LET'S GREEN-UP MONTGOMERY!

NEW IDEAS FOR GREEN AND SUSTAINABLE DEVELOPMENT

MONTGOMERY, PA

Revitalize Montgomery
March 2013

This booklet presents new ideas developed by *Revitalize Montgomery* for building the Susquehanna Greenway in Montgomery, Lycoming County, Pennsylvania and for bringing new vitality to our small but memorable riverfront town.

Revitalize Montgomery was established by the Borough of Montgomery to advocate for and implement special projects that improve community design, enhance the environment, and foster economic development. Our goal is to improve town life and Montgomery's appeal to Susquehanna Greenway users and area visitors.

Membership is open to anyone interested in enhancing the environmental quality and public use potential of the Montgomery area, including streets, parks, open spaces and the riverfront.

MONTGOMERY RIVER TOWN REVITALIZATION OPPORTUNITIES

Revitalize Montgomery has set a goal to make the Borough a greener town—a model Susquehanna Greenway river town. *Revitalize Montgomery* invites area residents and businesses to join in its programming to help implement projects that will improve Montgomery's image and the quality of life for its residents.

A mix of green infrastructure and economic development projects has been identified to further these goals and to make Montgomery a better place to live, work, play and visit. These are listed, summarized and ranked in order of priority in this booklet which also provides a framework for project pursuit.

These projects address needs that all communities have:

- Manage stormwater runoff efficiently
- Minimize water pollution from surface water runoff
- Beautify downtowns and neighborhoods
- Create safe places and connections for walking and bicycling
- Stimulate urban reinvestment and economic development

LET'S GREEN-UP MONTGOMERY!

Revitalize Montgomery has built a list of potential green infrastructure projects for Montgomery. These are described and summarized in the following pages. Also included is an illustrated summary of green infrastructure ideas prepared by the Susquehanna Greenway Partnership. *Let's Green-Up Montgomery*!

GREEN INFRASTRUCTURE PROJECTS

1. **Gateway Tree Plantings**

   Create memorable town entrances through street tree plantings in key locations:

   A. East Gateway tree plantings will mark arrival into the Borough and screen distracting industrial views:
      A. Montgomery Street—along the south side just east of School House Road, continuing through the open lot west of Thomas Avenue, and around the sign at the intersection with School House Road.
      B. Thomas Avenue—between Miller Avenue and Montgomery Street.

   B. Susquehanna Gateway tree plantings will enhance connection to and from the river and create a sense of place at the intersection of Second and Montgomery Streets.
      A. Second Street—additional street tree plantings in the Borough Park to define the arrival corridor into town; street tree plantings on Second Street between Park and Montgomery streets; tree plantings in the triangle of land between the railroad and the Sunoco site; tree plantings along Henry Hand Drive; tree plantings on Montgomery Street starting 200' east of Second Street to the intersection with Main Street.

C. Main Street Gateway tree plantings will extend Main Street to the riverfront park, making a stronger connection between downtown Montgomery and the river.
    A. Plant shade trees along Main Street and Black Hole Creek between Montgomery Street and Colonial Road.

2. **Riparian Buffers**

Enhance riparian buffers to stabilize stream and river banks, improve water quality, diversify habitat, and provide stewardship and educational opportunities:

A. Continue work with County planners to address Adams Creek conditions near the river.
B. Identify additional areas for improvement on Adams Creek, Black Hole Creek and the West Branch of the Susquehanna River.
C. Foster collaboration with the Lycoming County Conservation District and the PA Fish and Boat Commission to address identified needs.

3. **Main Street Streetscape**

Extend the Main Street streetscape design to the railroad to include new curbing, sidewalk, brick pavers, crosswalks, street lights and tree planting. This work will strengthen the downtown-riverfront connection.

A. Pursue new pedestrian crossings for this intersection with PennDOT.
B. Work with Lycoming County Planning and PennDOT to determine the feasibility of tree box installation for stormwater filtration on this site.
C. Coordinate with the West Branch Regional Sewer Authority on scheduling, engineering and bidding of the sewer extension project in this area.
D. Reset existing brick sidewalk pavers.

4. **Sewage Plant Adaptive Reuse**

The planned abandonment of the Borough's existing sewerage treatment plant site could create new opportunities for riverfront access, use and enjoyment. This property could be used for public or private recreational purposes and trails. Land swap opportunities might exist to serve both public and private purposes and to open more riverfront land to public use.

A. Pursue land swap options to create new public access to and along the riverfront and to relocate RV camp sites to less flood-impacted areas.
B. Pursue the extension of Main Street to provide motor vehicle access to the riverfront trail.

5. **Riverfront Trail**

Montgomery residents desire more access to the riverfront. Create new footpaths to connect residents and visitors to the outdoors, to nature, and to the riverfront. More connections to nature will create more opportunities for stewardship activities.

A. Coordinate with riverfront landowners to assess the viability of trail development.
B. Determine the potential for trail development using Borough-owned lands along Black Hole Creek. This may include the soon-to-be-abandoned Sewage Treatment Plant.

6. **Bus Stop Improvements**

Installing a downtown bus shelter, bench, and plantings will make public transit use more inviting. Site improvements will address unappealing and potentially unsafe conditions:

A. Collaborate with RVT to implement bus stop improvements on the east side of Main Street in front of the parking lot between Montgomery Street and East Houston Avenue.

7. **Public Riverfront Development**

When people connect with nature they gain a deeper appreciation for it which can lead to environmental stewardship. Residents envision river access for riverfront activities such as reading, sitting, wading, etc.

A. Develop an informal landing along the Borough's riverfront park. Minor improvements could be made to enhance the passive use of this flood prone area.

8. **Urban Forestry Plan**

Conduct an Urban Forestry Inventory and develop an Urban Forestry Plan for the Borough.

A. Pursue the development of an urban forestry initiative with the Shade Tree Commission, Penn State Cooperative Extension, and the DCNR Bureau of Forestry.

9. **Uni-Mart Site Design**

The Uni-Mart at Main and Montgomery streets occupies a prominent downtown corner lot. Present uses of this lot create challenges for downtown revitalization. Elevation changes across the site make traffic patterns and safe sight distances difficult to maintain and create conflicts between pedestrian and motor vehicle uses. The current use and character of this site development conflicts with the traditional downtown character relating to building façade, setback, architectural style, and parking.

A. Work with Uni-Mart and PennDOT to analyze the potential for relocation and redevelopment at the Sunoco brownfield site. This would allow for redevelopment of the present Uni-Mart property in a way that is consistent with and supportive of downtown revitalization.
B. Work with Uni-Mart to achieve site and structure design enhancements for better downtown integration.

10. **Brownfield Site Design**

Pursue Sunoco property redevelopment to achieve aesthetic and economic development benefits.

A. Determine the market potential new business uses for this location.
B. Coordinate with the property owner to engage expertise needed to bring about redevelopment of this site and achieve river town enhancement objectives at this site.
C. If site development proves irresolvable, pursue massive tree plantings for site screening.

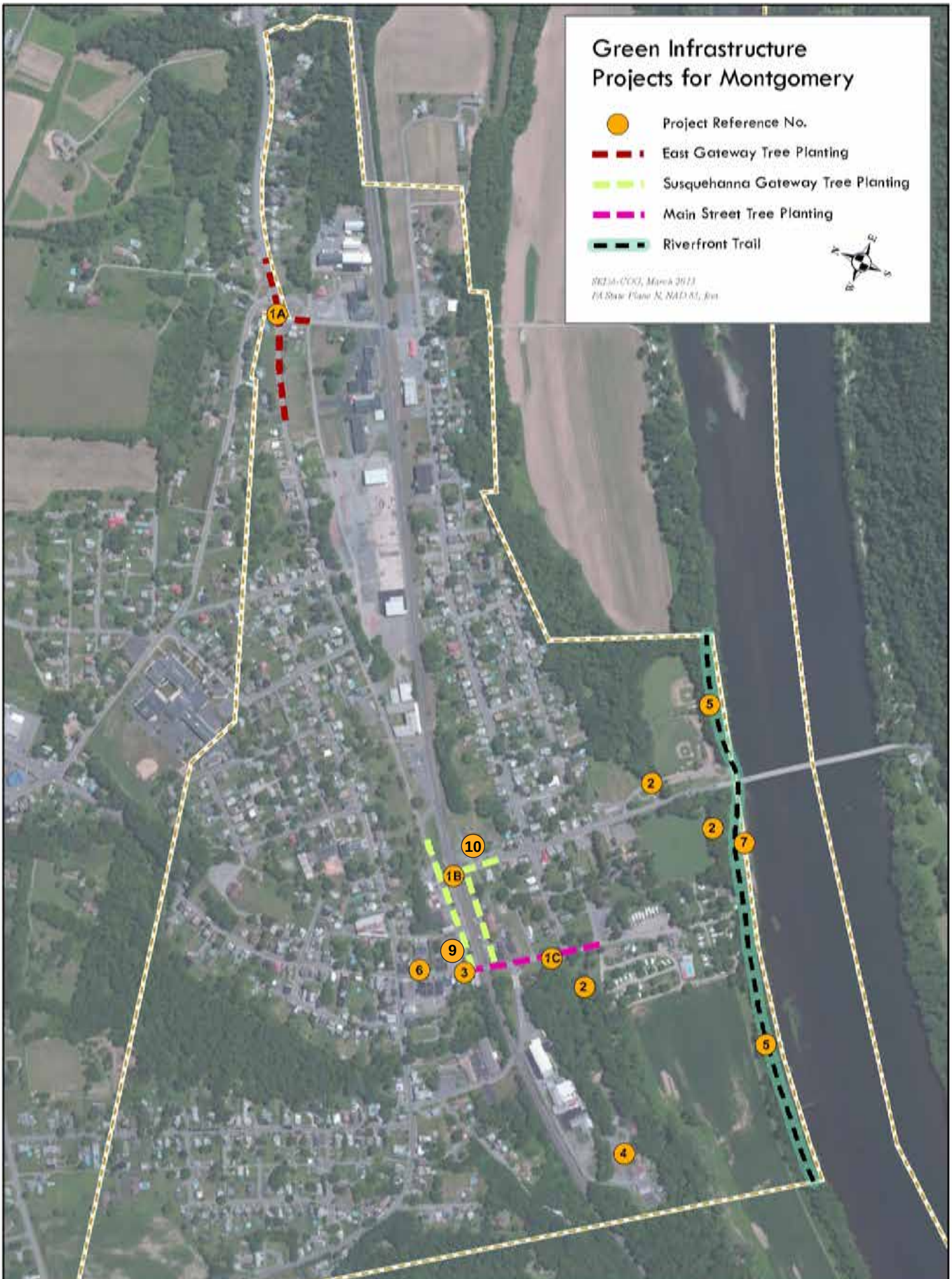
GREEN INFRASTRUCTURE PROJECTS FOR MONTGOMERY

RANK/ REF. NO.	PROJECT TYPE CODE	PROJECT NAME	DESCRIPTION
1-A	GS/SW	East Gateway Tree Planting	Plant trees: Montgomery St. two blocks west and east of Thomas Ave.; Thomas Ave. between Miller Ave. and Montgomery St.
1-B	GS/SW	Susquehanna Gateway Tree Planting	Plant trees: Second St. between Park St. and Montgomery St.; in the Borough Park; south of railroad (triangle of Borough land); Henry Hand Drive; Montgomery St. 200' east of Second St. to Main St.
1-C	GS/SW	Main Street Gateway Tree Planting	Plant trees: along Main St. from Montgomery St. to Colonial Rd.
2	EH	Riparian Buffers	Adams Creek, Black Hole Creek, and Borough riverfront.
3	ED/SW	Main Street Streetscape	Continue brick edge, new curb, lighting and a tree south to Montgomery St., use tree box for stormwater filtration.
4	EH/T/ED	Sewage Plant Adaptive Reuse	Terminus of Bower St. Extension to Main St.
5	T	Riverfront Trail	Northern shore, upstream and downstream of Rt. 405 bridge.
6	ED	Bus Stop Improvements	East side of Main St. between Montgomery St. and East Houston Ave.
7	EH	Public Riverfront Development	Enhance the Borough Park on the downstream side of Rt. 405 bridge.
8	GS/SW/ EH	Urban Forestry Plan	Complete a Borough-wide urban forest inventory and urban forestry plan.
9	ED	Uni-Mart Site Design	Corner of Montgomery St. and Main St.
10	ED	Brownfield Site Design	East side of Second Ave. south of Montgomery St.

Project Type Codes
Stormwater Management (SW), Environmental Enhancement (EH),
Green Street (GS), Off-Street Trail (T), Economic Development (ED)

ECONOMIC SUSTAINABILITY PROJECTS

1. Inventory and map community-wide assets and key features that should be promoted.
2. Inventory and map community-wide problem areas in need of improvement.
3. Collaborate with Muncy and Watsontown to develop cooperative marketing strategies.
4. Develop a quarterly newsletter for community wide communication.
5. Develop an awards-recognition program as an incentive for private property improvements.
6. Implement a Greenway River Town wayfinding and interpretive signage project.


Green Infrastructure
Projects for Montgomery
Project Reference No.
East Gateway Tree Planting
Susquehanna Gateway Tree Planting
Main Street Tree Planting
Riverfront Trail
1A
1B
1C
2
2
2
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Creating Healthy & Sustainable Communities

Green Infrastructure

Green Infrastructure is an approach that communities can choose to maintain healthy waters, provide multiple environmental benefits and support sustainable communities. Unlike single-purpose gray stormwater infrastructure, which uses pipes to dispose of rainwater, green infrastructure uses vegetation and soil to manage rainwater where it falls. By weaving natural processes into the built environment, green infrastructure provides not only stormwater management, but also flood mitigation, air quality management, and much more.

Benefits of Green Infrastructure

Green Infrastructure provides functions and values that address both natural and human needs, helps to protect and restore naturally functioning ecosystems, provides a framework for future development, and fosters diverse ecological, social, and economic functions and benefits.

- Enriched habitat and biodiversity
- Maintenance of natural landscape processes
- Cleaner air and water
- Increased recreational and transportation opportunities
- Improved health
- Better connection to nature and sense of place

Well-planned green space has also been shown to:

- Increase property values
- Decrease the costs of public infrastructure and public services (when designed in conjunction with stormwater management and water treatment systems)
- Reduce the cost to taxpayers of disaster relief and flood damage repair by purchasing threatened properties and creating greenways in the floodplain

Implementation

Stormwater runoff is a major cause of water pollution in urban areas. When rain falls in undeveloped areas, the water is absorbed and filtered by soil and plants. When rain falls on our roofs, streets, and parking lots, however, the water cannot soak into the ground. In most urban areas, stormwater is drained through engineered collection systems and discharged directly into nearby water bodies. The stormwater carries trash, bacteria, heavy metals, and other pollutants from the urban landscape, degrading the quality of the receiving waters. Higher flows can also cause erosion and flooding in urban streams, damaging habitat, property, and infrastructure.

Green Infrastructure uses vegetation, soils, and natural processes to manage water and create healthier built environments. At the scale of a city or county, green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water.

Susquehanna Greenway

The Susquehanna Greenway is an evolving corridor of interconnected parks, trails, river access points, conserved areas and river communities, linking people to the natural and cultural treasures of the Susquehanna River and its West Branch. It is nearly 500 miles in length, making it our state's largest greenway.

The Susquehanna Greenway balances the needs of generations today and tomorrow; conserves the environment for all living things; and creates healthy and successful communities, wide-ranging recreation, and economic prosperity. The Greenway celebrates the Susquehanna River as a place of timeless value, shared memories and experiences – a place to use and enjoy and to treasure always.

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Downspout Disconnection

Downspout disconnection refers to the rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer. Downspout disconnection stores stormwater and/or allows stormwater to infiltrate into the soil. This simple practice may have particularly great benefits in cities with combined sewer systems.

Example

- Milwaukee Downspout Disconnection

Web Sites

- Mid-America Regional Council
- Blue Water Baltimore

Rainwater Harvesting

Rainwater harvesting systems collect and store rainfall for later use. When designed appropriately, rainwater harvesting systems slow and reduce runoff and provide a source of water. These systems may be particularly attractive in arid regions, where they can reduce demands on increasingly limited water supplies.

Examples

- Technicians for Sustainability: Water Harvesting
- New York City Rain Barrel Giveaway Program

Web Sites

- Rainwater Harvesting at North Carolina State University
- American Rainwater Catchment Systems Association

Rain Gardens

Rain gardens (also known as bio-retention or bio-infiltration cells) are shallow, vegetated basins that collect and absorb runoff from rooftops, sidewalks, and streets. Rain gardens mimic natural hydrology by infiltrating and evapo-transpiring runoff. Rain gardens are versatile features that can be installed in almost any unpaved space.

Benefits

- Bio-retention Literature Review
- Urban Design Tools: Bio-retention

Examples

- Burnsville, MN Stormwater Retrofit Study
- 12,000 Rain Gardens

Web Sites

- Rain Gardens for the Bays
- Rain Garden Network
- Rain Garden Design Templates

Planter Boxes

Planter boxes are urban rain gardens with vertical walls and open or closed bottoms that collect and absorb runoff from sidewalks, parking lots, and streets. Planter boxes are ideal for space-limited sites in dense urban areas and as a streetscaping element.

Benefits

- See Rain Gardens and Green Streets

Examples

- Michigan Avenue Streetscape
- Philadelphia Water Department

Web Sites

- (See Rain Gardens and Green Streets)

Bio-swales

Bio-swales are vegetated, mulched, or xeriscaped channels that provide treatment and retention as they move stormwater from one place to another. Vegetated swales slow, infiltrate, and filter stormwater flows. As linear features, vegetated swales are particularly suitable along streets and parking lots.

Benefits

- Performance of Engineered Soil and Trees in a Parking Lot Bio-swale (PDF)
- Water Quality Benefits of Grass Swales in Managing Highway Runoff (PDF)

Web Sites

- University of New Hampshire Stormwater Center
- See Rain Gardens and Green Streets

Permeable Pavements

Permeable pavements are paved surfaces that infiltrate, treat, and/or store rainwater where it falls. Permeable pavements may be constructed from pervious concrete, porous asphalt, permeable interlocking pavers, and several other materials. These pavements are particularly cost effective where land values are high and where flooding or icing is a problem.

Factsheets

- EPA Stormwater Menu of BMPs: Pervious Concrete also Porous Asphalt & Pavers

Benefits

- Long-Term Stormwater Quantity and Quality Performance of Permeable Pavement Systems (PDF)
- Reducing Urban Heat Islands: Cool Pavements (PDF)

Web Sites

- National Ready Mix Concrete Association: Pervious Concrete
- Interlocking Concrete Pavement Institute
- National Asphalt Pavement Association: Porous Asphalt

Green Parking

Many of the green infrastructure elements described above can be seamlessly integrated into parking lot designs. Permeable pavements can be installed in sections of a lot and rain gardens and bio-swales can be included in medians and along a parking lot perimeter. Benefits include urban heat island mitigation and a more walkable environment.

Factsheets

- EPA Stormwater Menu of BMPs
- Minnesota Urban Small Sites BMP Manual
- EPA Green Parking Lot Resource Guide

Benefits

- EPA Case Study: Bio-retention Applications
- Reducing Urban Heath Islands: Cool Pavements (PDF)

Examples

- Toronto Design Guidelines for Greening Surface Parking Lots (PDF)

Web Sites

- EPA Experimental Stormwater Parking Lot
- Nonpoint Education for Municipal Officials (NEMO) Planning for Stormwater: Parking Lots

Green Streets and Alleys

Green streets and alleys integrate green infrastructure elements into the street and/or alley design to store, infiltrate, and evapo-transpire stormwater. Permeable pavement, bio-swales, planter boxes, and trees are among the many green infrastructure features that may be woven into street or alley design.

Factsheets

- EPA's Green Streets: A Conceptual Guide
- Sustainable Complete Streets

Benefits

- Portland Vegetated Curb Extension Flow Test Report

Examples

- Seattle Public Utilities Natural Drainage Projects
- Syracuse Green Street: Concord Place
- The Chicago Green Alley Handbook (PDF)

Web Sites

- Low Impact Development Center: Green Streets
- Green Street Initiatives Around the United States
- Creating a Successful Green Street Program

Green Roofs

Green roofs are covered with growing media and vegetation that enable rainfall infiltration and evapo-transpiration of stored water. Green roofs are particularly cost effective in dense urban areas, where land values are high, and on large industrial or office buildings where stormwater management costs may be high.

Factsheets

- EPA Stormwater Menu of BMPs
- Charles River Watershed Association (PDF)
- Portland Ecoroofs

Benefits

- EPA's Green Roofs for Stormwater Runoff Control
- The Monetary Value of the Soft Benefits of Green Roofs

Examples

- King County Green Roof Case Study Report
- Green Roof and Wall Projects Database

Web Sites

- Green Roofs for Healthy Cities
- Portland Ecoroof Program

Urban Tree Canopy

Many cities set tree canopy goals to restore some of the benefits provided by trees. Trees reduce and slow stormwater by intercepting precipitation in their leaves and branches. Homeowners, businesses, and cities can all participate in the planting and maintenance of trees throughout the urban environment.

Factsheets

- EPA Stormwater Menu of BMPs (PDF)
- NEMO Fact Sheet: Control Stormwater Runoff with Trees (PDF)

Benefits

- Sustainable Cities Institute: Benefits of the Urban Forest

Examples

- Chicago Trees Initiative
- Philadelphia Water Department: Stormwater Tree Trench

Web Sites

- Watershed Forestry Resource Guide
- i-Tree: Tools for Assessing and Managing Community Forests
- US Forest Service: Urban and Community Forestry

Land Conservation

Protecting open spaces and sensitive natural areas within and adjacent to cities can mitigate the water quality and flooding impacts of urban stormwater while providing recreational opportunities for city residents. Natural areas that are particularly important in addressing water quality and flooding include riparian areas, wetlands, and steep hillsides.

Factsheets

- Using Smart Growth Techniques as Stormwater Best Management Practices
- EPA's Protecting Water Resources with Higher Density Development

Benefits

- The Conservation Fund: Benefits of Green Infrastructure
- Greenways & Blueways

Examples

- Green Seams: Flood Management in Milwaukee
- Alachua County Green Infrastructure Investment Program (PDF)

Web Sites

- EPA Healthy Watersheds Initiative
- The Conservation Fund
- The Trust for Public Land

The content for this document is excerpted from the U.S. Environmental Protection Agency website.

Let's Green-Up Montgomery! was prepared for the Borough of Montgomery and *Revitalize Montgomery* with the assistance of Alice Trowbridge and Tom Grbenick and the Susquehanna Greenway Partnership (SGP), 201 Furnace Road, Lewisburg, PA 17837. The Partnership recognized Montgomery as a Susquehanna Greenway River Town in January 2013 and it provides technical assistance to Greenway River Towns to help them organize and plan projects that benefit towns and their regions and that help build the Susquehanna Greenway.

SGP works with governments, organizations and individuals throughout the Susquehanna River corridor in Pennsylvania to educate and inform its constituencies about the benefits of the Susquehanna Greenway and to engage citizens and their leaders locally in Greenway development programs, projects and activities.

For more information about the Partnership and its activities see www.susquehannagreenway.org.