

FINDING RETROFITS – ROADWAY DISCONNECTION CASE STUDIES

CLEAR December Disconnection Workshop Series
December 9, 2020

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Roadway Disconnections in East Lyme



Colony Road Tree Filters (2012)

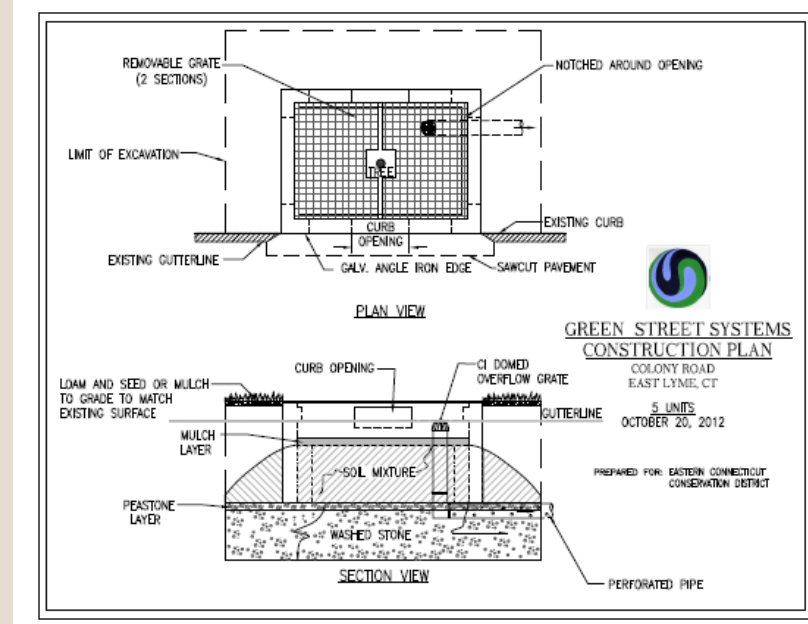
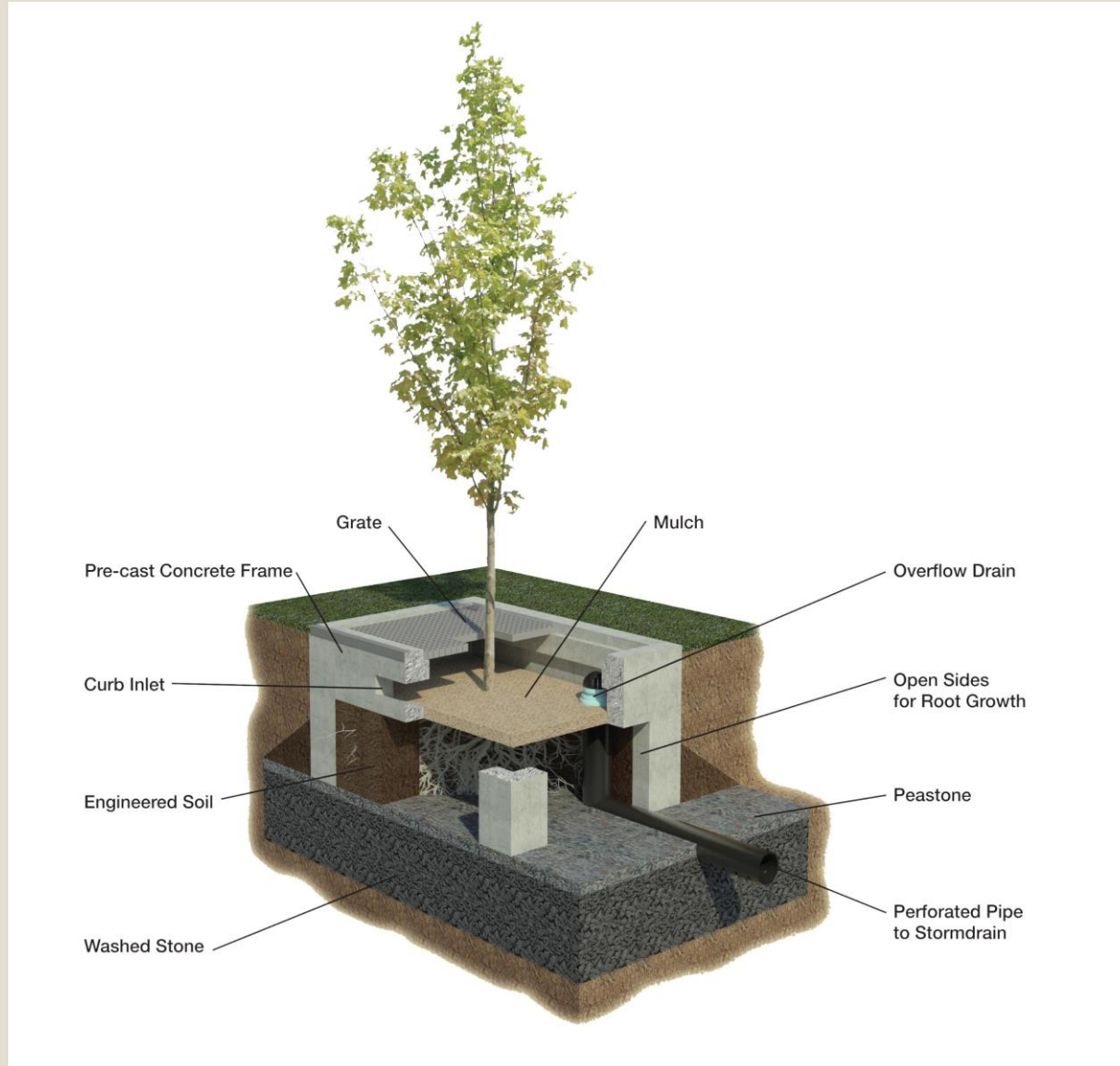


Kwanzan Cherry (*Prunus serrulata* 'Kwanzan')

Cart-before-the-horse approach:

- ECCCD obtained funding from CT DEEP through the Clean Water Act §319 to conduct a stormwater improvement project in the Niantic River watershed
- Impaired waters in a watershed with an approved 9-element watershed plan are eligible for CWA §319 funds
- ECCCD approached East Lyme to assist with identifying a suitable location
- Selected Latimer Brook – impaired due to bacteria and nutrients
- Selected tree filters as LID BMP

What is a Tree Filter?

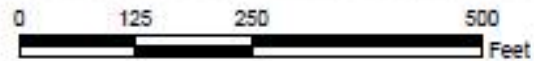


Disconnected Impervious Area

Tree Filter Locations - Colony Road, East Lyme, CT



Legend	
	Catch Basin
	Tree Filter



This map does not contain any authoritative data and is for informational purposes only.

Prepared by:
Eastern Connecticut
Conservation District
October 2012

Tree Filter	Disconnected Area (acres)
TF-1	0.35
TF-2	0.35
TF-3	0.25
TF-4a & 4b	0.25
Total	1.2 acres



Pennsylvania Avenue Tree Filters (2015)



European Hornbeam (*Carpinus betulus*)

Starting to get smarter:

- ECCD informed East Lyme DPW that we planned to apply for additional CWA §319 funding to install more tree filters in the Niantic River watershed as part of watershed based plan implementation
- East Lyme had just received a STEAP grant for a Downtown Niantic Streetscape Improvement project
- We combined forces; the ECCD grant paid for the tree filters; the East Lyme STEAP grant paid for design and installation

Hybrid Theory

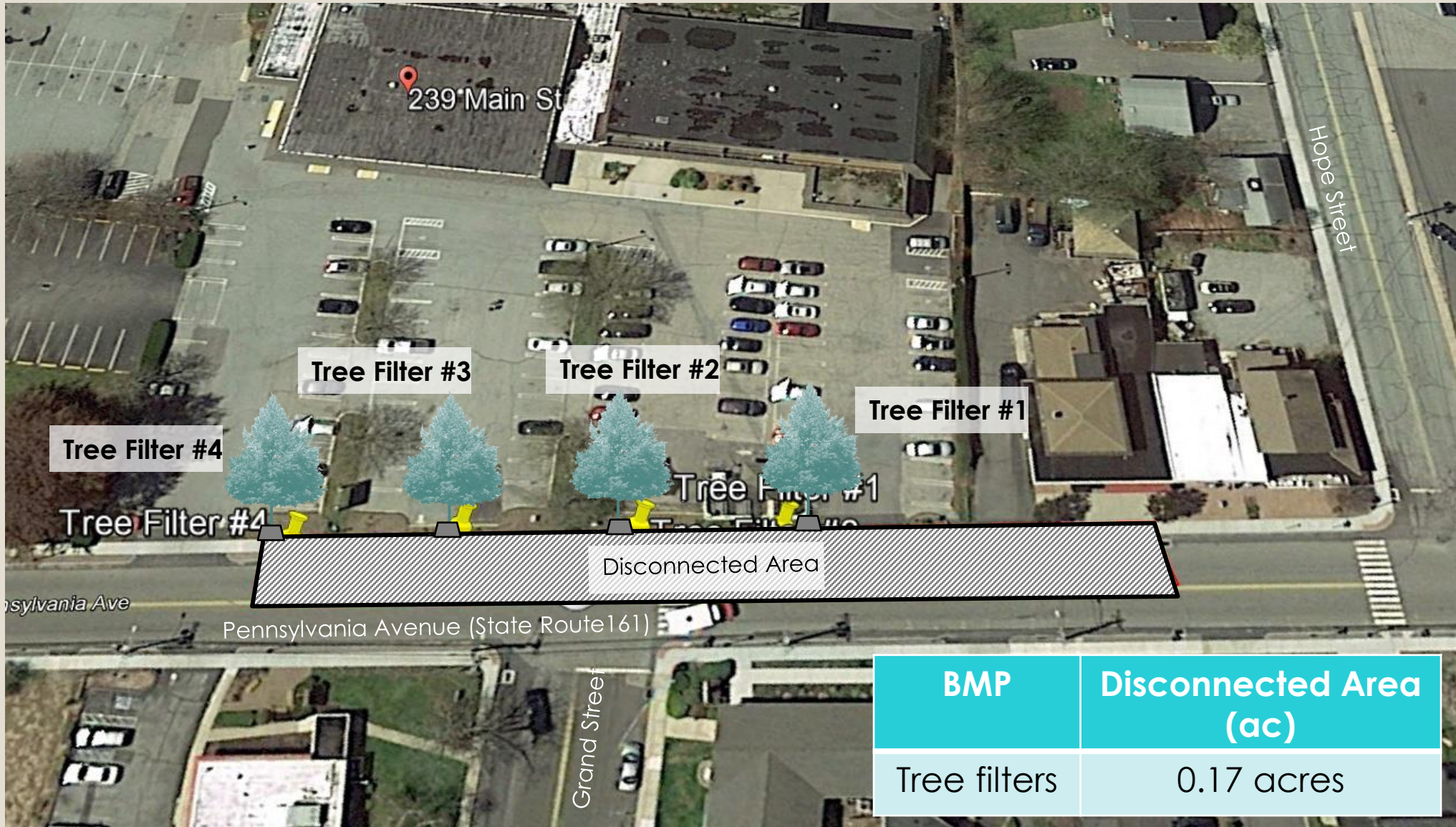


Pennsylvania Ave prior to the Streetscape Improvement project.



- The tree filter design was altered to take advantage of site conditions
- The presence of deep stratified drift deposits below the site allowed us to decouple the tree filters from the stormdrain system
- This gave us greater flexibility in siting the tree filters
- Leveraging our funding sources allowed us to maximize the effectiveness of the BMP

Disconnected Impervious Area



Grand Street Neighborhood Tree Wells (2017-2018)

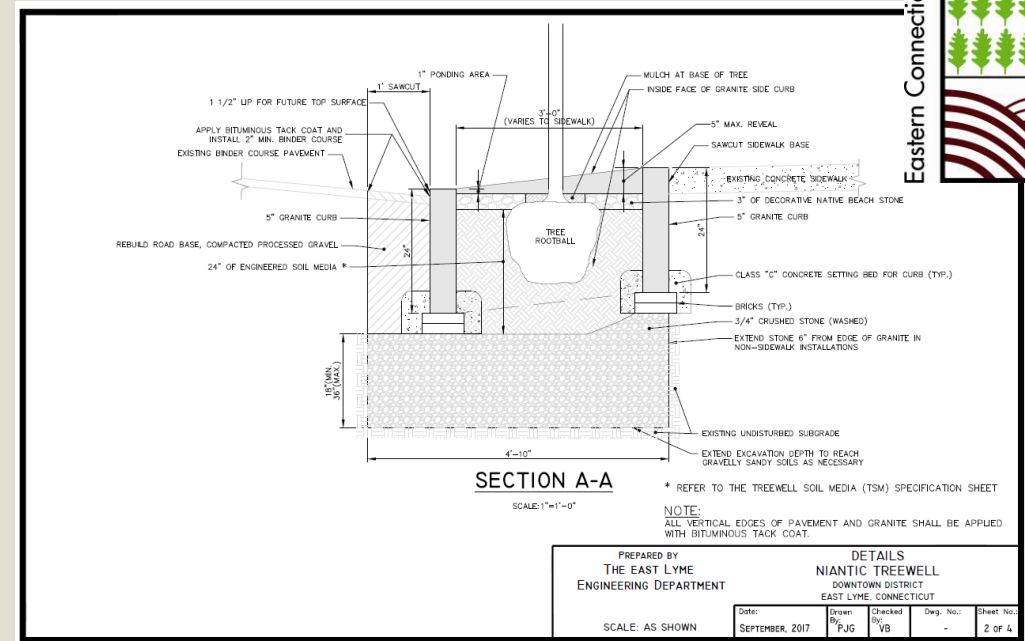
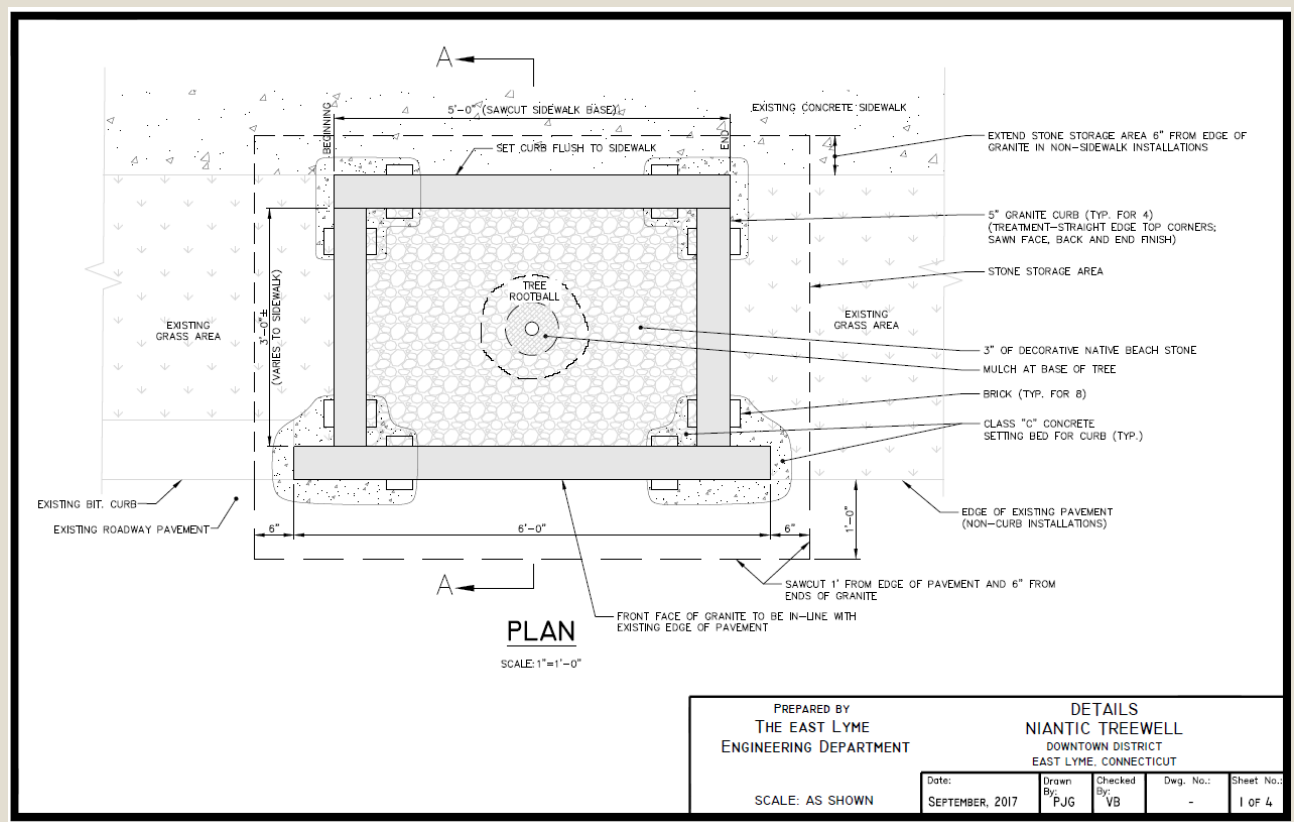


Cleveland Select Callery Pear 'Pyrus calleryana'

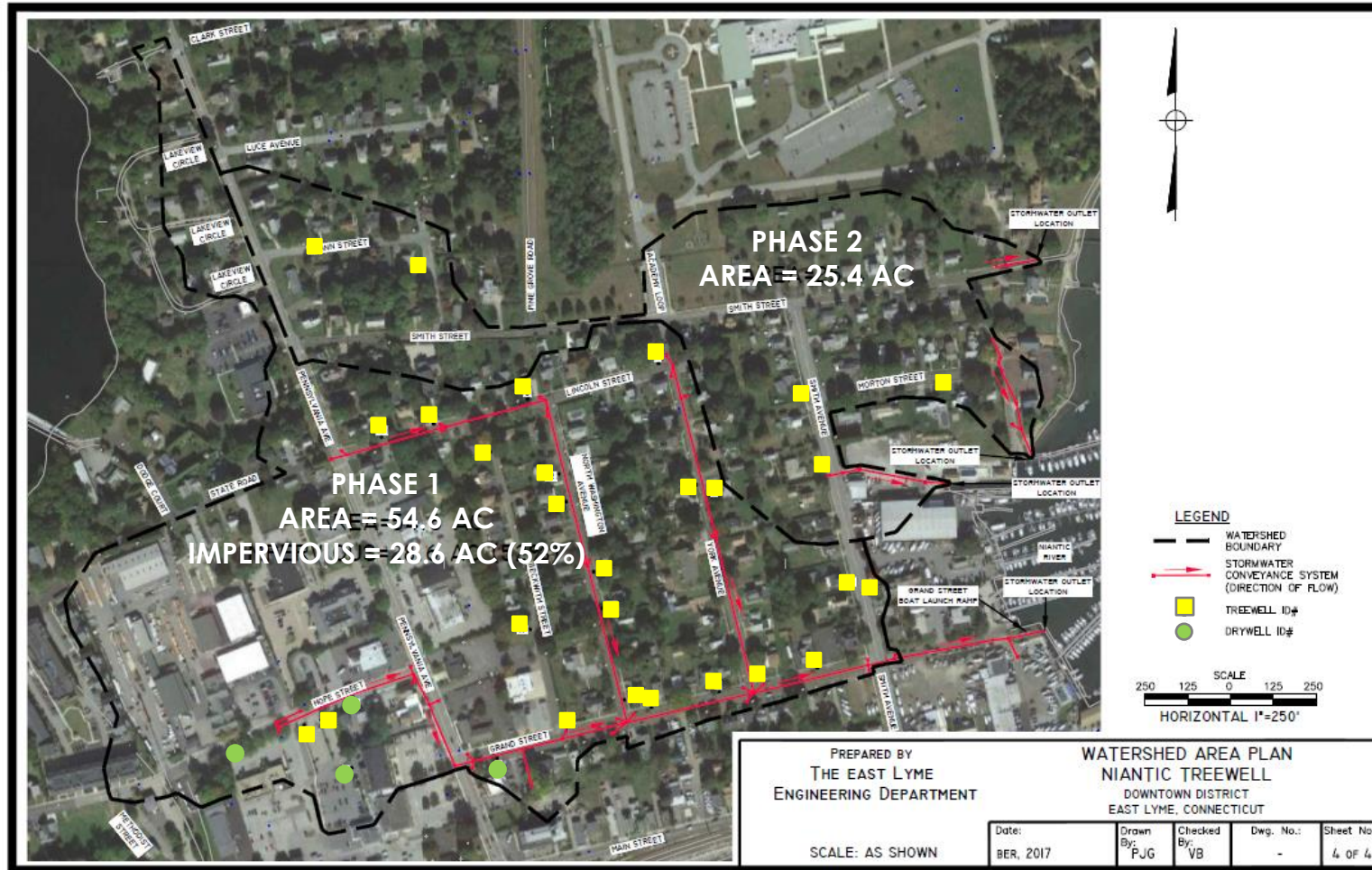
Now we're really starting to figure this thing out:

- East Lyme planning major repaving project in 80-acre mixed commercial and residential neighborhood adjacent to Niantic River. Contacted ECCD to see if we could install more tree filters.
- ECCD obtained CWA §319 funding.
- East Lyme engineering staff developed an alternative design which was 1/3 the cost of a precast tree filter

What is a Tree Well?



Disconnected Impervious Area



BMP	Disconnected Area (acres)
Tree Wells	14.3
Dry Wells	2.4
Total	16.7 acres



Lessons Learned

- Public/private partnerships can have big impacts
- Identifying and incorporating disconnection opportunities into planned capital improvement projects is key
- Lead time to apply for funding if needed, so having a capital improvement/road maintenance plan is important
- Take advantage of documents like WBPs, TMDLs, LISS CCMP that call for pollutant reductions that strengthen applications – this is where a P3 comes in handy
- Be patient, creative and flexible

