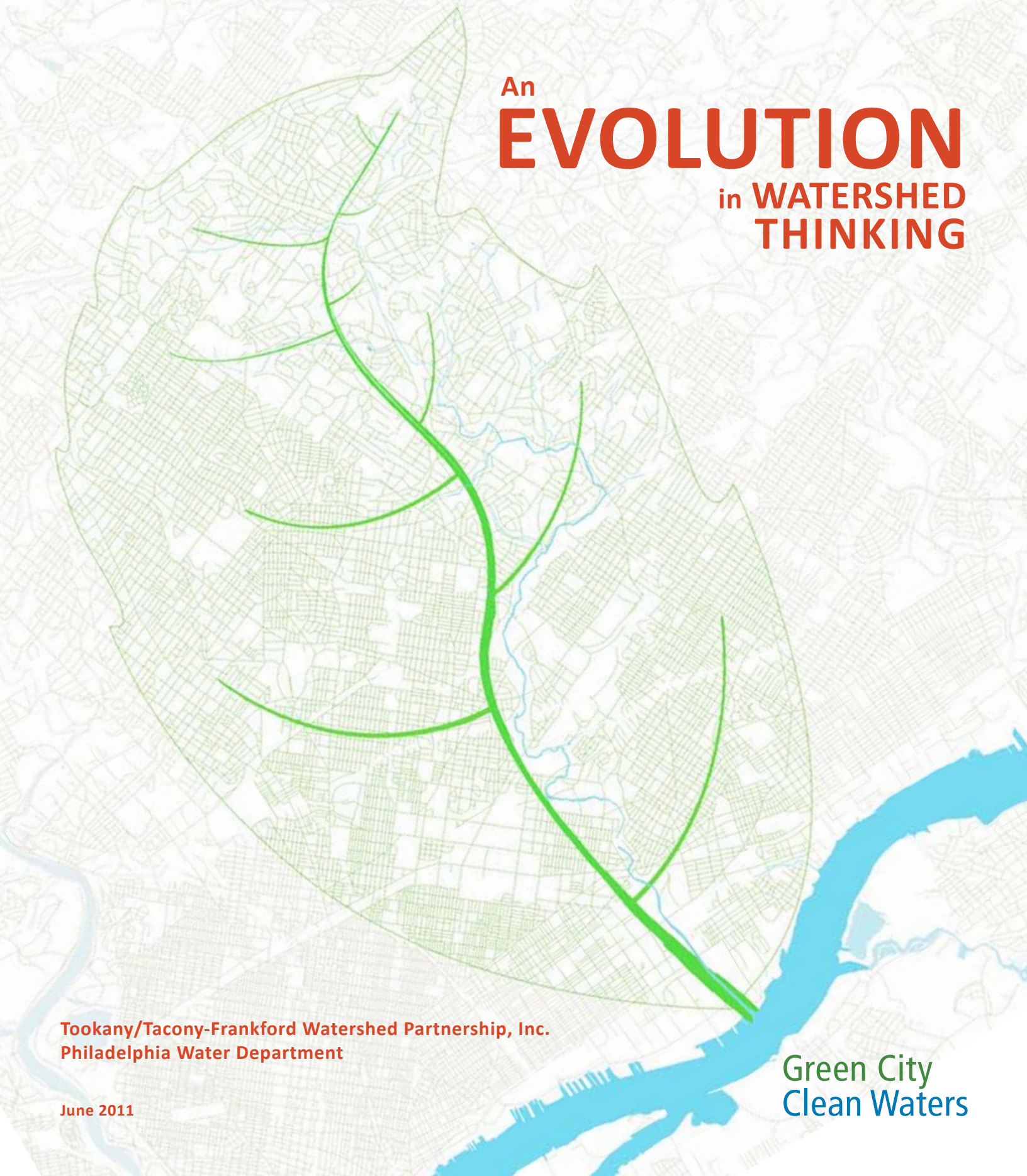
The Tookany/Tacony-Frankford Watershed:

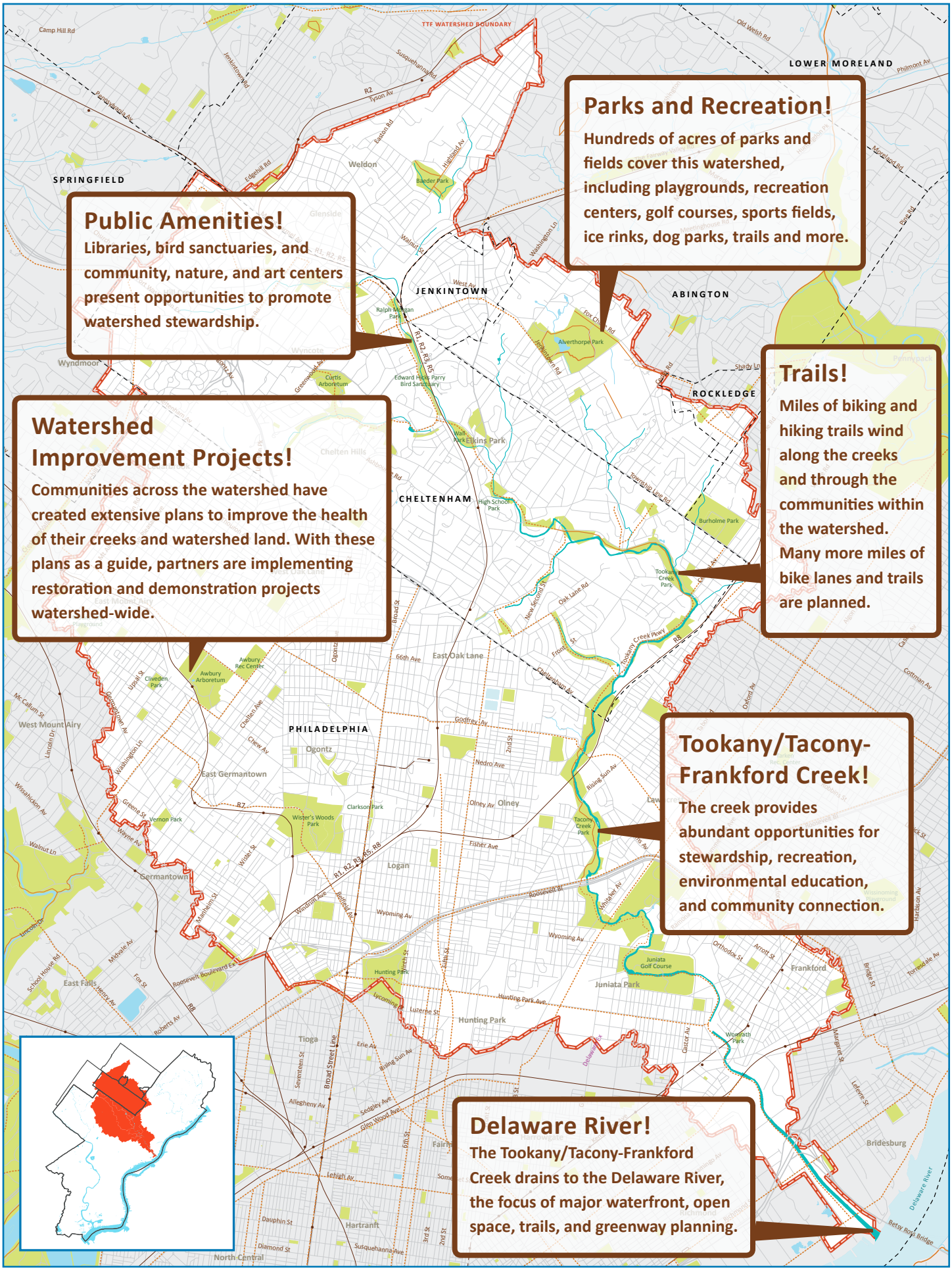
An EVOLUTION in WATERSHED THINKING



Tookany/Tacony-Frankford Watershed Partnership, Inc.
Philadelphia Water Department

June 2011

Green City
Clean Waters


TTF WATERSHED BOUNDARY
SPRINGFIELD
LOWER MORELAND
JENKINTOWN
ABINGTON
ROCKLEDGE
CHELTENHAM
PHILADELPHIA
Parks and Recreation!
Hundreds of acres of parks and fields cover this watershed, including playgrounds, recreation centers, golf courses, sports fields, ice rinks, dog parks, trails and more.
Public Amenities!
Libraries, bird sanctuaries, and community, nature, and art centers present opportunities to promote watershed stewardship.
Watershed Improvement Projects!
Communities across the watershed have created extensive plans to improve the health of their creeks and watershed land. With these plans as a guide, partners are implementing restoration and demonstration projects watershed-wide.
Trails!
Miles of biking and hiking trails wind along the creeks and through the communities within the watershed. Many more miles of bike lanes and trails are planned.
Tookany/Tacony-Frankford Creek!
The creek provides abundant opportunities for stewardship, recreation, environmental education, and community connection.
Delaware River!
The Tookany/Tacony-Frankford Creek drains to the Delaware River, the focus of major waterfront, open space, trails, and greenway planning.

About the TTF Watershed Partnership

The Tookany/Tacony-Frankford Watershed Partnership, Inc. (TTF) acts as the crucial link connecting residents, businesses, and government as neighbors and stewards of this impaired, but critically important watershed in Philadelphia and the metro region. Its mission is to enhance the health and vitality of the Tookany/Tacony-Frankford Creek and its watershed. In support of its mission, TTF facilitates, supports, and initiates efforts to restore the health of the watershed and to mobilize its communities as watershed stewards through educational programming, community outreach, networking services, and project coordination.

The Tookany/Tacony-Frankford Watershed Partnership was initiated in 2000 by the Philadelphia Water Department's Office of Watersheds to address water quality issues by watershed boundaries rather than by municipal ones. Through collaboration among the Philadelphia Water Department, Cheltenham Township and the Pennsylvania Environmental Council, a strong coalition of watershed stakeholders was assembled. Non-profit organizations, corporations, local government entities, and residents joined forces to improve the health of this urban creek and its watershed.

TTF Watershed Partnership Board of Directors:

Abington Township
Arcadia University
Cheltenham Township
Friends of High School Park
Heritage Conservancy
Jenkintown Borough
Mayor's Executive Office, City of Philadelphia
Montgomery County Planning Commission
Montgomery County Conservation District
Ogontz Avenue Revitalization Corporation (OARC)
PECO
Pennsylvania Environmental Council
Pennsylvania Horticultural Society
Philadelphia City Council
Philadelphia City Planning Commission
Philadelphia Parks Alliance
Philadelphia Water Department
Rockledge Borough
Senior Environment Corps, Center in the Park
SEPTA
TD Bank
Watershed Resident

Municipalities in the TTF Watershed:

Abington Township
Cheltenham Township
Jenkintown Borough
City of Philadelphia
Rockledge Borough
Springfield Township

Counties in the TTF Watershed:

Montgomery County
Philadelphia County

ABOUT THIS DOCUMENT

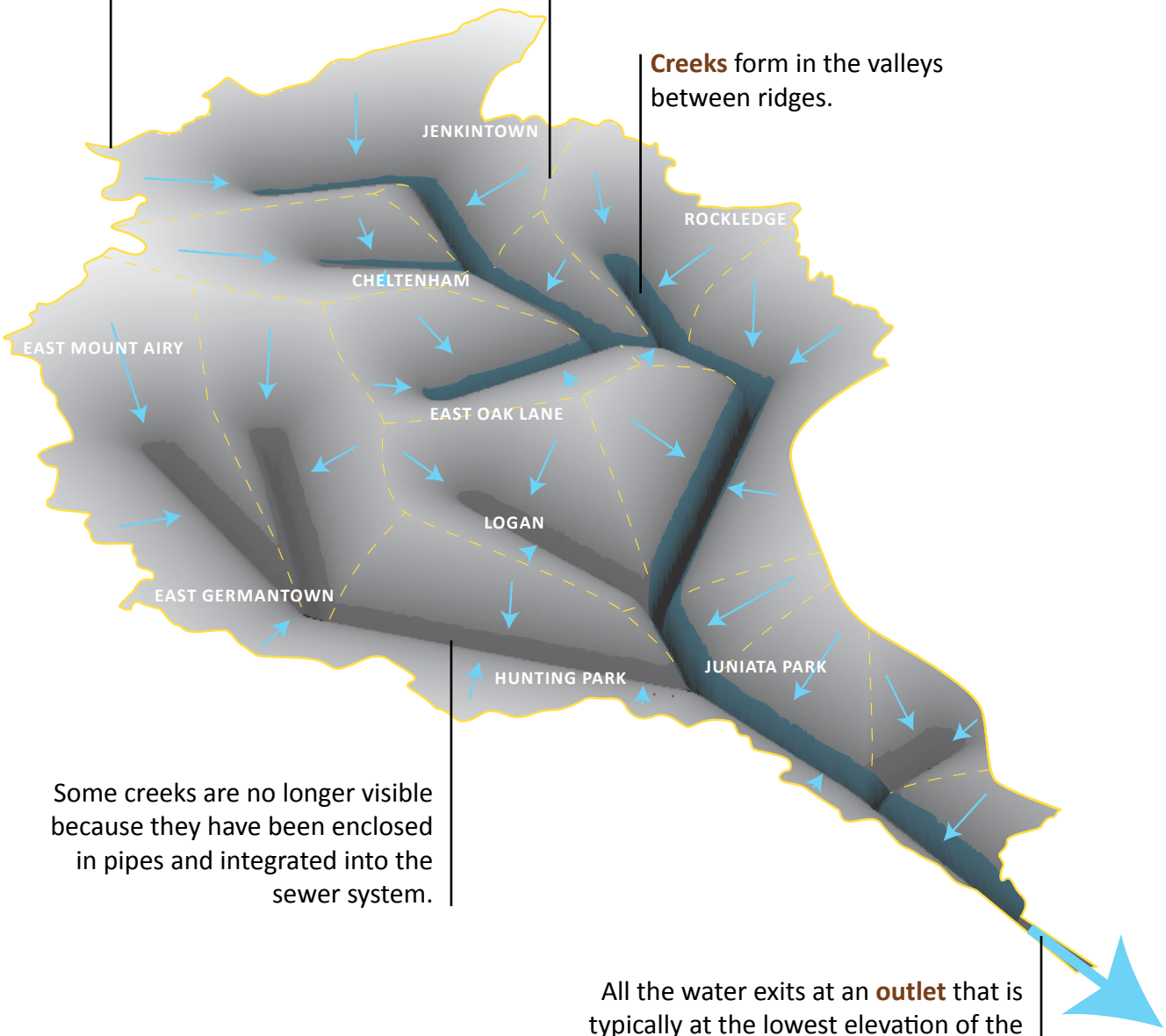
This document presents a vision of a healthy creek flowing through a thriving Tookany/Tacony-Frankford watershed. The following pages llustrate current issues facing the watershed, strategies for improvement, and a vision of a revitalized watershed community. As the Tookany/Tacony-Frankford Watershed Partnership and its partners mobilize residents, government, and organizations to implement innovative stormwater management techniques and neighborhood beautification projects, together, we move closer to this vision of the Tookany/Tacony-Frankford Creek as a source of community recreation, prosperity, and well-being.

What exactly is a watershed?

A watershed is a **drainage basin**, within which all water flows to a single location.

Water flows in opposite directions on each side of a **ridge**.

Creeks form in the valleys between ridges.



Some creeks are no longer visible because they have been enclosed in pipes and integrated into the sewer system.

All the water exits at an **outlet** that is typically at the lowest elevation of the watershed into another body of water.

An Evolution in Watershed Thinking

Taking a holistic approach to the Tookany/Tacony-Frankford Creek corridor with a vision of creek health and community well-being.

AN EVOLUTION IN STORMWATER INNOVATION

PROBLEM: Because much of our land has been covered with impervious surfaces (pavement, rooftops, etc.), too much water enters the combined sewer system through storm drains. During large rain events, this causes a mixture of sewage and water to overflow into the creek. The high volume of stormwater runoff also causes creeks to flood, streambanks to erode, and underground utility pipes to become exposed.

SOLUTION: The TTF watershed is already home to many demonstration projects that use green infrastructure (plants and soil) to absorb water into the land, reducing water flow into our sewer systems. In addition to being a source of community pride, these projects serve as models, inspiring wider use of best practices in stormwater management.

AN EVOLUTION IN DISTINCTIVE RECREATION

PROBLEM: Creekside green space is in abundance in the TTF watershed, but in some places, creekside parkland has become more of a neighborhood hazard than a public amenity. The compromised state of the creek's health and aesthetics attracts illegal dumping and illicit behavior, deterring residents from enjoying it as a community asset.

SOLUTION: By improving the health of the creek and encouraging positive use of the land around it, we can transform this large network of green space and parkland back into a creekside destination providing healthy recreation for thousands of watershed residents. There is already tremendous momentum in this area, with miles of trail networks in development and substantial park restoration projects underway.

AN EVOLUTION IN CREEK HEALTH

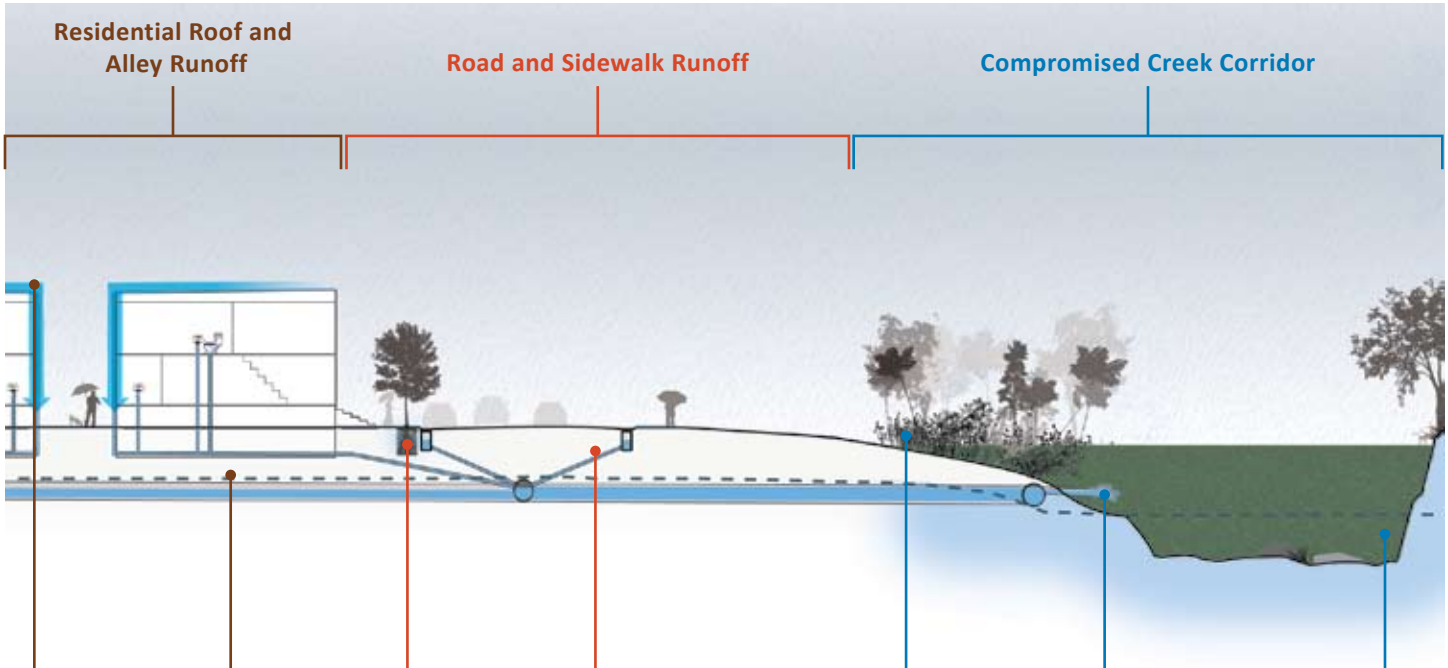
PROBLEM: Like all urban creeks, the Tookany/Tacony-Frankford Creek has been compromised by intense development. Many areas along the creek suffer from frequent flooding, invasive plant overgrowth and pollution. These issues degrade creek health and prevent residents from enjoying the many benefits that an urban creek can provide.

SOLUTION: Restoring the creek environment to a more natural state and committing to more responsible watershed stewardship will improve water quality, generate healthier habitats, and provide access to valuable open space.

Stormwater management is vital to improving creek health in areas both near and far from creeks.

Degraded Urban Watershed

A typical urban watershed has negative effects on its creeks.



Roof runoff goes into roof leaders and pipes. It does not absorb into the ground.

The water table is low due to reduced infiltration of stormwater.

There are too few street trees to retain stormwater.

Stormwater drains quickly and does not absorb into the ground.

Creek banks degrade and lose native plants due to runoff and frequent flooding. They become overwhelmed with agressive invasive plants.

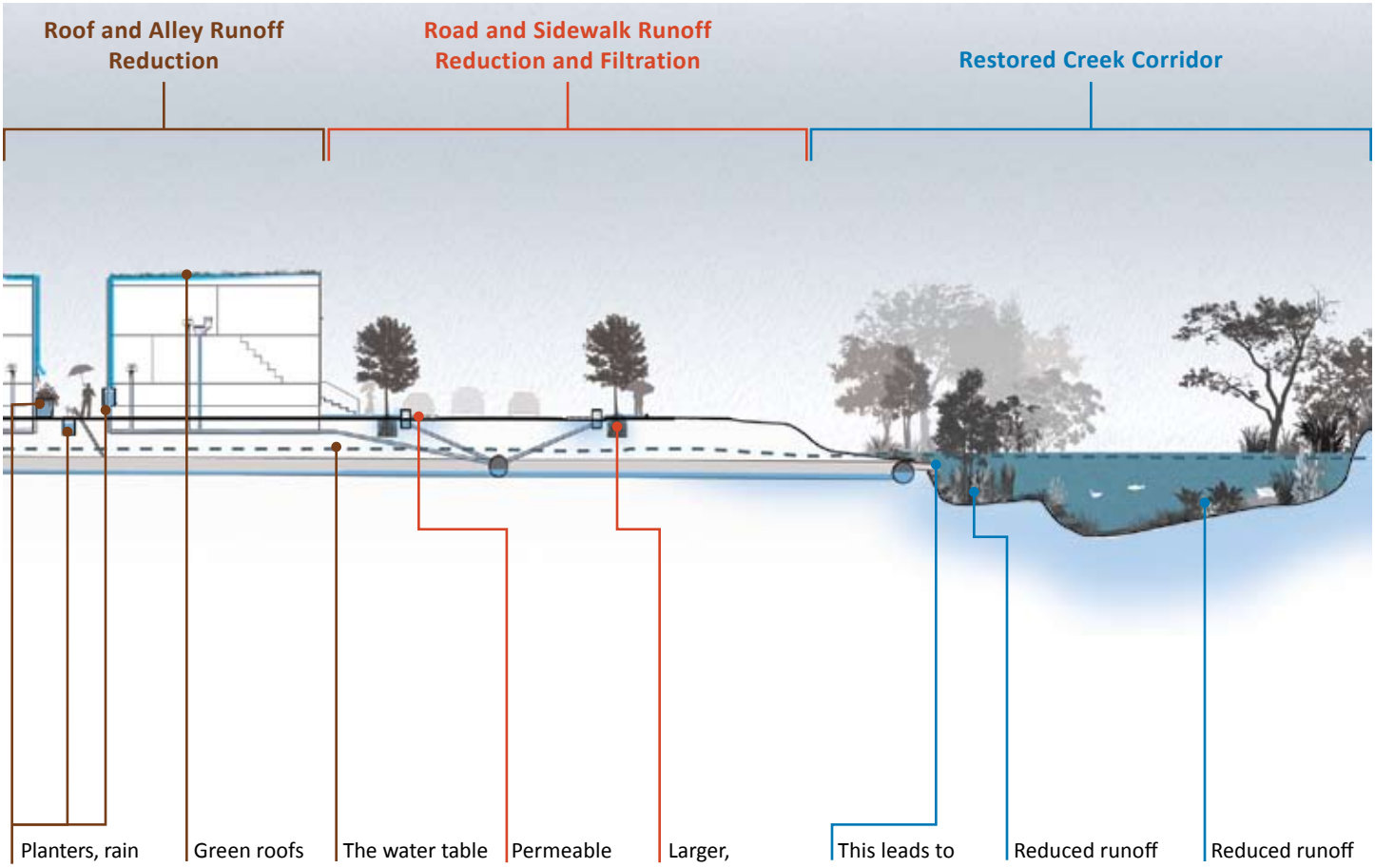
Frequent overflows release untreated sewage and unfiltered stormwater into creek.

High water flow erodes and widens the creek and makes it less habitable for fish, wildlife, plants, and people.

An Evolution
in Stormwater Innovation

Healthy Urban Watershed

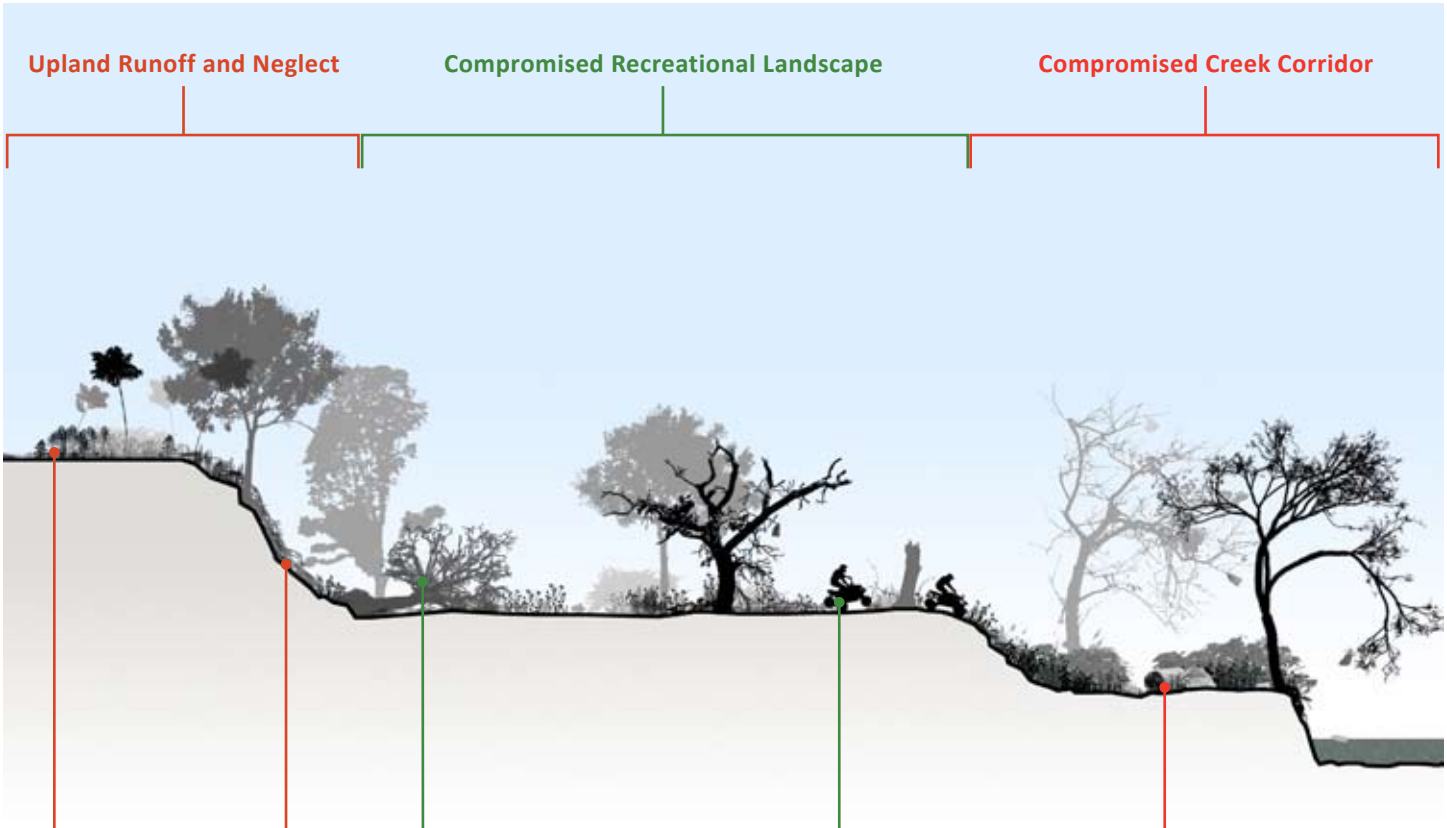
A more sustainable approach to stormwater will positively affect the watershed.



Restoration of the floodplain creates spaces for recreation and development, enhanced by proximity to the creek.

Degraded Landscape

Frequent flooding degrades landscapes and makes investment in development and maintenance difficult.



Adjacent properties have little investment value.

Stormwater runoff destabilizes creek banks, degrades water quality, and destroys habitat.

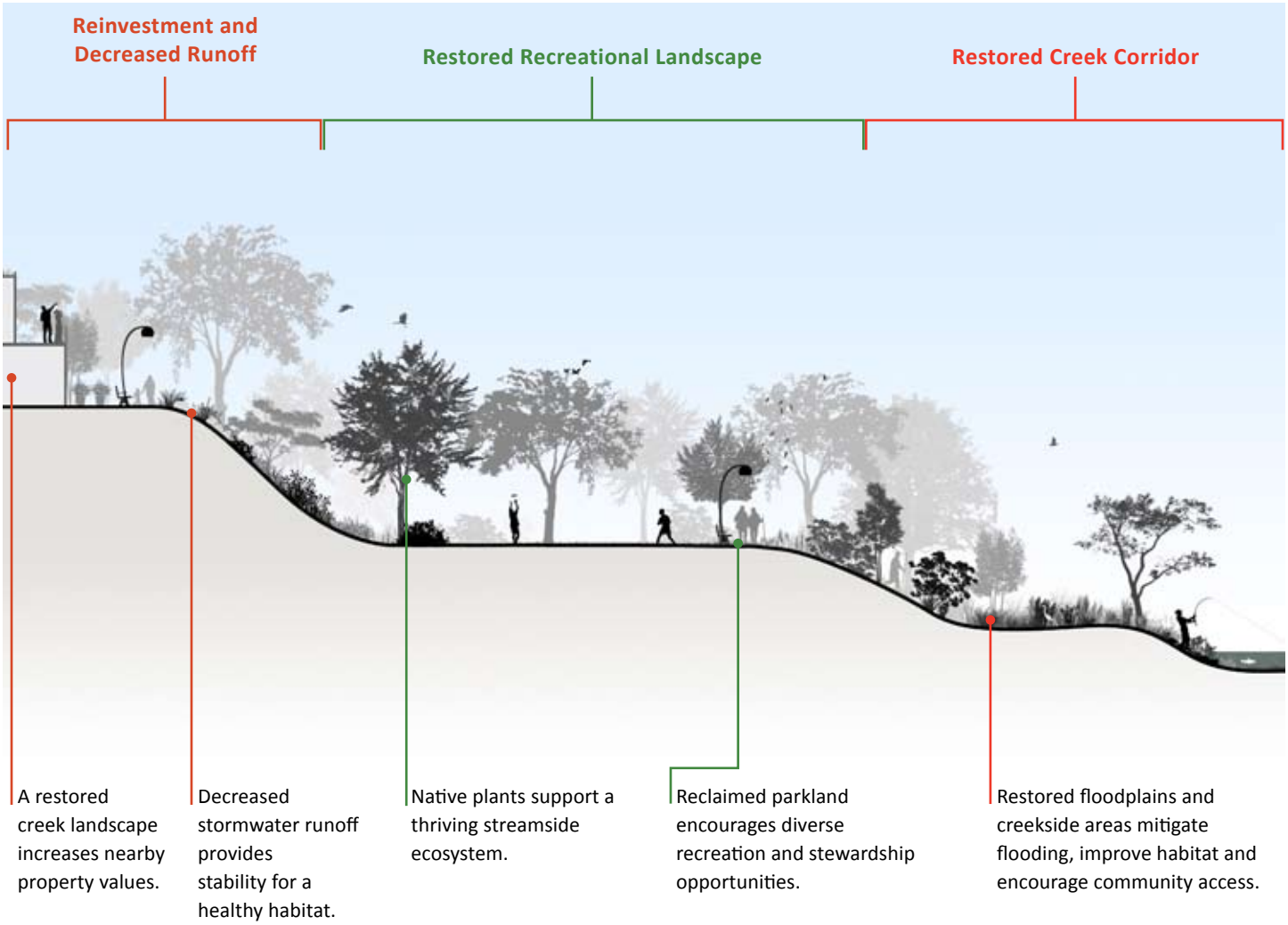
Frequent flooding strips away native vegetation, encourages invasive plants, and spreads debris.

Neglected public lands encourage trash dumping and other illegal activities.

Steep, unstable banks and degraded creekside areas discourage community access.

An Evolution
in Distinctive Recreation

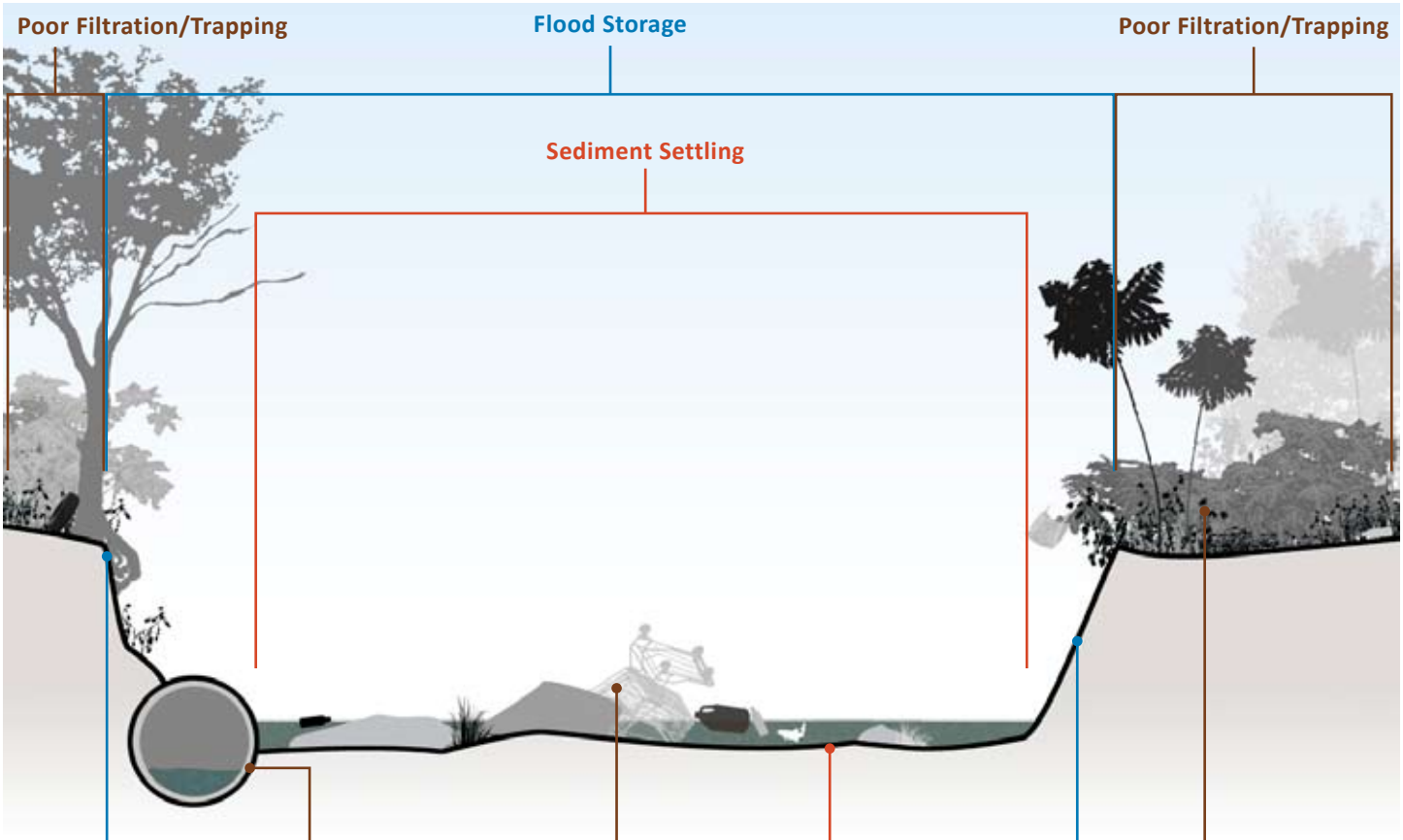
Healthy Landscape
Watershed-wide stormwater management halts cycles of damage and allows for sustainable investment.



Creek restoration repairs scoured and littered creek beds, improves water quality and allows native plants and animals to flourish.

Degraded Creek Corridor

An unhealthy creek corridor cannot perform essential ecological functions.



Flood waters erode creek banks, washing away valuable soil and native vegetation. Banks are left bare or are overcome by aggressive invasive plants.

Bank erosion exposes the sewer system infrastructure, leaving pipes and manholes susceptible to damage.

Trash and debris overwhelm the landscape.

Fast-moving flood waters wash away sediment, which is critical to the health of the creek habitat. Without sediment, fish habitat and food wash away.

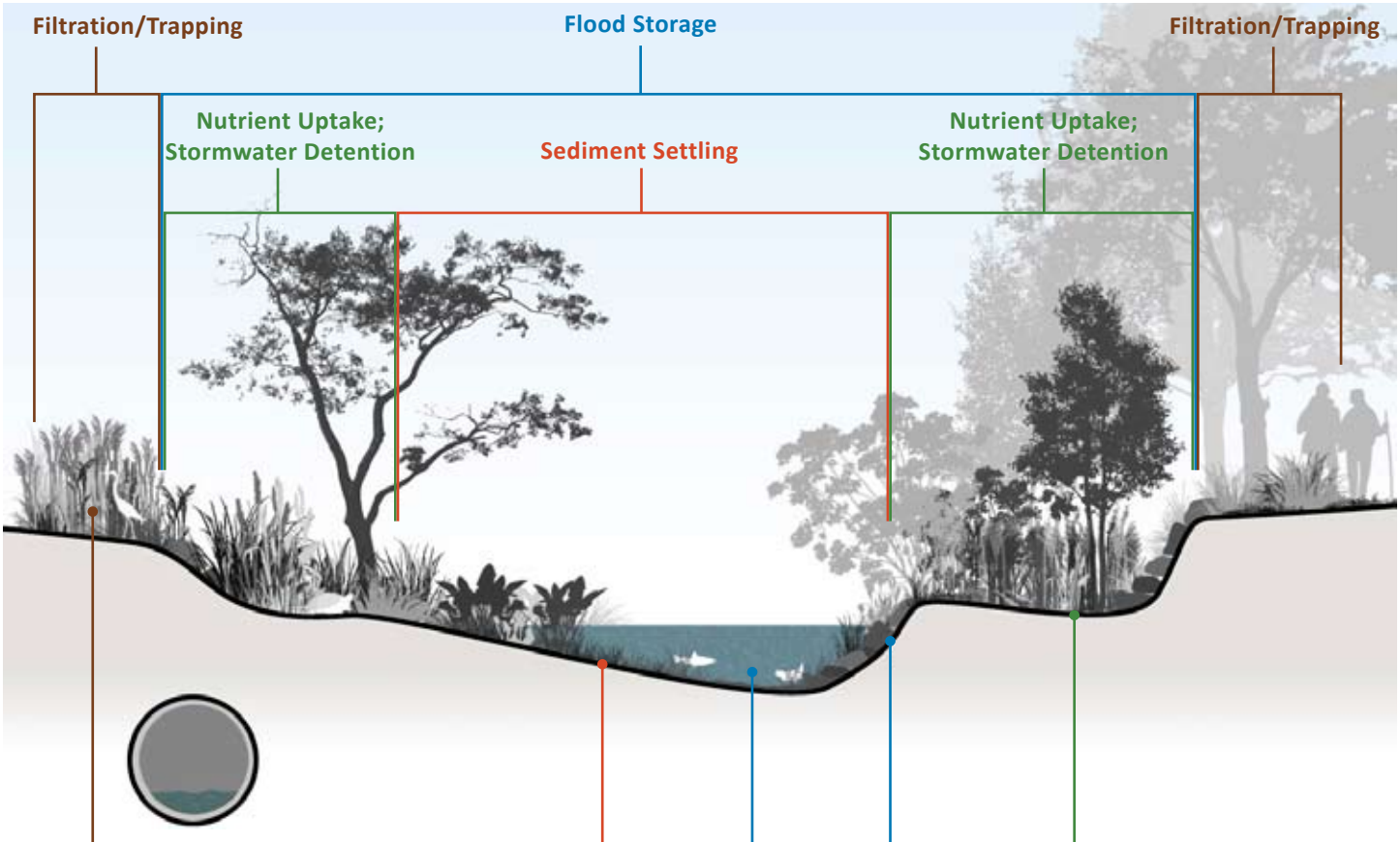
Creek banks become steeply eroded after floods, creating a wide, shallow creek during dry weather.

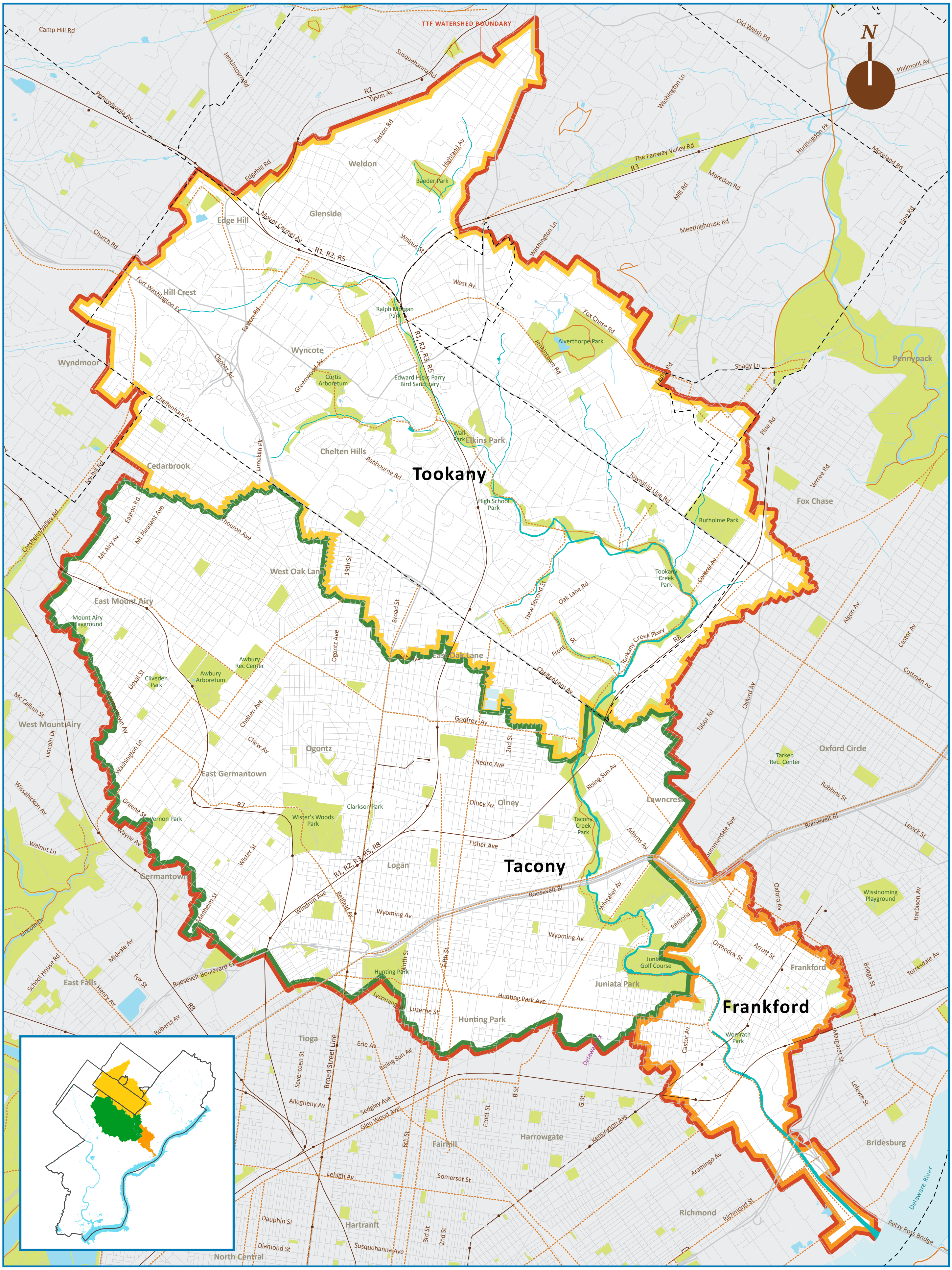
Invasive species overtake compromised creek banks, decreasing its habitat value and increasing maintenance costs.

An Evolution
in Creek Health

Healthy Creek Corridor

A healthy creek corridor performs critical ecological functions.

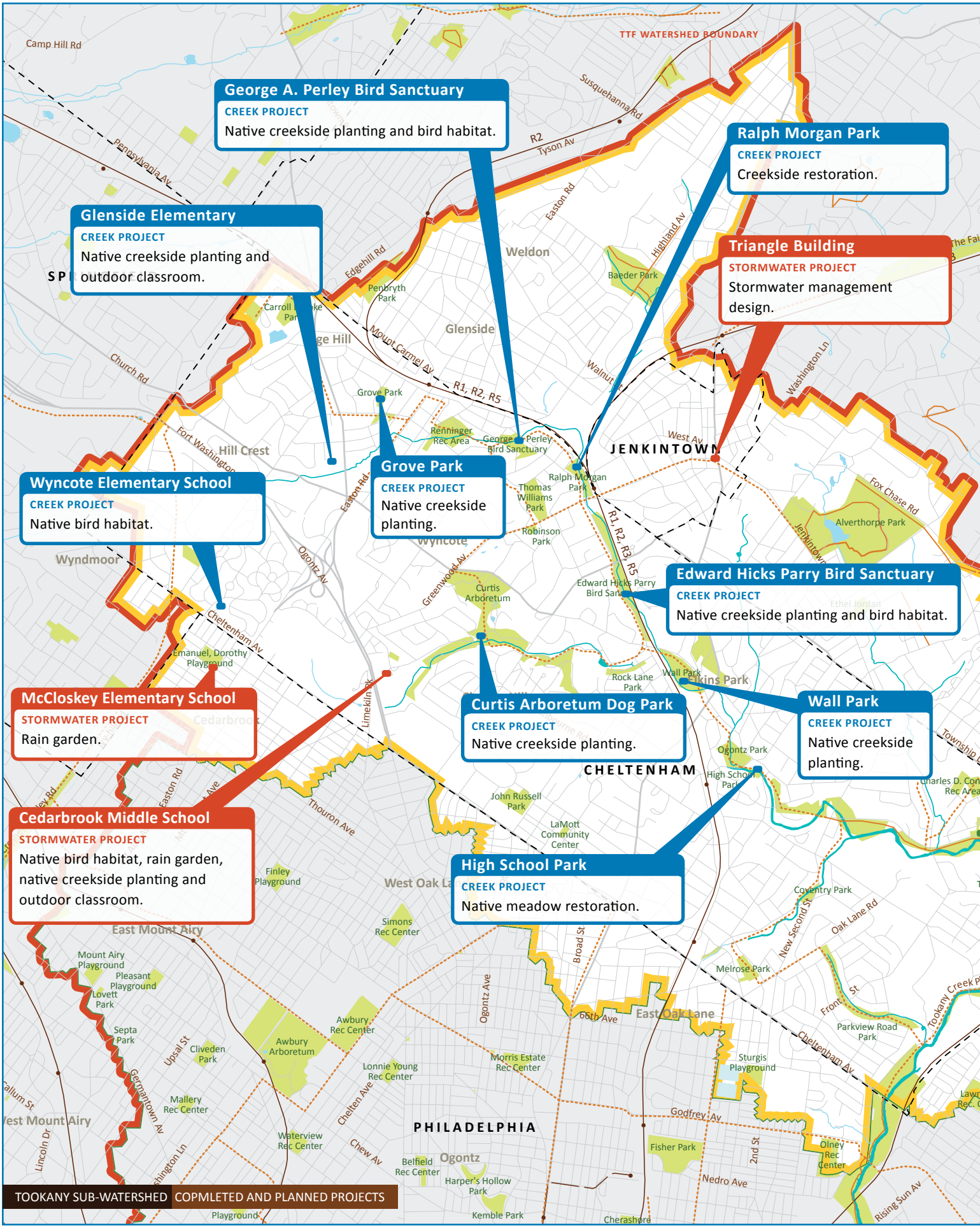


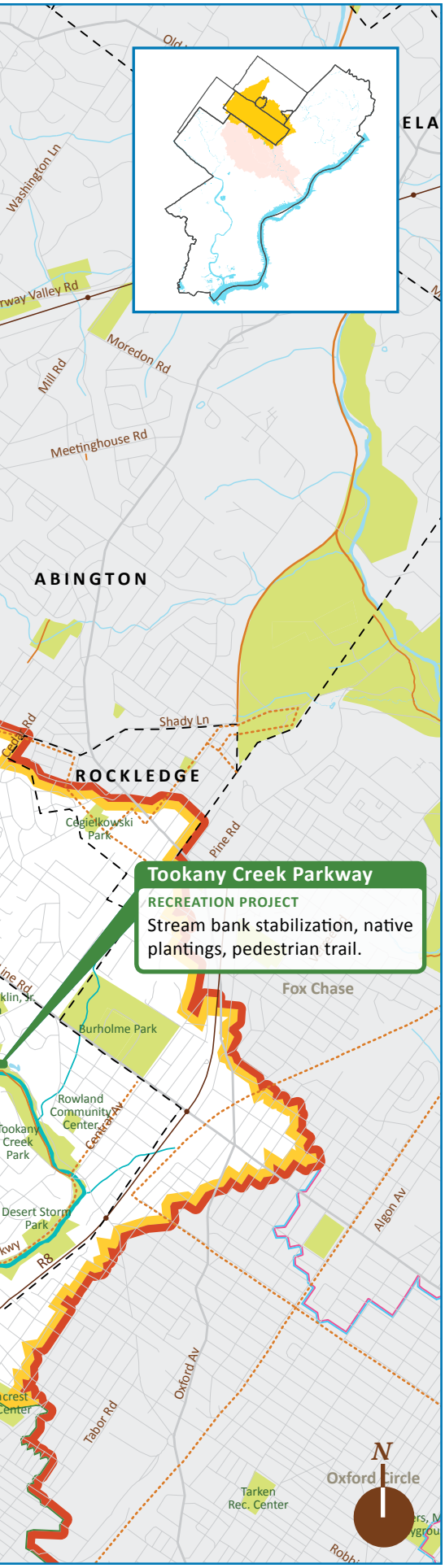

TTF WATERSHED BOUNDARY
N
Tookany
Tacony
Frankford
Weldon
Glenside
Edge Hill
Hill Crest
Wyncote
Wyndmoor
Cedarbrook
Chelten Hills
Elkins Park
West Oak Lane
East Oak Lane
East Mount Airy
West Mount Airy
Ogontz
East Germantown
Germantown
Olney
Logan
Lawncrest
Juniata Park
Hunting Park
East Falls
Tioga
Fairhill
Harrowgate
Hartranft
North Central
Richmond
Bridesburg
Oxford Circle
Fox Chase
Pennypack
Baeder Park
Ralph Morgan Park
Alverthorpe Park
Curtis Arboretum
Edward Hicks Parry Bird Sanctuary
Wall Park
High School Park
Burholme Park
Tookany Creek Park
Mount Airy Playground
Awbury Arboretum
Awbury Rec Center
Cliveden Park
Vernon Park
Wister's Woods Park
Clarkson Park
Tacony Creek Park
Juniata Golf Course
Hunting Park
Womrath Park
Tarken Rec. Center
Wissinoming Playground
Camp Hill Rd
Jenkintown Rd
Susquehanna Rd
Tyson Av
Pennsylvania Av
Easton Rd
Highland Av
Edgehill Rd
Mount Carmel Av
Walnut St
Church Rd
Fort Washington Ex
Ogontz Av
Greenwood Av
West Av
Washington Ln
Fox Chase Rd
Jenkintown Rd
Cheltenham Av
Limekiln Pk
Ashbourne Rd
Township Line Rd
Old Welsh Rd
Philmont Av
Huntingdon Pk
Moreland Rd
The Fairway Valley Rd
Moredon Rd
Mill Rd
Meetinghouse Rd
Pine Rd
Shady Ln
Verree Rd
Ivy Hill Rd
Cresheim Valley Rd
Mt Airy Av
Mt Pleasant Ave
Thouron Ave
19th St
Broad St
Ogontz Ave
New Second St
Oak Lane Rd
Front St
Tookany Creek Pkwy
Central Av
Algon Av
Castor Av
Cottman Av
Oxford Av
Tabor Rd
Godfrey Av
2nd St
Nedro Ave
Olney Av
Fisher Ave
Rising Sun Av
Adams Av
Roosevelt Bl
Whitaker Av
Wyoming Av
Ramona Ave
Summerdale Ave
Robbins St
Levick St
Harbison Av
Orthodox St
Arrott St
Bridge St
Torresdale Av
Margaret St
Lefevre St
Hunting Park Ave
Luzerne St
Lycoming
Ninth St
Fifth St
Castor Av
Chelten Ave
Chew Av
Upsal St
Germantown Av
Greene St
Wayne Av
Wister St
Manheim St
Windrim Ave
Belfield Av
Mc Callum St
Lincoln Dr
Wissahickon Av
Walnut Ln
Midvale Av
School House Rd
Fox St
Henry Av
Roosevelt Boulevard Ex
Roberts Av
Erie Av
Broad Street Line
Seventeenth St
Allegheny Av
Sedgley Ave
Glen Wood Ave
Lehigh Av
Somerset St
Dauphin St
Diamond St
Susquehanna Ave
3rd St
2nd St
6th St
Front St
B St
G St
Kensington Ave
Aramingo Av
Richmond St
Betsy Ross Bridge
Delaware River
R1, R2, R5
R1, R2, R3, R5
R1, R2, R3, R5, R8
R2
R3
R7
R8

The 29 square mile Tookany/Tacony-Frankford watershed is located in Philadelphia and Montgomery Counties.

Tookany Creek is renamed Tacony Creek as it leaves Montgomery County and enters Philadelphia at Cheltenham Avenue. Tacony Creek then becomes Frankford Creek when it joins the historic Wingohocking Creek by the Juniata Golf Course. The creek flows into the Delaware River just south of the Betsy Ross Bridge. The Tookany/Tacony-Frankford watershed includes suburban, urban and industrial areas, and it is home to over 360,000 people with a range of income levels and ethnicities, and a variety of community strengths and struggles.

The following pages provide more information on each of three sub-watersheds, including a description of its character, photos of existing conditions, and a map of completed and planned stormwater, creek, and recreation projects.


TTF WATERSHED BOUNDARY
George A. Perley Bird Sanctuary
CREEK PROJECT
Native creekside planting and bird habitat.
Ralph Morgan Park
CREEK PROJECT
Creekside restoration.
Glenside Elementary
CREEK PROJECT
Native creekside planting and outdoor classroom.
Triangle Building
STORMWATER PROJECT
Stormwater management design.
Grove Park
CREEK PROJECT
Native creekside planting.
Wyncote Elementary School
CREEK PROJECT
Native bird habitat.
Edward Hicks Parry Bird Sanctuary
CREEK PROJECT
Native creekside planting and bird habitat.
Curtis Arboretum Dog Park
CREEK PROJECT
Native creekside planting.
Wall Park
CREEK PROJECT
Native creekside planting.
McCloskey Elementary School
STORMWATER PROJECT
Rain garden.
Cedarbrook Middle School
STORMWATER PROJECT
Native bird habitat, rain garden, native creekside planting and outdoor classroom.
High School Park
CREEK PROJECT
Native meadow restoration.
JENKINTOWN
CHELTENHAM
PHILADELPHIA
Weldon
Glenside
Hill Crest
Wyndmoor
Wyncote
East Mount Airy
West Oak Lane
East Oak Lane
Ogontz
Susquehanna Rd
Tyson Av
Easton Rd
Edgehill Rd
Mount Carmel Av
Church Rd
Fort Washington
Cheltenham Av
Ogontz Av
Greenwood Av
Limekiln Pk
Thouron Ave
Broad St
Oak Lane Rd
Godfrey Av
Chew Av
Chelten Ave
Germantown Av
Upsal St
Washington Ln
West Av
Fox Chase Rd
Rising Sun Av
Nedro Ave
Penbryth Park
Baeder Park
Renninger Rec Area
George Perley Bird Sanctuary
Ralph Morgan Park
Thomas Williams Park
Robinson Park
Alverthorpe Park
Curtis Arboretum
Edward Hicks Parry Bird Sanctuary
Rock Lane Park
Wall Park
Elkins Park
Ogontz Park
High School Park
John Russell Park
LaMott Community Center
Finley Playground
Simons Rec Center
Coventry Park
Melrose Park
Parkview Road Park
Sturgis Playground
Olney Rec Center
Fisher Park
Harper's Hollow Park
Kemble Park
Cherashore
Emanuel, Dorothy Playground
Mount Airy Playground
Pleasant Playground
Lovett Park
Septa Park
Cliveden Park
Awbury Arboretum
Awbury Rec Center
Lonnie Young Rec Center
Morris Estate Rec Center
Mallery Rec Center
Waterview Rec Center
Belfield Rec Center
Tookany Creek
TOOKANY SUB-WATERSHED
COPMLETED AND PLANNED PROJECTS



Tookany
sub-watershed

The Tookany sub-watershed includes parts of Abington Township, Cheltenham Township, Jenkintown Borough, Rockledge Borough, and Springfield Township. Tookany Creek flows through a mostly suburban landscape, and unlike the more urban areas downstream, this area benefits from few buildings along creek banks, and access to open space, trails, and greenways. The TTF Watershed Partnership, municipal partners, and community organizations have sponsored many creek improvements in this area already.

Despite these significant improvement measures, Tookany Creek still suffers from the impacts of suburban development including clear-cutting of some of its banks, invasive species, runoff from fertilizers and lawn treatments and creek channelization.

***Top**: Tookany Creek at Cedarbrook Middle School, where the creek acts as a classroom and forum for watershed education. The Philadelphia Water Department's outfall releases overflow just upstream of this site.*

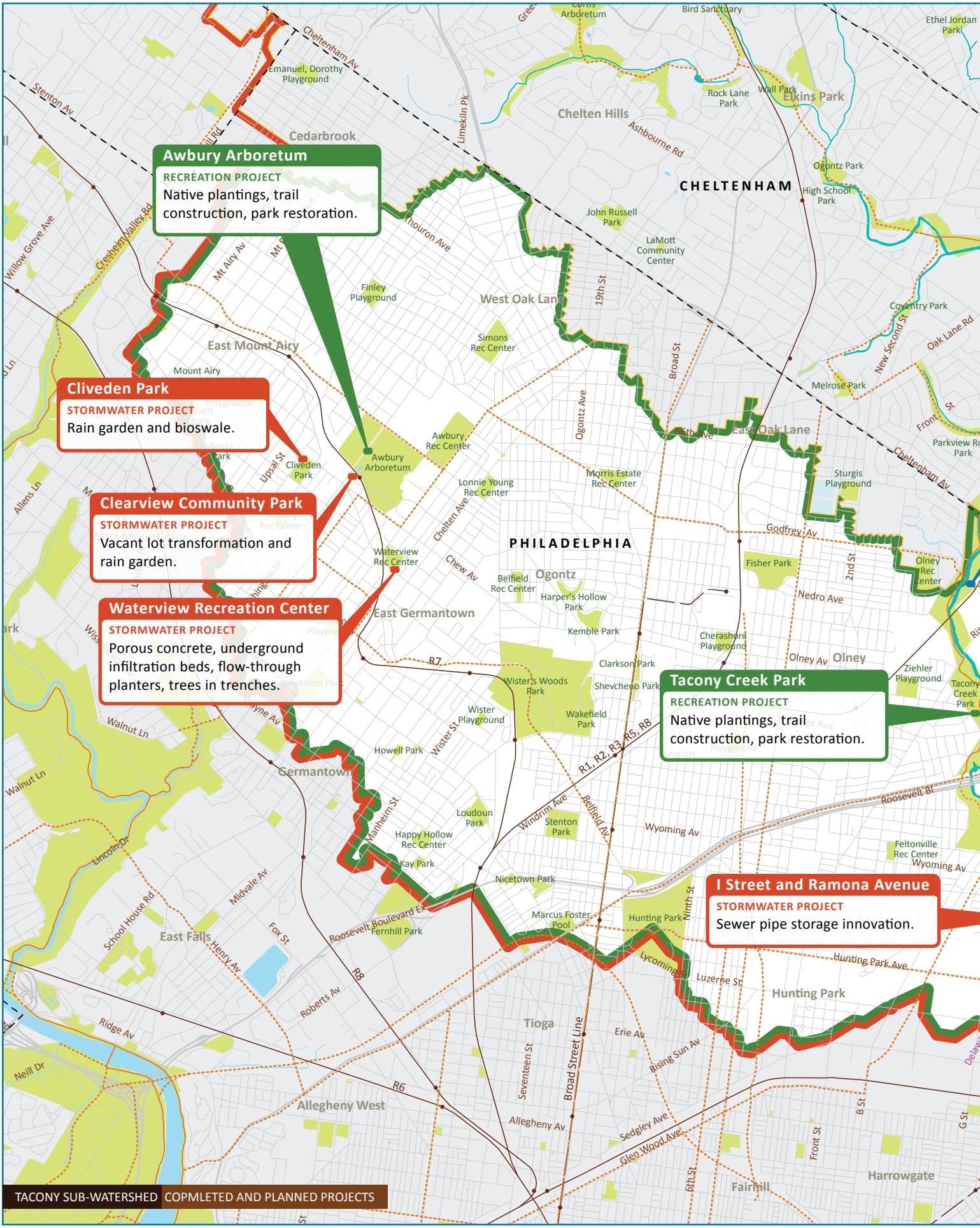
***Middle**: At Wall Park, there is evidence of the plights of the creek common to this reach: parking lots at the edge of creek banks, invasive plants, litter and creek channelization (beyond the footbridge).*

***Bottom**: While de-channelization was not an option at several points along the Tookany in Tookany Creek Park, other bank rehabilitation treatments were employed, including riparian buffers and invasive plant management. Additionally, the trail at right is a community resource and its upstream expansion is planned.*

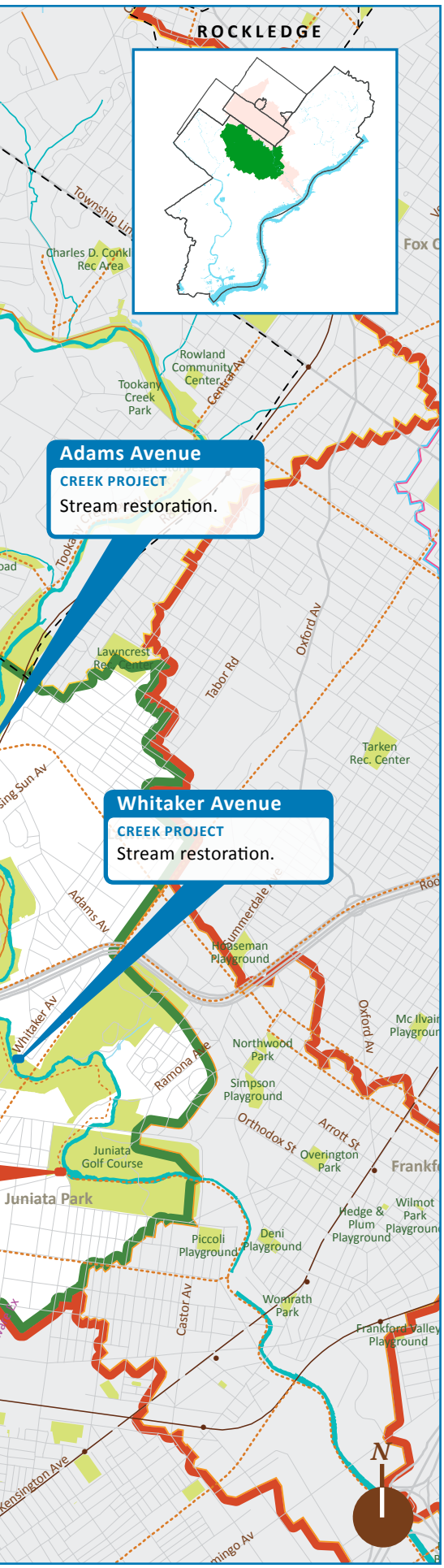
JENKINTOWN-WYNCOTE STATION EXISTING

JENKINTOWN-WYNCOTE STATION FUTURE POTENTIAL

Transportation hubs can provide high visibility for watershed improvement projects. Thousands of commuters can experience the benefits of stormwater management and green design, especially at our many creekside train stations.



TACONY SUB-WATERSHED COPMLETED AND PLANNED PROJECTS



Tacony
sub-watershed

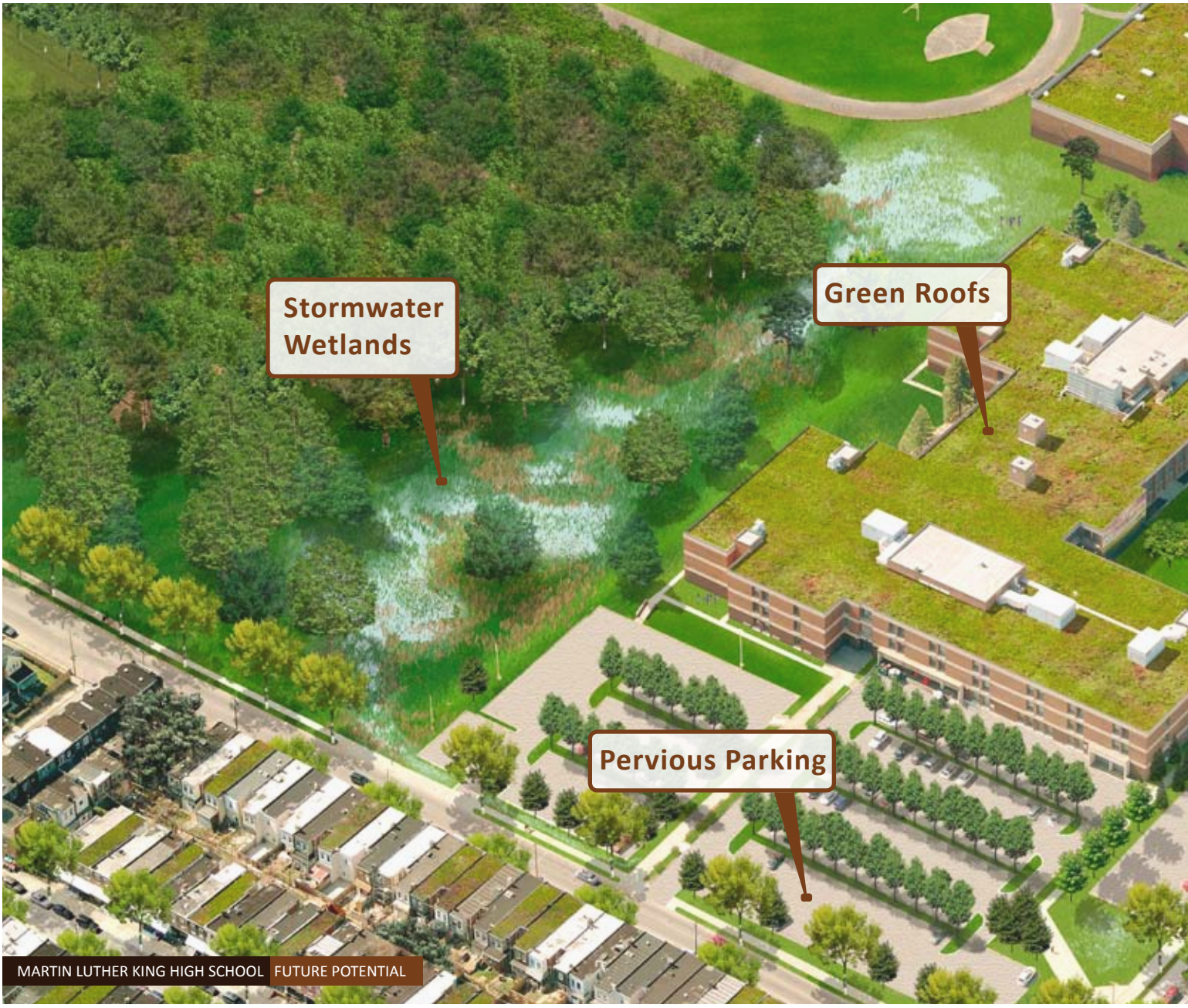
The Tacony sub-watershed stretches from the Philadelphia/Cheltenham border to the Juniata Golf Course. In much of this area, residents have little connection to the creek and the problems it faces. Many waterways once ran through these neighborhoods, but they have mostly been buried underground in sewer pipes. The Tacony sub-watershed suffers from serious urban issues including large-scale illegal dumping, serious flooding, and combined sewer overflows. While three miles of Tacony Creek's banks are surrounded by green spaces, these green spaces currently suffer from misuse and illegal activities.

***Top**: A trail meanders through a largely unmanaged floodplain landscape in Tacony Creek Park. Neglected floodplains in this sub-watershed are being restored for recreational use.*

***Bottom Left**: Much of the Tacony sub-watershed consists of dense, residential areas with little access to the creek. Restoring access is a top priority.*

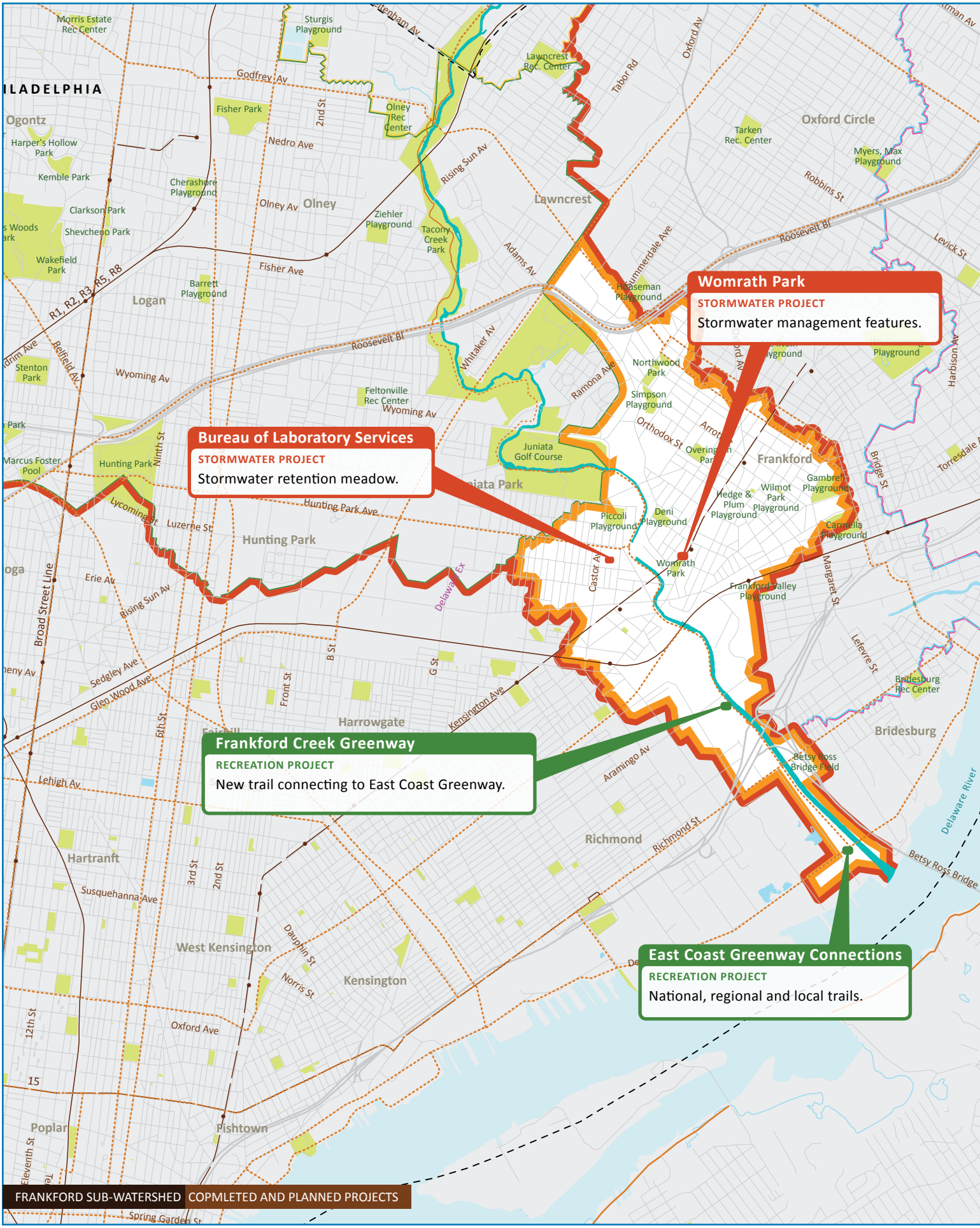
***Bottom right**: Using the natural bowl shape of the landscape, this terraced rain garden in Cliveden Park makes an event of rain storms. In warmer months, the three terraced depressions are colonized with plants that slow runoff from the street above.*

MARTIN LUTHER KING HIGH SCHOOL EXISTING



MARTIN LUTHER KING HIGH SCHOOL FUTURE POTENTIAL

Implementing watershed improvement projects on school properties provides stormwater management and hands-on environmental education simultaneously. Students can participate in the installation of stormwater management features, and study their benefits over time.



FRANKFORD SUB-WATERSHED COPMLETED AND PLANNED PROJECTS

Frankford
sub-watershed

The Frankford sub-watershed, which stretches from the Juniata Golf Course to the Delaware River near the Betsy Ross Bridge, is surrounded by dense, urban development. Much of the Frankford Creek is channelized, and acres of impervious services—including large industrial buildings—lead to stormwater runoff and industrial pollution. In addition, much of the Frankford Creek is completely inaccessible to residents.

***Top left**: Frankford Creek's—and the watershed's—confluence with the Delaware River. The fully channelized creek passes through a large, industrial area before emptying into the Delaware River just south of the Betsy Ross Bridge.*

***Top right**: Current land uses around the creek range from light industry to dense residential to scrubby fields. Permeable landscapes here could provide much-needed open space for the community while helping to restore the watershed.*

***Bottom**: Where it is not fully channelized with concrete walls, Frankford Creek is characterized by wide, shallow waters and severely degraded creek banks, due to the erosive forces of floodwaters from further upstream.*

FRANKFORD CREEK AT KENSINGTON AVE EXISTING

Reuse of Vacant Buildings

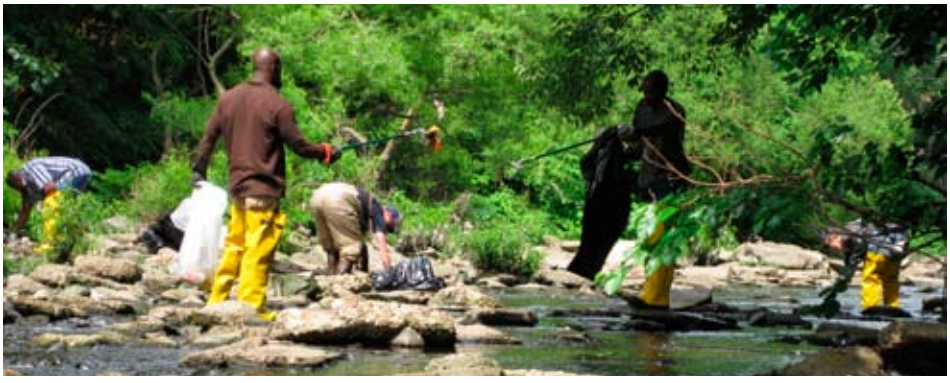
Parks with Stormwater Management Features

Creek View Corridors and Access

Green Streets

FRANKFORD CREEK AT KENSINGTON AVE FUTURE POTENTIAL

Even in places where creeks have been channelized, stormwater improvement projects can make a tremendous difference. Permeability-boosting enhancements to the surrounding areas—like parks, green roofs, pervious paving, and creekside greenways—provide much-needed green spaces for the community.



An Evolution in Partnerships

Join the TTF Watershed Partnership in transforming the Tookany/Tacony-Frankford watershed into an ideal place for creekside recreation, inspiration, and community connection.

For more information or to get involved, please visit the TTF Watershed Partnership website at www.ttfwatershed.org or call 215.208.1613.

TOOKANY/TACONY-FRANKFORD
WATERSHED PARTNERSHIP, INC.

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Water Department