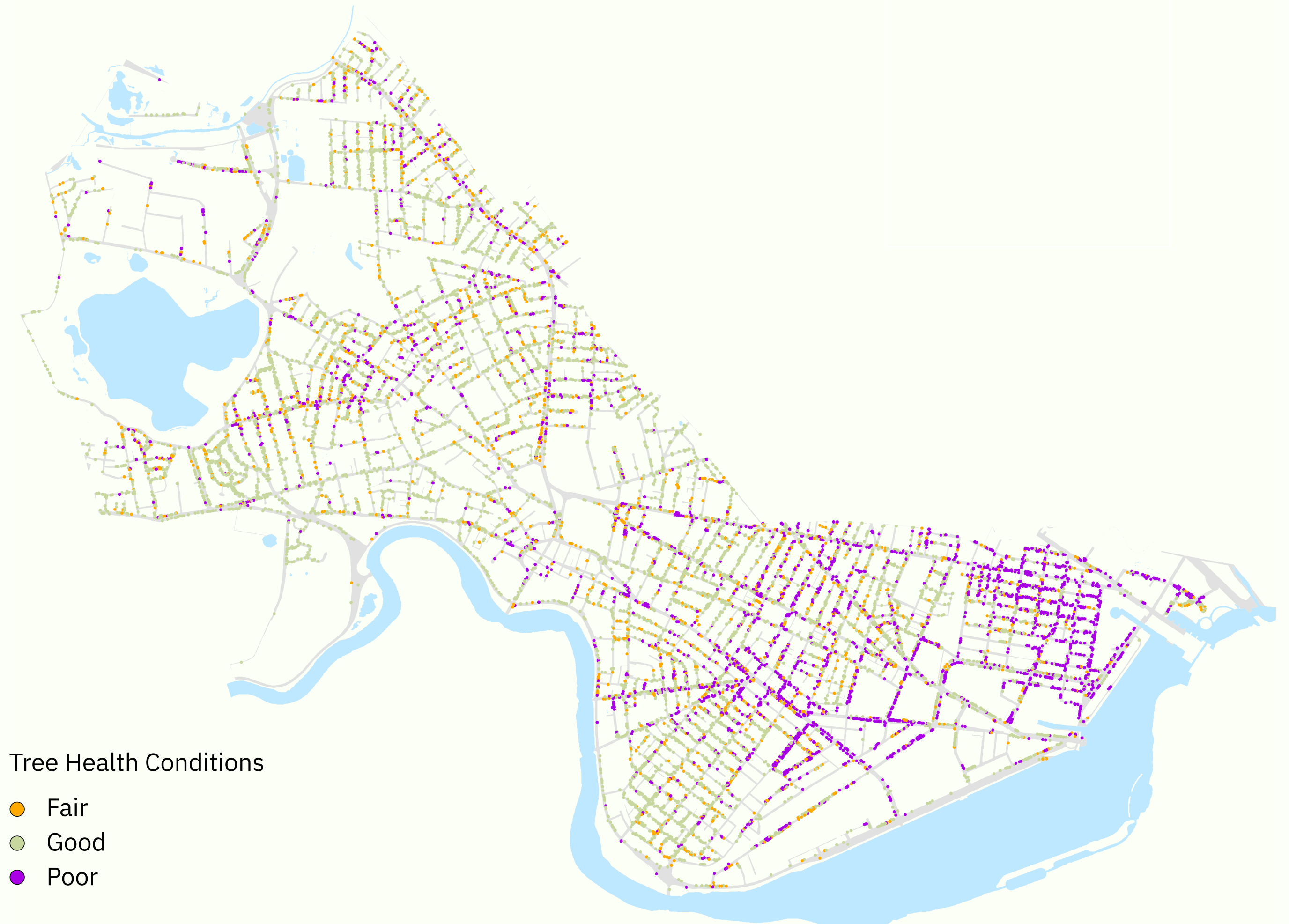


PRUNE YOUNG TREES FOR STRUCTURAL INTEGRITY



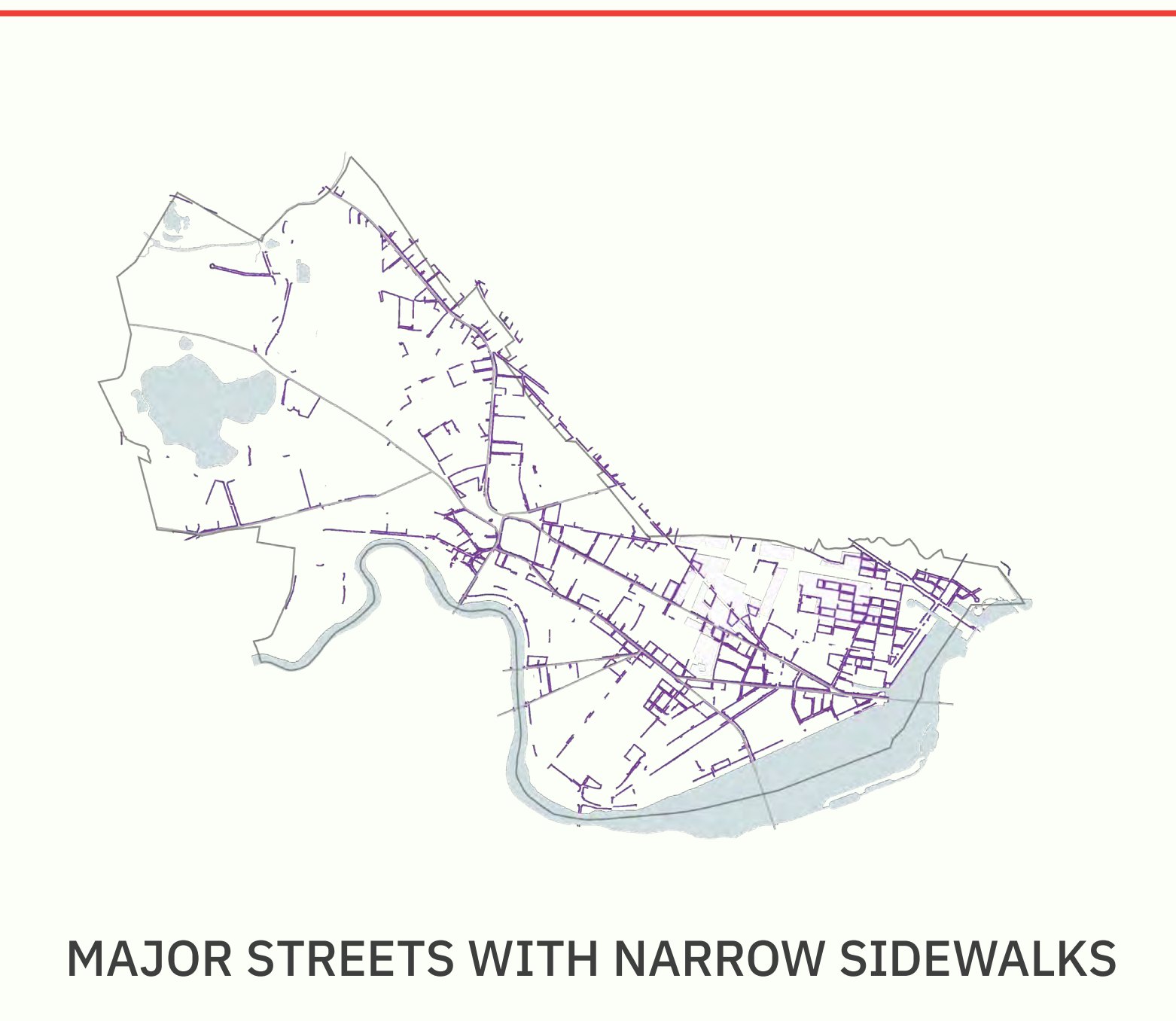
Graphic from "Structural Pruning of Shade Trees," Gilman and Eisner

MONITOR THE TREES

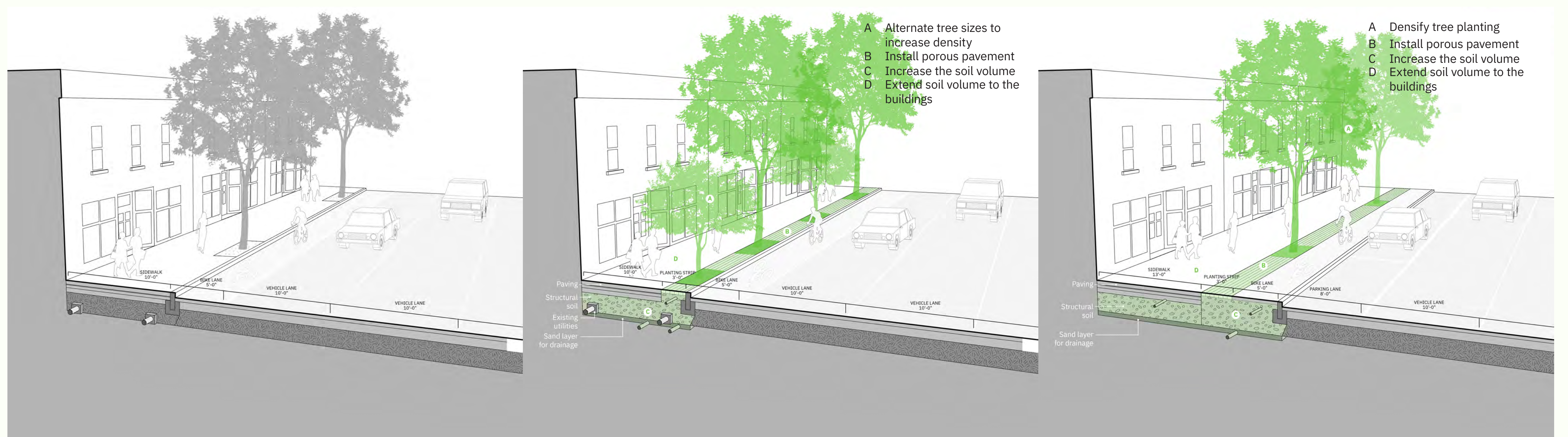




MAJOR STREETS WITH WIDE SIDEWALKS



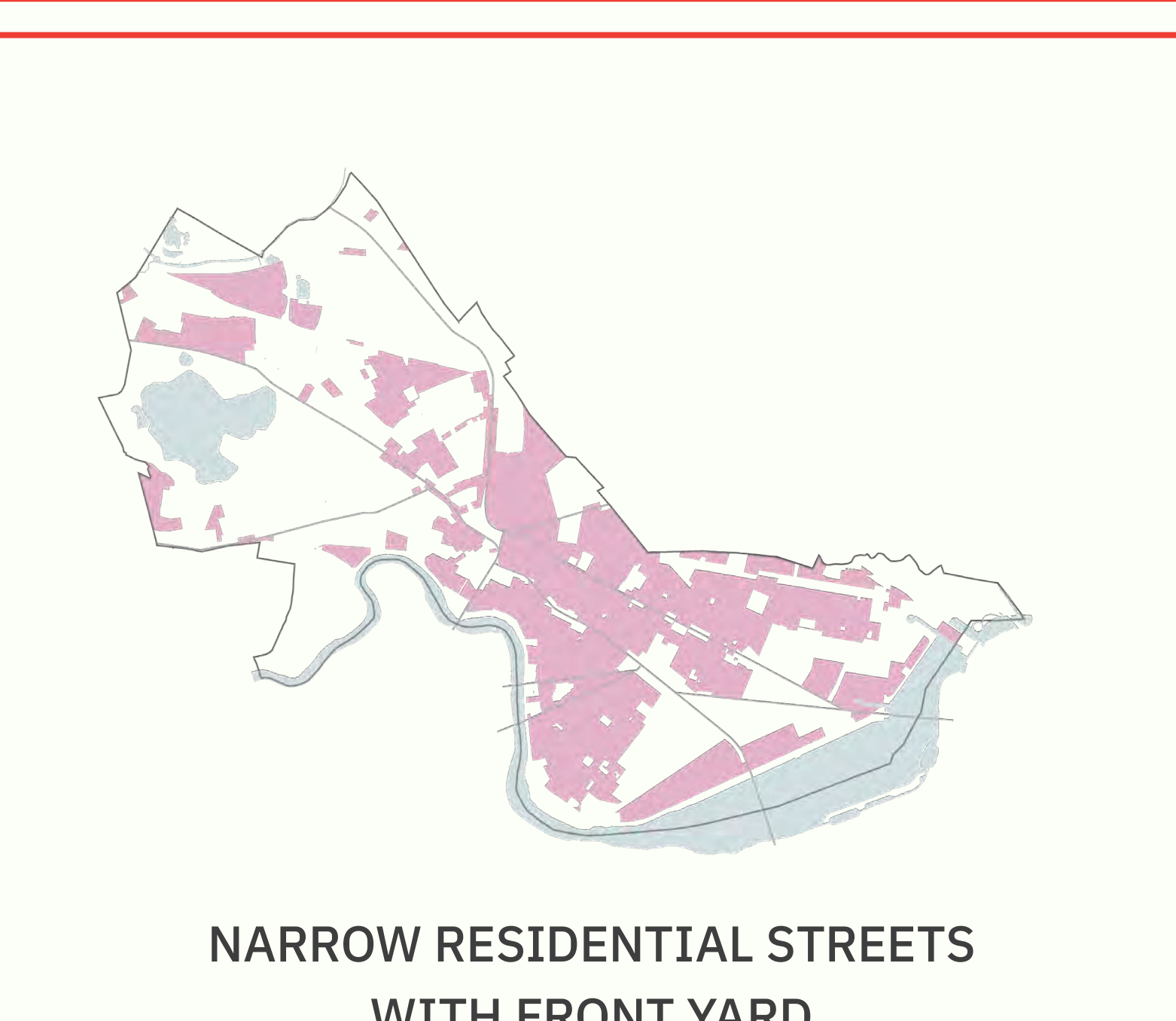
MAJOR STREETS WITH NARROW SIDEWALKS



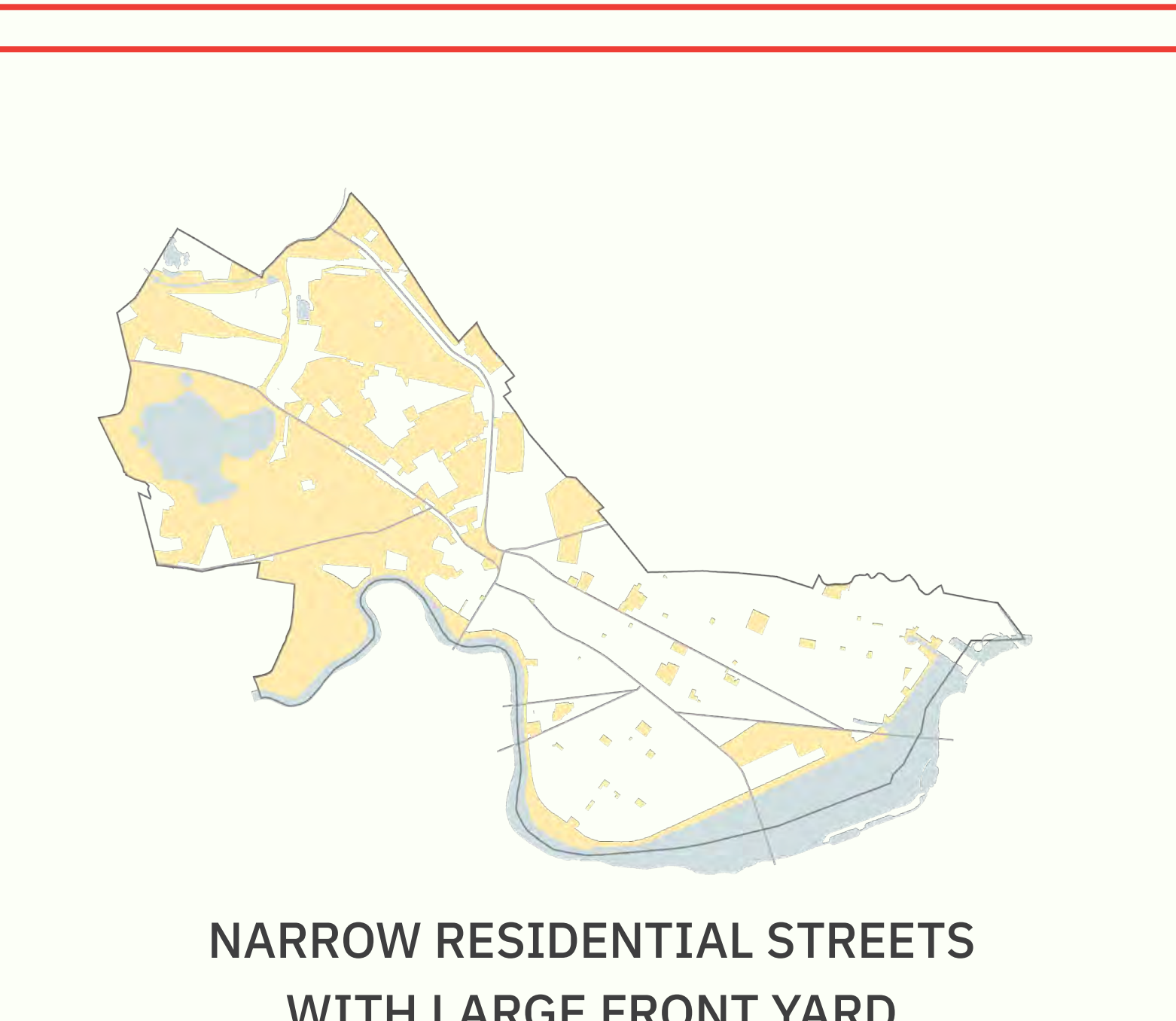
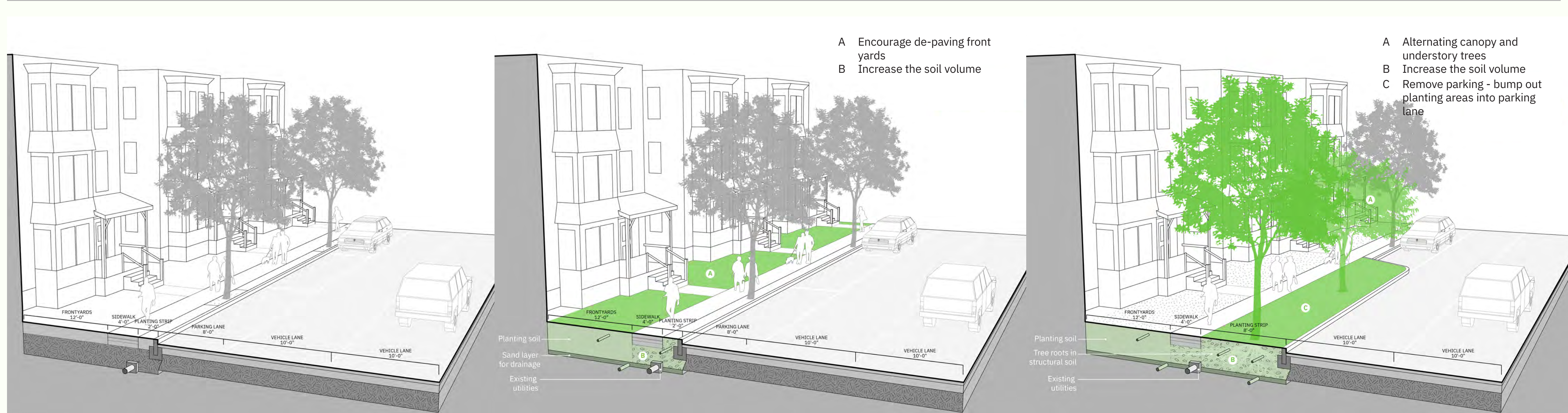
MAJOR STREETS WITH COMMERCIAL BUILDINGS



NARROW RESIDENTIAL STREETS, NO SETBACK



NARROW RESIDENTIAL STREETS WITH FRONT YARD



NARROW RESIDENTIAL STREETS WITH LARGE FRONT YARD



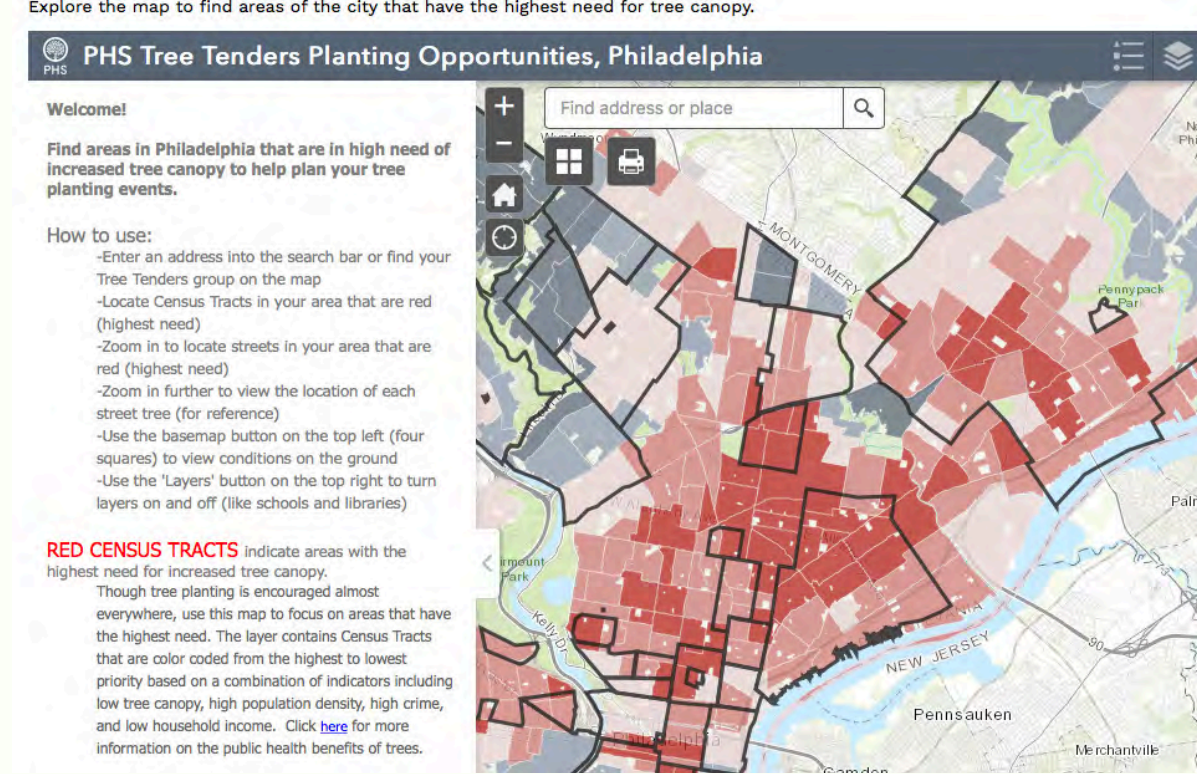
Empower existing NGOs to plant and maintain more trees, including on private property.

- Hands-on tree care training, covering biology, identification, planting and proper care
- Tree Planting Opportunities Map for tree planting events
- Book Club
- Video Library

Planting a Balled & Burlapped Tree



Tree Tenders Planting Opportunities



TREE TENDERS (PENNSYLVANIA HORTICULTURAL SOCIETY)

Support community employment and involvement in tree planting and constructing bioswales.

- Community Greenspace provides material supplies, technical advice, and classroom-based and hands-on training to support resident-driven community greening projects.
- GreenSkills is a local green jobs program that employs high school students and adults with employment barriers through the planting of trees.
- Green Infrastructure, a partnership with the City of New Haven to construct bioswales.



YALE URBAN RESOURCES INITIATIVE

Build capacity of existing NGOs through partnerships with national organizations.

- Nonprofit organizations, urban forest councils, municipalities and individuals can join the alliance.
- Offering education & training to its members and providing online tree planting and care resources.



A Strong Network Focused on Trees

Tree Health Guide

Pruning Guide

ARBOR DAY FOUNDATION — ALLIANCE FOR COMMUNITY NETWORK

Educate city staff, institutions, and other grounds managers on the value of trees and how to be stewards of them.

- Employee education programs
- Supporting arboriculture and urban forestry education



Continuing Education at Davey



Davey Establishes Educational Endowment for TREE FUND

DAVEY TREE

Educate the public on the value of trees and how to be stewards of them.

Green City Teachers

a training program that enables educators to start school gardens

Garden Tenders

a training program for starting community gardens on vacant lots, in parks, around schools and churches etc.

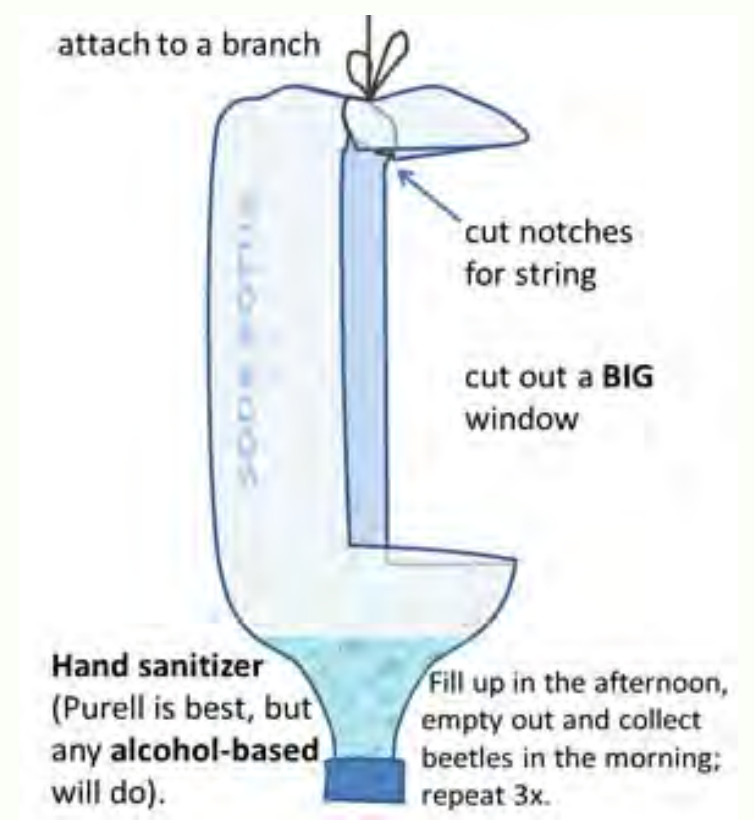
City Harvest

thousands of seedlings are started at neighborhood-based greenhouses by nonprofit partners as well as by inmates of the Philadelphia Prison System at a prison greenhouse through a training program.

PENNSYLVANIA HORTICULTURAL SOCIETY

Educate the public on pests.

- Citizen science project helps to protect the forest and tree species

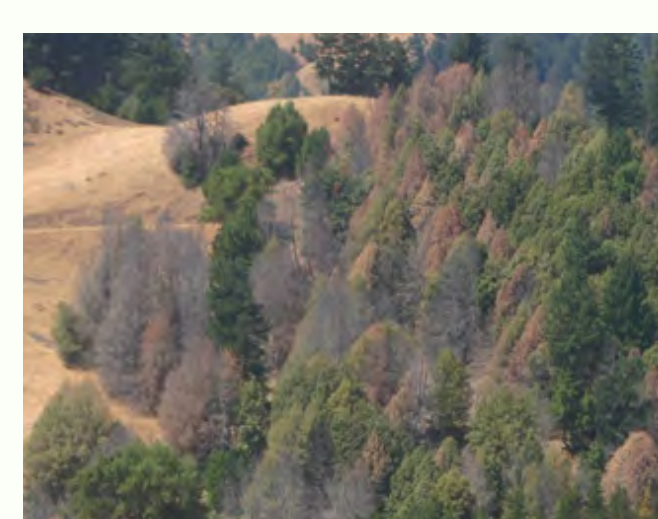


BACKYARD BARK BEETLE UNIVERSITY OF FLORIDA

Train citizens to survey trees in the city and for diagnosis and management of diseases.

Diagnosis and management include

- knowing the hosts and symptoms,
- best management practices,
- treatments and restoration options,
- sanitation measures to reduce the risk of spreading pathogen
- regulations
- response plans



SUDDEN OAK DEATH (SOD BLITZ)

Create a program that prevents the spread of pests from imported wood pellets.

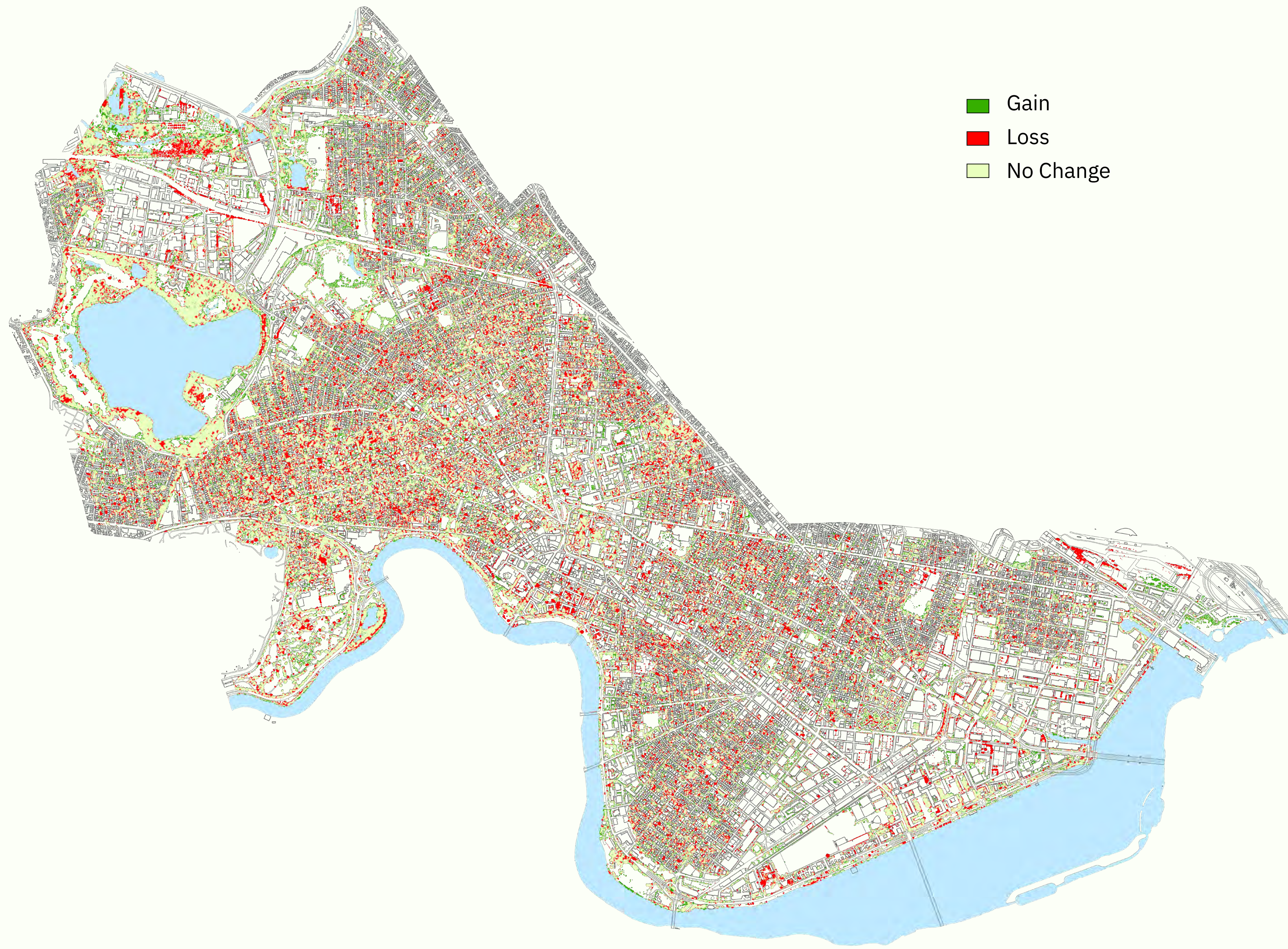


Wood pellets



Asian long-horned beetle

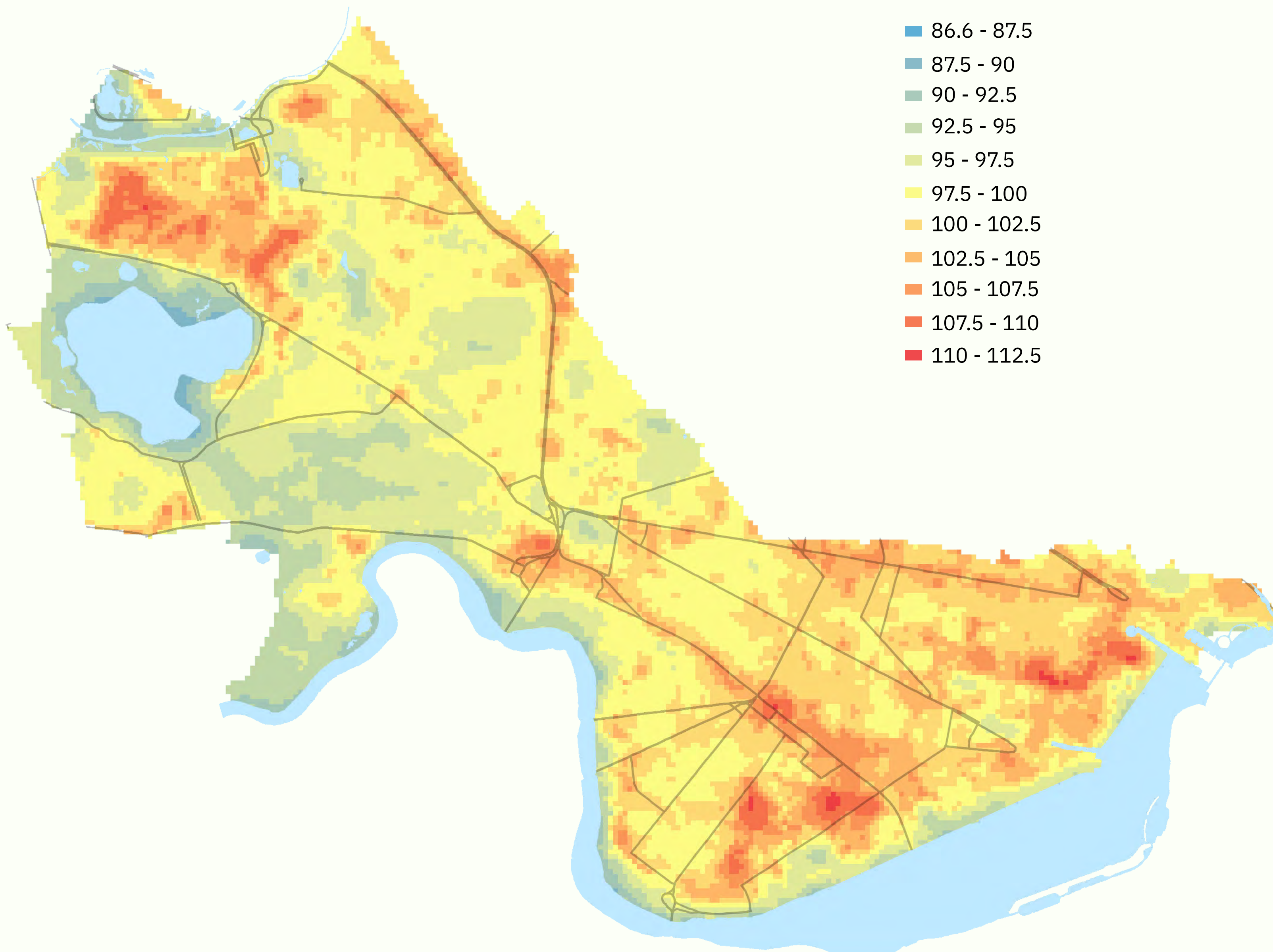
ANALYSIS



TREE CANOPY LOSS (2009-2018)



TREE HEALTH CONDITIONS



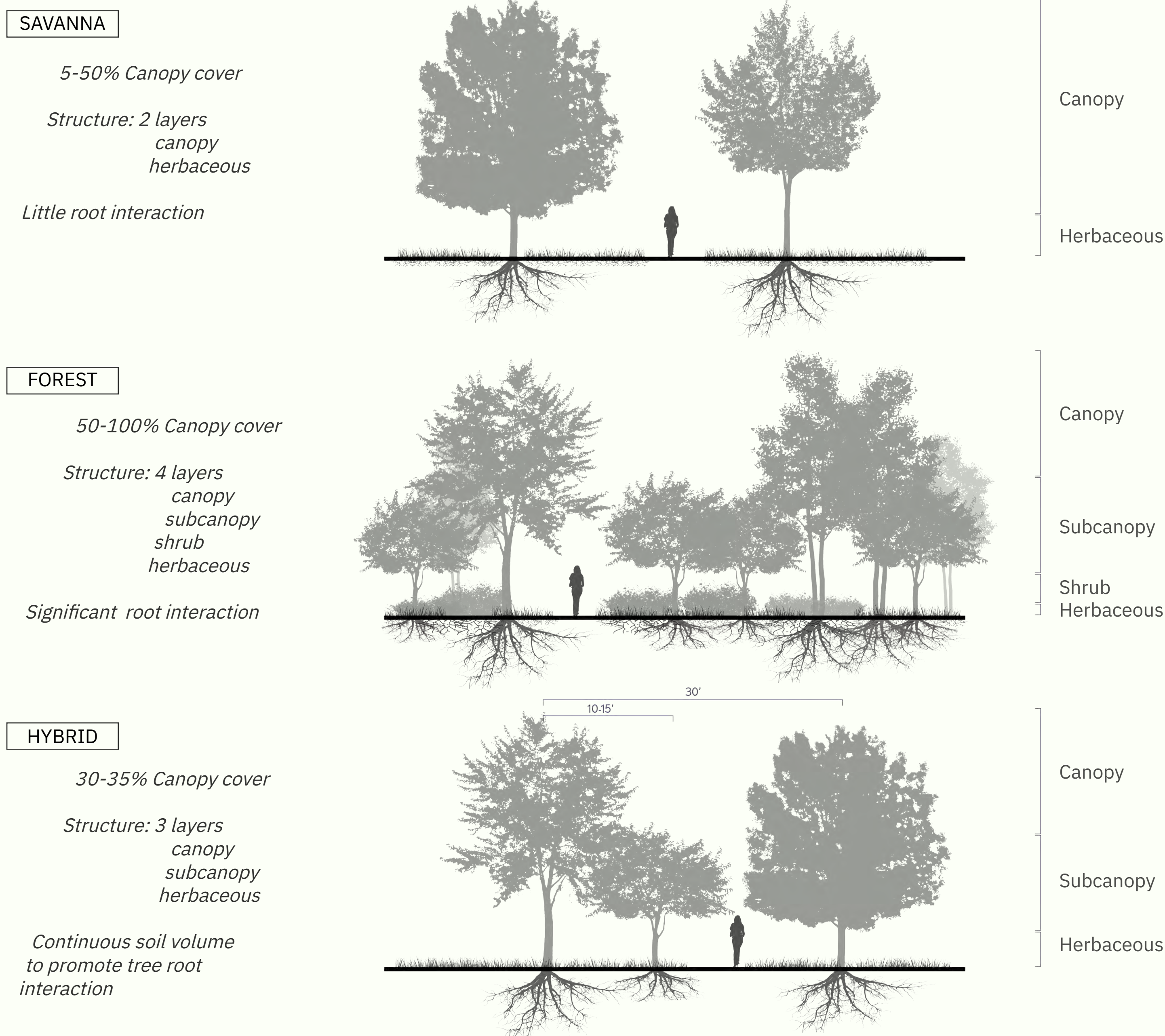
HEAT ISLAND

ESTIMATED AMBIENT AIR TEMPERATURE ON A 100°F DAY IN 2070

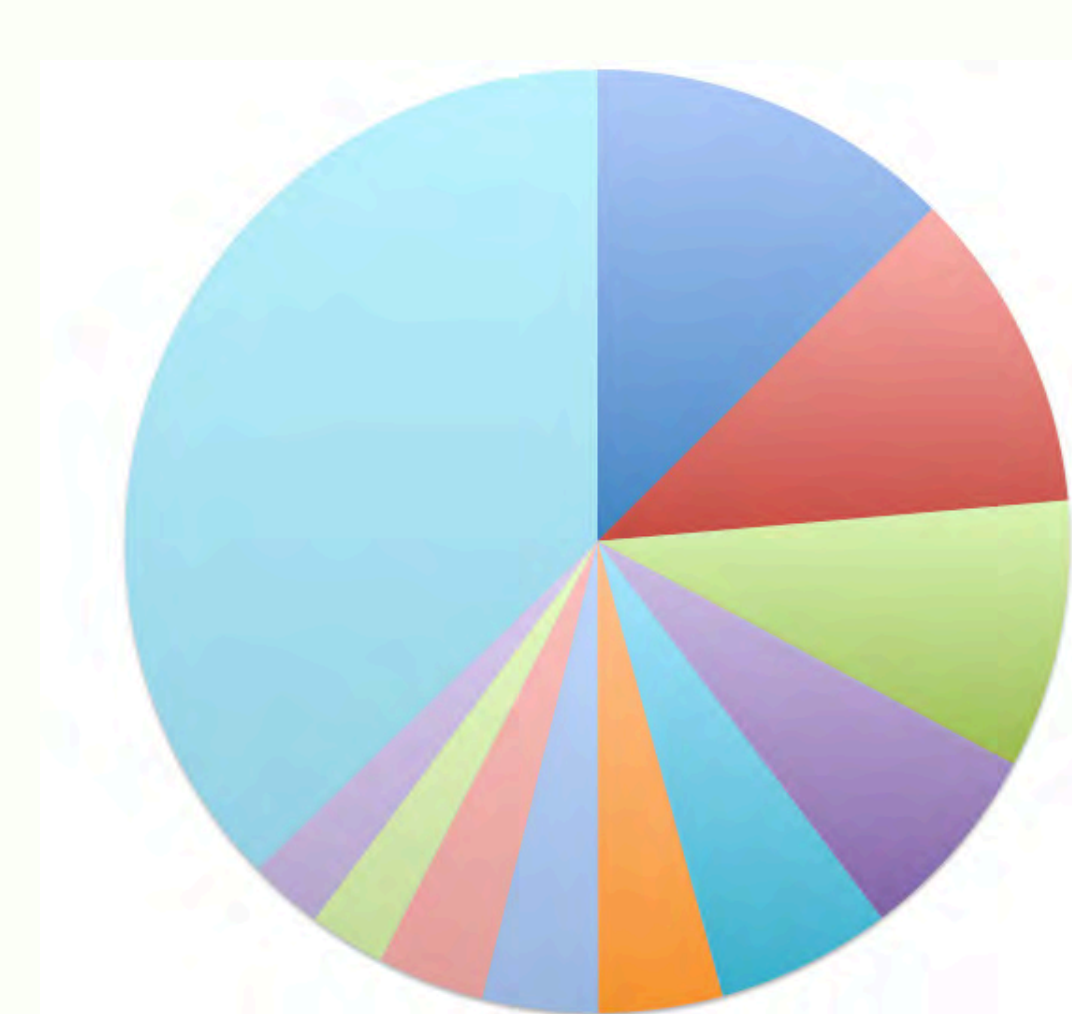
Source: CCVA 2070 Urban Heat Island



TREE CANOPY AND COOL CORRIDORS



PLANT COMMUNITIES



SPECIES	% OF CANOPY	SUSCEPTIBILITY TO CLIMATE RISKS
Norway Maple	13%	medium
Pin Oak	11%	medium
Honey locust	9%	low
Red Maple	7%	high
Red Oak	6%	high
Littleleaf Linden	4%	medium
Callery Pear	4%	high
London Planetree	4%	medium
Ash	3%	high
Crabapple	3%	high
Other	36%	

SPECIES DISTRIBUTION

