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District Department of Transportation





District Department of Transportation



DDOT URBAN FORESTRY ADMINISTRATION

GREEN INFRASTRUCTURE: ENHANCING TREE SPACES

“Creating New Green Space in the District Right-of-Way”



Federal Highway
Administration



Green Infrastructure Enhancements

Goals:

- Increase the Urban Tree Canopy
- Reduce Stormwater Runoff

Methods:

- Remove Excess Impervious Surfaces
 - Creating new planting locations
 - Improving existing tree spaces
 - Expanding existing tree spaces
 - Increasing green space in the District



Public Space Enhancements

- Large Area Greening
- Green Medians
- Tree Space Creation and Expansions
- Continuous Planting Strip Creation
- Permeable Pavers
- Porous Flexible Paving



Large Area Greening

Considerations for Public Space for Large Area Greening

- Excessive Pavement in Public Space
- Generally Outside of the Sidewalk Dimension
- Located in Public “Parking”
- Traffic Triangles
- Traffic Circles
- Government Buildings/Facilities



Seaton School



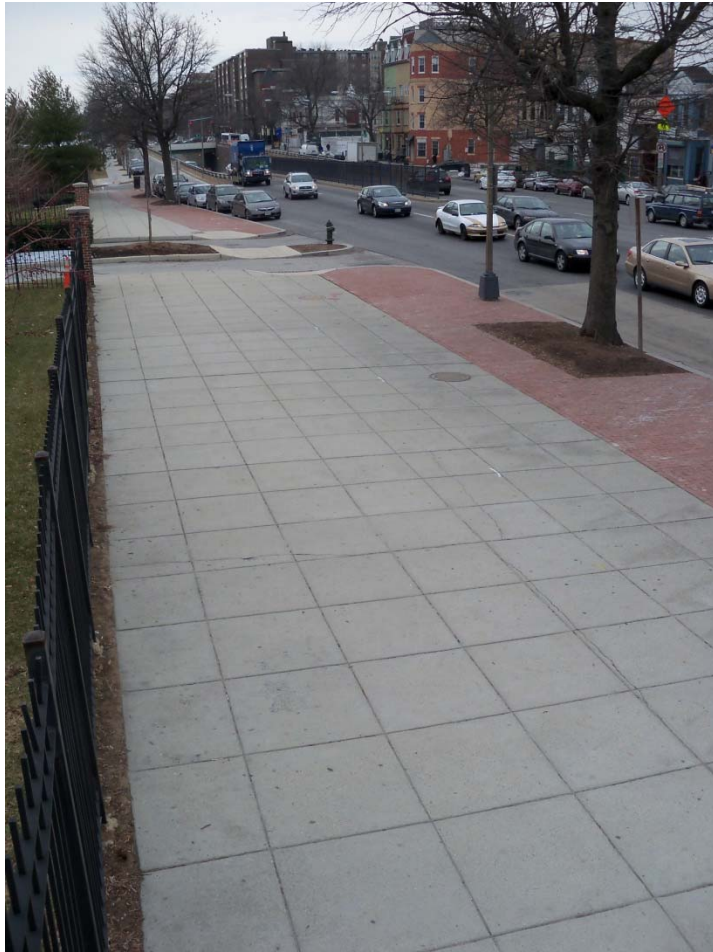
64 New York Avenue

Unit Block of P Street, NE



64 New York Avenue

North Capitol



Florida Avenue and North Capitol Triangle Park

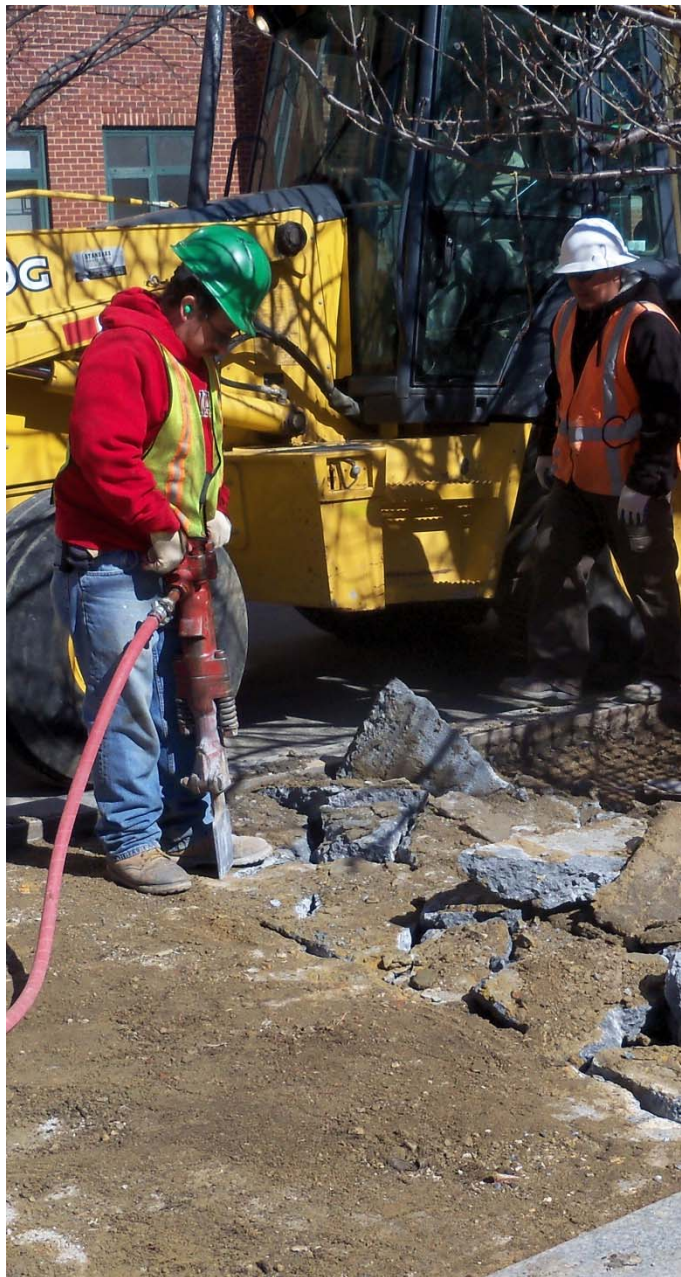


North Capitol Greenway



Eckington Park





Green Median Creation

Considerations for Greening Medians

- Minimum width of 4 feet
- Depth of soil replacement
- Trees present or absent
- Median noses
- Pedestrian refuge
- Delivery truck turning radius
- Maintenance: Sod vs. Mulch

Rhode Island Avenue



Calvert Street Medians



Bladensburg Road

17th Street to Neal Street



Bladensburg Road

Yost Street to Eastern Avenue



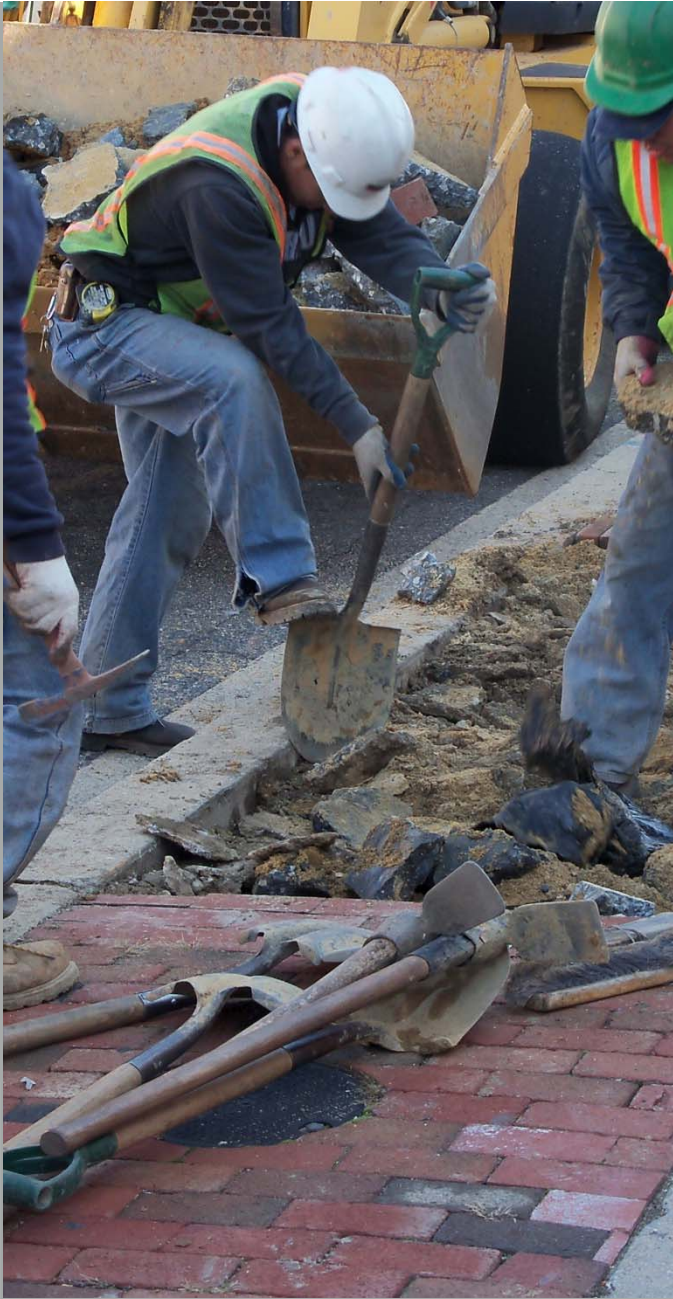
Mass Ave & NJ Ave



Tree Space Creation

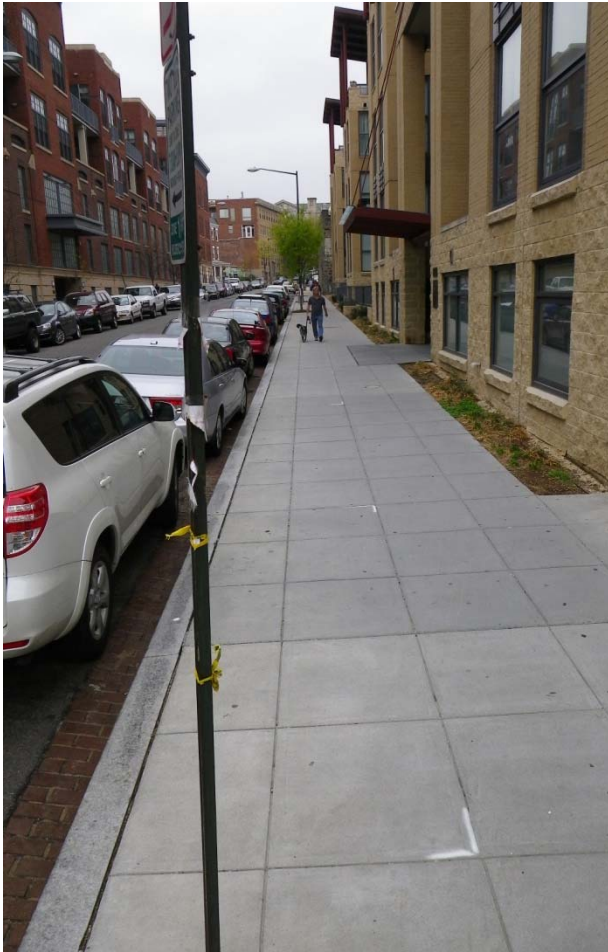
Considerations for evaluating sidewalks for the creation of new tree spaces

- Tree Spacing
- Offsets to Infrastructure
 - Fire hydrants
 - Driveways
 - Intersections
 - Street lights
- Building Entrances
- Bus Stops
- Reserved Handicapped Parking

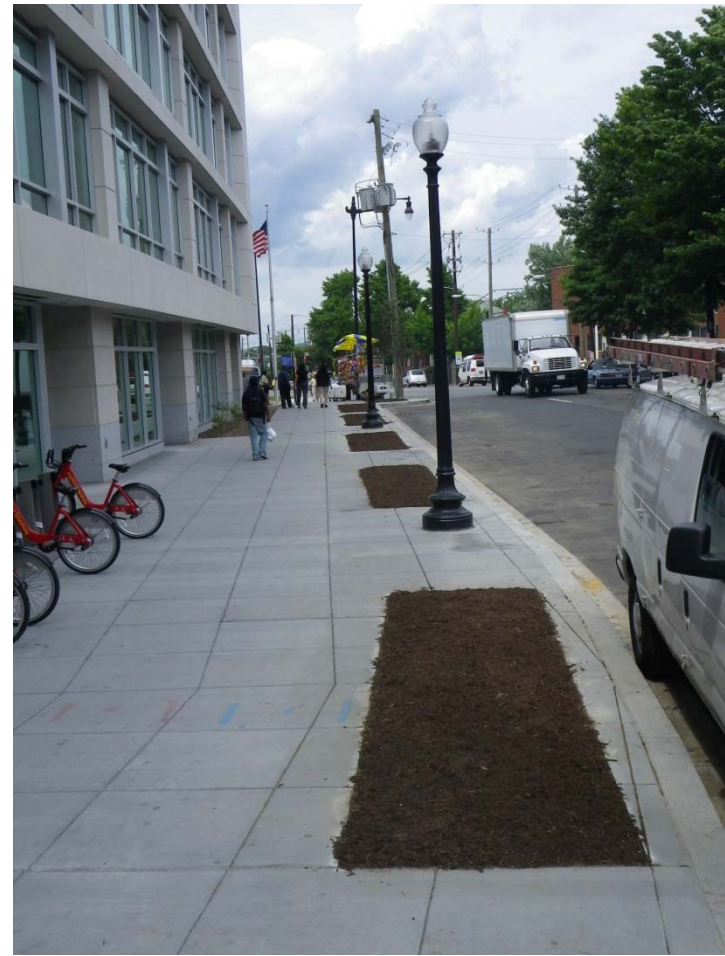


Adams Morgan

Champlain Street



Minnesota Avenue



Shaw

R Street





Tree Box Expansions

Considerations for evaluating sidewalks

- Standard or Variable length expansions
- Expand width if 6 feet of clear space
- Avoid infrastructure
 - Parking meters
 - Fire hydrants
 - Utility meters
- Leave landings
- Avoid areas with tree fencing

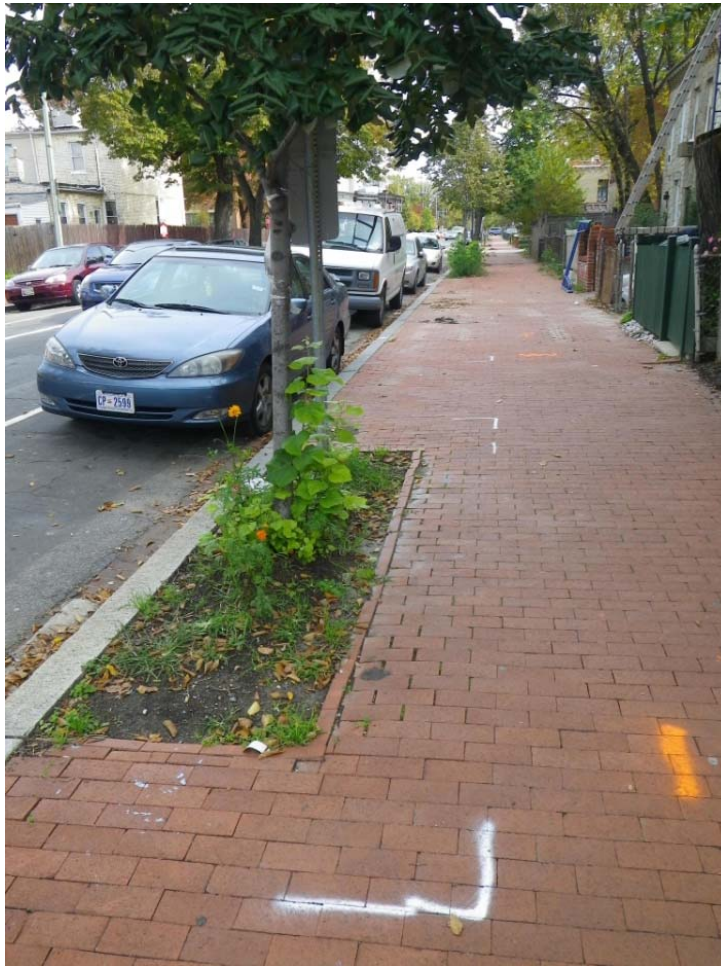
Adams Morgan

Old Morgan School Way



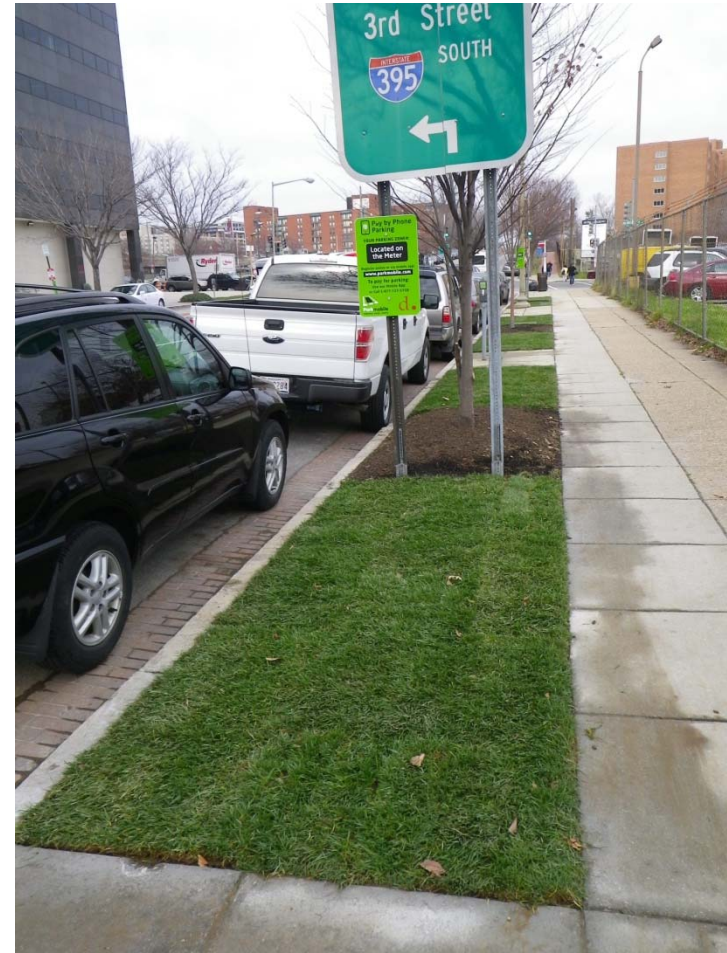
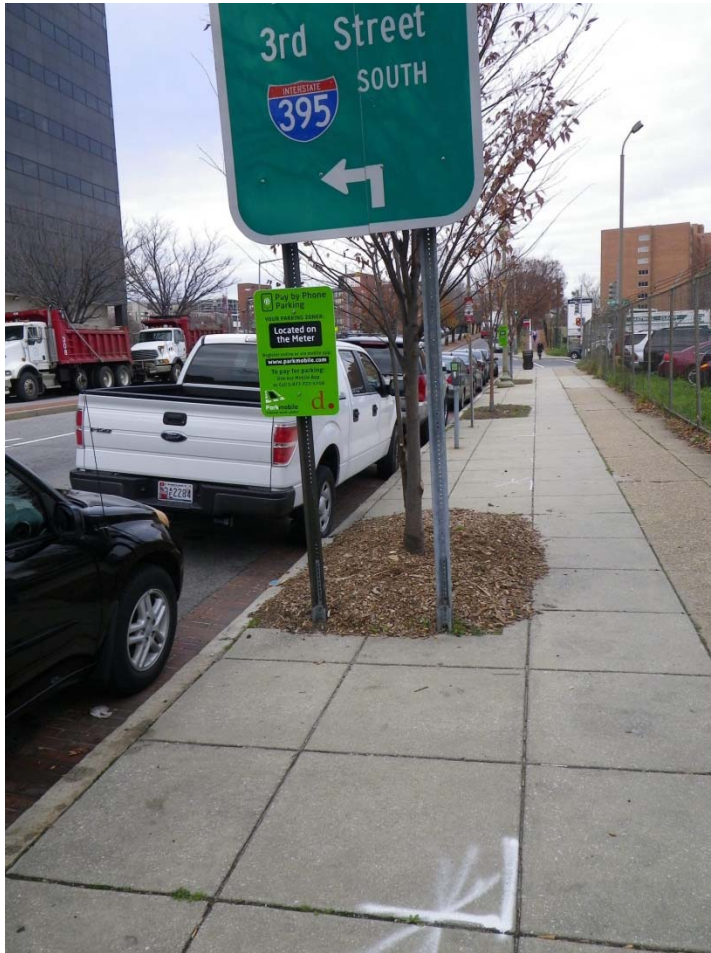
Shaw

R Street



NOMA

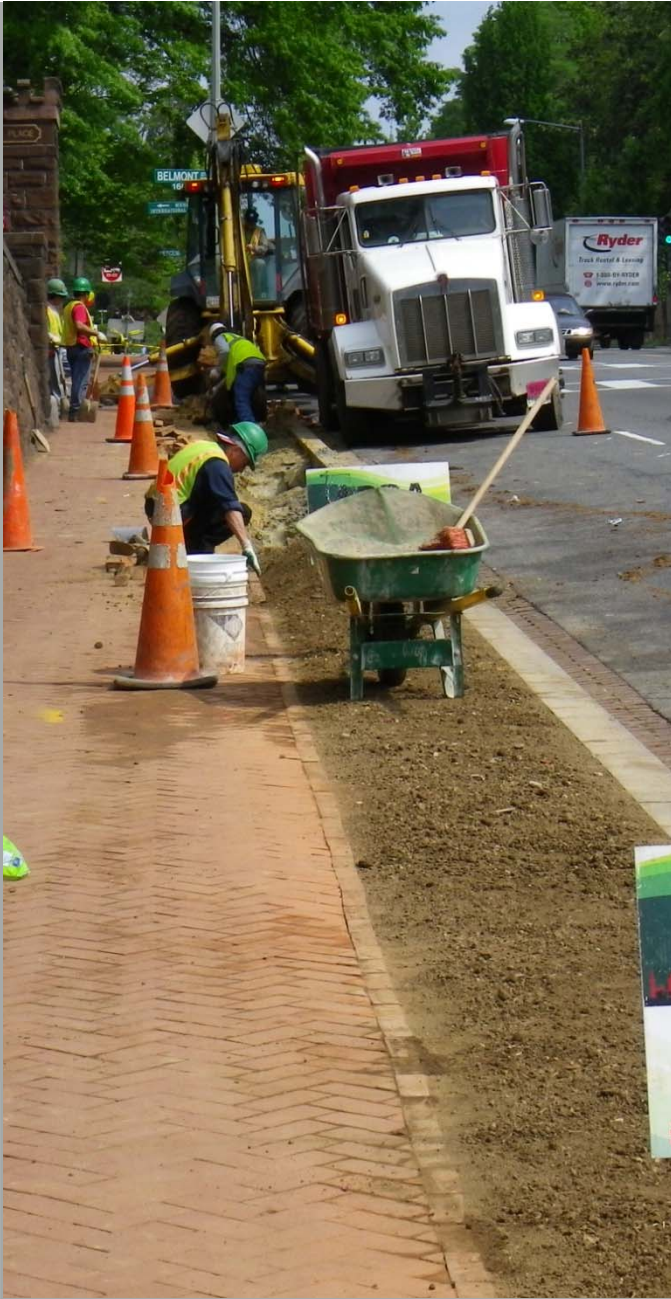
New Jersey Avenue



Continuous Planting Strip Creation

Considerations for evaluating sidewalks for continuous planting strip creation

- No Parking Lane
- Fence, wall, or other barrier
- No building ingress or egress
- Sufficient sidewalk width
- Precedent on neighboring streets



P Street Greenway



Brent School

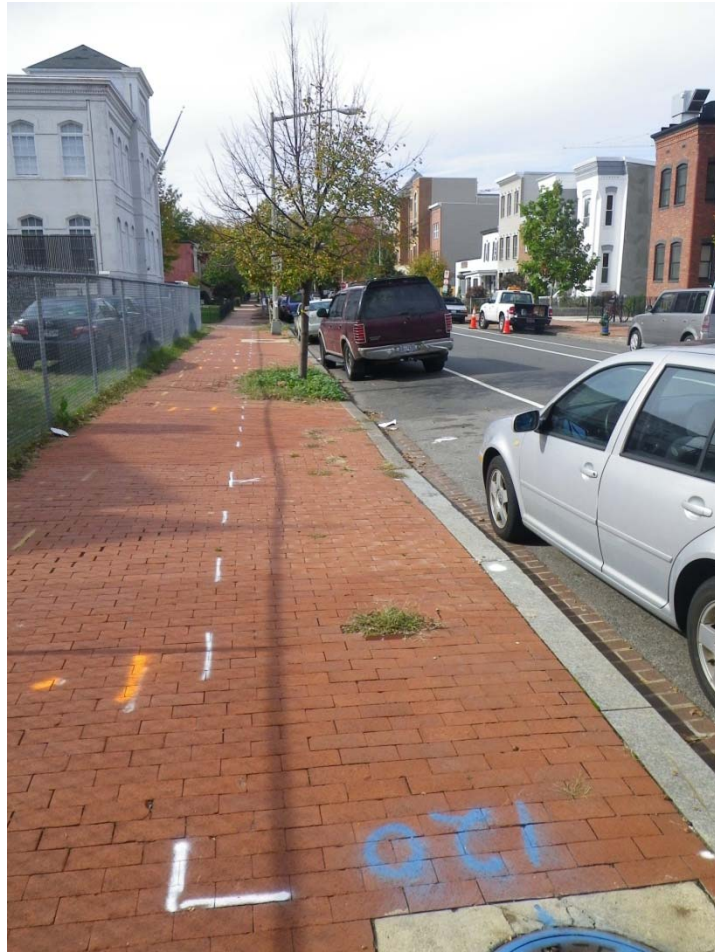


10th Street NW

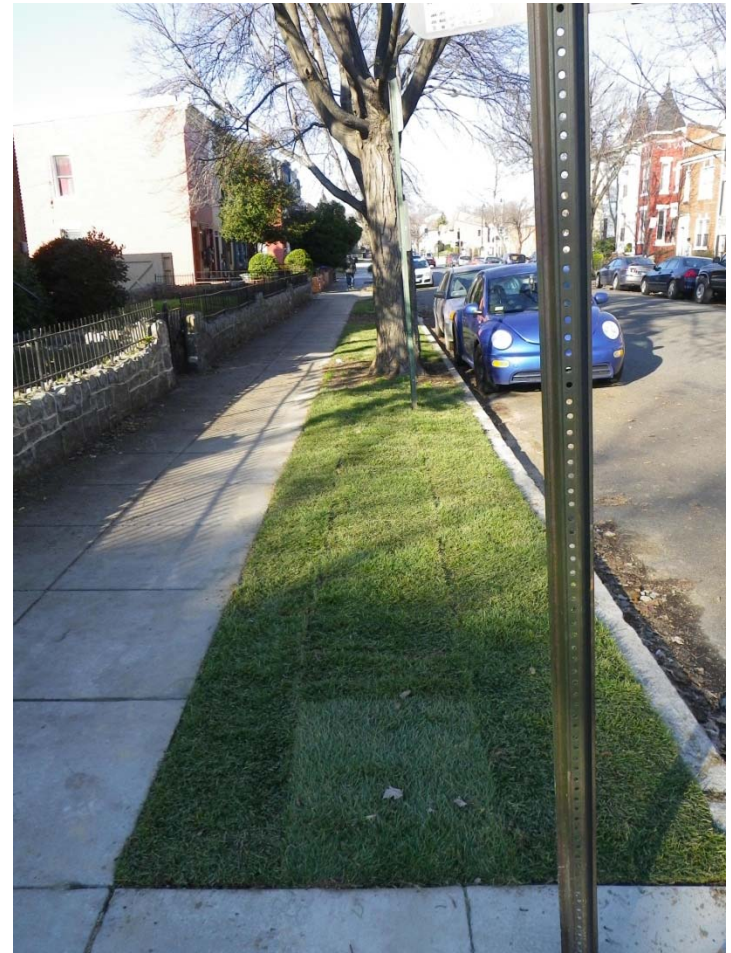


Shaw

R Street, NW



13th Street, NE



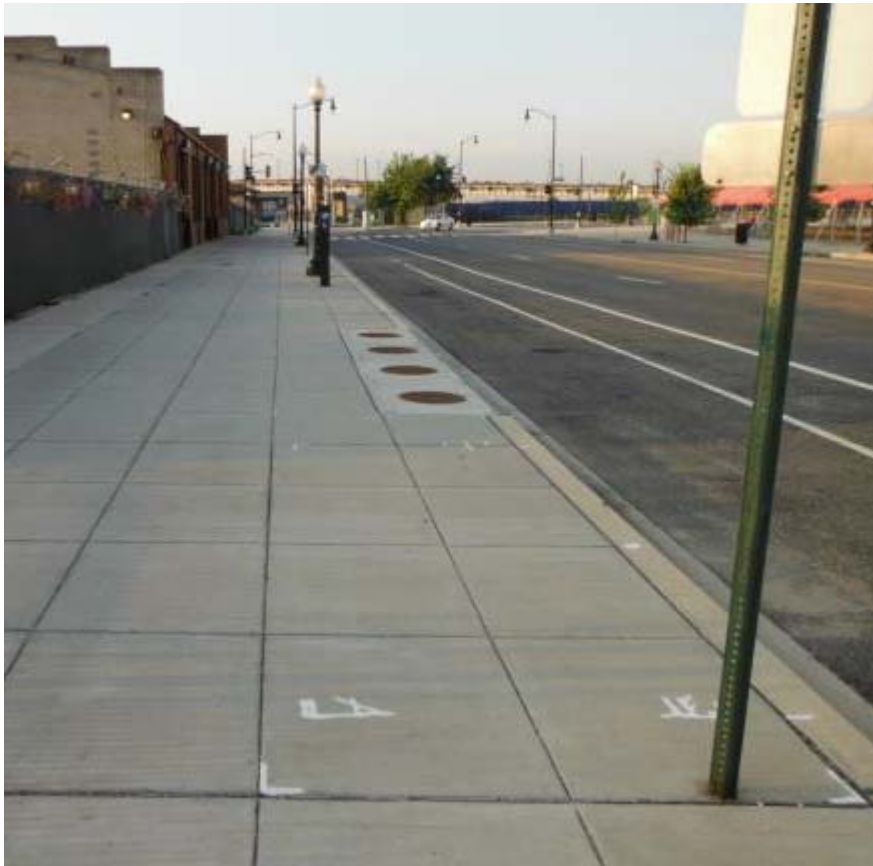
Permeable Pavers

Considerations for utilizing permeable pavers in the planting space

- High pedestrian traffic
- Challenging growing environment
- Limited rooting space



First Street SE, Capitol Riverfront



Potomac Ave SE, Capitol Riverfront



First Street NW, Bloomingdale





Porous Flexible Paving

Considerations for utilizing porous flexible paving in the planting space

- High pedestrian traffic
- ADA requirements not met
- Severe damage to existing sidewalk
- Limited rooting space
- Challenging growing environment

Delaware Ave SW



8th Street NE



North Capital Street



Keys to Successful Implementation

- Planning
- Involvement
- Coordination
- Guidelines
- Community support
- Vision vs. Caution
- Maintenance



Project Summary

	ARRA CWASRF		FHWA - TE	CWASRF	USFS		
	Impervious Surface Reduction	Green Median Renovation	Impervious Pavement Removal	Impervious Surface Removal	Chesapeake Watershed Forestry Fund	Totals	acres
Grant Funding	\$ 1,215,000.00	\$ 635,000.00	\$ 800,033.84	\$ 466,272.00	\$ 106,000.00	\$3,222,305.84	
Local Funding	\$ 8,414.34	\$ 1,386.37	\$ 15,306.09	\$ 158,728.00		\$ 183,834.80	
Actual expense	\$ 1,223,414.34	\$ 636,386.37	\$ 815,339.93	\$ 625,000.00		\$3,300,140.64	
TOTAL TO DATE	80,302	44,203	46,850	56,507	5,228	233,090	5.35
FY 2010	20,269	6,848				27,117	0.62
FY 2011	38,846	30,464				69,310	1.59
FY 2012	21,187	6,891	19,781			47,859	1.10
FY 2013	0	0	27069	49327	5228	81,624	1.87
FY 2014				7180		7,180	0.16
\$/SQ FT	\$15.13	\$14.37	\$17.08	\$8.25	\$20.28	\$13.82	
New Tree Spaces	220	114	218	174	0	726	
Expanded Tree Spaces	527	33	439	363	0	1,362	



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