

# Urban Stormwater Management in the City's CSS Jefferson Avenue Improvements

## Stakeholder Goals for Stormwater Management (as reported in EPA's Greening Jefferson Avenue, dated Dec 2015):

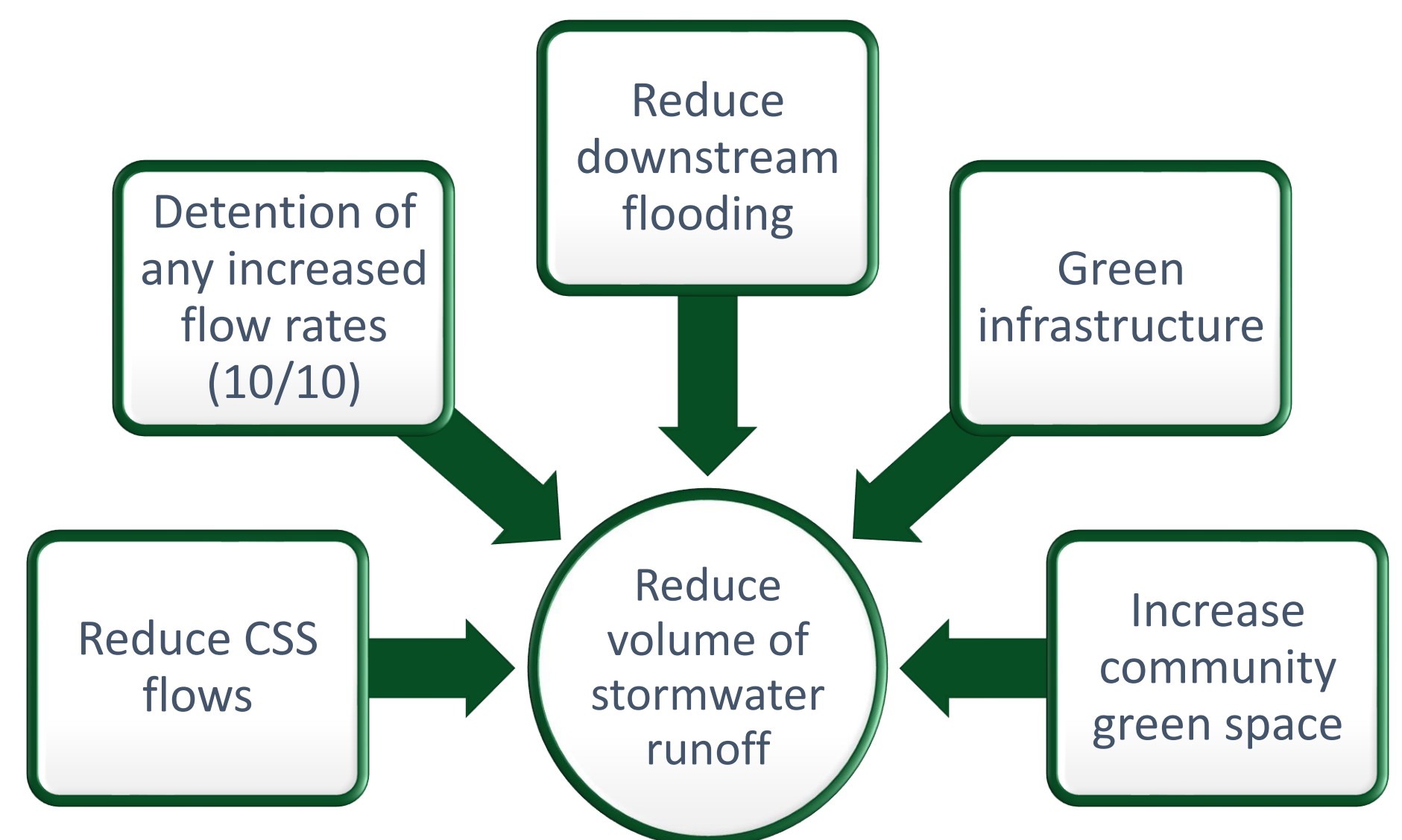
- Use green infrastructure to reduce stormwater pollution and downstream flooding
- Improve the corridor's appearance, including community green space
- Provide distinctive character and reduce perception of a cut-through route

## City (DPU) Goals for Stormwater Management:

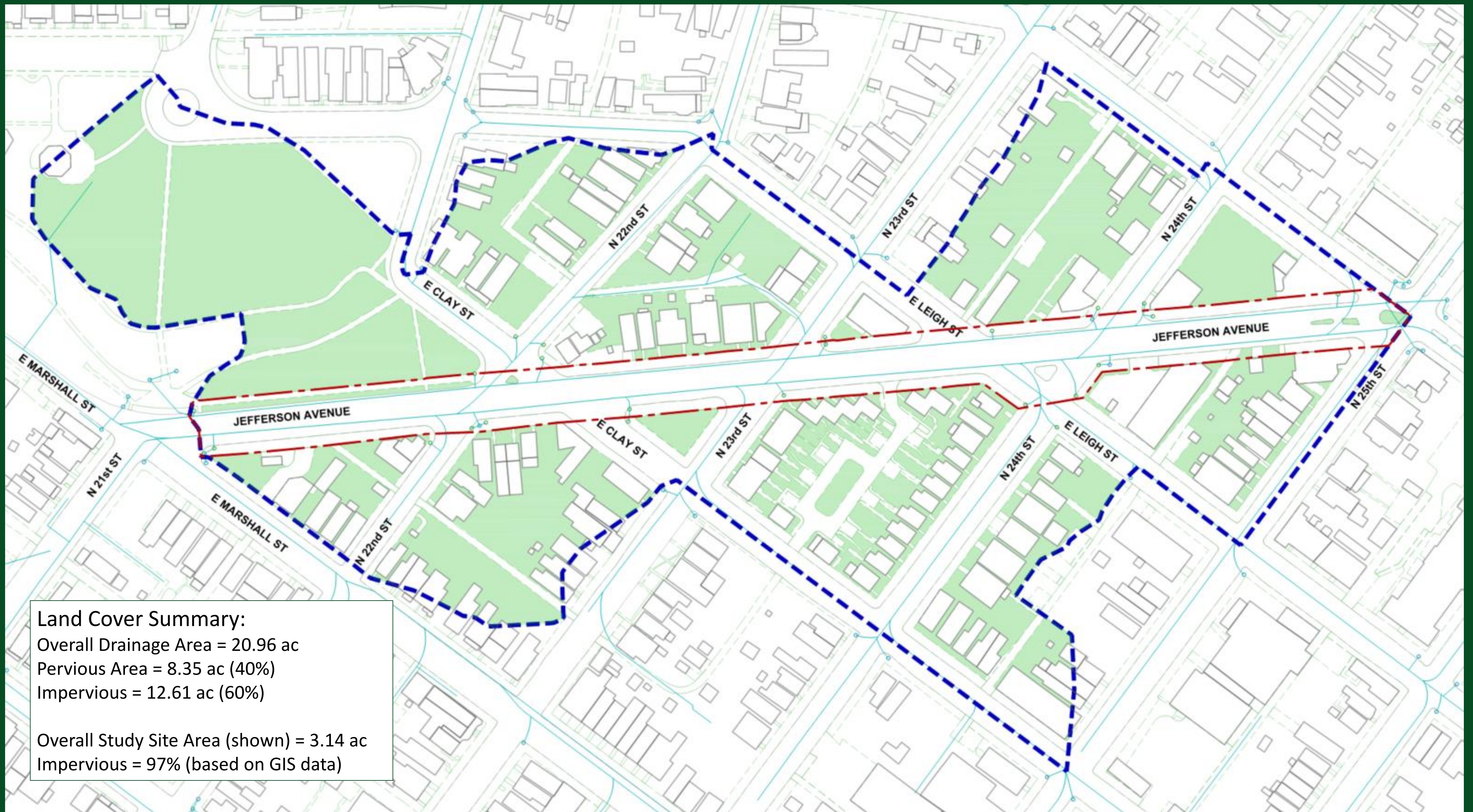
Reduce volume of stormwater discharge that needs to be managed by the CSO (collected, treated, etc.)

- 10/10 detention of any increased peak discharge rates; and/or
- Reduction of stormwater runoff volume (change in hydrograph)


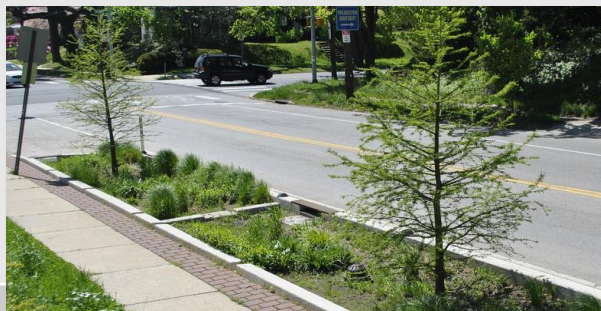



## Shared Goals:



## Site Area Map and Existing Land Cover Summary



## Matrix of Potential Stormwater Management Strategies

Stormwater Management Strategy	Applicability	Relative Capital Cost	Maintenance Intensity
Impervious Area Reduction/ Conversion to Open Space 	Each 10% reduction in impervious area = 832 cf of runoff reduction.	\$ dependent upon site constraints	Typical right-of-way maintenance includes mowing and overseeding
Bioretention/ Rain Gardens 	Each 1ac of impervious area treated by a Level 2 BMP = 2,759 cf of runoff reduction; 90% effective at reducing bacteria.	\$25-\$50/sf of bioretention area	Maintenance heavy. Tend to accumulate trash and require vegetation care
Permeable Pavers 	Can only treat up to twice its footprint. Each 1 acres = 1,552 cf runoff reduction	\$10-\$30/sf installed	Requires frequent inspection; and routine vacuuming
Underground Stormwater Detention 	Can be designed to meet 10/10 detention requirements when increased flows are anticipated. Since the site is already 97% impervious, no increase in peak discharge is anticipated. No runoff reduction achieved	\$ dependent upon design specification & manufacturer	Requires annual inspection; vacuuming as needed
Silva Cells 	Manufactured system can function similar to bioretention, but underground; traffic rated. No runoff reduction.	\$90-\$110/sf installed	Costly and frequent. Annual inspection of flow components and vacuuming as needed.
Filterrass 	Treats stormwater through filtration via media. No runoff reduction credit (water quality only).	\$15,000/0.5 acre of area treated	Costly and frequent. Bi-annual inspection and trash removal, annual replacement of mulch; infrequent replacement of filter media (5-10 yrs)