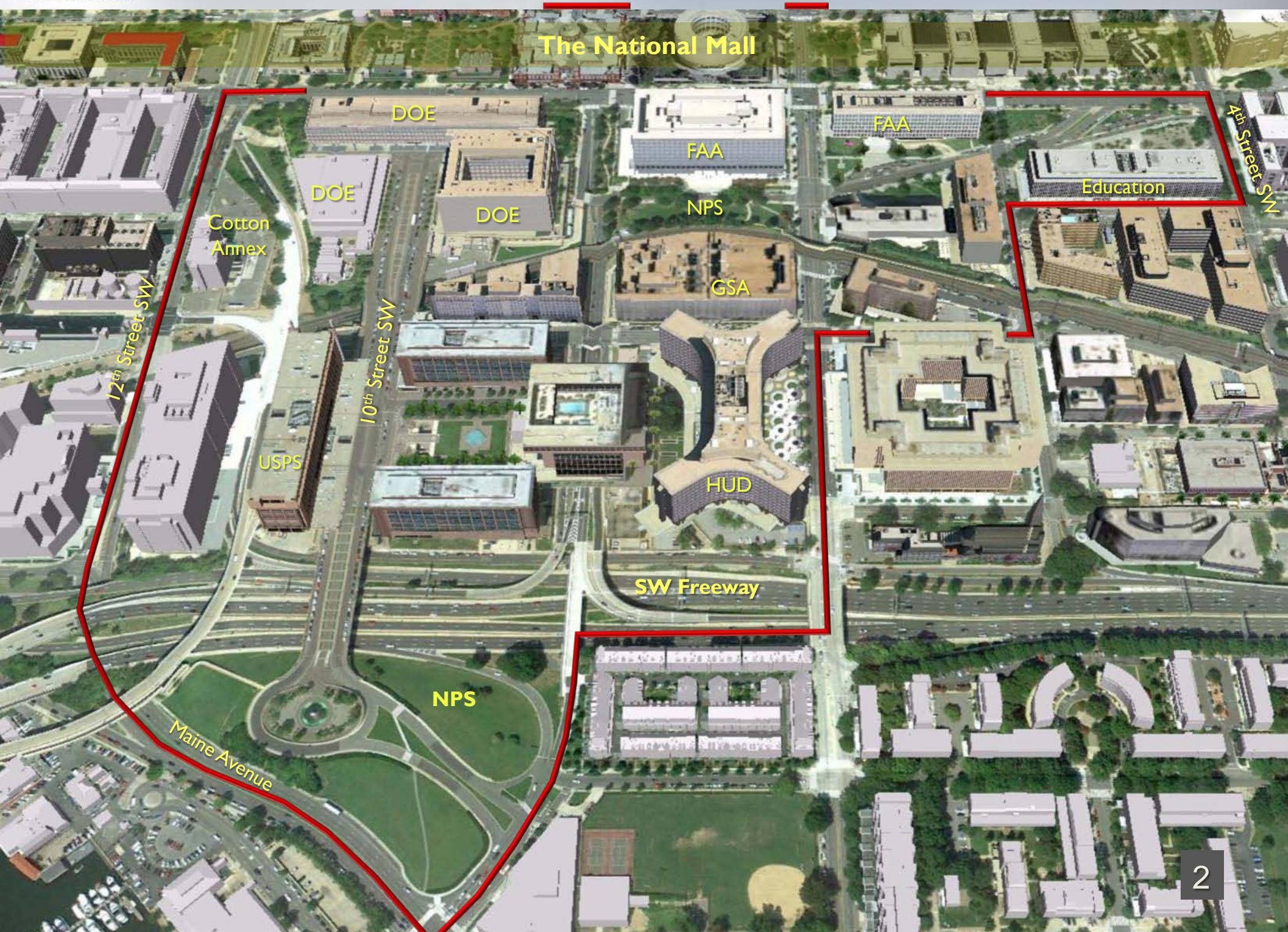




Southwest Ecodistrict
CREATING A MORE SUSTAINABLE FUTURE
Metropolitan Washington Council of Governments
November 8, 2012



The National Mall

DOE

FAA

4th Street SW

DOE

DOE

FAA

Education

Cotton
Amnax

NPS

GSA

12th Street SW

10th Street SW

USPS

HUD

SW Freeway

NPS

Maine Avenue



Goals:

- Transform the 10th Street and Maryland Avenue corridors into a highly sustainable, well-connected mixed-use community.
- Create an environmental showcase of high performance buildings and landscapes.

What is an Ecodistrict?

- It captures, manages, and reuses energy, water, and waste beyond a single building to a group of buildings within a precinct
- It includes transportation choices and a mix of uses within a neighborhood
- It creates a neighborhood of connected parks, plazas and open spaces for a vibrant, green, and walkable community







Neighborhood Development



Public Spaces
Cultural Facilities



Land Use



Transportation



Street Network,
Function, and
Character

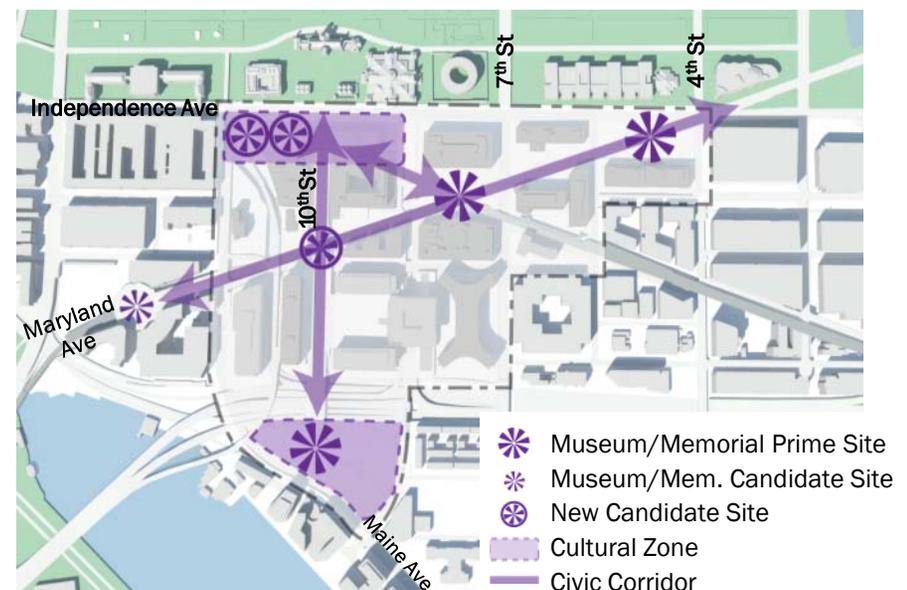
Public Spaces and Cultural Facilities

- Dedicate most important sites for cultural institutions.
- Restore L'Enfant street grid.
- Establish a multi-purpose open space network.
- Create distinctive settings for public spaces.
- Enhance symbolic and programmatic linkages among public places.

Public Spaces



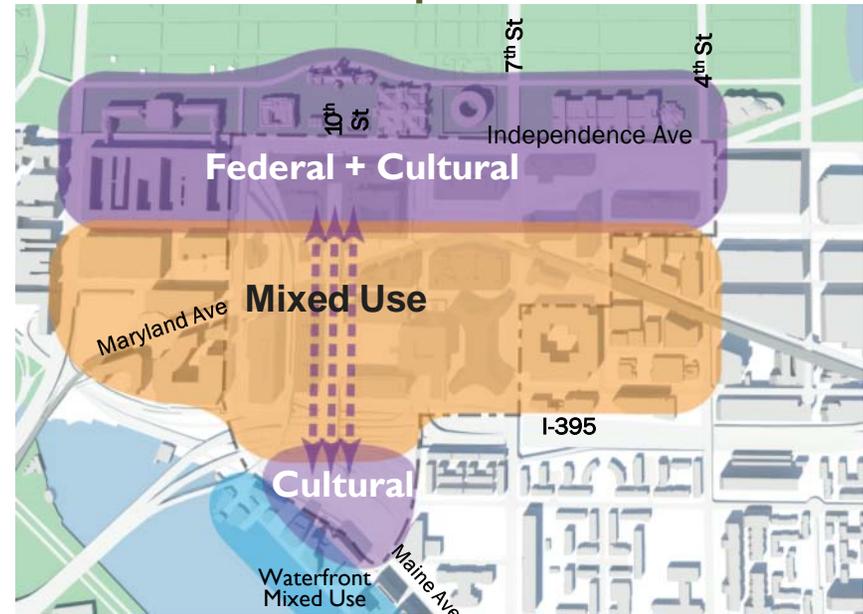
Cultural Facilities



Land Use and Active Building Frontage

- Promote a mix of uses active streets.
- Maximize use of urban land and federal facilities.
- Retain agency headquarters near transit and executive and legislative offices.
- Program and design streets to respect the civic qualities of the National Mall and infuse the vitality of the city.

Land Use Development



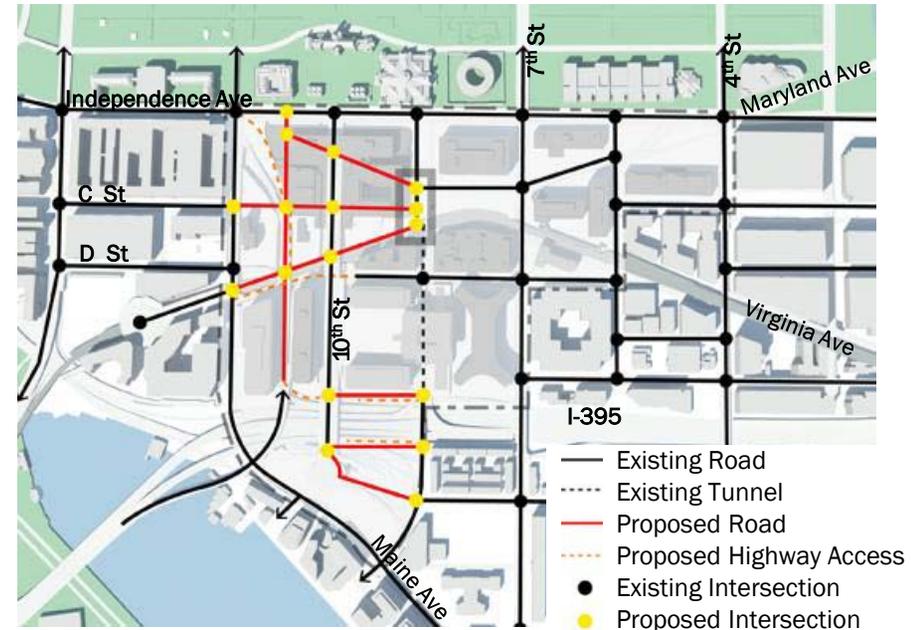
Active Building Frontage



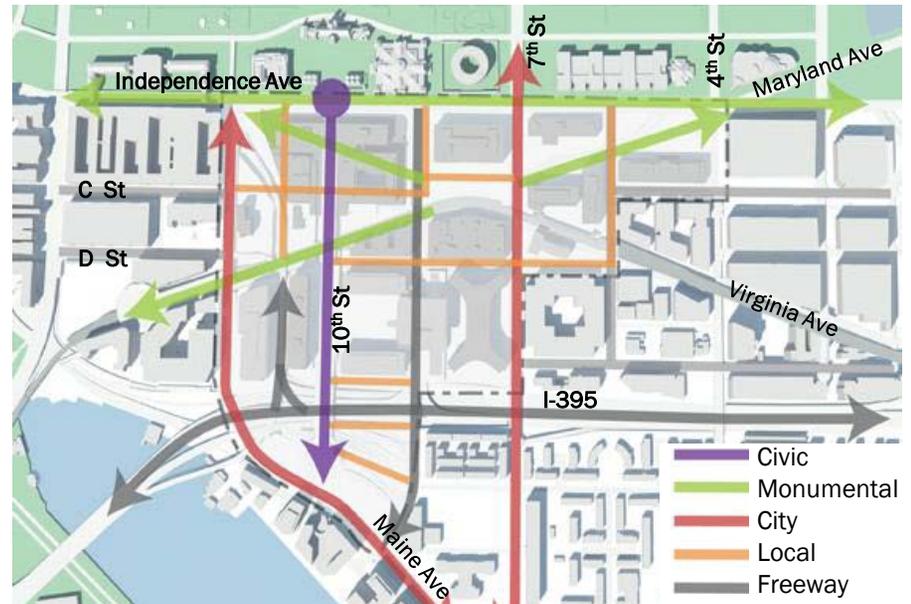
Street Network, Function, and Character

- Restore the L'Enfant Plan street network.
- Design streets for a range of local and federal functions.
- Design streets to establish an identity and a sense of place that reinforces their function.

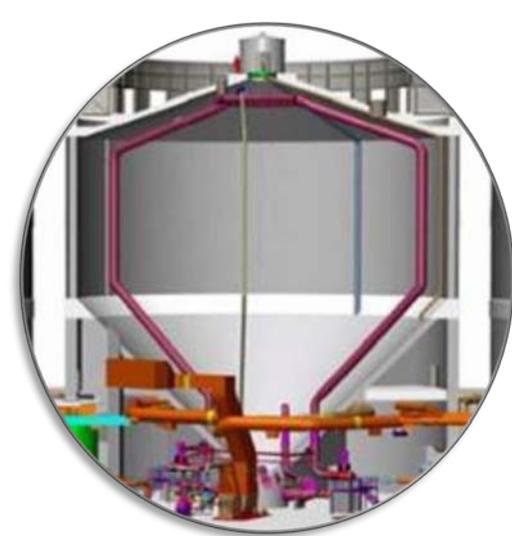
Street Network



Street Function and Character



Environmental Systems



Energy



Water

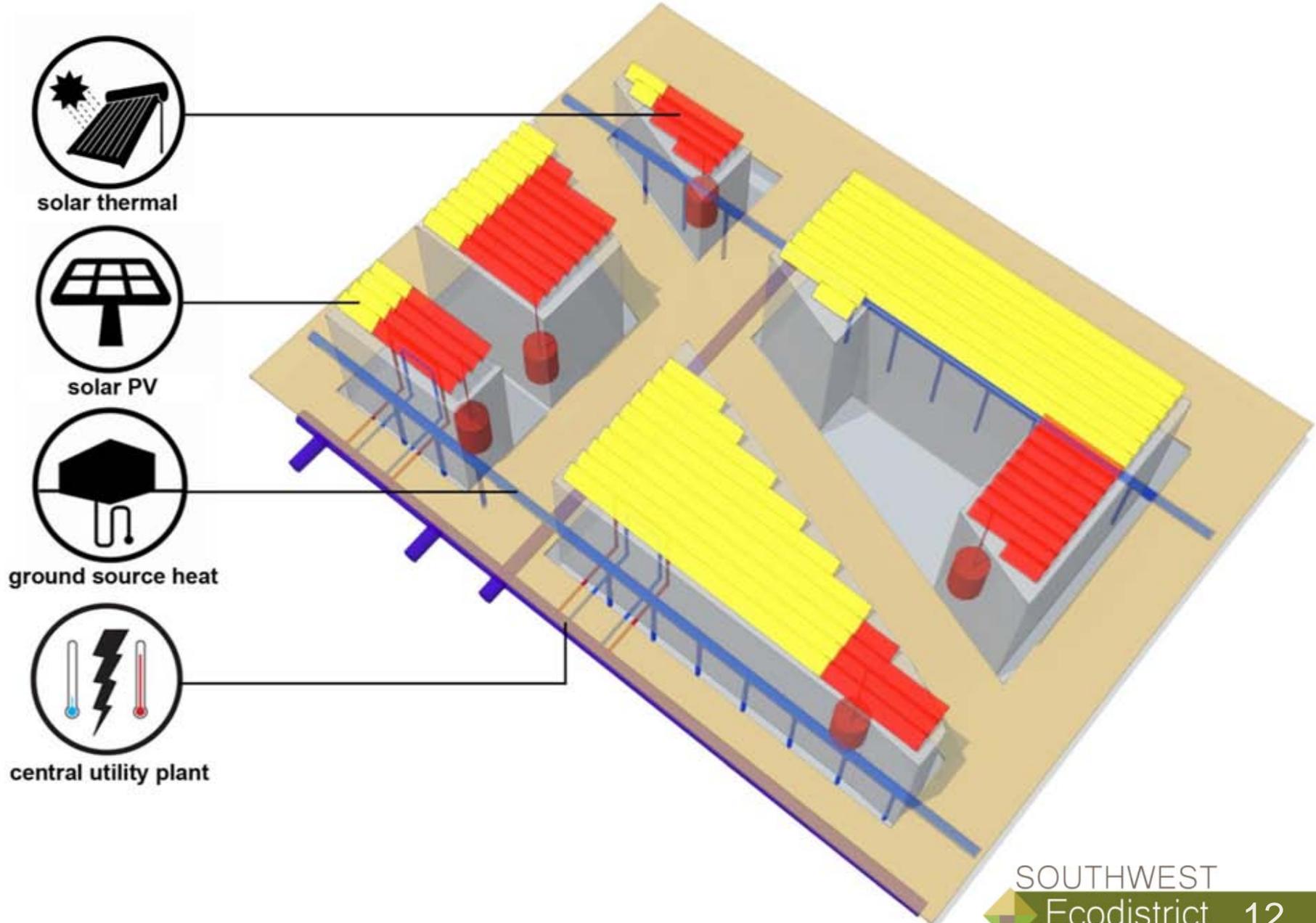


Waste



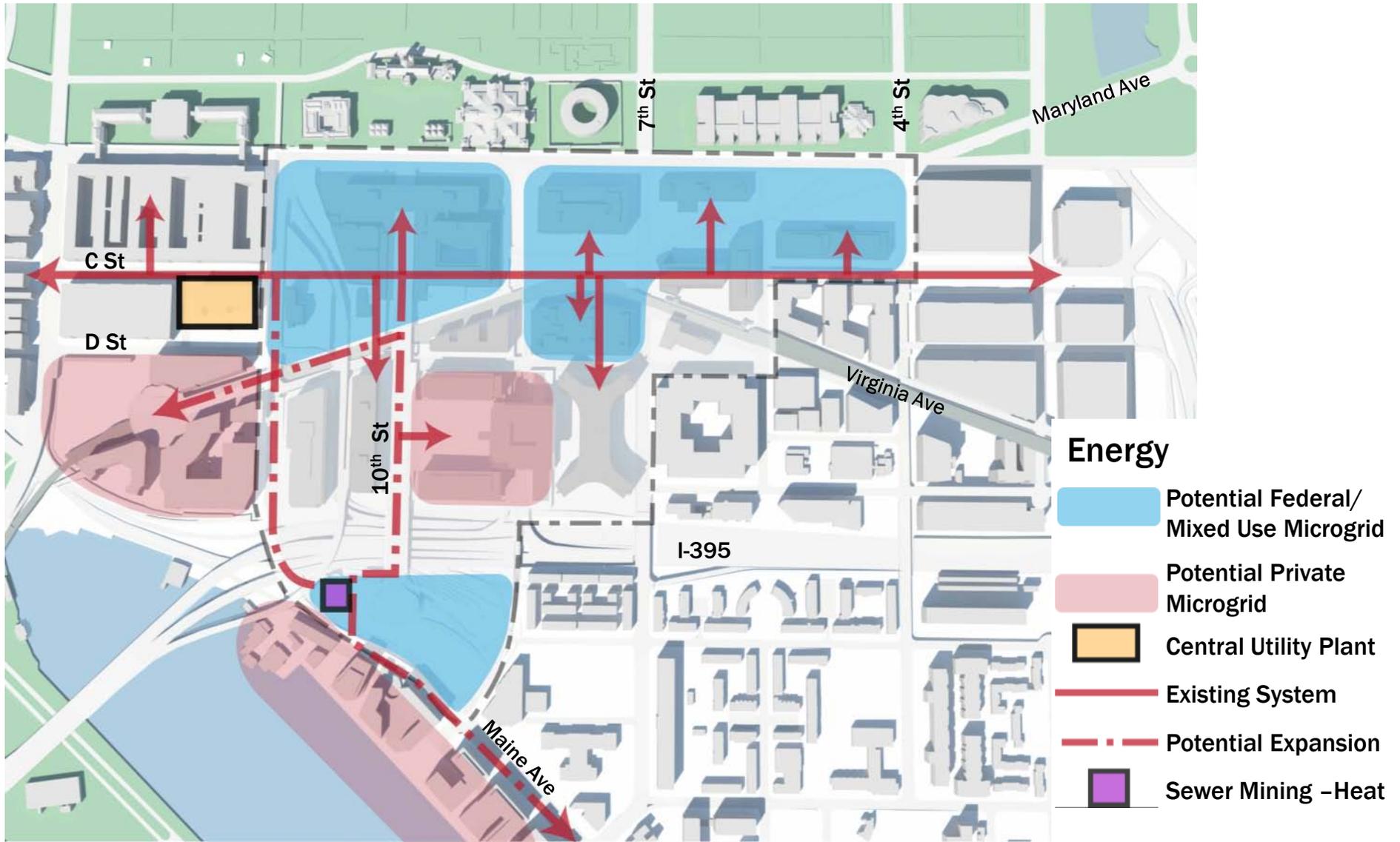
Green
Infrastructure

Block Scale Energy Systems

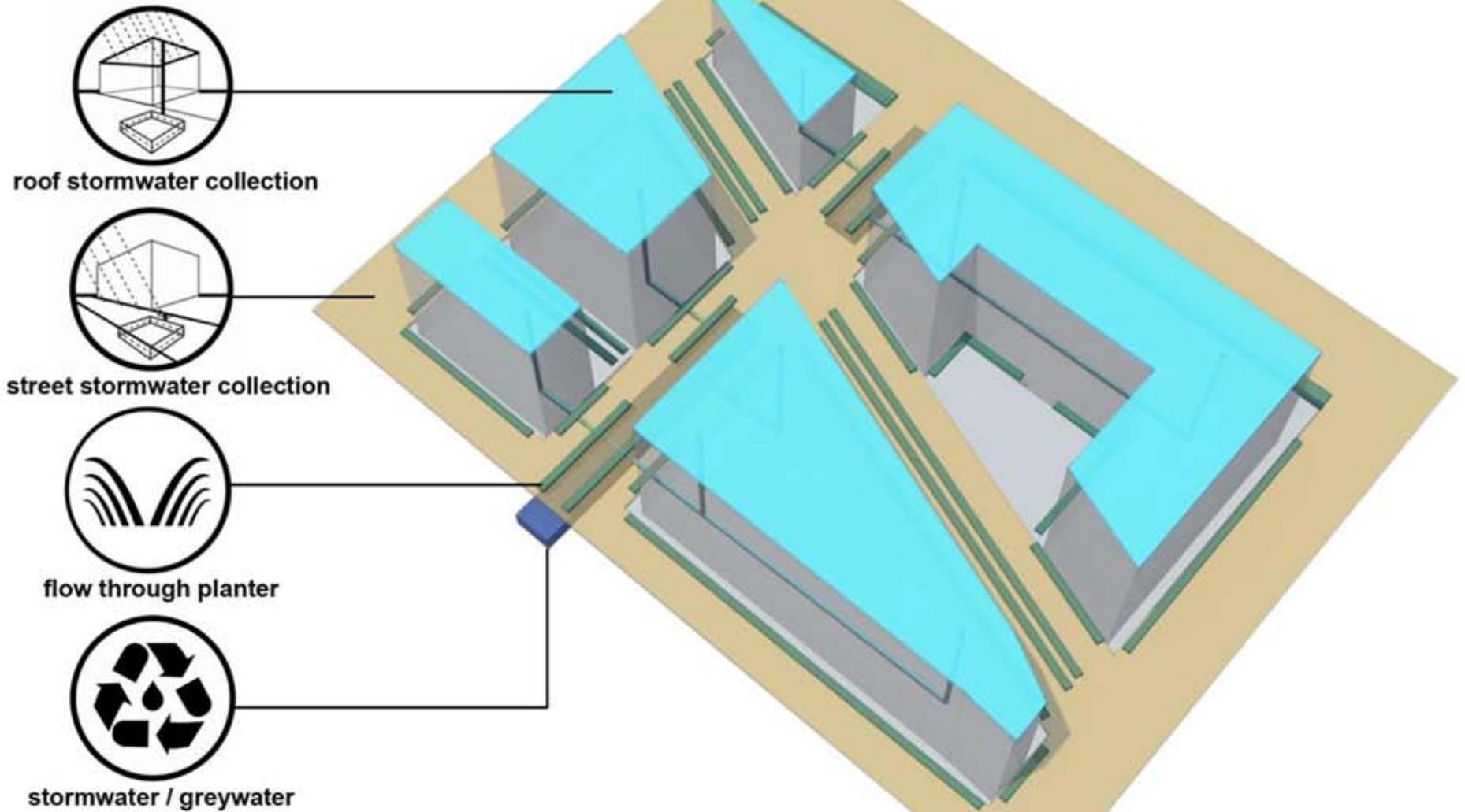




District Scale Energy Systems

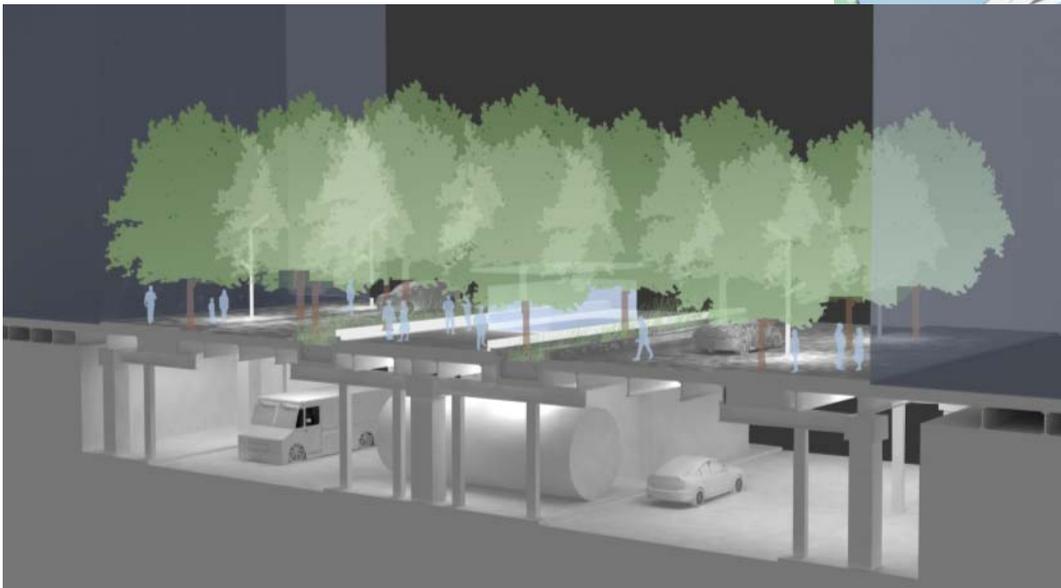
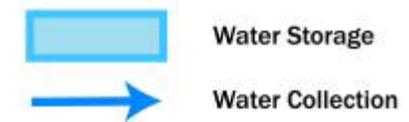
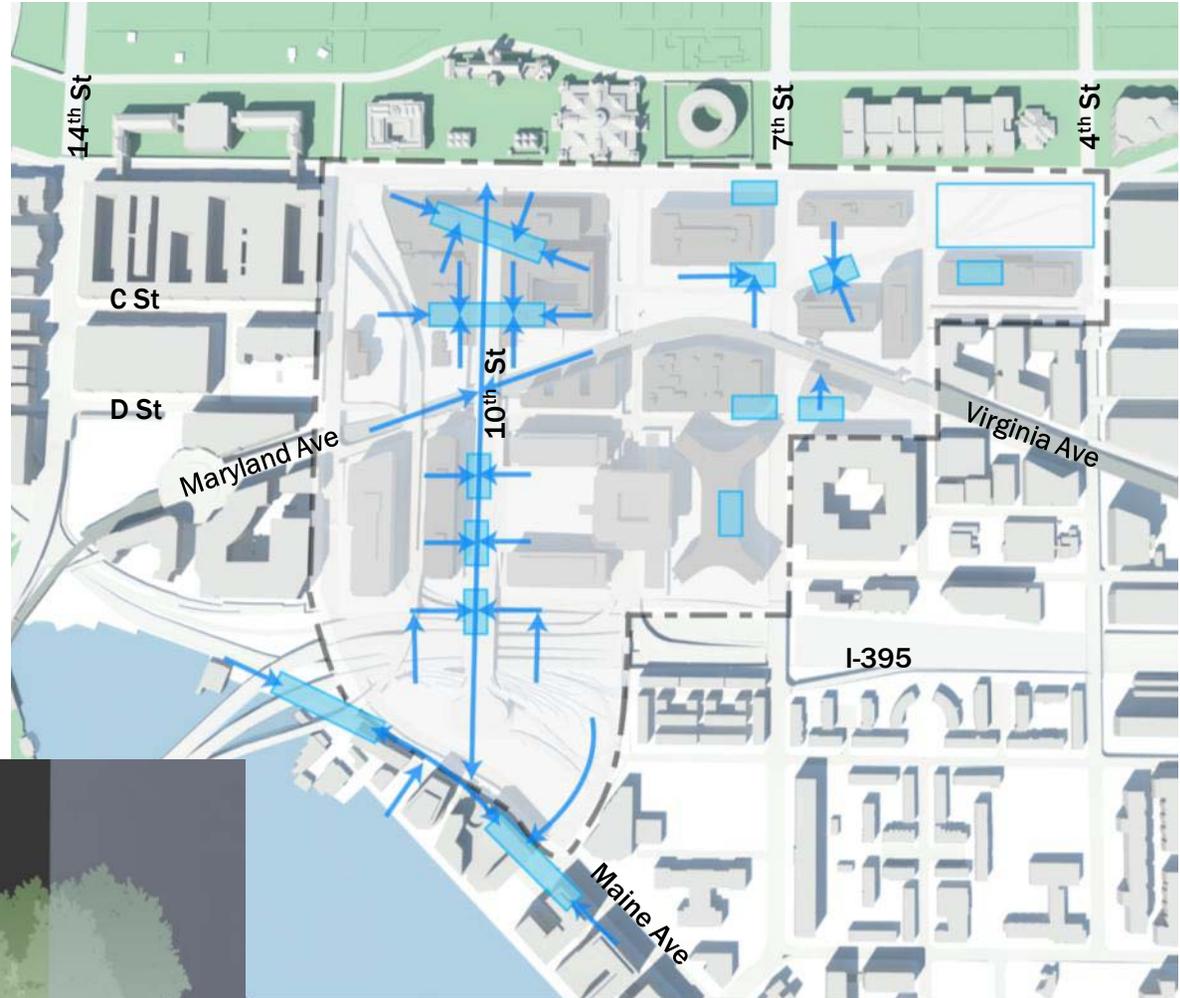


Block Scale Water Collection Systems



District Scale Water Systems

Large tanks (under 10th Street) could hold enough stormwater to provide 71% of the total water used in the ecodistrict.



10th Street Cross Section with below ground tanks



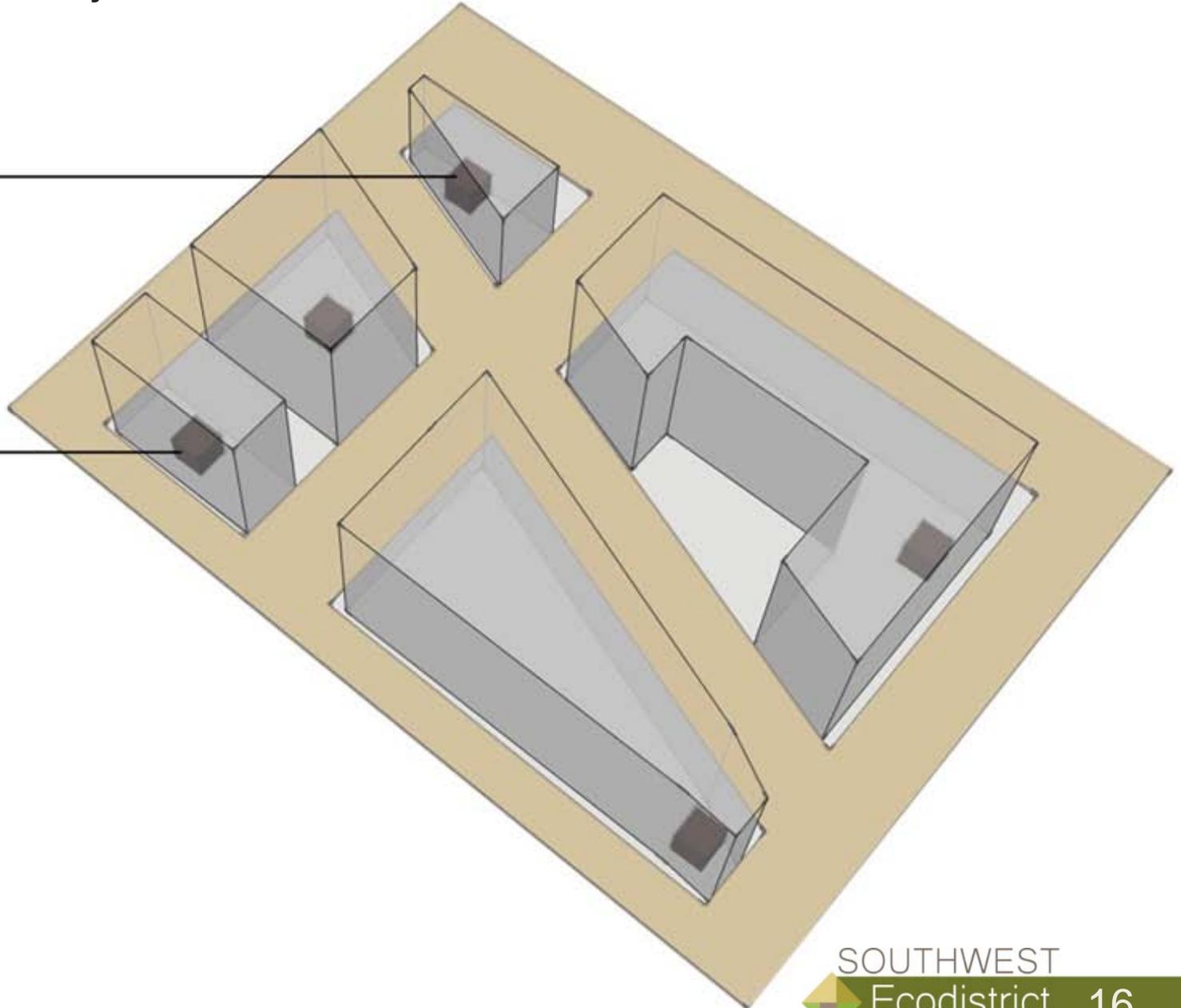
Block Scale Waste Systems



recyclable waste



composting



Green Infrastructure

Building Scale Strategies

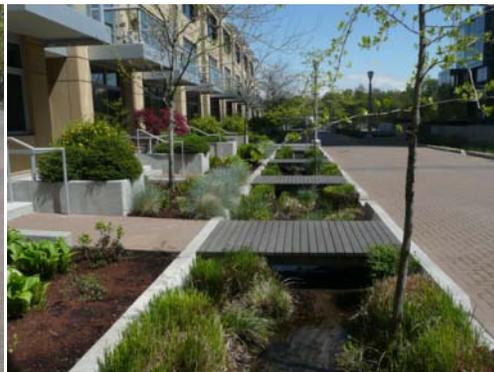
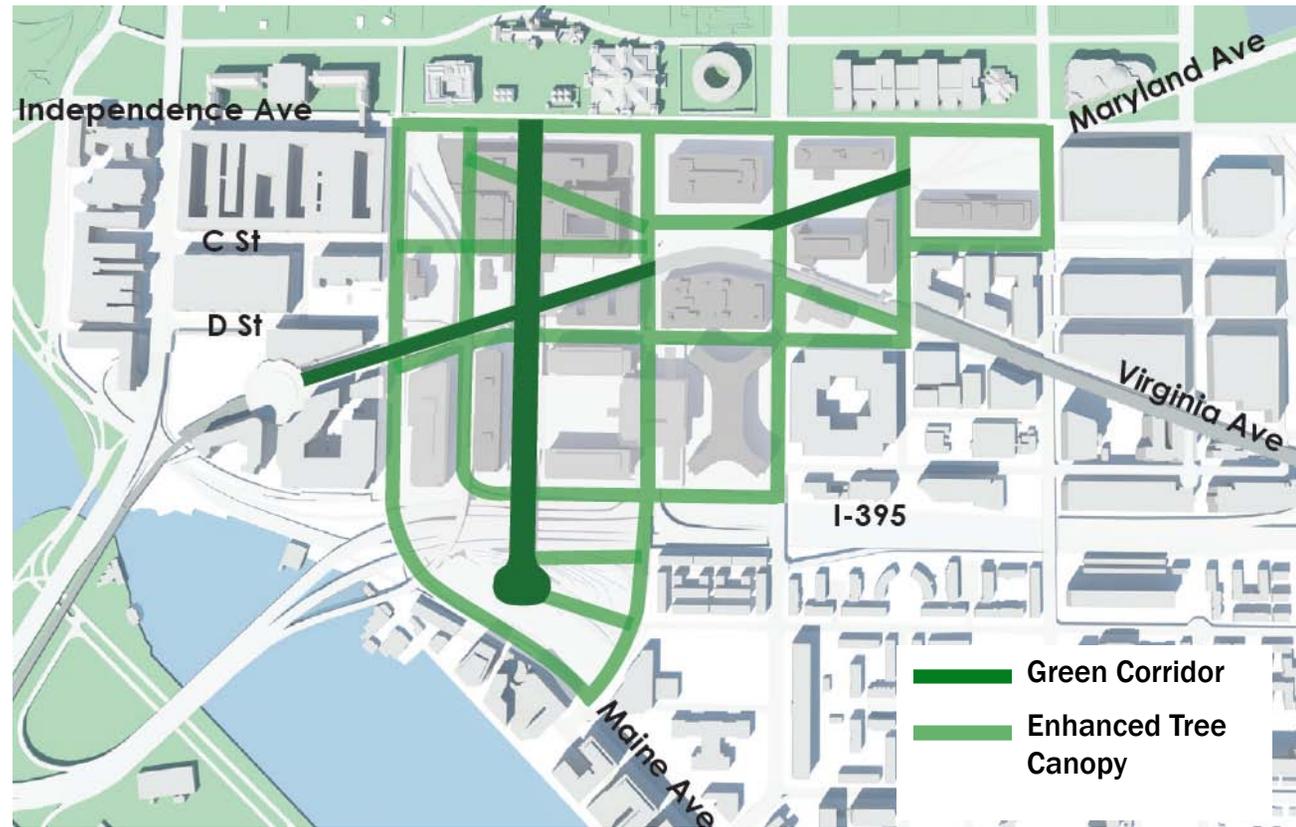
- Green Roofs
- Edible Rooftops
- Green Walls
- Rain Gardens



Green Street Infrastructure

Block / District Strategies

- Native Vegetation
- Healthy Soils
- Shade Trees
- Pervious Areas



The Path to Sustainability:

The Path to Sustainability Phasing the Revitalization Scenario

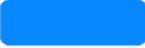
Energy, Water, and Waste at the Building Scale

	Building Strategy				
	Light Rehab	Full Rehab	Repurpose	Infill	Redevelop
Energy					
Tenant Improvement					
Lighting System Upgrade	X	X	X	X	X
Plug Load Reduction	X	X	X	X	X
Sustainable and Certified Materials	X	X	X	X	X
Radiant Heating and Cooling		X	X	X	X
Low Volume Air Distribution		X	X	X	X
Core and Shell					
Upgrades to building systems during natural cycle of obsolescence.	X				
New Mechanical and Electrical System - Hydronic thermal energy distribution.		X	X	X	X
High performance building envelope		X	X	X	X
Maximize the use of renewable energy resources (PV) and shared energy technology		X	X	X	X
Maximize building energy use efficiency		X	X	X	X
Capitalize on Ground Source Heat Below Building Site				X	X
Capitalize on Ground Source Heat Below Open Space and Streets					X
Water					
Replace plumbing existing fixtures with high efficiency fixtures	X	X	X		
Install high efficiency fixtures		X	X	X	X
Collect rainwater		X	X	X	X
Install non-potable water system		X	X	X	X
Waste					
Provide waste sorting stations at point of use locations.	X	X	X	X	X
Reclaim, recycle, and compost the majority of waste (solid and organic) generated within the area.		X	X	X	X
Minimize construction waste.		X	X	X	X







-  Light Rehab
-  Full Rehab
-  Central Utility Plant
-  Park Space



 Repurpose

 Central Utility Plant

 Park Space



 Infill

 Central Utility Plant

 Park Space

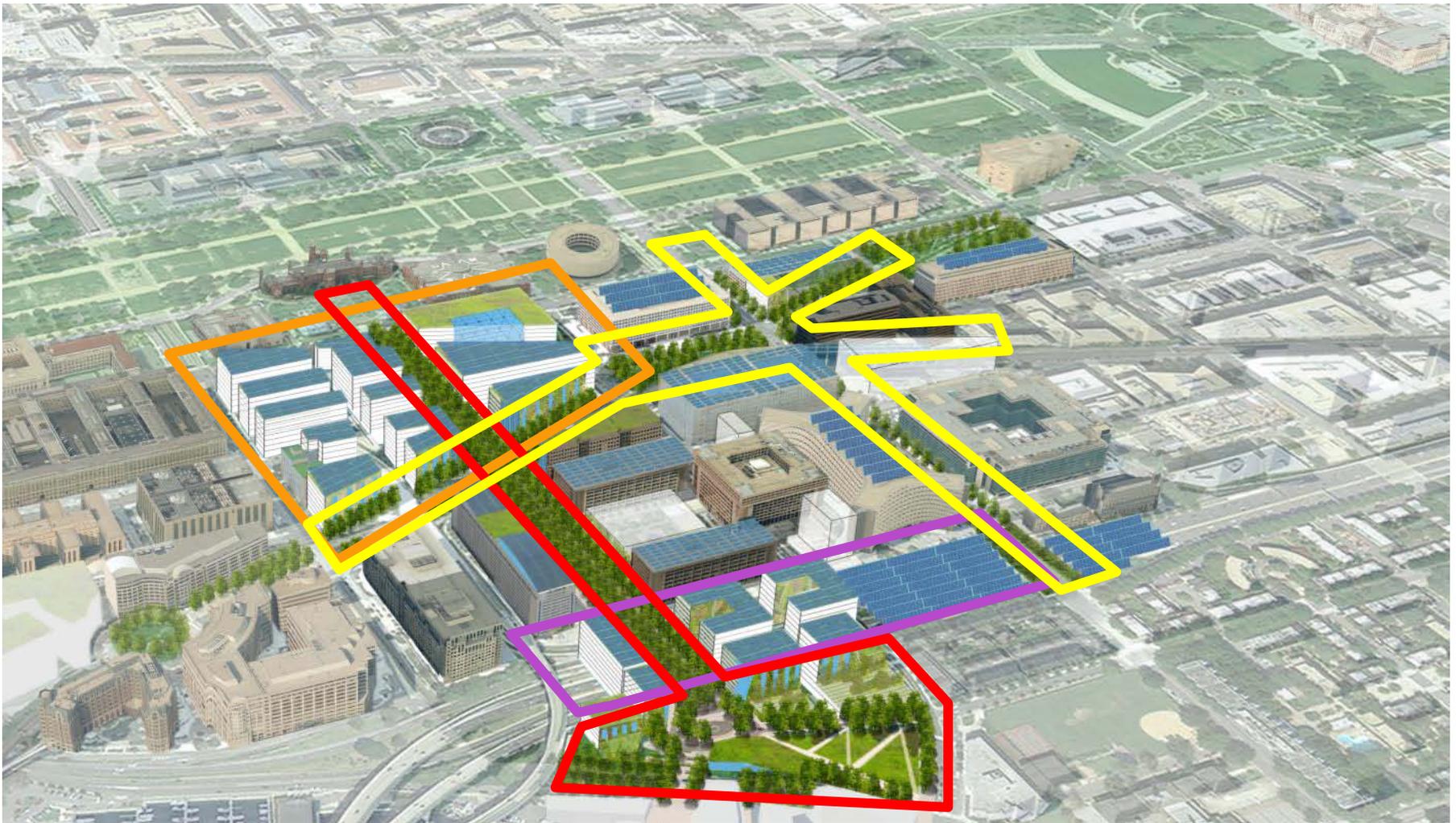


-  Redevelopment
-  Solar Canopy
-  Central Utility Plant
-  Park Space



- Light Rehab
- Full Rehab
- Repurpose
- Infill
- Redevelopment
- Solar Canopy
- Central Utility Plant
- Park Space





Focus Areas: Guiding Successful Revitalization

- 10th Street/Banneker Park
- Independence Quarter (Forrestal Complex)
- Maryland Avenue/ L'Enfant Intermodal Station and Park (VRE + Reservation 113)
- Southwest Freeway



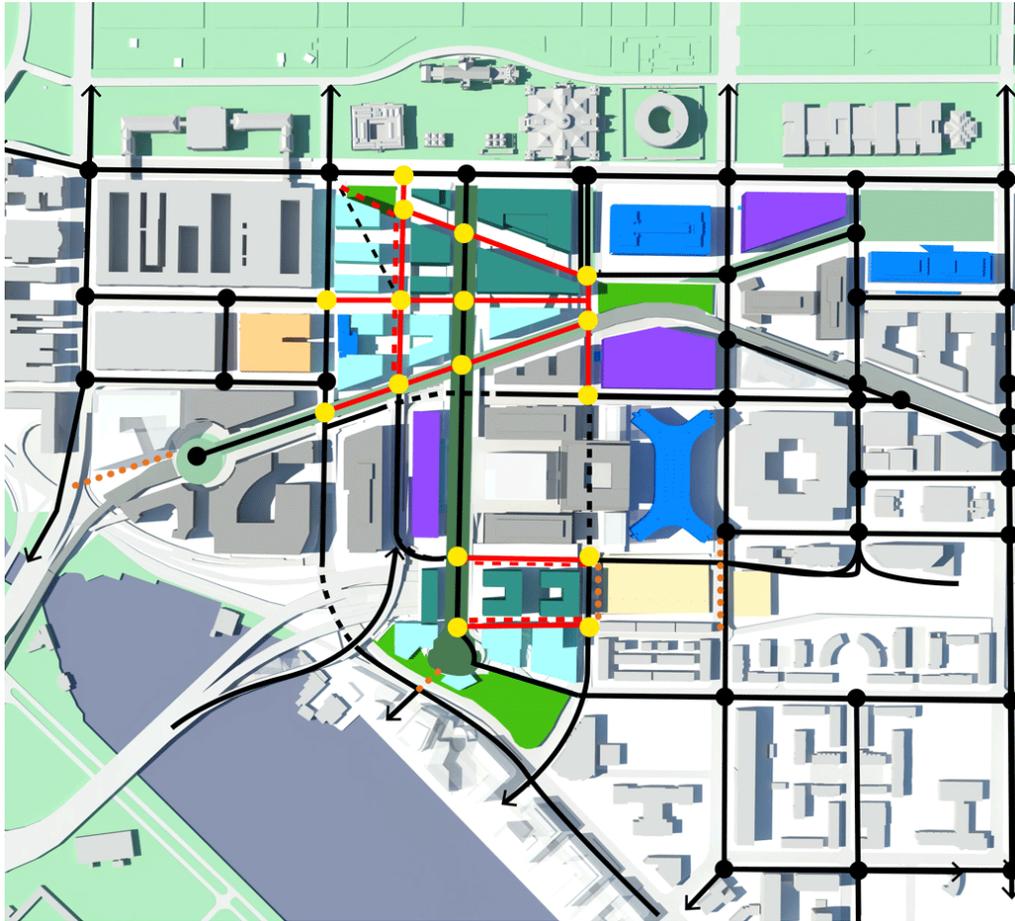






What We Can Achieve

How District-scale Strategies Achieve Greater Results



- Retains/improves **7.9M** sf of federal office space; accommodate up to **19,000** additional workers.
- Creates **1.0M** sf of offices for **5,000 -6,000** private/federal) workers;
- Provides **1.8M** sf residential/ hotel for **1,500** residents, and **240,000** visitors per year.
- Establishes **1.2M** sf of museum space for **4-5** new cultural sites
- Creates **14.3** acres of new/improved parks and plazas, **5** memorial sites.
- Reconnects street grid and creates **17** new intersections for easy accessibility.
- **EXPANDS** rail corridor and L'Enfant Station to **INCREASE** regional commuter transit capacity.



- Reduces the area's greenhouse gas emissions by **51%**
- Allows for the capture and reuse of **ALL** the rainwater in the Ecodistrict throughout the year.
- Reduces the potable water use by **70%**
- Increases the amount of waste diverted from the land from **35%** to **80%**
- Transforms the federally-owned central utility plant into a **HIGHLY EFFICIENT** and **FINANCIALLY SUCCESSFUL** energy model.

These strategies make economic sense.

Investments

- Sustainability (Buildings / Utilities)
- Open Space and Streetscapes
- Real Estate and New Development

Benefits

- Revenue from sale of excess land for private development
- Cost savings from energy, water and waste efficiencies
- Creation of sustainable, mixed-use neighborhood
- Enhanced opportunities for federal facilities and cultural destinations

Public and Private Investment Yields Sustainable Benefits

Next Steps

Task Force Review of Final Report - **December 2012**

Commission Review of Final Report - **January 2013**

Interim 10th Street Streetscape +Banneker Connection Concept Design- **Winter 12/13**

