

A stylized map of the Lower Frankford Creek Watershed in Philadelphia. The map features a light blue background with a dark blue outline of the watershed boundary. A prominent dark blue line represents the Frankford Creek, which flows from the top left towards the bottom right. Several other smaller blue lines represent tributaries. The map also shows some white lines representing roads or infrastructure. The text is overlaid on the upper right portion of the map.

LOWER FRANKFORD CREEK WATERSHED
BROWNFIELDS
>AREA WIDE PLAN

/ ACKNOWLEDGEMENTS

A project of this scope could not be realized without the support and commitment of many individuals. It is important to acknowledge the vision and leadership of those who assisted in the preparation of this plan and in all of the supporting technical work. All of the participants who played a role in the project, including business, community, institutional, and government leaders, are too numerous to list. However, special acknowledgement goes to:

- > the residents and business community in Bridesburg, Frankford, and the broader study area,
- > the United States Environmental Protection Agency Region 3 and the Pennsylvania Department of Environmental Protection Southeast Regional Office,
- > the representatives of the Rohm & Haas (Dow) and Philadelphia Coke (National Grid) sites, and
- > the staff and leadership of the Philadelphia City Planning Commission and the Departments of Parks and Recreation, Commerce, Streets, and Water.

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The Lower Frankford Creek Watershed Brownfields Area-Wide Plan will complement on-going public, private, and community initiatives and will provide project partners with an implementable approach for economically and environmentally beneficial redevelopment of key catalyst brownfield sites. Goals: (1) Develop a robust, sustainable model of development for catalyst sites and surrounding parcels and communities. (2) Analyze and forecast the impact of transportation network improvements on reinvestment strategies for catalyst sites. (3) Analyze environmental constraints, market conditions, and community preferences for development strategies for three catalyst sites. (4) Build the capacity of local non-profit and community groups.

The U.S. EPA defines a brownfield as “A property, the expansion, redevelopment, or reuse of which may be complicated by the real or perceived presence of a hazardous substance, pollutant, or contaminant.”

What are the catalyst sites or areas?

Catalyst sites are parcels or groups of contiguous parcels that can be leveraged through redevelopment to create a broader economic impact on an area or neighborhood.

This plan primarily addresses the redevelopment of three catalyst sites within the overall Lower Frankford Creek watershed study area. Catalyst sites were identified based on their likely need for further environmental review and the potentially significant, area-wide impact of their future reuse.

Rohm and Haas/Dow Chemical Company - The former Rohm and Haas manufacturing plant in Bridesburg, at the confluence of the Delaware River and the old Frankford Creek, has been mostly cleared of structures since production operations ceased in 2010. One building and some site infrastructure remain, including the overhead pipeline that serves the nearby Honeywell Resins and Chemicals plant. Now owned by Dow Chemical Company, the site is 68 acres, classified as vacant, and mostly covered in impervious pavement.

Philadelphia Coke Co./National Grid - The Philadelphia Coke company once manufactured gases and industrial coke at its Bridesburg plant. The facility closed in the early 1980s and was dismantled between 1982 and 1988. Currently owned by National Grid, the site is 67 acres, currently vacant, and largely covered by vegetation that has naturally introduced itself to the site.

Upper Reach Frankford Creek - The Frankford Creek between Frankford Avenue and Bristol Street is flanked by a number of underutilized or derelict industrial and commercial properties. This channelized, “Upper Reach” of the creek is bookended by two prominent private properties, the former Edgewater Dyeing and Finishing Co. site at Frankford and Torresdale Avenues and the former U.S. Pile Fabric facility at Adams Avenue and Leiper Street.

The proactive role the city is taking in working with the community, property owners, and developers assures that the former or under-utilized industrial/brownfields sites are redeveloped in a manner that maximizes their potential with regard to job creation, tax revenue generation, and community enhancement while complementing the existing neighborhood contexts.

What is a Brownfields Area-Wide Plan?

An Area-Wide Plan, made possible by a grant from the United States Environmental Protection Agency (EPA), supports a local group's ability to address reuse challenges and opportunities in a specific study area with numerous known or perceived brownfield properties. The Area-Wide Plan proposes concepts and actions to reuse key sites in a synergistic and connected fashion that considers the sites' context rather than looking at each property individually.

By considering context-sensitive redevelopment, including broader infrastructure needs, an Area-Wide Plan intends to encourage reinvestment and reuse that complements adjacent land uses and development patterns.

What are the plan's limitations?

The recommendations in this document are to guide decision-making: This plan is not the letter of the law. The plan should serve as common vision and reference for all parties, as step-by-step decisions are made. The information presented and recommendations proposed do not reflect commitments on the part of private property owners although, where possible, participation in the planning process by private property owners was substantial.

The document illustrates only one of several potential build-out scenarios for each catalyst site or area. The proposed physical layouts depicted on the plans were developed in conjunction with property owners where possible, utilizing available property environmental and infrastructure conditions, market analysis findings, and community input. Ultimately, redevelopment plans will change as the level of design advances and private and public parties focused on actual redevelopment enter the process. The illustration of these preferred scenarios are still important, however, because they allow property owners, communities, and public agencies to understand the challenges and opportunities to achieving feasible reuses that are compatible with community aspirations.

The Brownfields Area-Wide Plan is not a plan that leads directly to bricks and mortar building. It does, however, attempt to organize overall priorities, strategies, and resources to create conditions, especially with regard to public open space and infrastructure that support new investment. It also documents a community context within which decision-making can occur over time, including for opportunities or issues that might arise that could not be anticipated at the time this plan was developed. The plan outlines the next steps for key priority projects, which may include building partnerships, pursuing funding, and performing the detailed design and engineering required to permit and construct physical improvements.

In addition, the plan provides a basis for continuing communication between property owners and regulatory agencies as each catalyst site or area progresses through regulatory reviews and permitting to support new development. Thinking about the long-term, end use is critical at every stage of the regulatory process with the U.S. EPA and the Pennsylvania Department of Environmental Protection (PADEP) to ensure that legal restrictions or engineering controls are not designed in a manner that unnecessarily precludes the future ability to maximize the potential of each property. Each step of the process should consider a project's functional refinements and needed specifications to advance towards construction, avoiding trips "back to the drawing board" to change or undo unnecessary brownfields-related actions.

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What are the most significant aspects of the Brownfields Area-Wide Plan?

Due to the many interrelated factors and considerations needed to develop an economically viable and physically constructible approach to brownfield sites, an Area-Wide Plan requires analysis of varied topics. The outcome of this comprehensive analysis should lead to a specific list of prioritized actions that creates a road map for what needs to happen when, who leads each effort, which stakeholders need to be involved, and how to undertake each effort.

These actions include:

- > Identify and further define key issues as they relate to the future end uses potentially developed in the targeted reuse areas.
- > Determine and prioritize communities' and property owners' concerns and ideas for their neighborhoods and for reuse projects on each of the catalyst brownfield sites and areas.
- > Develop a conceptual vision for how each catalyst brownfield site or area may be redeveloped based on economic realities and physical and environmental conditions.
- > Coordinate public policies and investments to ensure consistency with the vision for brownfields reuse and community revitalization.
- > Leverage economic development resources that can support and attract private investment in targeted brownfields, building on ongoing investment within the study area in new businesses, open space, trails, the extension of Delaware Avenue, and the reconstruction of I-95.
- > Target and phase infrastructure improvements to serve new uses on former industrial sites, and to better connect neighborhoods with the Delaware River and Frankford Creek.
- > Communicate realistic time lines and responsibilities for implementation.

Community Engagement as a Foundation for the Plan

Planning for a large, complex area requires significant public and stakeholder involvement, and a number of community engagement strategies were employed in the preparation this Area-Wide Plan. The Philadelphia City Planning Commission (PCPC) and its partners hosted four public meetings in different neighborhoods over the course of the 18-month process, and a steering committee of key agencies and property owners meeting periodically to review the plan's progress and direction. City agency staff and consultants met with representatives of key community, public agency, and institutional stakeholders. Additionally, a project web site www.frankfordcreekbrownfields.com was established and updated to provide public access to study graphics, reports, and drafts, and to provide another vehicle for public feedback.

The feedback from this engagement formed the basis of the recommendations of the Brownfields Area-Wide Plan. To date, even the most critical comments have been constructive and sensitive to the goal of improving the plan recommendations. When considered in their totality, the community's input can be summarized with a few overarching themes.

Key Themes from the Community Vision Process:

- > Reuse plans should be based on realistic community and market expectations in order to expedite actual reuse, especially the reuse of sites that have been vacant for many years.
- > Public access should be increased to the Delaware River and the Frankford Creek. Residents in the study area feel that they have been cut off from these waterways by old industrial land use patterns.
- > The overall human and environmental health of the study area should be improved, and sustainable development should be promoted in new investments.
- > Multimodal transportation circulation should be improved, including easing the current impacts on residential neighborhoods of especially high volumes of truck traffic on streets not well-suited to accommodate large vehicles.
- > Proposed projects should improve the overall quality-of-life of residents in existing neighborhoods, especially the populations impacted by the environmental consequences of previous industrial facilities and by the loss of economic activity from the facility closures.

Key Recommendations and Actions

The Area-Wide Plan includes a broad list of recommendations focused on the future build-out of the catalyst brownfield sites and areas. Depending on city, regional, and national economic conditions, some of these recommendations may take 20+ years to come to fruition. Yet it is important to kick-start the initial, short-term recommendations and move consistently toward the longer-term phases and improvements. A detailed explanation of each of the recommendations and their components is provided in Chapters 3 (Public Realm Framework) and 4 (Catalyst Site Reuse Plans). Below is a brief summary of the top priority, action item recommendations.

Public Open Space Recommendations:

- 1. Continue to advance the North Delaware Greenway and Trail strategies through the study area.**
 - a. Complete a dedicated multi-use trail as part of each phase of the Delaware Avenue Extension
 - b. Coordinate with the Rohm & Haas/Dow decommissioning process to ensure that legal environmental covenants, including those precluding residential uses on the site, still allow for multi-use trail and recreation-related end uses on certain parts of the property

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- c. Advance planning and design for open space on the City-owned riverfront property at the end of Orthodox Street, and encourage consideration of the open space potential of the adjacent, riverfront portions of the Philadelphia Coke Co. site.
 - d. Coordinate with the Philadelphia Street Department in the design of improvements to Orthodox and Buckius Streets to ensure the use of “complete streets” standards and minimum 10’ wide multi-use side paths from Bath Street to the riverfront.
- 2. Implement the Frankford Creek Greenway to increase community access and awareness of, along, and across the Frankford Creek.**
 - a. Complete the various segments of the designated on- and off-road Greenway and trail associated with I-95 improvement projects.
 - b. Advance open space planning and designs for the portions of the Frankford Creek “cover” located in the vicinity of Leiper Street, especially to create a connection between the neighborhoods on each side of the creek in this area.
 - c. Pursue other strategic opportunities to add public open spaces where they can support safe public use, complement trail alignments, enhance environmental protection, and stimulate reinvestment near the Creek.

Private Open Space Recommendations:

- 1. Coordinate with private property owners and the developers of catalyst sites and areas as they develop potential redevelopment plans.**
 - a. Promote a high degree of connectivity between private and public open spaces.
 - b. Encourage environmental regulatory processes governing the reuse of private sites to not unduly preclude future reuses as private open space or recreation.
 - c. Advocate for required stream bank and landscape buffers to serve multiple purposes, such as: aesthetic and habitat enhancement, stormwater management, and recreation.
 - d. Include internal green space amenities in the design and reuse of private brown-field sites.
- 2. Work with properties owners along Frankford Creek on ways to improve the environmental quality of the creek’s edge through landscape enhancements and stormwater management projects, including:**
 - a. Diversification of native plant species and eradication of invasive and non-soil-stabilizing species.

- b. Points of potential public creek access, possibly via public easements or other legal agreements.

Transportation Infrastructure Recommendations:

- 1. Continue to coordinate with PennDOT and involved stakeholders on I-95-related projects to enhance adjoining communities, businesses, and prospects for brown-field site reuse.**
 - a. Advance the remaining portions of the Delaware Avenue Extension to a preferred connection with new I-95 ramps on Tacony Street.
 - b. Complete the Adams Avenue Connector to provide a vital new multi-modal/vehicular connection between I-95, Aramingo Avenue, and Erie and Torresdale Avenues.
 - c. Advocate for the construction of a Rohm & Haas/Dow Connector Road between Bridge Street and the Delaware Avenue Extension to promote access to the site and to ensure the diversion of truck traffic from Richmond Street and the core of Bridesburg.
- 2. Advance discussions with the Philadelphia Street Department, PennDOT and property owners/developers regarding the proposed Rohm & Haas/Dow Connector Road between Bridge Street and the Delaware Avenue Extension as an important vehicular route, especially for directing truck traffic away from Richmond Street and the core of Bridesburg.**

Water and Air Quality Recommendations:

1. Support collaboration between public and private property owners/developers and the Philadelphia Water Department in the integration of blue/green infrastructure into redevelopment sites within the study area.
 - a. Encourage creativity in the design and management of stormwater systems that meet PWD requirements while supporting site reuse and community goals.
2. Encourage site reuse plans that address long-term risks to life, property, and infrastructure from flooding along the old Frankford Creek channel, new Frankford Creek, and the Delaware River.
3. Employ exemplary site emission, noise, and transportation management techniques in all site redevelopments to minimize air quality impacts on the City and adjoining communities.
4. Align study area investments in infrastructure, sites, and buildings with emerging best practices for mitigation and adaptation to projected increases in temperature and precipitation associated with climate change.

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Soil Quality Recommendations:

- 1.** Address potential soil contamination issues through the execution of Phase I and II Environmental Assessments for all potential brownfields properties that may be part of any public land acquisition and/or final design or engineering project for infrastructure, property assembly, or public open space project.
- 2.** Provide technical support in the form of Phase I and II Environmental Assessments to any non-responsible property owner or property buyer/developer within the study area boundaries, especially focused on properties fronting the Delaware River or Frankford Creek.
- 3.** Request the opportunity to review all draft land use covenants proposed for catalyst sites to ensure that no unduly restrictive constraints are placed on the sites that could hinder their future reuse and community/economic development value.

Catalyst Site Recommendations - Rohm & Haas/Dow Site:

- 1.** Identify potential inconsistencies between potential reuse strategies and existing zoning classifications and address them, in consultation with Rohm & Haas/Dow, through the City's zoning remapping process when there is a redevelopment potential to implement the study recommendations.
- 2.** Continue to meet regularly with representatives of Rohm & Haas/Dow and regulatory agencies as regulatory closure/permit plans are advanced in order to ensure consideration of the engineering/legal environmental controls necessary for the potential reuse concepts, including future private development, transportation/storm-water infrastructure and public open space.
- 3.** Pursue opportunities to expedite the public acquisition of the needed rights-of-way for the Delaware Avenue Extension and the riverfront public open space portions of the site consistent with site remediation objectives.

Catalyst Site Recommendations - Philadelphia Coke Co./National Grid Site:

- 1.** Identify potential inconsistencies between proposed reuse strategies and existing zoning classifications and address them, in consultation with National Grid, through the City's zoning remapping process.
- 2.** Continue to meet regularly with Philadelphia Coke Co./National Grid representatives, potential property purchasers, and regulatory agency representatives to promote future reuse of the site in a manner consistent with the proposed reuse concepts.
- 3.** Pursue opportunities to expedite the public acquisition of the needed rights-of-way for the Delaware Avenue Extension and the riverfront public open space portions of the site.

Catalyst Area Recommendations – Frankford Creek “Upper Reach”:

1. Identify potential inconsistencies between proposed reuse strategies and existing zoning classifications and address them through the City’s zoning remapping process.
2. Establish regular communication between property owners, city agencies, and community development organizations to address current blight conditions on Upper Reach properties and to advance opportunities for reinvestment consistent with visions for the Frankford Creek Greenway and applicable community and district plans.
3. Leverage the City’s zoning requirement for a 50’ setback from the top of the creek bank to advocate for public creek access, possibly via public easements or legal access agreements as part of any land development plan review process.

What to do next? - How to advance the plan

Due to the size and complexity of many sites, reuse plans will often require multiple steps and actions to achieve real results. Tangible and successful outcomes rely on the prioritization of projects, the strategic allocation of resources, and systematic and well thought-out implementation.

The priority actions can be grouped into these distinct categories:

Policies and Procedures – These activities, such as ordinance modifications, inter-agency and property owner coordination, and review and coordination with developers, can primarily be undertaken as a part of the normal procedures of the city and require relatively limited financial resources and technical support. These activities are important because they ensure that as each incremental action is taken, is consistent with the plan and, at the very minimum, does not precludes the ability to implement the priority recommendations.

Economic Development Partnership Building and Actions – These actions require a combination of staff time from the city, Delaware River City Corporation (DRCC), other non-government and community development organizations, and partnering state and federal agencies to obtain public funding for infrastructure and site investments that can attract robust private investment. Funding for additional remediation may be needed if future developers at any of the catalyst sites desire a higher regulatory cleanup standard to support their proposed end use. Funding for environmental assessments may also be needed in order to fill data gaps for sites where very little is known about the environmental conditions at that site. State and Federal funding for both assessment and remediation should be pursued as needed.

Major Capital Projects – These include the capital-intensive activities required to design, engineer, permit, and construct major physical improvements including transportation, stormwater, and utility infrastructure and parks/public spaces. City departments and part-

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nering Commonwealth and Federal agencies should continue to coordinate these efforts through regularly scheduled meetings as part of the city's Comprehensive Plan and Capital Program process.

A Strategy for Funding Brownfield Revitalization in the Lower Frankford Creek Watershed

To accomplish the vision for revitalization in the Lower Frankford Creek area, Philadelphia and its public and private partners will need to plan and implement key projects that will include:

- > **Site preparation** on publicly owned sites and, in some cases, privately owned properties
- > **Public infrastructure** improvements including transportation (roadway, streetscaping, walking/biking facilities, transit facilities), utilities, and **stormwater management**
- > Public **parks and recreational** facilities including multi-use trails
- > **Waterfront** restoration and revitalization
- > **Economic development** of catalyst sites and areas with manufacturing, industrial, commercial, and targeted residential investment

To conduct such projects, Philadelphia will need to organize itself effectively to pursue funding resources for the Lower Frankford Creek initiative. To do this, Philadelphia should:

1. Transition to Project Area Teams with Identified Leaders & Managers
2. Identify Priority Public Sector Projects
3. Delineate Project Phasing
4. Create Estimates of Project Costs
5. Match Funding Sources to Project Components & Phases
6. Establish Matching/Leverage Strategies & Assess Feasibility of Debt Financing
7. Create Strategic Plans & Outreach Materials for Each Priority Project
8. Seek Commonwealth Backing
9. Collaborate with Federal Agency Officials
10. Prepare for Grant-Writing
11. Secure Congressional Support

This report identifies some of the best potential funding sources that could support Frankford Creek brownfields and community revitalization, with 30+ specific sources of funding identified, for which revitalization projects would likely be eligible and competitive. Of these wide range of resources, certain funds should be considered as top priority opportunities that may be the most promising to pursue:

For **brownfields activities**, continue to apply for EPA brownfield assessment and cleanup grants, as the City may have an advantage as an Area-Wide Planning community that has produced a strong vision and plan. Also, be prepared to apply for PA Business in Our Sites brownfield development loans and PA Industrial Site Reuse Program funds for site and infrastructure development.

For **transportation infrastructure investments** particularly the full extension of Delaware Avenue and the expansion of greenway multi-use trails, enlist the continued support of PennDOT and the Delaware Valley Regional Planning Commission, and seek Surface Transportation Project, Transportation Alternative Program, and CMAQ funds, which could also complement City applications for other, future grants including PA Multimodal and U.S. DOT TIGER.

For **park, trail and recreational facility development**, support the passage of proposed State legislation that would provide Waterfront Development Tax Credit incentives to private parties such as Dow and National Grid, to make tax-advantaged contributions to the Delaware River City Corporation or other eligible entities for a variety of waterfront development activities on the Delaware River and Lower Frankford Creek. Also, enlist the support of the PA DCNR and DCED for investment in land acquisition, planning, trail, riverfront conservation, and waterfront development projects.

For **economic development of manufacturing, industrial, and commercial facilities** on catalyst brownfield sites and areas, seek a Public Works grant from the U.S. Economic Development Administration for infrastructure, and PA DCED resources including Infrastructure Development Grants, a RACP award, and designation of the area or key parcels as special reinvestment area.

Consider **publicly-backed and low-interest loan financing** for major site preparation, infrastructure upgrade, and economic development projects including HUD Section 108 loans, Federal Home Loan Bank Community Lending finance, Business in Our Sites loans, or Pennsylvania Infrastructure Bank lending for transportation infrastructure. Also consider, depending on the scale and timing of redevelopment, tax-increment financing (TIF) could be considered as a financing and grant matching source.

BACKGROUND

1



*This image depicts the channelization of Frankford Creek, 1901.
Image source: City Archives of Philadelphia*



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CHAPTER ONE

Chapter One presents an overview of the background of the study area and catalyst sites, and includes a description of the individual catalyst sites and areas, analysis of the study area, and a brief history of the industrial legacy of the Frankford Creeks.

Understanding the background of the catalyst sites and study area is key to the formation of a plan that is cohesive and effectively responds to the context of the sites.

/ Historical Background

The historical background of the waterways, the industrial heritage of the community, and the legacies of the catalyst site can provide valuable insight into the context of this project and into opportunities for the future.

The History of the Frankford Creeks

In many ways, the Frankford Creek and its manipulation through human intervention have shaped the physical, environmental, and social landscapes of the study area. In 1799, Frankford Creek was declared a navigable stream from Frankford Avenue to the Delaware River, bringing it under jurisdiction of the Army Corps of Engineers. The Army Corps of Engineers channelized the creek to allow for commercial craft to navigate the waterway, and various public works projects were completed to straighten bends in the Creek and control flooding. During the peak of the textile industry in the area, over 30 factories existed along the creek. Many of these operations built dams to create mill ponds, which served as reservoirs for the water wheels that provided power to the factories. Channels called “mill races” were dug to the creek to carry water through the wheels and out of the mills. In the 1950’s, the Bridesburg section of the Frankford Creek was diverted and channelized to an alignment parallel to the rail line over the Delaware River, leaving only a small tidal section of the former Creek bed open in the vicinity of Bridge Street. This remnant section is referred to as the Old Frankford Creek or Frankford Inlet.

Stream alterations and industrial activity have had several negative consequences for Frankford Creek and its surrounding community. Channelization of the creek decreased the biodiversity of a waterway, making it more susceptible to pollution. Additionally, channelization increased the velocity and volume of water, contributing to downstream erosion and flood risk.

The many factories operating within the watershed as well as the surrounding neighborhoods used the creek as a sewer, dumping waste directly into the waterway. The city, while later providing sanitary and storm sewers to reduce pollution and ease development converted numerous Frankford Creek tributaries into underground pipes. This replacement of the natural freshwater ecosystem further reduced biodiversity, water quality, and the ability of soils and plants to absorb and slow the movement of stormwater.

Once a natural resource that drew business and residents to the area, Frankford Creek became a blighted portion of the landscape that put the surrounding community at risk of floods and pollution.



1950, “Flood Control” looking upstream from Wingohocking Street Bridge.
Source: City Archives of Philadelphia



1950, Creek channelization between Castor Avenue and Wingohocking Street
Source: City Archives of Philadelphia



1934, Looking downstream from Worrell St. Bridge, with Edgewater Finishing Co. on left
Source: Philadelphia Water Department Archives

Frankford Creek: Before + After

LEIPER STREET COVER

4

before



1946, Leiper Street section before cover
Source: Philadelphia Water Dept. Archives

after



1960, Leiper Street section after cover.
Source: Philadelphia Water Dept. Archives

HORSESHOE BEND

5

before



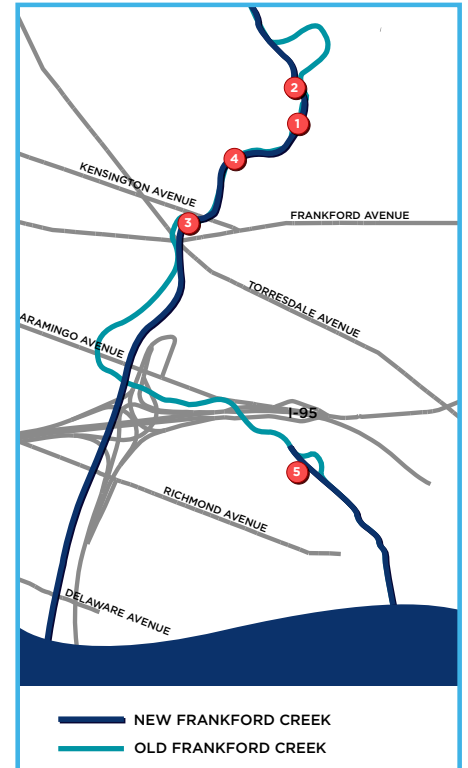
1930, Horseshoe bend before channelization.
Source: Temple University Libraries/Urban Archives

after



1950, Horseshoe bend after channelization.
Source: Historical Society of Frankford

FRANKFORD CREEK PHOTO LOCATION KEY





Buildings such as the one shown above, which once housed one of the area's many paper mills, serve as landmarks for the area and speak to the history of the community.

Industrial Legacy

The study area for this project has a rich history of manufacturing. It is estimated that at one point, there were as many as 150 textile mills in Frankford alone. The diverse employment opportunities provided by manufacturing lead to the development of densely populated residential neighborhoods in Bridesburg, Frankford, and the surrounding area. However, when industrial building typology began to shift from multi-story buildings to larger footprint, single-story buildings, industrial businesses began to leave the dense urban neighborhoods of Philadelphia.

The abandoned lots and buildings left behind by this shift present both weaknesses and opportunities for the study area. Older industrial buildings such as those on the former Edgewater Dyeing and Finishing Co. site are often dilapidated, blighting the surrounding neighborhood. Additionally, former industrial sites were often contaminated by previous uses. However, these properties offer land, locational, and historical resources re for redevelopment that can honor the community's past and enhance its sense of place.

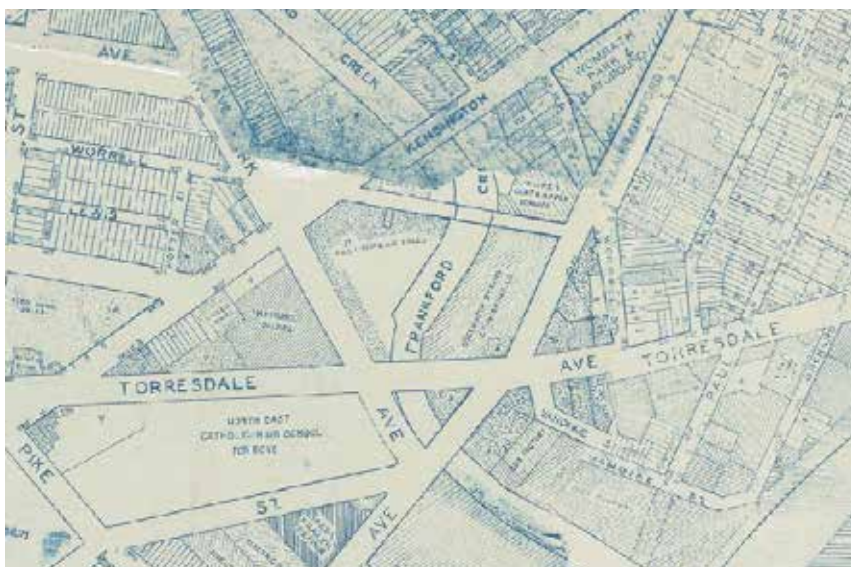
The greatest obstacle to the redevelopment of the many historically industrial sites in the study area is their real or perceived contamination. Brownfield sites may have limited options for redevelopment depending on their level and type of contamination.



Philadelphia Coke Co.
Source: 1962 Land Use Map, Works Progress Administration.



Rohm & Haas
Source: 1962 Land Use Map, Works Progress Administration.



Edgewater Dyeing & Finishing Co.
Source: 1962 Land Use Map, Works Progress Administration.

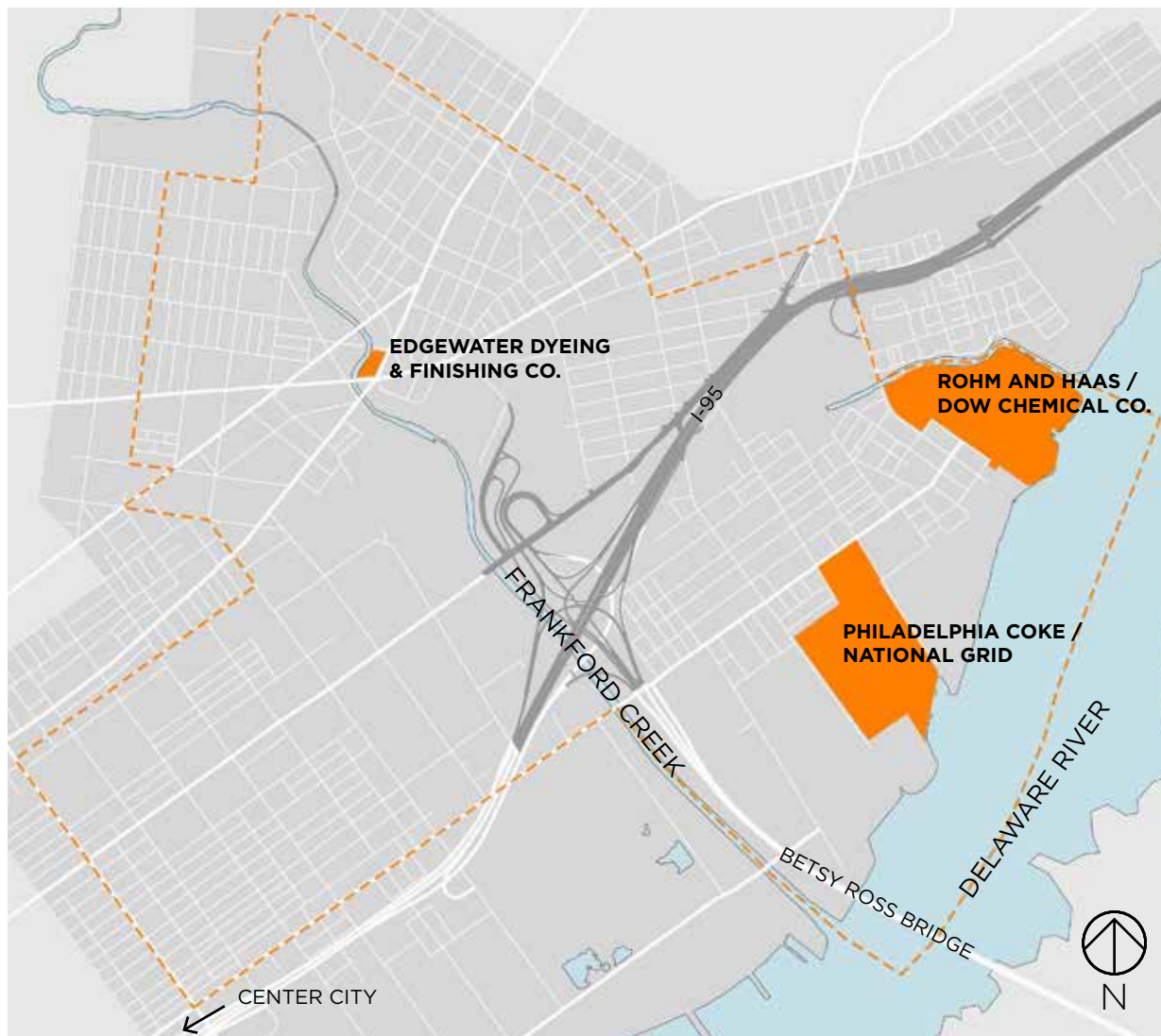
/ Catalyst Sites

This section contains a brief overview of the three catalyst brownfield sites that have received focused attention in this Area-Wide Plan.

>Overview

This Area-Wide Plan focused around three catalyst brownfield sites, which were identified based on their likely need for further environmental review and the potentially significant, area-wide impact of their future reuse. Two of the sites are located in the Bridesburg neighborhood of the City of Philadelphia on the Delaware Riverfront. The Rohm and Haas/Dow Chemical Company site (68 acres) and Philadelphia Coke Co./National Grid site (67 acres) represent significant reuse opportunities. The third site, the former Edgewater Dyeing and Finishing Co. property (1.6 acres), represents a much smaller potential reuse site, yet it is emblematic of several other similar nearby sites along the Upper Reach of the Frankford Creek, which serves as the spine of the overall study area.

The U.S. EPA defines brownfields as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.



*map not to scale



ROHM AND HAAS /
DOW CHEMICAL COMPANY

>Rohm and Haas / Dow Chemical Company

Bridesburg

- > 68 Acres
- > Located along the Delaware Riverfront and Old Frankford Creek
- > Former chemical production site
- > Primarily impervious pavement, with one remaining building

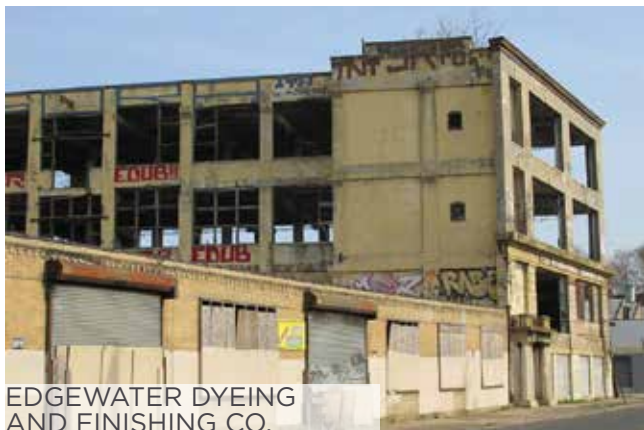


PHILADELPHIA COKE /
NATIONAL GRID

>Philadelphia Coke / National Grid

Bridesburg

- > 67 Acres
- > Located along the Delaware Riverfront
- > Former gas manufacturing and coke production facility
- > Vegetated vacant lot



EDGEWATER DYEING
AND FINISHING CO.

>Edgewater Dyeing and Finishing Co.

Frankford Creek Upper Reach

- > 1.6 Acres
- > Located along the Upper Reach of Frankford Creek
- > Former textile dyeing factory
- > Four-story reinforced concrete factory structure and one-story warehouse structures in a dilapidated state

/ Analysis of the Study Area

The following is a summary of the key planning elements that were evaluated as part of the background/existing conditions analysis.

Existing Land Use

Rohm and Haas / Dow Chemical Company

The former Rohm and Haas/Dow Chemical Company plant site has been mostly cleared of structures, with one remaining building and some remaining site infrastructure, including the overhead pipeline for the nearby Honeywell Resins and Chemicals plant. The site is classified as vacant and is mostly covered in impervious pavement.

- > The site sits at what could be considered the northern extent of the Bridesburg neighborhood, north of Bridge Street, with significant amounts of water frontage. The original portion of Frankford Creek is located to the north and east of the site and the Arsenal Business Center sits beyond the creek. There is also a City of Philadelphia public boat launch and riverfront access facility along the Delaware Riverfront, north of the creek's outfall into the river. The site has approximately 1500 feet of Delaware Riverfront frontage and 2800 feet of old Frankford Creek frontage. The site is bisected by the former K&T railroad right-of-way and an overhead electrical power line along the K&T alignment.
- > To the south of the site, there is a mix of uses. Immediately along the riverfront, there is an industrial parcel that was once part of the Rohm and Haas/Dow Chemical Company facility and was sold off. This site is owned by an industrial developer/site operator and includes several industrial tenants. The Bridesburg Boys and Girls Club occupy a building and an open paved area for outdoor recreation along with an indoor facility in the area of Bridge and Garden Streets.

- > There are some large vacant paved lots and a mix of residential row homes, corner stores, and some limited strip retail (7-11 convenience store), and industrial uses along Bridge and Brill Streets, south of the site.
- > Honeywell operates an active elevated pipeline that weaves through the site approximately along Brill Street and connects the Honeywell plant, from the Bridge Street bridge structure over Old Frankford Creek, to a barge terminal located at the terminus of Bridge Street at the river. Reuse plans will need to accommodate the routing of the pipeline through the site to the river.
- > There are numerous overhead electrical utility structures running through the site along the former K&T railroad right-of-way that will need to be integrated into any reuse plan or routing of the Delaware Avenue Extension.

Rohm and Haas / Dow Chemical Company

Potential Land Use Implications/ Considerations for Redevelopment

- > The major existing land use connection/interface between the site and its urban context occurs along Bridge and Brill Streets. This Area-Wide Plan addresses the mixed-use neighborhood context in a manner that "meshes" the two together in a complementary manner and buffers the adjacent uses from industry.

General overviews of land use in the study area may be found in the **Philadelphia2035 District Plans** produced by the Philadelphia City Planning Commission, <http://phila2035.org/home-page/district/>

Philadelphia Coke / National Grid

The Philadelphia Coke/National Grid site is a former gas manufacturing and coke production facility that closed in the early 1980s and was dismantled between 1982 and 1988. The site is currently vacant and consists of a vacant parcel with extensive vegetation that has naturally introduced itself to the site.

- > The site sits in the core of what could be considered the overall Bridesburg neighborhood. The northern boundary of the site is along Buckius Street and consists of the Bridesburg Outboard Club along the river, a Parking Authority towed-auto/parking violation impoundment lot and the Bridesburg Recreation Center between Bath and Richmond Streets.
- > The eastern boundary of the site is vacant industrial land, a school bus facility and a riverfront parcel at the terminus of Orthodox Street that will be permanently dedicated for public parkland, as part of a PIDC and City project related to the expansion of the Dietz and Watson facility and the northern area of the Frankford Arsenal Business Center. The site has approximately 1,500 feet of Delaware Riverfront frontage, excluding the adjacent city-owned property.

- > The southern boundary of the site along Orthodox Street includes several different industrial parcels. Many of these sites are occupied by solid waste management/recycling facilities and related uses.
- > Garden, Lefevre and Richmond Streets form the western boundary of the site and include a mix of residential units, mostly row homes, with some commercial uses.

Philadelphia Coke / National Grid

Potential Land Use Implications/ Considerations for Redevelopment

- > Because of its scale and location, the site has multiple adjoining land uses to which it should relate as part of the redevelopment strategy. The eastern portion of the site has more flexibility since much of the context consists of industrial uses of varying intensities.
- > The western portion of the site extends into the existing neighborhood of Bridesburg with residential, park, recreation, and neighborhood commercial uses as its context. The Area-Wide Plan considers how new development can respond to the existing context without negatively impacting, or turning its back to, the surrounding neighborhood.

Edgewater Dyeing and Finishing Co.

The Edgewater Dyeing and Finishing Co. site was a former textile dyeing operation located along Frankford Avenue at the major intersection of Torresdale Avenue. The site consists of a complex of former industrial buildings, the largest being a four story vacant factory structure at the intersection of Frankford Avenue and Worrell Street. Some of the buildings have partially collapsed; most have had their windows removed and are open to the air or blocked over. The City cited the property for unsafe building conditions in 2014: Ongoing code compliance and legal proceedings precluded the study team from conducting further site investigations or outreach to the property owners.

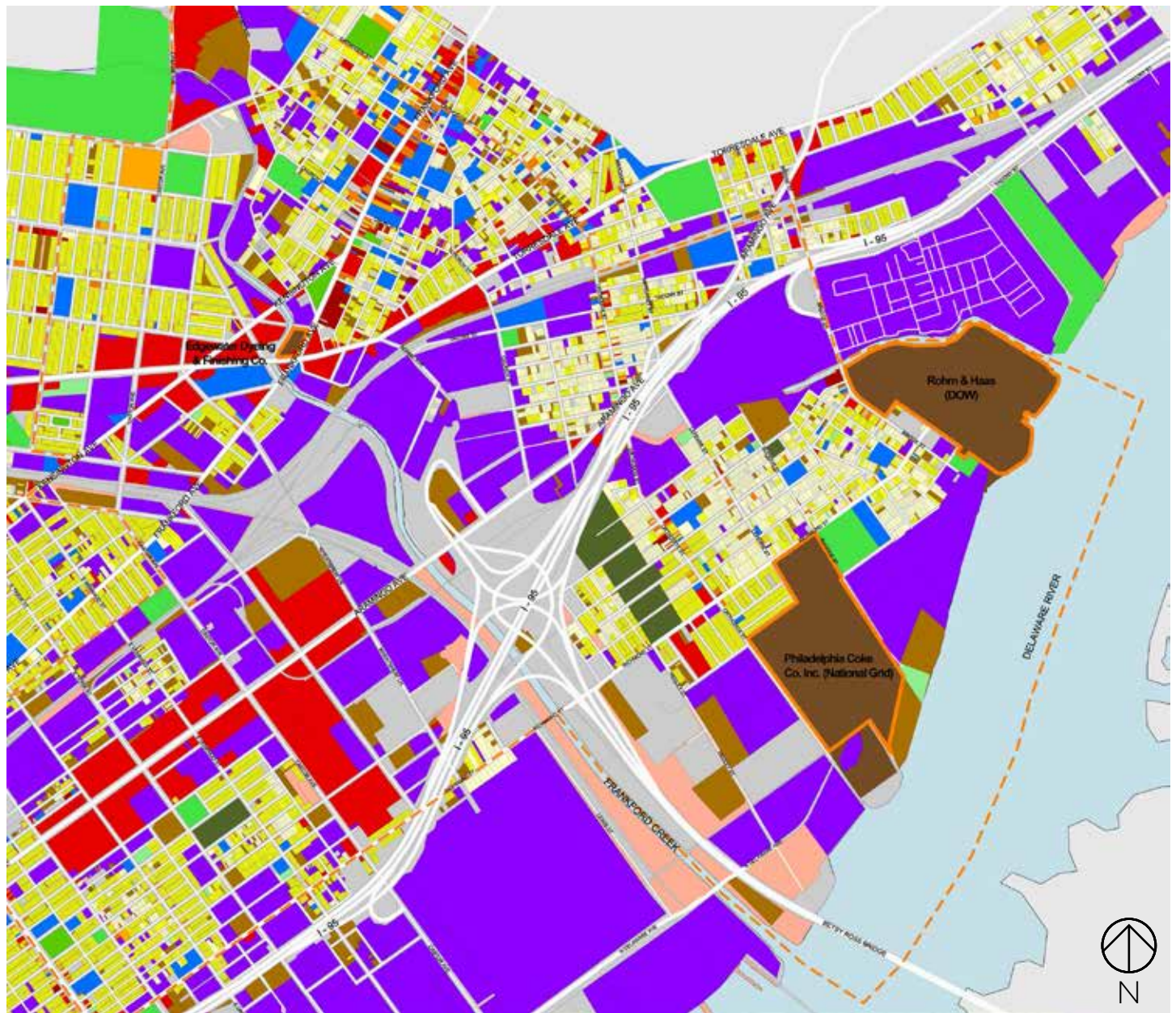
- > The site has approximately 400 feet of Frankford Creek frontage.
- > The properties to the north of the site, across Worrell Street, are occupied by active industrial establishments.
- > To the east, along Frankford Avenue and across Torresdale Avenue, there is a mix of commercial-consumer uses including a vacant catering facility and shopping strip, auto-repair/sales related uses and a recently constructed chain pharmacy (CVS).
- > South of the site, across Torresdale and E. Hunting Park Avenues, is the Mariana Bracetti Academy Charter School.
- > A recently constructed pharmacy (Walgreens) is directly to the west across Frankford Creek.

Edgewater Dyeing and Finishing Co.

Potential Land Use Implications/ Considerations for Redevelopment

- > This site is identified in the Planning Commission's Lower Northeast District Plan as an important part of the southern gateway into the core of Frankford's commercial district. Like other sites in the Upper Reach of the Frankford Creek, the property offers extensive street and creek frontage, proximity to multiple modes of transit, and walkable access to retail, schools, and parks. The Area-Wide Plan considers how reuse can capitalize on these locational assets, support street-fronting, pedestrian-oriented retail, and promote the creek as a site and community amenity.

EXISTING LAND USES



*map not to scale

LEGEND:

	U.S. EPA Brownfields Area-Wide Study Area Boundary		Industrial
	Catalyst Sites		Civic/Institution
	Rail Lines		Culture/Amusement
	Low Density Residential		Active Recreation
	Medium Density Residential		Parks/Open Space
	High Density Residential		Cemetary
	Commerical - Consumer		Vacant
	Commerical - Business/Professional		Other/Unknown
	Commerical - Mixed Residential		Transportation

Zoning

There are two aspects of the existing zoning that are relevant from a reuse planning perspective. The most obvious is the zoning classification(s) for the brownfields catalyst sites and areas themselves; the second focuses on the zoning of surrounding parcels and the potential interrelationship between the two.

Rohm and Haas / Dow Chemical Company

- > This site is currently zoned for heavy industrial and industrial/commercial mixed-use, which is consistent with the historical use of the site.
- > The site is also mostly surrounded by parcels with similar industrial zoning.
- > The parcels on the south side of Bridge Street, across the street from the site, are zoned for residential single-family, from Garden to Almond Streets.

Philadelphia Coke/National Grid

- > This former industrial site was rezoned in the mid-2000s from industrial to a master-planned, mixed residential/commercial district. The rezoning was consistent with various waterfront redevelopment plans and proposals at the time, which pre-dated the economic downturn in 2008-09.
- > The site is mostly surrounded by industrial zoned properties to the north, east and south. There is a dedicated park and open space parcel to the northwest (Bridesburg Recreation Center).
- > The portions of the site to the west, starting at Bath Street, are zoned residential single-family.

Edgewater Dyeing and Finishing Co.

- > The Edgewater Dyeing and Finishing Co. site is located in an area that is transitioning from former small-site, multi-story textile complexes from the previous two centuries, to a more retail-oriented commercial area.
- > The site is currently zoned for industrial/commercial mixed-use.
- > The parcel to the north of the site across Worrell Street is zoned industrial.
- > The properties to the east and south are zoned commercial/commercial mixed-use. The parcels along the creek to the northwest are zoned industrial.

Potential Implications of Existing Zoning/ Considerations for Redevelopment

- > The current zoning classifications for the Rohm and Haas/Dow Chemical site and the Philadelphia Coke/National Grid site are not entirely consistent with the reuse concepts that have evolved from this Area-Wide Plan, based on the outcome of market analysis/market demand, community input, and environmental/legal controls on the properties.
- > The current zoning classification for the Edgewater Dyeing and Finishing Co. site might be consistent with the Plan's reuse concepts, based on market demand, site location, and physical and potential environmental constraints on the site.

ZONING



**maps not to scale*

LEGEND:

-  U.S. EPA Brownfields Area-Wide Study Area Boundary
-  Catalyst Sites
-  Rail Lines
-  Parcel Boundaries
-  Commerical/Commercial Mixed-Use
-  Industrial/Industrial Mixed-Use
-  Residential - Single Family
-  Residential - Multi-Family
-  Parks and Open Space

Note: The zoning classifications depicted by SGA on this map are believe to be an accurate depiction of the City of Philadelphia's current adopting zoning, for planning purposes only. Any discrepancies that may exist do not represent an actual or proposed modification of the currently adopted zoning within the study area. Please consult with the City's adopted zoning map available on the Philadelphia City Planning Commission's website at www.Phila.gov for further details or verification.

Inventory of Other Brownfield Sites

In addition to the three catalyst brownfield sites initially identified for attention this planning study, a data review was performed to locate additional known or potential brownfields sites within the study area. Based on the historical textile and chemical related industrial activity in the study area, the potential for brownfields throughout the area is high. It is estimated that in the first quarter of the twentieth century, Frankford alone had as many as 150 textile mills. The ability to document every potential brownfield site individually is beyond the scope of this study. However, an overview of the broad brownfields situation provides important context to the study.

A multi-tiered approach was utilized to provide a sense of the pervasiveness of brownfields within the study area. This review relied on queries of recorded sites within existing public databases. The Pennsylvania Department of Environmental Protection (PADEP) maintains a database of sites that have been entered into and then completed through the PADEP's Act 2 Voluntary Cleanup Program. The agency also tracks sites that have been entered into the Act 2 Voluntary Cleanup Program, but that have not yet completed the remediation and voluntary cleanup process. These non-completed sites are considered "Sites in Progress" and are mapped as "Other Potential Brownfields Inventory Sites."

In order for sites to be entered into the Act 2 Voluntary Cleanup Program, completion of a significant amount of environmental investigation is required. The investigation activities would have revealed a level of contamination in soil, groundwater, surface water, etc. quantified at a concentration above one of PADEP's Human Health Standards. To enter a site into the Act 2 Voluntary Cleanup Program, the site owner files a "Notice of Intent to Remediate" (NIR). The NIR will identify the impacted media (soil, groundwater, etc.), the contaminants present in the media, and the remediation standard that the property owner intends to pursue, i.e. Residential, Non-Residential, Site-Specific, etc. Once the site has an NIR filed, it is entered into the "Site in Progress" database. These non-completed sites are listed in a database that can be found at:

http://www.portal.state.pa.us/portal/server.pt/community/program_results/21551

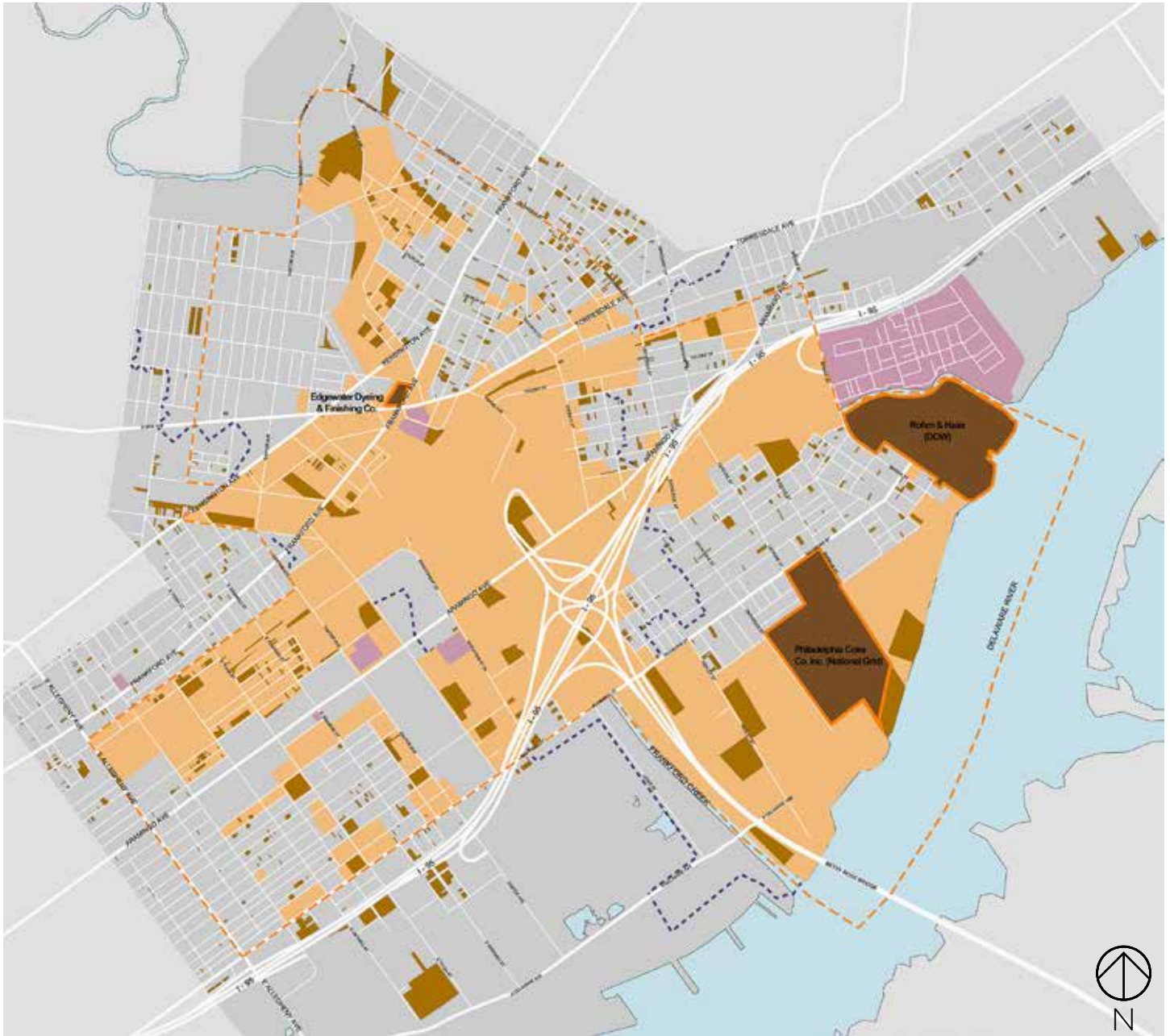
Beyond the specific sites identified from public databases, aerial photography and historic mapping were used to identify sites that exhibit conditions or had uses on them that indicate the potential for environmental concerns. These properties, when combined, form a "Brownfields Potential Zone" which consists of hundreds of properties. A property's inclusion within this zone does not automatically imply that it is a brownfield or that it has environmental concerns. The zone only establishes an area where the likelihood of environmental concern is greater. In some limited cases, residential properties may occur within this zone, due to a high concentration of surrounding, historical industrial activities and the overall highly mixed-use pattern of the area; These properties should not automatically be assumed to be hindered by any environmental issues unless specifically documented by adjacent impacts.

The conclusion of this review illustrates that the potential number of brownfield sites within the study area is likely to be significant. It also shows that the diversity of brownfield types is high due to the varying sizes, locations, and types of former industrial activity. In addition to the larger catalyst sites, there are numerous scattered small sites, many of which were old textile mills and dye works, dispersed throughout neighborhoods, sometimes in the middle of residential blocks.








The industrial history of the study area indicates the likelihood for a large number of other brownfield sites.

BROWNFIELDS INVENTORY



*map not to scale

LEGEND:

-  U.S. EPA Brownfields Area-Wide Study Area Boundary
-  Catalyst Sites
-  Vacant Sites
(Status Unknown)
-  Other Potential Brownfields
Inventory Sites
(Data Source: PADEP list)
-  Brownfields Potential Zone
(Data Source: Current and Historic
Land-use Mapping)

Note: Sites shown on this map represent "active" EPA brownfield sites, sites which are in some manner registered with PADEP or are identified as vacant and their potential environmental status is currently unknown.

Storm and Sanitary Sewer Infrastructure

Within the City of Philadelphia, a majority of sewer systems are still of the combined variety, meaning that both stormwater and sanitary waste are sharing the same conveyance system for much of the city. This means that in large storm events, the system can be overwhelmed by rainwater, forcing it to discharge both storm and waste water directly into creeks or rivers in a process known as combined sewer overflow, or CSO. This situation is present in many areas of the city, but there are portions of Philadelphia which have separate storm drainage infrastructure, allowing stormwater to bypass the sanitary system and avoid contributing to CSO in heavy precipitation events. The brownfield catalyst sites being considered for this area-wide plan will be subject to all applicable CSO and Municipal Separate Storm Sewer Systems (MS4s) guidelines put forth by the USEPA and the City of Philadelphia to satisfy the requirements of the Clean Water Act.

The role that green infrastructure can, and should, have on the overall stormwater management system was an important factor while developing reuse plans. Green features will not replace the main stormwater conveyance systems in full, but they are a significant element to consider in order to reduce runoff volumes and pollutant loads for a site. Philadelphia's Green City, Clear Waters program places a strong emphasis on incorporating green technologies into stormwater management and any plan should incorporate the guidelines from the City of Philadelphia Stormwater Management Guidance Manual. There are federal funding avenues that could also hinge on principles of sustainable design, particularly in a redevelopment context. Brownfield sites offer some obstacles to navigate relating to infiltration techniques, but green technologies can be a valuable tool in making a site compliant with other regulations like MS4.

Rohm and Haas/Dow Chemical Company

The former Rohm and Haas/Dow Chemical Company plant site is located within Philadelphia's Delaware Direct regional watershed, meaning its runoff contributes directly to the Delaware River without first entering some other tributary. The site's position along the Delaware means that the conveyance required to reach the river for an outfall point is minimal. There is also a large portion of the site that borders the remaining portion of Old Frankford Creek as the site sits on the corner of where the Frankford used to discharge into the Delaware River. Outfalls could be placed along that stretch as well. Significant development will also require tapping into existing wastewater infrastructure, and the question that arises is how much additional waste the system can currently handle. The current conditions are as follows:

- > Data from the Philadelphia Water Department shows that there is existing stormwater infrastructure near the Rohm and Haas site, although it is not necessarily adjacent. This may not be an issue as new stormwater drainage outfalls can be installed as the site is redeveloped, since the terminus will be the adjacent Delaware River.
- > There is a large wastewater interceptor that runs through the middle of the site, running mostly parallel to the Delaware. The data provided by the PWD puts the age of this interceptor at about 86 years, as the installation date is shown as 1928. The sewer line is very large, at about 10'x11'. The interceptor is large to handle the drainage of vast upstream geographic areas.

Philadelphia Coke/National Grid

The former Philadelphia Coke/National Grid site is situated very similarly to the Rohm and Haas site, with a location along the Delaware River in the Bridesburg neighborhood. The site will likely face a similar set of obstacles and benefits as it pertains to its connection into the city's stormwater and wastewater conveyance systems.

The current conditions are as follows:

- > The site is located adjacent to a currently existing six-foot diameter stormwater outfall to the Delaware River. This pipe likely also handles CSO discharge during larger storm events, but should be usable as a bypass for the runoff being generated by the redevelopment on this site. Like the Rohm and Haas site just upstream, it is also possible to create a new site-specific stormwater conveyance system, given its close proximity to the Delaware River.
- > The wastewater system for the site is also similar, in that the same large 1928 interceptor bisects it. The interceptor actually gets about one foot larger as it passes through the Philadelphia Coke site, going from about 11 feet in diameter to 12 feet. Provided the system as a whole is not overwhelmed, there should be ample capacity for new development, as the former industrial site likely generated high amounts of wastewater.

STORM/SANITARY CONVEYANCE



*map not to scale

LEGEND:

- U.S. EPA Brownfields Area-Wide Study Area Boundary
 - Catalyst Sites
 - Rail Lines
 - Parcel Boundaries
- Separated Storm Conveyance**
- Branch Lines
 - Trunk Lines
 - Relief Lines
 - Treatment Facility/Effluent Lines

- Combined Sanitary/Storm Conveyance**
- Branch Lines
 - Trunk Lines
 - Interceptors
 - Treatment Facility/Effluent Lines
 - DWO Connections
 - Forced Main Lines
 - Unclassified Lines
 - Stormwater/Combined Sewer Outfall Locations
 - Combined Sewer Service Area

> Storm/Sanitary Conveyance

Edgewater Dyeing and Finishing Co.

The former Edgewater Dyeing and Finishing Company site, as an example of properties in the Upper Reach of the Frankford Creek, is located within the Tookany-Tacony-Frankford watershed, so the site drains into the Frankford Creek before entering the Delaware River. The site is located adjacent to the creek, so like the other catalyst sites, there are stormwater outfalls which drain directly to the creek. This site is much smaller than the catalyst sites in Bridesburg, so its impact on the overall system will be much less significant.

- > There are existing stormwater pipes located near both ends of the site which drain to the creek. These also serve as overflow valves for the rest of the system, but they are designated as stormwater pipes by PWD. Like the two properties along the Delaware River, a site-specific stormwater system and outfall could be developed since the site is adjacent to Frankford Creek.
- > The sizes of the sewer lines near the site are much smaller than the large interceptor running through the Philadelphia Coke/National Grid and Rohm and Haas/Dow Chemical sites. There is a 54" trunk line which borders the north side of the site, but it is unclear how exactly that is linked to the interceptor on the opposite side of the creek, as the only connection shown in the data is a 12" pipe crossing the creek to the interceptor on the other side. Given the size of the site compared to the system, it seems unlikely that the sewers would be unable to handle any flow the site generates, but more investigation would be warranted to determine available capacity for the area.



*Edgewater Dyeing and Finishing Co.
in context of Frankford Creek*

Other Utilities

Rohm and Haas/Dow Chemical Company

The former Rohm and Haas/Dow Chemical site appears to have strong infrastructure in terms of gas supply, in particular, as well as water supply. The site is large and could potentially generate significant demand.

- > Water supply includes significant infrastructure near the site. A 16" water main runs down Bridge Street near the site and several mains, a 12", a 6", and an 8", approach the edge of the site. Supply seems significant enough to support likely redevelopment use, but that may depend on the limitations of the overall system in the area.
- > For gas, the data shows several specialty 8" lines entering the site. This would seem to indicate that there would be no issue supplying gas to even a fairly large redevelopment effort.
- > Based on discussions with PECO, this site is well served with three-phase electrical service to support any intensity of use. The former K&T overhead structures are active high voltage power lines.

Philadelphia Coke/National Grid

The large Philadelphia Coke/National Grid site will require a significant amount of resources to supply all of the potential development. Water and gas infrastructure are both within the vicinity of the site but not currently, directly serving the site itself.

- > There are water mains adjacent to the site, including a 12" water main along Richmond Street. The capacity of the water supply system may have to be evaluated to confirm it is adequate to serve future development.
- > Gas supply lines are run in a similar grid to the water supply lines and there is a 12" gas line which runs along Richmond Street.
- > Based on discussions with PECO this site is well served with three-phase electrical service to support any intensity of use. A substation is located nearby.

Edgewater Dyeing and Finishing Co.

This site is well served by gas, water and electrical utilities, especially for any likely, non-industrial use.

Transportation

Freight Rail

- > The Belt Line, owned by the Philadelphia Belt Line Railroad Company (PBL), owns an active freight line running along the Delaware River from Port Richmond through the Philadelphia Coke Co./National Grid site and into the Rohm and Haas/Dow Chemical site. At present, the Belt Line staff estimates that freight traffic in the Port Richmond section of the line is approximately 7,000 cars per year. Track is leased to and operated by Conrail. PBL staff estimates the right-of-way width of the Belt Line at 33-35 feet. There have been no rail customers on this line in Bridesburg since the closure of operations at the Rohm and Haas plant. It is the Belt Line's intention to rehabilitate the track north of Lewis Street and work with PIDC on new industrial development in this area. Track rehabilitation, and rehabilitation of the bridge over the new Frankford Creek channel, would be completed by Conrail Shared Assets. Kinder-Morgan is the primary customer using the line and is anticipating an increase in freight traffic to up to 10,000 cars per year. Box car traffic is also growing at the Tioga Marine Terminal. The PBL and Conrail are beginning rehabilitation of the track portion from Allegheny Avenue to Lewis Street in the next year. The northern portion, which runs through the brownfield catalyst sites, will follow after the Allegheny Avenue to Lewis Street portion is completed.

Implications for Redevelopment

Rehabilitation and active use of the Belt Line in Port Richmond and Bridesburg would support future industrial growth but may lead to increased conflict adjoining neighborhoods and vehicular traffic. This is especially a consideration for rail shipments that involve hazardous materials or complicate neighborhoods' expressed desire to have increased access to the waterfront.

Maritime Transport

- > The Philadelphia Regional Port Authority fosters water-borne trade and commerce in Delaware, Philadelphia, and Bucks Counties. At present, the PRPA's northernmost property in Philadelphia is the Tioga Marine Terminal, located between of Allegheny and Castor Avenues at 3601 N. Delaware Avenue.



Honeywell Pipeline

- > Honeywell operates an active barge facility on the Delaware River at the foot of Bridge Street, in between the Rohm and Haas/Dow Chemical and the Philadelphia Coke/National Grid properties. This facility is connected by overhead pipelines to the Honeywell Resins and Chemicals Plant at Margaret and Bermuda Streets.

Implications for Redevelopment

Both the Rohm and Haas/Dow Chemical and Philadelphia Coke/National Grid properties could, in theory, accommodate maritime loading and unloading as a primary or accessory activity. This would require significant investment, regulatory review, and environment/riparian mitigation. It would also complicate efforts to create public waterfront access.

Highway

- > The single largest factor in transportation in this area is the reconstruction of I-95 in Frankford, Port Richmond and Bridesburg. This effort is covered under the separate construction phases of sections AFC, BRI, and BSR of the 95 Revive Program.
- > Section BRI goes from Wheatshaeaf Lane to north of Margaret Street and includes the Betsy Ross Bridge interchange. Construction has begun on the section that encompasses rebuilding the ramps to and from the Betsy Ross Bridge to Aramingo Avenue.
- > The remaining construction phases of BRI will involve widening surface streets in addition to I-95 itself, including Aramingo Avenue, Tacony Street, and Harbison Avenue. The Betsy Ross Bridge interchange will be completely reconstructed.
- > The Adams Avenue Connector, a component of Section BSR, will provide direct access between I-95 and the Frankford and Juniata Park neighborhoods, simplifying highway access in the area and potentially boosting the competitiveness of the Upper Reach section of the Frankford Creek.

- > Section BSR extends from the I-95 bridge over Margaret Street to the bridge over Levick Street, including the Bridge Street Interchange. BSR is in final design and will be developed in three phases:

- > Phase BS1 will reconstruct I-95 from Kennedy Street to Levick Street, including a new southbound off-ramp and northbound on-ramp that connects directly to Tacony Street.
- > Phase BS2 will rebuild I-95 from Margaret Street to Kennedy Street, including replacing the viaduct over Tacony and Bridge Streets.
- > Phase BS3 will reconstruct Aramingo Avenue from Duncan Street to Tacony Street as well as Harbison Ave from Tacony Street to the Amtrak overpass.
- > Phase BS4 includes Aramingo Avenue from Wheatshaeaf Lane to Church Street, ramps on the west side of Aramingo Avenue, and work associated with the Adams Avenue Connector.

- > The Delaware Avenue Extension is increasing public and vehicular access to the waterfront while reducing truck traffic on Richmond Street and in residential neighborhoods. Phase 1A of the extension extends Delaware Avenue from Lewis to Orthodox Streets; construction on this segment is underway with an expected completion in November 2015. Phase 1B will extend Delaware Avenue an additional 0.3 miles to Buckius Street. Subsequent phases will extend Delaware Avenue across Old Frankford Creek to a new intersection with Tacony Street and proposed, relocated ramps for I-95. This project also includes an off-road multi-use trail.

Implications for Redevelopment

Highway projects in the area are currently aimed at increasing capacity, reducing delays, and diverting truck traffic from neighborhood surface streets. These projects generally seem to support retention of industrial uses along the North Delaware riverfront. Highway improvements are multi-year and multi-agency efforts that will require significant coordination, especially with PennDOT and the Philadelphia Department of Streets. There will be longer-term but still temporary construction impacts that may cause increased traffic on surface streets in the neighborhood.

BRIDESBURG TRUCK TRAFFIC COUNTS



LEGEND:

*map not to scale

- - - - - U.S. EPA Brownfields Area-Wide Study Area Boundary
- Catalyst Sites
- Local Roads & Alleys (Traffic Counts Undetermined)
- 0 to 420 TPD*
- 420 to 757.5 TPD
- 757.5 to 1751 TPD
- 1751 to 6693 TPD

*TPD = Trucks Per Day

Traffic Data Source: PennDOT

Bicycle/Pedestrian

- > The Frankford Creek Greenway Feasibility Study proposed a combination on- and off-road trail along the Frankford Creek from Wingohocking Street in the north to Delaware Avenue and the East Coast Greenway in the south. This trail was identified as one of the city's highest-priority trails in the Philadelphia Trail Master Plan (2013).
- > The Department of Conservation and Natural Resources awarded the City \$400,000 and the City received a \$1M Transportation Alternatives Program (TAP) grant to construct approximately 1.2 miles of trail from the intersection of Wearsheaf Lane and Aramingo Avenue to the intersection of Lewis Street and Delaware Avenue.

- > Construction on the Kensington and Tacony (K&T) Trail Phase I, from the mouth of the Old Frankford Creek to Lardner Point, is expected to begin in 2015 and Phase II is in design. The Delaware River City Corporation (DRCC) is the lead entity for this effort.
- > The Delaware Avenue sidepath from Lewis Street to Orthodox Street is under construction. The sections north of Orthodox Street will be incorporated into future segments of the Delaware Avenue Extension.

Implications for Redevelopment

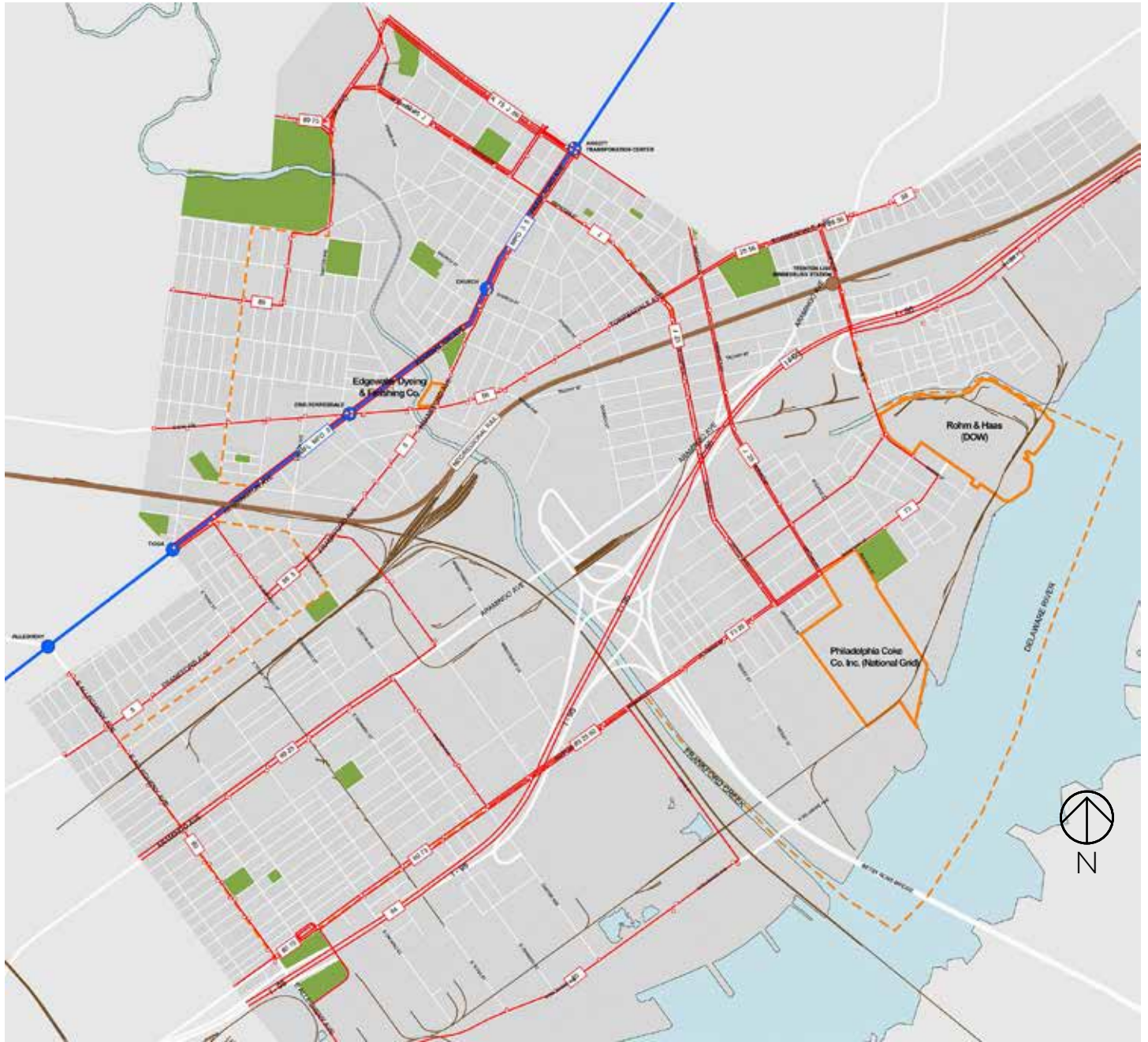
The City of Philadelphia has been pursuing bicycle and pedestrian infrastructure improvements citywide with an emphasis on projects that connect residential neighborhoods to the waterfront. Bicycle and pedestrian projects are also aimed at decreasing conflicts with vehicles and providing dedicated conveyance for non-motorized transportation. The volume of projects along the North Delaware suggests that any future redevelopment should also support seamless connections between the neighborhood core and waterfront land uses.

Transit

The study area for this Area-Wide Plan is remarkably well-served by multiple forms of transit, including buses, the Trenton Line regional rail, and, perhaps most notably, the Market-Frankford Elevated line (MFL). The MFL is critical for providing efficient access to the major employment and shopping center of Center City, Philadelphia, and even provides night service on weekdays. Bus routes, especially those that converge with Frankford Avenue and Torresdale Avenue routes, are important for providing access to the MFL to riders throughout the study area. Bus routes also make important connections to the regional rail Bridesburg Station, funneling regional riders throughout the study area. The Trenton Line regional rail service provides service to Center City and to Trenton, New Jersey. From Trenton, riders can access transit to New York City. The line has several other notable stops along its route, and therefore has a significant impact on the mobility of study area residents.





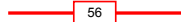




Additionally, SEPTA is a bicycle-friendly system, providing racks on busses and at many stations. This amenity further supports multimodal transportation and multi-use paths proposed in this plan. It should be noted that bicycles are permitted on the Market-Frankford Line, but only during restricted hours.

STUDY AREA TRANSIT

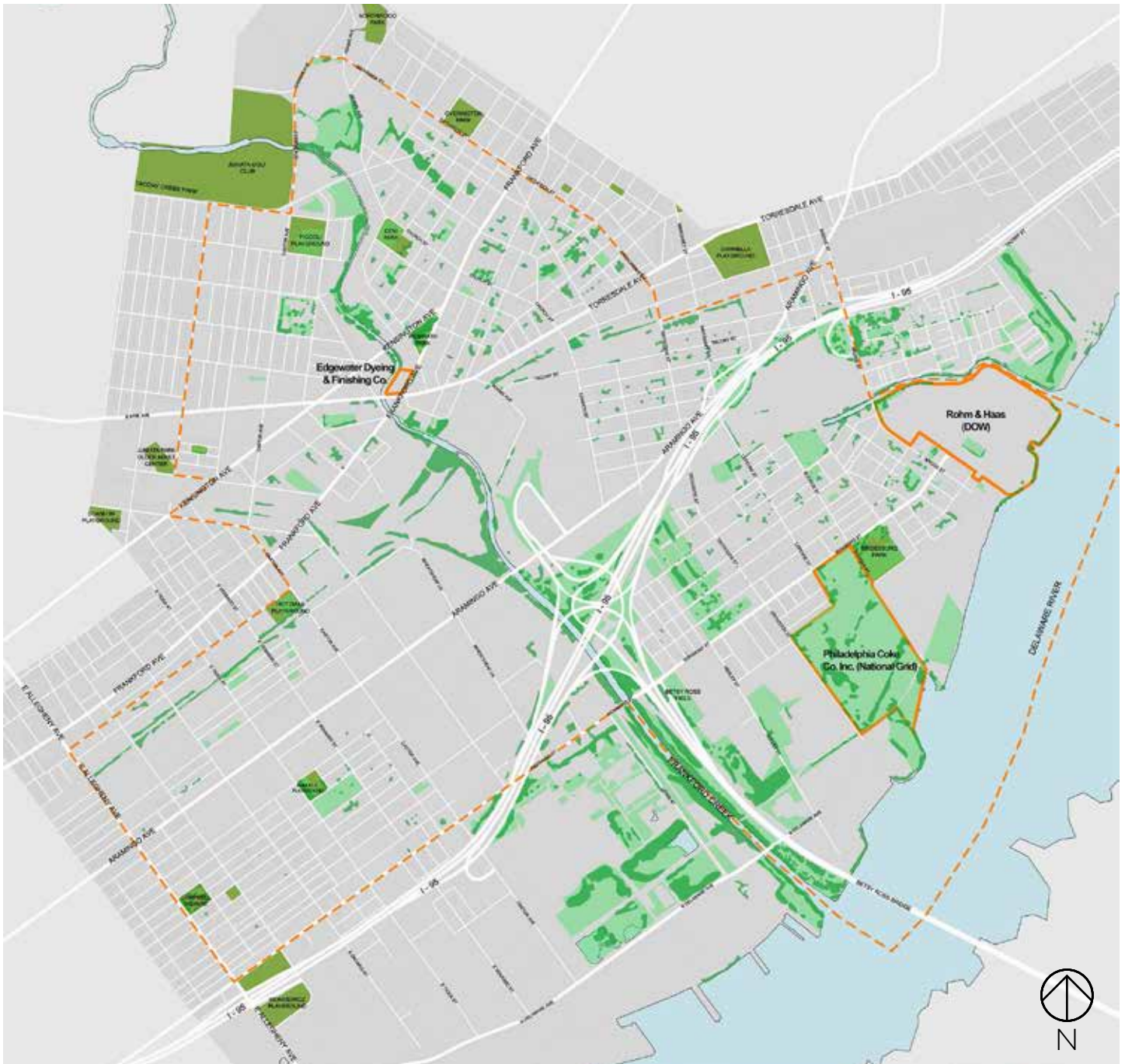


*map not to scale

LEGEND:

- | | | | |
|---|--|---|--------------------------------|
|  | U.S. EPA Brownfields Area-Wide Study Area Boundary |  | Elevated/Subway Stop |
|  | Catalist Sites |  | Regional Rail Station |
|  | Bus Routes |  | NEC/Trenton Regional Rail Line |
|  | Transit Stop |  | Freight Rail Lines/Sidings |
|  | Market-Frankford EL | | |





VEGETATIVE COVER



Vegetative Cover

The map above illustrates the vegetative cover within the study area. Philadelphia's established goal is to achieve 30% tree canopy throughout the city. Portions of the study area have large clusters of vegetative cover, especially along Frankford Creek, including Old Frankford Creek, and the Philadelphia Coke Co. site. The major transportation corridors of I-95 and the rail corridors also provide significant cover. Considering the overall study area, however, there is a significant lack of tree cover within the neighborhood areas. Vegetative cover plays an important role not only in the quality of place, it also improves air quality, reduces the heat island effect, and aids in stormwater management by capturing rainfall with-

LEGEND:

-  U.S. EPA Brownfields Area-Wide Study Area Boundary
-  Catalyst Sites
-  Tree Canopy Cover
-  Grass/shrubs Cover

*map not to scale

in its canopy. As brownfields are redeveloped, especially the catalyst sites and sites along the waterways, the opportunities to maintain and/or increase vegetative and tree canopy are important for improving all of these aspects of the community.

Parks and Recreation

The Lower Frankford Creek Watershed study area currently contains or is adjacent to a mix of public parks and recreation centers and two private recreation facilities. Among these are:

- > Bridesburg Recreation Center
- > Womrath Park
- > Deni Park
- > Juniata Park/Older Adult Center
- > Campbell Square
- > Heitzman Playground
- > Samuels Playground
- > Monkiewicz Playground
- > Piccoli Playground
- > Carmella Playground
- > Betsy Ross Field (DRPA)
- > Arsenal Boat Launch
- > Bridesburg Outboard Club
- > Bridesburg Boys and Girls Club
- > Juniata Golf Club

Of the list of existing parks and recreation facilities, the following are most relevant to the redevelopment planning of this Area-Wide Plan:

- > Bridesburg Recreation Center is located adjacent to the Philadelphia Coke/National Grid site and serves the Bridesburg neighborhood. A number of community members said that this center alone is not a sufficient amount of recreation space to meet the current needs of the neighborhood and, if new housing were constructed, would be even more inadequate. The Parks and Recreation Department does not have a specific needs assessment study to quantify the level of need for parks and recreation facilities within a specific neighborhood.
- > The City is planning to take ownership of the existing Arsenal Boat Launch, at the mouth of the Old Frankford Creek, as well as a nine acre waterfront site at the foot of Orthodox Street. These sites are slated for development as public open space, as part of a North Delaware Greenway.

- > Womrath Park has been identified for focused improvements by the Frankford Community. It is located a block north of the Edgewater Dyeing and Finishing Co. site and one block from Frankford Creek. Frankford is somewhat better served overall with park and recreation facilities than Bridesburg, however, the southern portions of Frankford and areas further south of Erie Avenue are less well-served.
- > At the northern extent of the study area, along Frankford Creek, there are several parks and recreation facilities that are close to the creek, including Deni Park and the Piccoli Playground. There have been recent brownfields redevelopment projects in this area in the form of residential and commercial reuses, which are capitalizing on these facilities.
- > The Juniata Golf Course serves as a vital recreation and environmental quality/natural resource area along the Frankford Creek, at the upper stretch of the creek.

Other Parks and Recreation Elements

The city's various agencies and departments including the Philadelphia City Planning Commission, Parks and Recreation, and the Philadelphia Water Department along with partnering entities such as the Delaware River City Corporation (DRCC) have made great strides in planning and developing new trails, greenways, public river access and green infrastructure improvements. Through the combined efforts of the entities, a renewed interconnected, "green" civic vision for parks, recreation, trails, and related infrastructure has been advanced, especially through the introduction of greenways that create improved connections between existing parks and open space facilities. This approach is strengthening ties between communities and open space, recreation, and waterways, and it is introducing restorative and resilient processes that improve the environmental health of the City. The planning and implementation efforts that have application to this study area include:

- > DRCC - North Delaware Greenway
- > PWD Green City, Clean Waters - Year in Review 2011-2012
- > 2013 Philadelphia Trail Master Plan which especially prioritizes the following study area projects, in relation to overall priority projects within the entire city:
 - > *Priority 2:* Frankford Creek Greenway - A
 - > *Priority 4:* Frankford Creek Greenway - B

- > *Priority 1:* Delaware Avenue Extension Side-path
- > *Priority 3:* Kensington & Tacony Trail
- > *Priority 9:* North Delaware Greenway - Gap A
- > 2012 K&T Trail construction plans for implementation
- > 2014 Frankford Creek Greenway Feasibility Study
- > 2014 City of Philadelphia Green Streets Design Manual
- > 2014 PWD Stormwater Management Guidance Manual Version 2.12009 Greenworks Philadelphia Sustainability Plan
- > 2009 Greenworks Philadelphia Sustainability Plan

Implications for Redevelopment

- > As redevelopment concepts were developed for each of the brownfields catalyst sites, especially the two large sites in Bridesburg, the implementation of recommendations from previous studies was critical. The number of plans identifying and emphasizing the need for more public access to the river in Bridesburg is extensive. The recent undertaking with PIDC, Parks and Recreation, and DRCC to establish a dedicated public open space parcel at the terminus of Orthodox Street will serve as an important next step in the reconnection of the community to the river.
- > DRCC is directly involved in the development of all aspects of the N. Delaware Riverfront since it is the City's delegate, quasi-public entity on advancing proposed initiatives and pursuing design, engineering and construction funding and implementation.
- > With all of the North Delaware River Greenway initiatives and specific trail projects completed or underway, the segments of riverfront between Orthodox Street and the public boat launch located north of the Old Frankford Creek, by the Arsenal, is a critical "missing link" which must be integrated into all reuse proposal for the two Bridesburg brownfield catalyst sites.
- > The opportunity to create public access in the Upper Reach portions of Frankford Creek, including in and surrounding the Edgewater Dyeing and Finishing Co. site, should be explored. Using the recently developed Walgreens site across the creek from the brownfield catalyst site as a contrasting example, the opportunity to improve the creek and provide public access at this location was completely missed and the development, as constructed, treats the creek as something to block and hide, with a rarely-used parking lot, chain-link fence and dumpster enclosure fronting on the creek.

Historic Resources

There are several sites within the study area listed on the National Register of Historic Places.

With the exception of one historic home site, all of the listed sites are active or former school sites.

- > Irving Street School
- > David Wilmot School
- > John Ruan House/Grand Army of the Republic Hall
- > William W. Axe School
- > Francis Hopkinson School
- > George L. Horn School
- > James Martin School

Implications for Redevelopment

- > None of these historic sites have direct interactions with the brownfields catalyst sites.
- > Based on the age of the study area, there are numerous structures, including former industrial structures that could be eligible for listing in the National Register of Historic Places. Further consultation with the Pennsylvania Historic and Museum Commission would help identify specific, eligible historic resources. The impact of a redevelopment project on National Register eligible resources needs to be formally determined if federal funds or permits are involved.
- > The Frankford Arsenal, while not strictly within the study area of the Area-Wide Plan, is a very substantial historic resource listed on the National Register.

Human Health and Risk Assessment

An important part of an Area-Wide Plan is identifying potential public health impacts posed by the current site conditions and summarizing those conditions in a manner that can be easily communicated to the residents and workers who may be impacted.

Human health aspects evaluated include:

- > Cleanup efforts at the three catalyst sites and impacts to soil and groundwater quality
- > Existing Air Quality issues and efforts to improve air quality
- > Surface Water quality and public access to the waterfronts
- > Environmental Justice issues per the U.S. EPA's Plan EJ 2014 parameters
- > Improved access to the Delaware River



Old Frankford Creek

Cleanup Efforts at Brownfield Sites

Soil and groundwater impacts resulting from decades of manufacturing are being addressed through decommissioning efforts at the Rohm and Haas/Dow Chemical Company site. The closure of the Philadelphia Coke site in the 1980s was conducted with supervision of the US EPA. Future development efforts on both sites will need to be coordinated with environmental regulations to ensure that environmental and institutional controls support the intended reuses of the properties.

The soil conditions of the Edgewater Dyeing and Finishing Co. site are not publicly available at this time. The “imminently dangerous” condition of this property’s structures, as cited by the City in 2014, remains of concern to community residents and leaders. . Any plans to reuse the site, and other similar sites in the area, would likely require a thorough environmental investigation and remediation effort as necessary to safely reuse the site for intended development.

The City’s Philadelphia2035 plans include many recommendations for the revitalization of old industrial sites in the study area. For example, there is a call to improve the Frankford “Gateway Area” to create a unique village within the city. Frankford’s southern gateway has assets including Womrath Park, Frankford Creek, transit, and the newly renovated Globe Dye Works, and future improved access to I-95 via an Adams Avenue Connector . Revitalization of the three catalyst brownfield sites would be a natural extension of PCPC and other efforts and spur community revitalization while improving soil and groundwater quality.

Air Quality

The project area is located within the U.S. EPA’s Philadelphia/Wilmington/Trenton Severe Ozone Non-attainment Area. According to the Lower Northeast District Plan, a higher incidence of asthma exists in this study area. Interviews with Philadelphia City Planning Commission staff and local residents indicate that in addition to industrial emissions, an excessive amount of truck idling due to congested traffic patterns is adding to the poor air quality in the area.

The City, the Commonwealth, and local industries have several initiatives under way to improve air qual-

ity in the study area. Rebuilding of I-95 is expected to relieve some of the traffic congestion and reduce air emissions from idling. Improved pedestrian and bike trails are intended to reduce the need to travel by car thus reducing air emissions in the area. Local industries are voluntarily working to improve their impacts on the surrounding neighborhoods, as well.

Water Quality - *Frankford Creeks and Delaware River*

The Delaware River is the major surface water feature. It is the largest undammed river in America, east of the Mississippi River, and its watershed drains an area of 14,119 square miles primarily in four U.S. states — New York, New Jersey, Pennsylvania, and Delaware. For decades, the industries in the area discharged industrial waste into the river through their National Pollutant Discharge Elimination System (NPDES) permits and via accidental spills. The Pennsylvania Department of Environmental Protection (PADEP) has issued a fish consumption advisory for areas both upstream and downstream of the study area.

Frankford Creek’s ecological health has been impacted dramatically from centuries of industrial activity. Habitat assessments of the watershed performed by the Pennsylvania Department of Conservation and Natural Resources (DCNR) funded Tacony-Frankford River Conservation Plan (RCP) determined that much of the creek is in a highly impaired state and with habitat and water quality degradation. As part of the RCP effort, eight sites within the watershed were assessed based on environmental features such as available vegetation, vegetation cover, riparian zones, stream bank stability, stream flows, and other factors. The majority of the sites were determined to be lacking the attributes needed to support aquatic communities of organisms. Studies of macroinvertebrate and fish communities conducted by the Philadelphia Water Department (PWD) and the PADEP reveal an ecosystem dominated by species that are both pollution tolerant and tolerant of extreme stream flow fluctuations.

Numerous studies on the biological and chemical water quality have been conducted in the Tacony-Frankford Watershed. Some of the comprehensive assessments that looked at water quality were

the 1999 PADEP Unified Watershed Assessment Report, the 1999 NLREEP Tacony Creek Park Master Plan, and the 2001 Philadelphia Water Department's Tacony-Frankford Creek Watershed Assessment.

Section 303d of the Clean Water Act requires that states assess the quality of surface waters biannually. Streams considered impaired or not meeting their designated use are included on the "303d list". States must then prepare Total Maximum Daily Load (TMDL) plans for those stream's watersheds. The TMDL is designed to reduce the sources of impairments in the watershed by identifying specific causes of impairment and setting targets for the reduction of those inputs to the stream system. The Tacony-Frankford Creek is designated a warm water fishery and also designated to support migratory fishes such as the American eel.

Biological monitoring indicates that the whole Tacony-Frankford Watershed suffers from impaired aquatic habitat and does not meet its designated use as a warm water fishery. As a result, the whole length of the Tacony-Frankford Creek and its tributaries were listed PADEP's 303d list of impaired waters as of 1999. The tidal portion of the Frankford Creek remains unassessed as the biological assessment protocol is not applicable to tidal stream segments. This impairment is due to severe water flow fluctuations, habitat alteration, point and non-point source pollution from urban development, hydromodification, and combined sewer overflows (CSO)(PADEP 2001).

Frankford Creek includes Old Frankford Creek, which is now a small tributary to the Delaware River. It once served as the main alignment of the Tacony/Tookany/Frankford Creek. As an "engineered" solution to deal with the historical flooding associated with a large influx of stormwater, Frankford Creek was channelized and straightened in a concrete facility. Historically, Frankford Creek made a 90 degree bend on its way to the Delaware River, turning to the north and upriver. In the late 1940s and early 1950s, this and other bends were bypassed to allow water to flow more quickly. When the main alignment was relocated to parallel the Delair railroad bridge, Old Frankford Creek was disconnected from the remainder of the creek. Today, it mostly drains local surface runoff and sewage (CSO) from Bridesburg and surrounding neighborhoods.

Efforts are underway to improve and re-naturalize the Frankford Creek Watershed. The Philadelphia2035 City-Wide Vision recommends a trail and watershed park along the length of the Tacony-Frankford Creek. Parts of this watershed park could be similar to the Pennypack Creek Park, further north on the Delaware River.

Improved Access to the Delaware Riverfront

Philadelphia Parks and Recreation recently completed a transaction to acquire a 21.63 acre recreational facility at the mouth of Old Frankford Creek called the Frankford Arsenal Boat Launch (FABL site). The facility formerly belonged for several decades to the Pennsylvania Fish & Boat Commission (PFBC), and represents one of the few publicly accessible boat launches in the city. Since acquiring the FABL property, the City is currently planning for possible additional enhancements and additional recreational programming to better serve the communities in this part of the city, including construction of a riverfront trail to connect this site with existing and proposed waterfront recreational sites. Related to this effort, the city acquired an additional 8.15 acre parcel of riverfront lands at the terminus of Orthodox Street at the Delaware River. The acquisition was part of a land swap transaction related to an industrial expansion onto the Arsenal Business Center property which also impacted the public parklands at the FABL property. This effort was led by PIDC as a remedy for the impact as required in Environmental Assessment of the project. The newly acquired lands at 3101 Orthodox Street provides the city with 1000 feet of new public waterfront on the Delaware River, and the potential for future recreational space closer to the Bridesburg neighborhood, which currently lacks direct neighborhood public riverfront access.



Frankford Creek is now channelized for much of its length.

> Flood Zones









The map below provides an indication of which areas of the catalyst sites and areas are most likely to be impacted during flood events. Future development on the sites must meet the design, construction, and insurance requirements of being in the flood zones delineated by FEMA's Flood Insurance Rate Maps (FIRM).

FLOOD ZONES



*map not to scale

LEGEND:

- | | | | |
|---|--|---|--|
|  | U.S. EPA Brownfields Area-Wide Study Area Boundary |  | Parcel Boundaries |
|  | Catalyst Sites |  | FEMA AE Flood Zone
(1% Chance of a flood event annually) |
|  | Stormwater/Combined Sewer Outfall Locations |  | FEMA X Flood Zone
(0.2% or less Chance of a flood event annually) |
|  | Tookany/Tacony-Frankford Creek Watershed Boundary |  | Water Bodies |

> Bridesburg Catalyst Site Constraints




The diagrams below outline general development constraints of the individual catalyst sites in the Bridesburg neighborhood, based on public records on environmental contamination. These diagrams illustrate what types of development may be suitable for different areas of the sites.

SITE CONSTRAINTS

ROHM AND HAAS / DOW CHEMICAL COMPANY



LEGEND:



-  **Most Conducive to Parking**
- Buildings Likely Limited to Slab-on-Grade (Engineering Controls Remain Undisturbed)
-  **Most Supportive of Slab-on-Grade Construction and Parking/Paving-** Slab-on-Grade/ Limited Depth Foundations (Engineering Controls Required but Various Options Available)
-  **Supportive of Public Recreational Use**

SITE CONSTRAINTS

PHILADELPHIA COKE / NATIONAL GRID



LEGEND:

-  **Most Supportive of Slab-on-Grade Construction and Parking/Paving-** Slab-on-Grade/ Limited Depth Foundations (Engineering Controls Required but Various Options Available)
-  **Supportive of Most Building Types** - Engineering Controls Required but Various Options Available

*maps not to scale

PROJECT DRIVERS





CONTENTS

2.3 / Market Conditions

2.11 / Community

2.13 / Physical Barriers

CHAPTER TWO

Chapter Two examines key elements driving the recommendations of this Area-Wide Plan. Specifically, this chapter looks at market conditions as assessed through demographic, housing, and real estate analyses, community needs as expressed through environmental impacts and public feedback, and physical constraints that present practical implications for the redevelopment of the catalyst sites.

This chapter builds on the foundation of the analysis of context and history presented in “Chapter One: Context” to form a more complete picture of the community’s needs balanced with an understanding of what reuses are economically and environmentally feasible.

/ Market Conditions

In order to fully understand the community's needs and the economic potential for redevelopment, an in-depth market analysis was completed as part of the planning process. This section presents a summary of the findings and recommendations of that report, supplemented by an additional examination of the demographics of the study area.

>Demographic Analysis

Study area demographics are key to understanding the needs of the community in regards to housing types; retail demand; transportation and mobility; and environmental justice. Demographic analysis was performed in order to inform recommendations for reuse of catalyst sites and form long term visions for future development in the study area that are both appropriate for the market and environmentally just for the existing residents. The demographic profile of the study area was examined in terms of minority populations; age and sex; poverty status; education attainment; and employment using data from the 2013 5-year American Community Survey. The study area was approximated as Census tracts 183, 184, 190, 293, 294, 379, 380, and 382.



Population

According to the U.S. Census Report, the total population of the Study Area is 30,469, which is 5.1% larger than what was indicated in the 2000 Census. With the exception of Tract 293 which lost 3.8% of its residents, each of the census tracts experienced pop-

ulation growth. The study area's population growth during this period significantly outpaced the City of Philadelphia as a whole, which grew by 0.6%.

Poverty Status

Poverty status varies greatly across census tracts within the study area. Tracts 382, 293, 190, and 294 have the highest percentages of population below the poverty level, at 28.1%, 39.8%, 45%, and 47.7%, respectively. All four of these census tracts have higher percentages of population below poverty level than the city of Philadelphia as a whole. 26.5% of the population of Philadelphia is below the poverty level. These high-poverty census tracts are located along the Upper Reach of Frankford Creek.

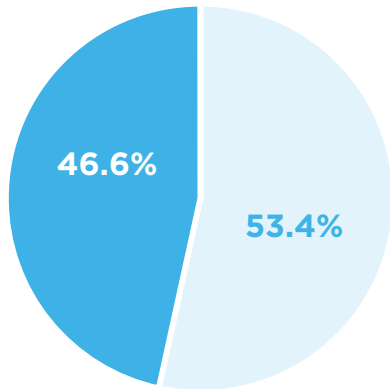
Census tracts 183 and 184, which make up the Bridesburg neighborhood, have the lowest percentage of population below poverty level at 13.9% and 12.1% respectively.

As a whole, 30.3% of the population of the study area is living below the poverty level.

Geography	Percent of Population Below Poverty Level
Tract 183	13.9%
Tract 184	12.1%
Tract 190	45%
Tract 293	39.9%
Tract 294	47.7%
Tract 379	17.9%
Tract 380	20.9%
Tract 382	28.1%
Study Area	30.3%
Philadelphia	26.5%

Minority Population

Study Area Minority Population



The percentage of minority population in the study area is an important consideration in regard to environmental justice, and is especially significant in the study area, as nearly half of the population is minority. More specifically, 46.6% of the population is minority, while 53.4% of the population identifies as white, non-Hispanic.

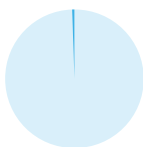
When broken down by census tract, the four tracts with the highest poverty levels also have the highest percentages of minority population. This can be seen graphically in the charts below. The analysis of minority population in the study area reinforces the importance of a focus on environmental justice in the Upper Reach of Frankford Creek in this Area-Wide Plan.

Overall, Philadelphia is a very diverse city, with 63.1% of the population reporting as non-white and/or of Hispanic or Latino origin. With the city becoming more racially and cultural diverse year by year, it is increasingly important to create plans that are sensitive to environmental justice issues. The table below outlines the percent of minority population of each census tract within the study area.

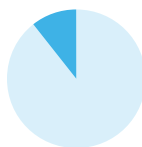
Geography	Percent of Minority Population
Tract 183	0.5%
Tract 184	10.6%
Tract 190	87.5%
Tract 293	77.7%
Tract 294	74.8%
Tract 379	7.6%
Tract 380	23%
Tract 382	51.7%
Study Area	46.6%
Philadelphia	63.1%

MINORITY POPULATION by census tract

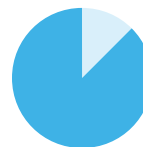
Tract 183



Tract 184



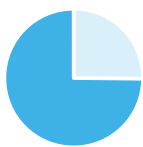
Tract 190



Tract 293



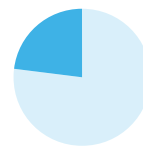
Tract 294



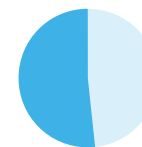
Tract 379



Tract 380



Tract 382



Income

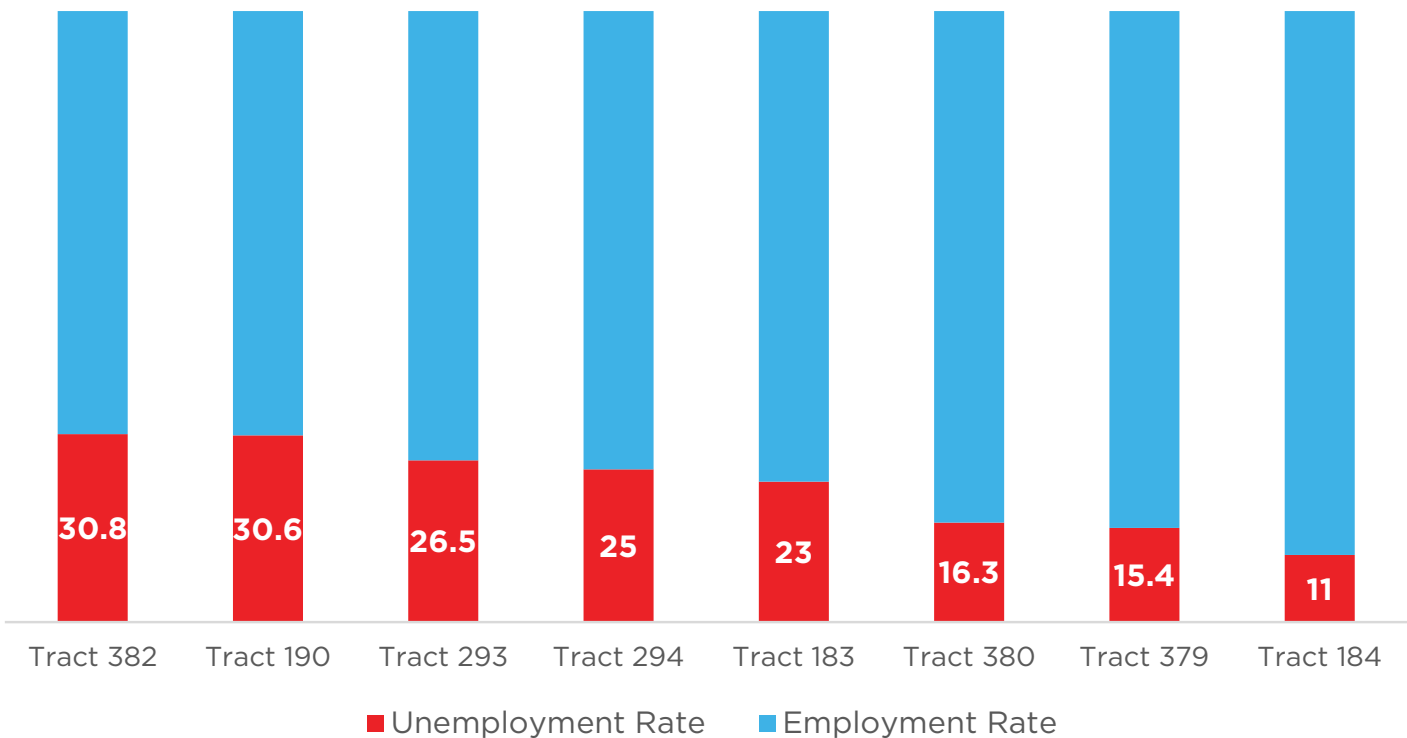
According to the 2012 American Community Survey, the median household incomes for the Study Area range from \$19,709 to \$44,742, which is equivalent to 53% to 121% for the city as a whole. Per capita incomes range from \$10,275 to \$21,337, or 47% to 97% for the city as a whole.

Geography	Median Household Income 2012	Per Capita Income 2012
Tract 183	\$44,742	\$21,377
Tract 184	\$42,639	\$20,965
Tract 190	\$27,955	\$11,341
Tract 293	\$19,709	\$12,760
Tract 294	\$22,260	\$10,275
Tract 379	\$31,169	\$19,859
Tract 380	\$42,744	\$17,347
Tract 382	\$26,715	\$13,370
Philadelphia	\$37,016	\$21,946

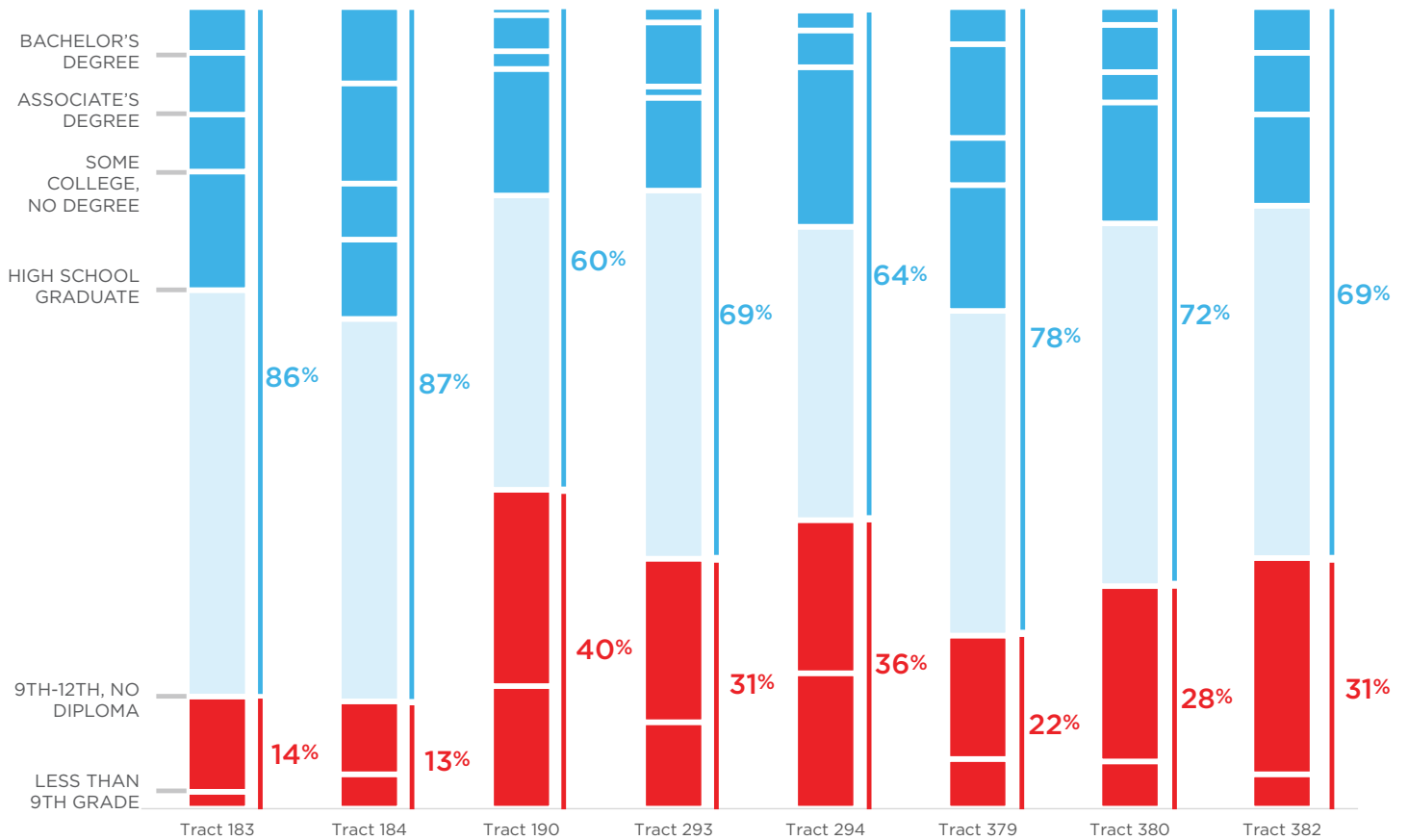
Unemployment Rate

Similarly to the analysis of poverty status, the census tracts in the Frankford Creek Upper Reach area have the highest unemployment rates, while the Bridesburg area has lower unemployment. Overall, the study area has a much higher rate of unemployment than the city as a whole. While the city has an unemployment rate of 15.1%, 22.4% of the population over the age of 16 in the study area is unemployed, according to the U.S. Census 2013 American Community Survey.

Unemployment Rate



Education Attainment



Education Attainment

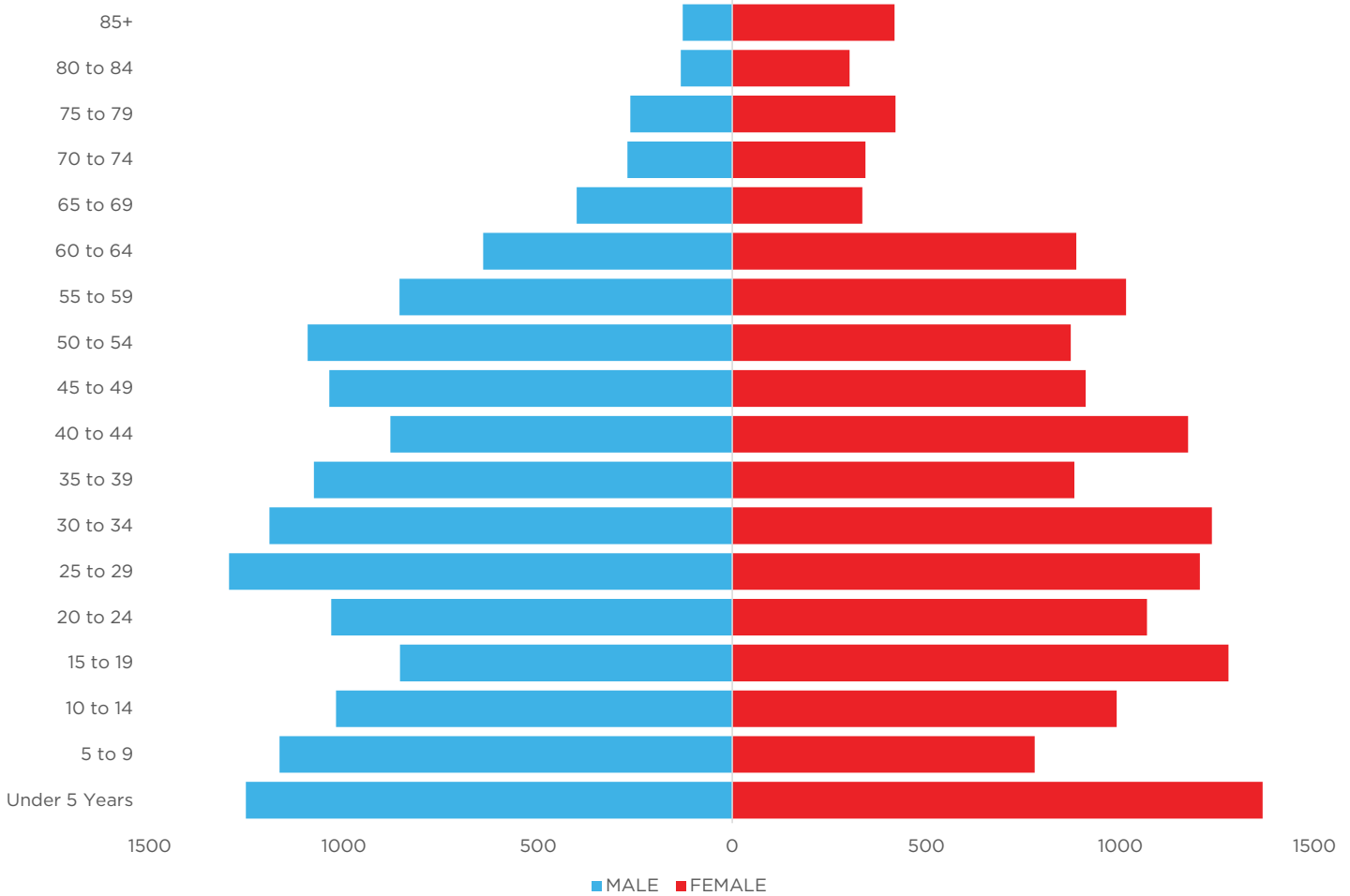
The education attainment of the community impacts the economic mobility of residents. The ability of individuals to improve their economic situation is critical to the viability and economic resiliency of the study area. This becomes apparent when the education attainment of census tracts is compared to the unemployment rate. The tracts with the highest percentage of individuals over the age of 25 with no high school diploma (or equivalent) have much higher unemployment rates than those with higher percentages of high school graduates.

Understanding the education attainment of the study

area also provides an indication of the workforce and what sort of industries might be successful, as different industries require different levels of skill of workers. The census tracts that make up the Bridesburg neighborhood have the highest percentages of high school graduates (or equivalent), suggesting that industries requiring skilled workers might be more successful at finding suitable employees there than they would elsewhere in the study area.

The census tracts of the Upper Reach have much higher percentages of residents over the age of 25 who do not have a high school diploma (or equivalent).

POPULATION PYRAMID



Age

Understanding the age composition of the study area is key to determining the market's needs for different types of housing and amenities. As can be seen in the population pyramid above, the study area has a high concentration of young children, millennials, and baby boomers. This indicates a diverse population with a range of needs.

In terms of housing, this is relevant because different generations prefer different types of homes. Younger households tend to rent smaller units, while baby boomers are beginning to see a shift in their housing needs as they age. Typically, those in the baby

boomer generation would prefer to live in one-story patio homes, which present fewer limitations for mobility than multi-story homes. While most of the baby boomers in the study area are of the younger cohort of the generation, the demand for new housing types will increase in the next decade as that segment of the population ages.

While they have different needs in terms of housing typology, many baby boomers and millennials seek similar amenities in their communities, such as dense, walkable neighborhoods with convenient access to community facilities.

>Housing

There was an increase in the total number of households in the Study Area between 2000 and 2010, but at a slower rate than the rate of population increase. The number of households grew by 2.9% during this period, increasing the persons-per-household ratio from 2.71 to 2.77. This growth in the number of households in the Study Area outpaced the increase of households for the city as a whole.

Geography	Households 2000	Households 2010	Change in Households (%)
Tract 183	1,612	1,664	3.2%
Tract 184	834	869	4.2%
Tract 190	2,242	2,403	7.2%
Tract 293	1,051	997	-5.1%
Tract 294	1,054	1,071	1.6%
Tract 379	2,120	2,229	5.1%
Tract 380	848	866	2.1%
Tract 382	934	910	-2.6%
Study Area	10,695	11,009	2.9%
Philadelphia	590,071	599,736	1.6%

Between 2000 and 2010, the number of households and housing units in the Study Area grew by 2.9% and 2.5%, respectively. Housing vacancy rate remained virtually constant at 90.8%, but the rate of homeownership dropped from 74.8% in 2000 to 64.8% in 2010.

	Housing Units 2000 (%)	Housing Units 2010 (%)	% Change
Total Housing Units	-	-	2.5%
Occupied Units	90.4%	90.8%	2.9%
Vacant Units	9.6%	9.2%	-1.5%
Owner Occupied	74.8%	64.8%	-10.8%
Renter Occupied	25.2%	35.2%	43.6%

The most reliable data for the age of Study Area's housing stock comes from the U.S. Census Bureau's 2008-2012 American Community Survey (ACS), which reports that 57.9% of the market Study Area's homes were built prior to 1940. Only 4.6% of the Study Area's housing stock was built in 1980 or later.

Year Built	Study Area (%)	Philadelphia
2000 or later	1.9%	3.4%
1990 to 1999	1.1%	2.5%
1980 to 1989	1.7%	3.8%
1970 to 1979	2.4%	6.8%
1960 to 1969	5.6%	10.5%
1950 to 1959	15.0%	17.1%
1940 to 1949	14.4%	15.8%
1939 or earlier	57.9%	40.1%

>Real Estate

A real estate market analysis was conducted as part of this Area-Wide Plan and can be found on the project web site www.frankfordcreekbrownfields.com. Below is a summary of the observations from this analysis about selected real estate sectors in Bridesburg and the Frankford Creek Upper Reach.

BRIDESBURG

Retail Development

While it is unlikely that a large anchor retailer or major retail center can be attracted to the catalyst sites in Bridesburg, there are a few retail and service categories where unmet demand may allow smaller establishments to be successful as part of site reuses.

- > Multiple full-service restaurants (up to 20,000 SF total)
- > Variety of stores, including:
 - > Wine & spirits store or beer distributor (3,000 to 4,000 SF)
 - > Cell phone store (1,000 SF)
 - > Nursery/garden store (2,000 to 3,000 SF)
 - > Jewelry store (1,500 to 2,000 SF)
 - > Laundry/dry cleaner (1,500 to 2,000 SF).

For-Sale Housing Development

New townhomes in Bridesburg are expected to achieve significantly higher pricing than similar product in Frankford/Juniata Park.

- > Townhomes (1,300 to 1,700 SF in living space)
 - > Absorption rate: two units sold per month for up to five years.
 - > Pricing: \$170,000 to \$230,000 (\$130/SF to \$150/SF).

Industrial

Both Bridesburg catalyst sites offer build-to-suit industrial opportunities featuring good access to I-95, the Betsy Ross Bridge, potential freight rail, and a densely populated labor pool.

- > Philly Coke and Rohm & Haas sites represent two of the largest available industrial sites in the city.
- > The City that has increasingly prioritized industrial development in the Upper and Lower North Delaware industrial districts.

FRANKFORD CREEK UPPER REACH

Retail Development

The proximity of the 1.6 million sq.ft. Aramingo Avenue Shopping District limits the potential for retail expansion of the commercial corridor clustered around the Erie/Torresdale MFL station. However, a limited amount of specialty retail space could be viable, focusing on:

- > Limited amount of specialty retail, such as:
 - > Radio, Television, Electronics Stores; Computer & Software Stores; Specialty Food Stores; and Gift, Novelty & Souvenir Stores.

Rental Housing Development

The proximity of the Market-Frankford Line and other mass transit suggests that rental housing would be an attractive use in Frankford. However, market pricing in the area indicates that tax credit or other public subsidies will likely be necessary for financial feasibility.

- > Current rents in the area are insufficient to justify market-rate apartment development but could be a good location for subsidized rental housing.

For-Sale Housing Development

Townhome development in Frankford/Juniata park will likely require public subsidies.

- > Townhomes (1,300 to 1,700 SF in living space)
 - > Absorption rate: two to three units sold per month for up to five years.
 - > Pricing: \$150,000 to \$175,000 (\$100/SF to \$120/SF)

/ Community

The existing residents of a community should always be a primary focus of any successful planning effort. This section includes a discussion of the Environmental Justice priorities for this Area Wide Plan, as well as an overview of the public participation element that informed the planning process.

>Environmental Justice

A key goal of the US EPA Brownfields Area-Wide Planning Program is to help communities create strategies for the reuse of brownfields that are protective of public health. Often, the communities most affected by industrial uses and other environmentally harmful factors are those that are already disadvantaged, compounding the harm caused by pollution and contamination. Environmental justice is a core value of both the Environmental Protection Agency and the Lower Frankford Creek Watershed Brownfields Area-Wide Plan. The EPA defines environmental justice as “the fair treatment of and meaningful involvement of all people regardless of race, color, implementation, and enforcement of environmental laws, regulations, and policies.” Environmental justice ensures that communities are not disproportionately carrying the burden of adverse factors such as carbon emissions from vehicles on highways or pollution from industrial sites.

A majority of the study area for this project has been identified by the Pennsylvania Department of Environmental Protection (PADEP) as an environmental justice community. Specifically, the PADEP defines an environmental justice community as one in which 20% or more of individuals live in poverty and/or 30% or more of the population is minority. The Philadelphia Department of Public Health has identified many health-related disparities that support this designation, including higher levels of poverty, unemployment, and mental illness than the city as a whole. Additionally, life expectancy is lower in the River Wards district of Philadelphia than it is city-wide. The effects of health risks in the area are amplified by a lack of access to health care, as many residents of the study area do not have health insurance. In the River Wards, which extends from Fishtown to Bridesburg, almost a third of adults forgo needed care, as opposed to 18.5% of all Philadelphia residents. This means that many of the residents of the study area exposed to such risks as poor air and water quality may be unable to seek treatment for the harm caused by these issues.

Three main environmental justice issues have been identified within the project’s study area. These include air quality, water quality, and waterfront access. Causes of poor air quality include industrial emissions and an excessive amount of truck traffic within the neighborhoods, and high rates of asthma have been found among residents of the study area. According to the EPA, the study area does not meet standards for ground-level ozone, which can lead to reduced lung function. The water quality of the Frankford Creeks and Delaware River is another environmental concern burdening the study area. The Frankford Creeks are compromised by sewage and surface run-off from the neighborhoods. Rain carries toxic substances such as household chemicals, wastes discharged from vehicles, and lead paint to the waterways. The community has also identified the unpleasant smell of Frankford Creek as a major nuisance to the area. Delaware River has been contaminated by industrial waste discharge and accidental spills. These issues can effect human health through the consumption of fish and exposes the community to bacteria and toxins during water activities. The Lower Frankford Creek Watershed Brownfields Area-Wide Plan envisions the future of the Delaware River and Frankford Creeks as clean and safe waterways that are a source of pride and identity for the community. Recreational amenities are vital to fostering a community that is engaged, active, and healthy.

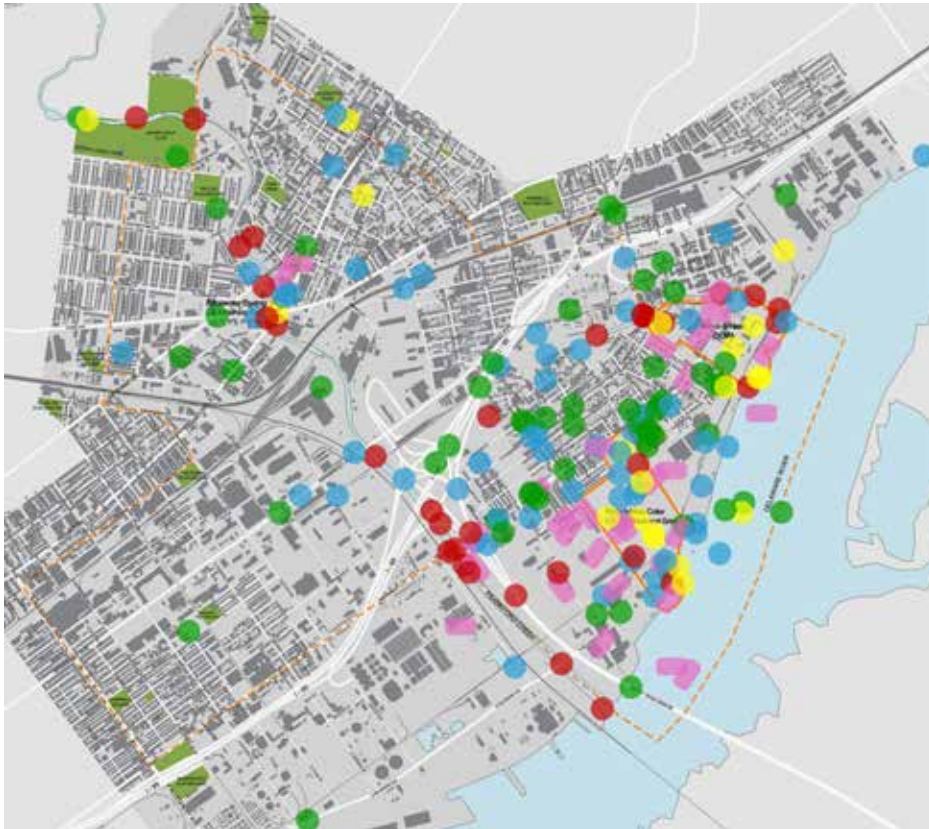
It is clear that the residents of the study area are disproportionately affected by environmental concerns when compared to the rest of the city of Philadelphia. This finding underscores the need for improvements to the environmental conditions of the community. This plan contains numerous strategies for rectifying the disproportionate share of these issues currently burdening the study area.

>Public Participation

Four community meetings were held throughout the course of this project. Public participation is critical to a complete understanding of the dynamics of the study area. This map illustrates a small portion of the wealth of feedback from the community that informed this plan. For this activity, community members were asked to comment on the following topics:

- > **Red:** Perception of the Frankford Creeks
- > **Green:** Neighborhood's Greatest Existing Assets
- > **Blue:** Needed New or Improved Uses
- > **Yellow:** Concerns/Visions for Potential Redevelopment
- > **Pink:** Other Aspects/Improvements to be Considered

ACTIVITY MAP COMPILATION



EXAMPLE COMMENTS

- Odor is horrible at low tide
- Tidal Creek that encouraged flooding
- Bridesburg Elementary interactive classes on Environment & Sciences
- Great churches & architecture
- More access to green space, pocket green spaces
- Pedestrian walking improvements on Bridge St. are needed for kids walking to schools in Arsenal
- Remediate old Frankford Creek from river to Bridge St.
- Keep trees & grass natural as possible
- Walkway/pavement around Phila. Coke Site needed
- Marina restaurants/shopping at either location (Rohm & Haas and Phila Coke)

/ Physical Barriers

Engaging the public with the Frankford Creeks and the Delaware River is a key objective of this and other recent plans, as public access and stewardship helps to raise awareness of watershed opportunities and challenges. This presents a particular challenge in the Upper Reach area of Frankford Creek, as the complicated street network has little relationship to the creek and physical access to the creek itself is limited.









Frankford Creek Upper Reach

During this Area-Wide Plan, the need arose to define a broader area of analysis relevant to understanding the physical barriers to nearby communities' engagement with the creek in the vicinity of the former Edgewater Dyeing and Finishing Company site. This need was created by both the relatively small size of the Edgewater site itself as well as active City code enforcement and legal action pertaining to the site.

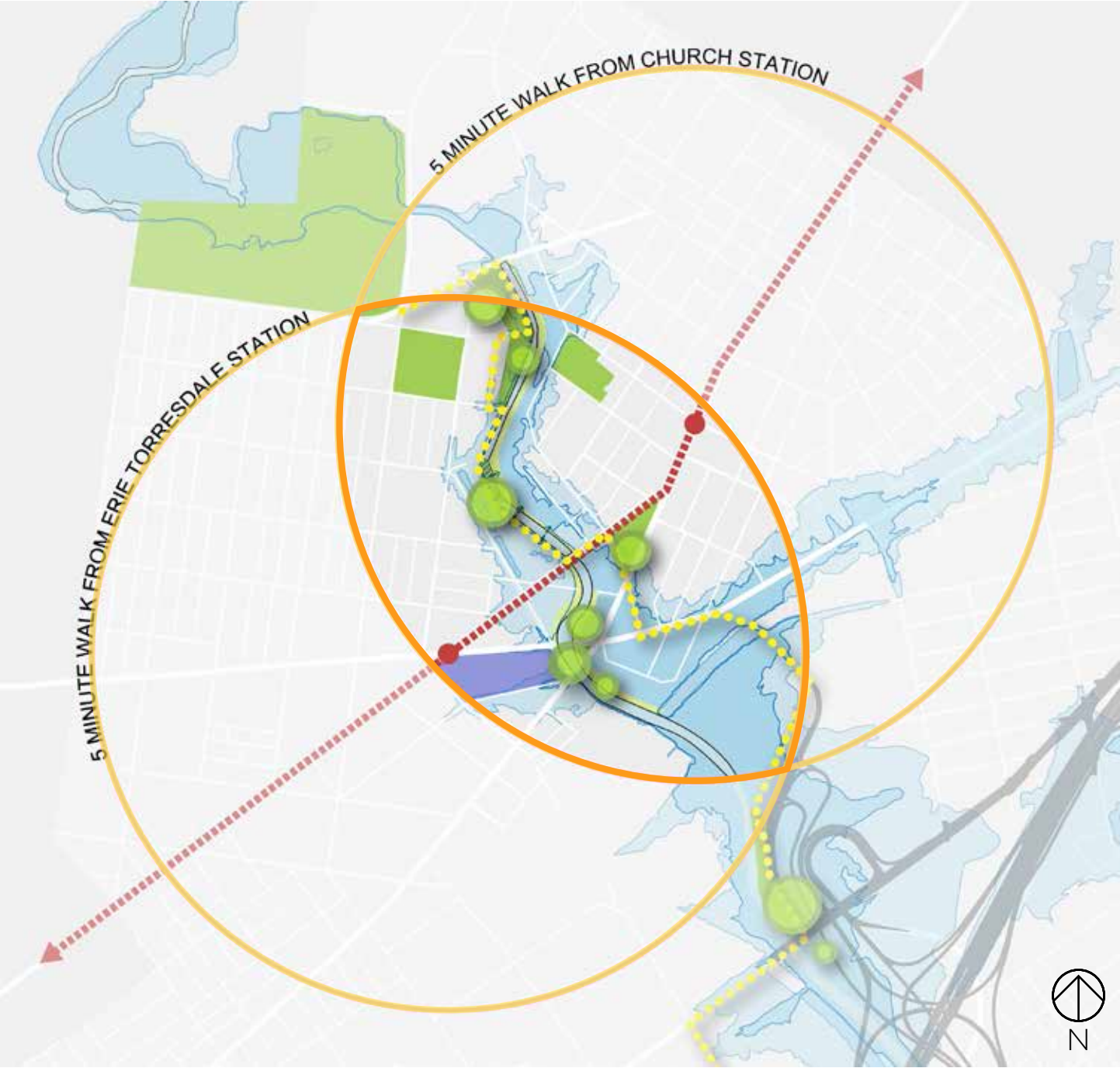
The broader area of study was suggested by the overlapping area of the 5-minute walking radii from the community's Church Street and Erie-Torresdale stations on the Market-Frankford Line (MFL). The use of a standard for transit accessibility is consistent with City goals to foster transit-oriented development around existing transit infrastructure.

Key points for public engagement with the creek were then identified within this area as potential catalyst sites for developments that respond to the creek and enhance public access. The delineation of the FEMA Flood Zones provide further insight into the potential development areas of the Upper Reach, since new development must meet the design, construction, and insurance requirements of being located within the flood zones.

PAGE 2.14 MAP KEY:

-  Creek Engagement Point
-  Transit Station
-  Market-Frankford Line
-  Frankford Creek Greenway
-  FEMA X Flood Zone
-  FEMA AE Flood Zone
-  Park
-  Mariana Bracetti Academy Charter School

CREEK ENGAGEMENT DIAGRAM



STRATEGIES FOR **THE PUBLIC REALM**

3





CONTENTS

3.3 / Open Space

3.11 / Blue/Green Infrastructure

3.15 / Circulation

CHAPTER THREE

This chapter of the Area-Wide Plan focuses on the Public Realm - Trails, Greenways, Open Space, Blue/Green Infrastructure, and Multi-Modal Transportation. These aspects of development are crucial to the overall plan, as they create connections, mitigate environmental issues, and improve the environmental justice conditions of the community.

The open space, stormwater infrastructure, and transportation infrastructure recommendations of the Area-Wide Plan outline elements that are needed to support efficient, sustainable and functionally viable redevelopment, especially on the catalyst sites. The recommendations also focus on reconnecting the catalyst sites to their surrounding neighborhood contexts. Much of this infrastructure is not hidden, but instead is integral to the design of parks, public spaces, streetscapes and the overall urban design of land development within the neighborhoods.

Additionally, improvements to the public realm often provide the most immediate enhancement to the community as a whole, because they are frequently undertaken as public investments to help retain and attract private activity.

/ Open Space

[Public + Private Ownership]

Proposed open spaces represent a significant aspect of the overall reuse plans for the catalyst sites. Proposed open space is not limited to those sites, however; they are part of larger greenway strategies for both the Delaware River and Frankford Creek. Included are targeted parcels for public and private open spaces along each of these key waterways, as well as strategic open space linkages (including in many cases multi-use trails) which connect the surrounding neighborhoods to these major greenways. Although the City of Philadelphia has existing plans for a number of parks, trails, and supporting facilities within planned or proposed open spaces, that strategy is not limited to publicly created spaces.

Open spaces and greenways provide the area neighborhoods with important benefits. Along the Delaware River, proposed open spaces, recreational resources, and trails will create new amenities and economic opportunity for Bridesburg and the city as a whole. Streets connecting the riverfront with the neighborhoods will feature dedicated multi-modal bicycle and pedestrian access, with supporting signage, striping, and streetscaping. Proposed open spaces would also gradually help hidden, forgotten, or historically restricted parts of the Frankford Creeks transform into assets that may include recreation, buffering of industrial uses, enhanced habitat, and the management of storm and flood water. Improved pedestrian and bicycling connections will link open spaces to each other and to surrounding communities.

While there are numerous potential private open spaces within the proposed reuse plans, there are five major public elements that form the Open Space and Greenways Framework. These include two area-wide greenways and three parks. The two greenways, the Frankford Creek Greenway and the North Delaware Greenway/K&T Trail, link pedestrian activity along the waterways. These greenways serve as important connections between potential redevelopment generated from the reuse of catalyst sites, the surrounding neighborhoods, and regional greenway and trail connections.

Each reuse plan for the catalyst sites also includes proposed open space or public park projects. The proposed open space or parks located on both the Rohm & Haas/Dow and the Philadelphia Coke Co./National Grid sites will create new spaces for the public to access the Delaware River, while also anchoring the neighborhood to the waterway, capitalizing on this underutilized amenity. Both sites would be linked by the North Delaware River Trail which would parallel the river, as part of the proposed Delaware Avenue Extension.

A proposed park project in the Upper Reach is located at the creek cover where Leiper Street terminates at Frankford Creek. This cover was originally created as flood control and is recommended to be transformed into a much needed, safe pedestrian connection across the creek. It would tie potential reuse of adjacent sites to the surrounding neighborhoods via the Frankford Creek Greenway Trail which would travel through the site.

Additional open spaces could be created by the private sector and/or through public-private partnerships to create a well-planned and cohesive “hybrid” network of public and private open spaces to provides a high degree of physical, environmental and in some cases recreational connectivity.

The recommendations in this plan are consistent with the Citywide Vision objectives identified in the city’s Philadelphia2035 Comprehensive Plan, and include:

- > Create a corridor network that connects parks, neighborhoods, and trails citywide.
- > Connect citywide parks to the existing protected natural areas of the regional green space network.
- > Improve and increase waterfront recreation opportunities.
- > Ensure that all Philadelphians live within a 10-minute walk of a neighborhood park or a recreation center.
- > Connect neighborhood parks and trails to neighborhood centers and major public facilities.

/EXISTING

- ① Juniata Park
- ② Piccoli Playground
- ③ Deni Park
- ④ Womrath Park
- ⑤ Bridesburg Recreation Center

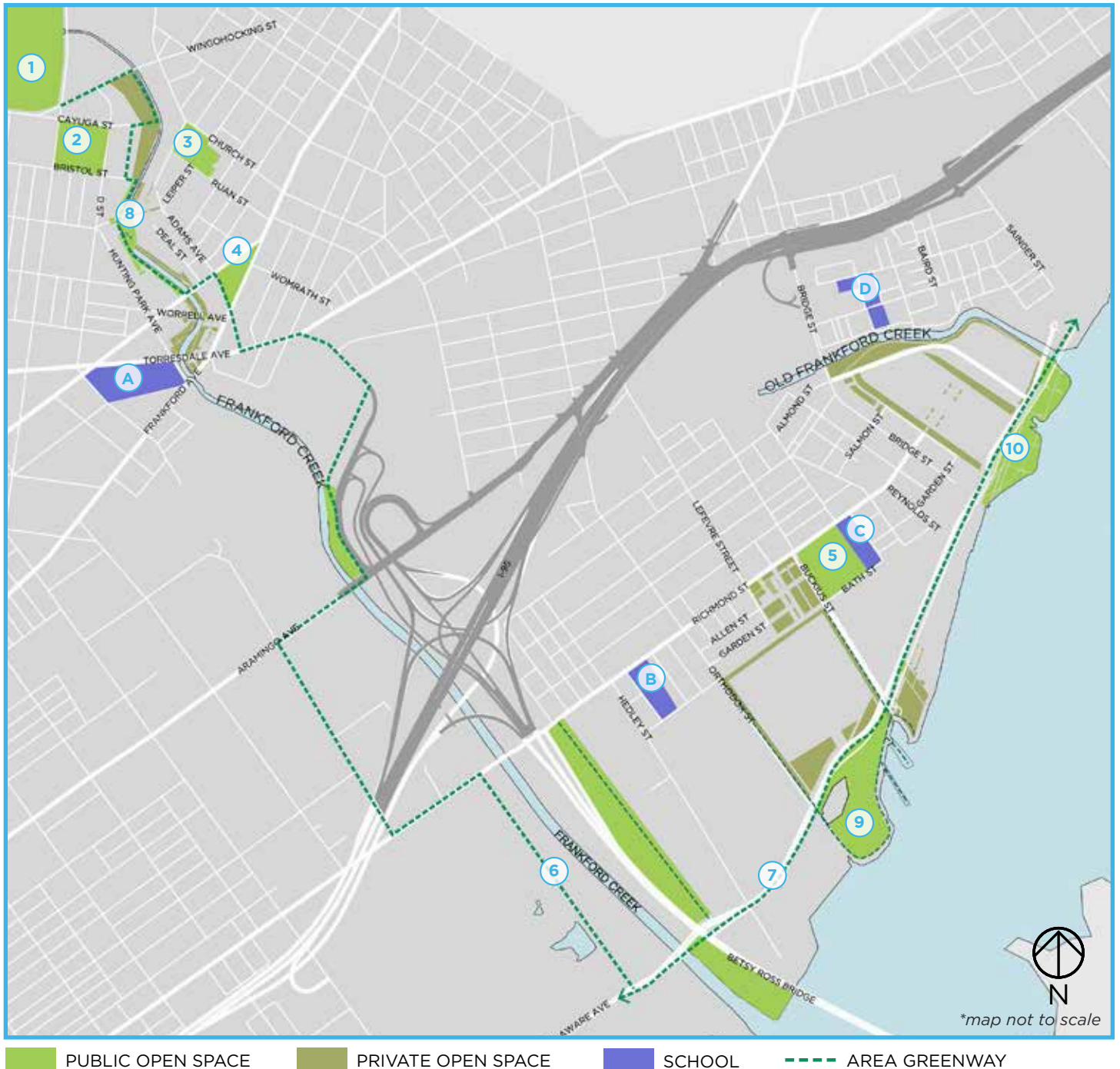
/FUTURE

- ⑥ Frankford Creek Greenway
- ⑦ North Delaware Greenway Trail/K&T
- ⑧ Potential Creek Cover Park
- ⑨ Potential Riverfront Park
- ⑩ Potential Riverfront Park

/SCHOOLS

- Ⓐ Mariana Bracetti Academy Charter School
- Ⓑ Franklin Towne Charter Elementary School
- Ⓒ Bridesburg Elementary School
- Ⓓ Franklin Towne Charter High School

STUDY AREA OPEN SPACE + GREENWAYS MAP



- PUBLIC OPEN SPACE
- PRIVATE OPEN SPACE
- SCHOOL
- AREA GREENWAY

[ROHM & HAAS/DOW]

OPEN SPACE + PEDESTRIAN CONNECTIONS



*map not to scale

PAGE 3.5 MAP KEY:

1 The integration of the North Delaware Greenway/K&T Trail is critical to the success of the open space proposed for this site. This open space plan proposes several pedestrian connections that expand on the trail system and improve access to the Delaware River and Old Frankford Creek. Some of these connections, such as those that transect the new riverfront park, would be publicly owned and maintained, while others, such as the trail which runs along the Old Frankford Creek, could be a component of the required zoning buffer setback as part of a private development project.

2 The riverfront park shown in the open space plan represents an important link in a chain of existing and proposed public spaces along the riverfront greenway. A number of amenities are proposed for the park, including stormwater management, floodplain restoration, educational resources, and areas for passive recreation. Pedestrian connections create accessibility to the River from the site, neighborhood, and North Delaware Greenway Trail/K&T. Many of these features could be integrated into the design and construction of the proposed Phase 2 of the Delaware Avenue Extension. The viability of these or other potential features is uncertain pending completion of the remedial design and approval under Act 2.

3 Stormwater management that is integrated into open spaces is an important element of this plan, as the site fronts on two major waterways. Proposed stormwater management areas on the Rohm & Haas/Dow catalyst site would help to capture run-off before it reaches the Delaware River and Old Frankford Creek.

4 Proposed development must be sensitive to the site's relationship with the Old Frankford Creek. The majority of this waterway has been off-limits to the public for more than 100 years. Creation of some basic public access along the creek could provide a connection for portions of Frankford that could access the riverfront via Bridge Street as well as residential portions of northern Bridesburg, immediately south of Bridge Street at Almond Street. This plan recommends integrating a multi-use trail connection within the required 50 ft. green buffer. Due to the environmental and regulatory constraints that exist in this area of the site, the plan recommends a meadow cover that will provide open space, improve the environmental quality of the creek by creating a vegetated buffer, and act as a stormwater management device.

[PHILADELPHIA COKE CO./NATIONAL GRID]

OPEN SPACE + PEDESTRIAN CONNECTIONS



PUBLIC OPEN SPACE **PRIVATE OPEN SPACE**

**map not to scale*

PAGE 3.7 MAP KEY:

1 A future riverfront open space and park is recommended as a major feature of the development of the Philadelphia Coke Co./National Grid site. It is shown here as consolidated with the City-owned parcel at the foot of Orthodox Street. This acreage could help satisfy some of the community's needs for open space as well as regional demands for wetlands restoration/mitigation.

2 A new commercial amenity is recommended to be introduced on the riverfront in this area, near the existing Bridesburg Outboard Club. This private development could be flanked by trails and open space that respond to the future riverfront park and make the area more engaging for residents and visitors alike. Creating a small node of riverfront-oriented commercial amenities would transform the area into a recreational destination and create new economic opportunity for Bridesburg.

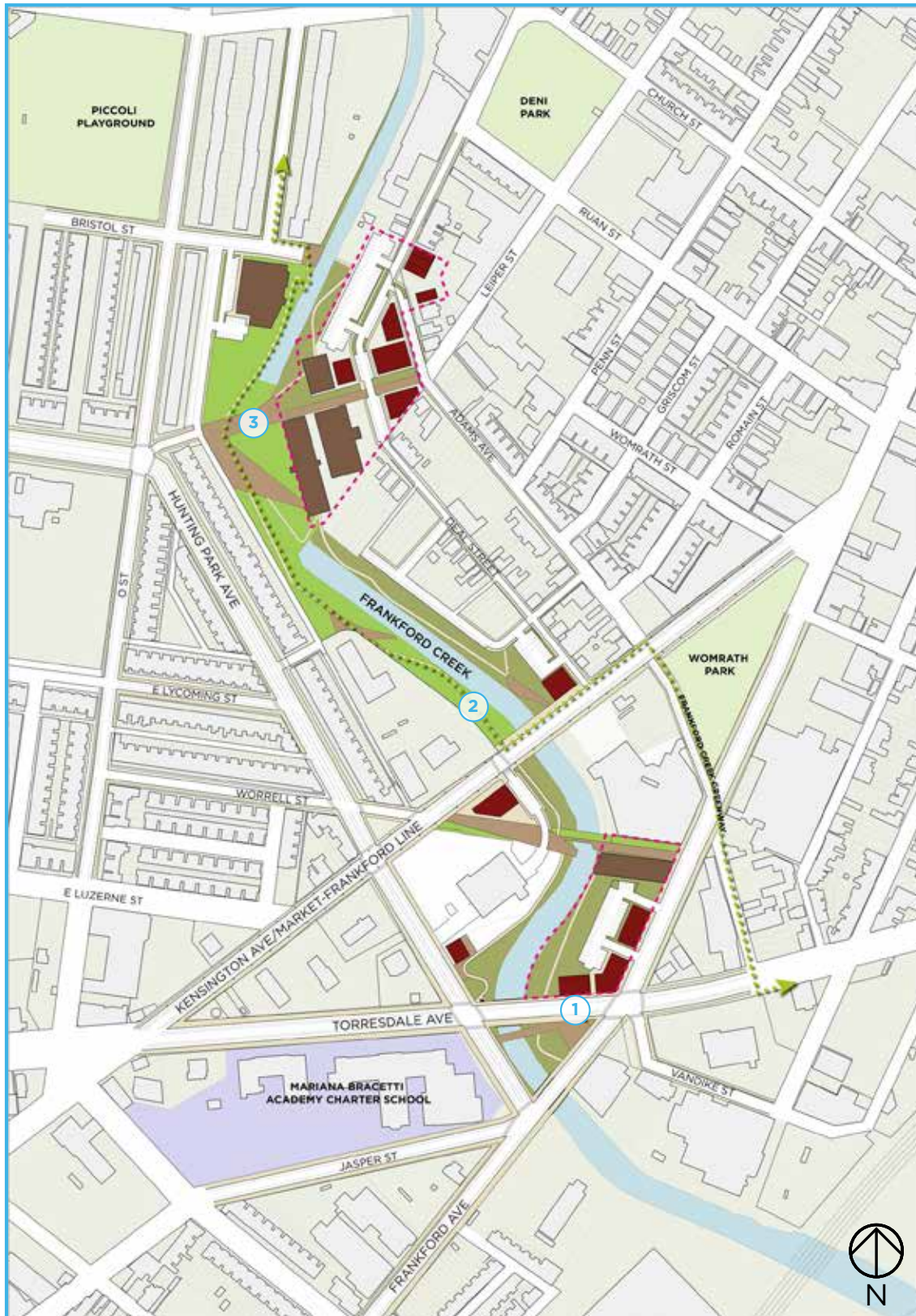
3 Several locations on this site are suitable for stormwater management. The plan illustrates a series of linear vegetated stormwater buffers as well as the potential for larger stormwater features areas closer to the riverfront. Actual stormwater management strategies are critical to the development of this site but will be determined as part of the engineering of future development..

4 Privately-owned open space could be created as part of the proposed residential and commercial portion of the site closest to Richmond Street. This could serve as an amenity for new and existing residents alike. The preservation of the historic green entrance to the original Philadelphia Coke Co. plant could be integrated into the design of the project. Surrounding commercial uses should be oriented around the space and charged with managing an active yet neighborhood-compatible environment.

The viability of these features and land allocations is uncertain pending completion of the remedial design and approval under Act 2.

[FRANKFORD CREEK UPPER REACH]

OPEN SPACE + PEDESTRIAN CONNECTIONS



PUBLIC OPEN SPACE
 PRIVATE OPEN SPACE

**map not to scale*

PAGE 3.9 MAP KEY:

- 1 The Planning Commission's Lower Northeast District Plan proposes the creation of a gateway in the area of Frankford, Torresdale and E. Hunting Park Avenues. The Area-Wide Plan proposes that this gateway element could consist of an environmental improvement project that also aligns with the crossing of the Upper Reach of Frankford Creek in this area, an area identified in the District Plan as proposed park space. A park-like architectural and environmental improvement in this area could help to create an identity for the neighborhood with visual branding for the neighborhoods as well as increase the visibility and awareness of the creek. It could also potentially create a new space for pedestrian access, bus/transit facilities, and could provide environmental educational opportunities to the adjacent Mariana Bracetti Academy Charter School.
- 2 The integration of the Frankford Creek Greenway is a key element of the open space vision for the Upper Reach. By creating new open spaces that complement the greenway, the plan can help to create a safer, more engaging pedestrian environment. The greenway is also important to this vision because it will create a safe pedestrian creek crossing (something that the area is currently lacking.) The Frankford Creek Greenway Trail will extend from Juniata Golf Club on E. Cayuga Street to the Port Richmond Trail/N. Delaware River Trail/East Coast Greenway which roughly parallels existing and proposed Delaware Avenue. Phase 1 of the greenway, which connects the Aramingo Avenue Shopping District to the Port Richmond Trail, is funded for design and construction. Design is ongoing and construction is expected to start in the spring of 2017. Phase 1 includes a 10' wide side path along Wheatsheaf Lane, sharrows on Richmond Street, and a side path along Lewis Street. A portion of the Greenway, connecting bike lanes on Torresdale Avenue with the Aramingo Shopping District, will be constructed by PennDOT as part of the Adams Avenue Connector project under I-95 reconstruction. The Adams Avenue Connector will complete Adams Avenue from Torresdale to Aramingo Avenues with a new traffic signal at Aramingo Avenue. Construction will likely start in 2017 but is subject to change. The remaining sections of the Greenway, from the Juniata Golf Course to Torresdale Avenue, are currently in preliminary engineering phase.
- 3 A new public park is proposed on the cover over Frankford Creek at the terminus of Leiper Street. This park will create a destination along the Frankford Creek Trail while enhancing the visibility and awareness of the creek. A nearby building will be adaptively reused as a city-owned maintenance facility, increasing activity and therefore safety of the park and surrounding area. The implementation of the required minimum 50 foot buffer of Frankford Creek is a key component of this plan. All new development should be set back from the creek at least 50 feet. Ideally, this space would incorporate multi-use trails, habitat restoration elements, and creek access points that are open to the public.

/ Blue/Green Infrastructure

The following is an overview of Blue/Green Infrastructure recommendations proposed for key catalyst sites and the study area as a whole. Blue/Green infrastructure incorporates complementary components of water management and green infrastructure to create an urban landscape that naturally manages stormwater run-off and flooding and is also aesthetically pleasing. In the study area, blue/green infrastructure can help to mitigate pollution and protect the environmental integrity of Frankford Creek and the Delaware River while simultaneously serving as pedestrian amenities.

The recommendations in this plan are consistent with the Citywide Vision objectives identified in the city's Philadelphia2035 Comprehensive Plan and include:

- > Improve the quality of city and regional water sources.
- > Restore and create urban stream banks and tidal wetlands along watersheds.
- > Support stormwater regulations set by the Philadelphia Water Department to capture stormwater on-site and reduce flooding damage.
- > Increase the overall tree canopy across the city to 30 percent.
- > Enhance the city's forests to create a total of 7,200 acres.
- > Support tree planting and stewardship within the city.
- > Reduce overall and per capita contributions to air pollution.
- > Reduce overall and per capita greenhouse gas (GHG) emissions by 45 percent by 2035.
- > Reduce air temperature during the warm season in the city.

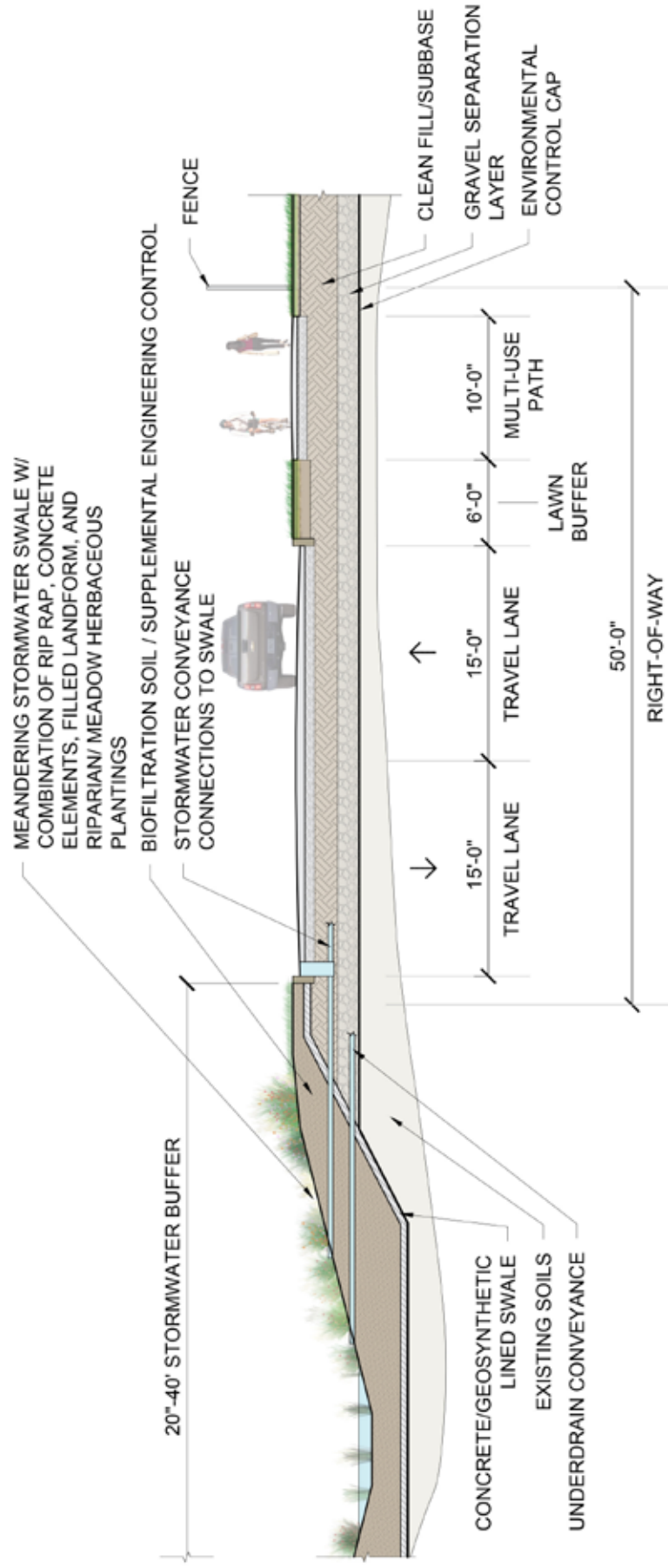
Key blue/green infrastructure recommendations include:

- 1. Integrate stormwater facilities with open space recommendations along the Delaware River and the Frankford Creek in order to increase the flood resiliency of the area by creating native landscape riparian buffers.** The creation of stormwater management areas could also potentially increase the flood storage capacity for the area. The creation of such facilities may require the excavation of soil, including on the Rohm & Haas/Dow and Philadelphia Coke Co./National Grid sites, which would require further regulatory review to insure that such actions are consistent with environmental permits placed upon, or required, for each site. Approaching stormwater and flood management as an area-wide system and not on a site-by-site basis is optimal, as stormwater and drainage are inherently part of networks. Water flows downhill into continually larger, more concentrated conveyance systems. If stormwater management systems are treated as an area-wide network of interconnected components, effectiveness is increased and opportunities for co-benefits are enhanced. Co-benefits may include integration with public and private parks, open spaces, trails, greenways, and restored wetlands.
- 2. Consider stormwater and flood management as both a necessity and amenity through the integration of management systems into all types of facilities and land development.** There is no viable single solution or treatment to address all of the existing and future stormwater management needs within the study area or on the catalyst sites. Stormwater facilities that are relegated to left-over areas of development and are treated as fenced-off “no-man’s lands” should be avoided as much as possible, even in industrial areas. In the case of the catalyst sites it is important that future stormwater management facilities be considered as regulatory closure processes advances, whether they are performed by current or future property owners. Because water infiltration is generally not desirable on brownfields, the palette of potential Best Management Practices (BMPs) is significantly reduced. This does not mean that creative solutions which integrate bio-swales, rain-gardens and other stormwater management facilities with environmental engineering controls (“caps”) are not feasible, as long as both are developed and permitted as a tandem process. These facilities are often the primary “green” amenities of the site and therefore should be integrated into the overall site layout and treated as landscape enhancements.
- 3. Encourage the design of streets which integrate Stormwater Management Practices (SMPs) facilities into public rights-of-way.** This should be done as seamlessly as possible and consistent with the PWD’s and the Streets Department’s Green Design Manual. For example, stormwater tree trenches and other features should be integrated into the overall

design of streets and other open spaces whenever possible, rather than be “added on” frills that do not fully function with the intent and needs of an overall site or facility. The large scale of the catalyst sites in Bridesburg provide opportunity to implement highly integrated, area-wide approaches to stormwater and flood management rather than a series of site-specific-only and less than ideal retro-fit features.

- 4. Utilize pre-treatment systems in order to reduce pollutant loads in runoff into waterways.** A valuable component of a comprehensive stormwater and flood management strategy is the inclusion of pre-treatment elements with the public rights-of-way, public open spaces and as part of private land developments. Elements like flow-through street tree planters, green roofs, bio-retention swales, and micro-pool/terraced wet meadows can be used to intercept and treat water before it enters the main conveyance systems. Engineered soils can filter out pollutants and proper plantings can help remove excess nutrients produced by runoff flowing over impervious surfaces. During storm events, pre-treatment structures can also help to reduce peak flows by temporarily storing water and reducing overall volume.
- 5. Promote continuous and healthy street tree coverage throughout the street network, including within industrial developments, within the study area.** Continuous street tree canopy provides a positive aesthetic value but, equally important, it further provides real environmental benefits. Street trees improve air quality and reduce heat island effect by providing shade. Canopy “interception” can also dramatically reduce peak stormwater events by holding water within the tree canopy versus direct ground impact. Street trees should be appropriate to the surrounding context and be of diverse species to ensure street tree longevity and to minimize the potential for large-scale dissemination due to species monocultures..

NOTE: VERTICAL DIMENSIONS ARE NOT TO SCALE AND ARE FOR DIAGRAMMATIC/ILLUSTRATIVE PURPOSES ONLY. DIMENSIONS VARY BASED ON LOCATION WITHIN THE SITE



This diagram illustrates a variety of blue/green infrastructure elements that could potentially be implemented in the study area.

/ Circulation

The focus of the Area-Wide Plan transportation framework is to improve mobility for people and goods moving throughout the study area, especially in relationship to the catalyst sites. Through the establishment of new connections, increased consideration for all modes of transportation, and the overhaul of existing roads and intersections, it is possible to improve upon current transportation conditions and provide for increased traffic-handling capacity and/or routing to support the proposed reuses on the catalyst sites. The proposed transportation recommendations include a mix of public and private investments and potential public-private partnership projects to achieve the full spectrum of transportation system network improvement.

The recommendations in this plan are consistent with the Citywide Vision objectives identified in the Philadelphia2035 Comprehensive Plan and include:

- > Invest in existing infrastructure to improve service and attract riders.
- > Coordinate land use decisions with existing and planned transit assets to increase transportation choices; decrease reliance on automobiles; increase access to jobs, goods, and services; and maximize the economic, environmental, and public health benefits of transit.
- > Implement a complete streets policy to ensure that the right-of-way will provide safe access for all users.
- > Expand on- and off-street networks serving pedestrians and bicyclists.
- > Improve safety for pedestrians and bicyclists and reduce pedestrian and bicycle crashes.
- > Upgrade and modernize existing streets, bridges, and traffic-control infrastructure to ensure a high level of reliability and safety.
- > Improve highway access for goods movement.
- > Improve pedestrian connections across major rights-of-way.
- > Modernize freight rail assets to ensure efficient goods movement to and through Philadelphia.

Key multimodal transportation infrastructure recommendations include:

- 1. Reinforce the existing street grid of the city as a basis for a sound transportation network.** Creating a connected network of street and thoroughfares that extends the city’s existing street grid and block structure to and through catalyst sites in some form, serves as a framework to link new development with surrounding neighborhoods and the overall transportation framework of the city.
- 2. Determine street typologies in relation to both multimodal transportation needs and the fronting land uses and buildings.** Employing a “complete street” approach to the design of new and upgraded streets will provide balanced benefit to all modes, including transit. Streets should be constructed to include the appropriate number and widths of travel/parking lanes, bicycle and pedestrian facilities, and streetscaping and green infrastructure elements such as street trees, landscaping, street fixtures, flow-through stormwater planters, etc.
- 3. Coordinate with PennDOT on the various inter-related I-95 rehabilitation projects, including the Delaware Avenue Extension, to ensure maximum community benefit, especially related to the reuse of the catalyst sites.** The Delaware Avenue Extension Phase 1A, from Lewis to Orthodox Streets, is currently under construction with a scheduled end date of late 2015. Phase 1B, from Orthodox to Buckius Streets, is in design and will start construction once Phase 1A is complete. Phase 1B crosses the Philadelphia Coke Co./National Grid site and includes the upgrade of Buckius Street. This segment will likely be completed by the end of 2017 and its design has potential implications on the reuse plans for the Philadelphia Coke Co./National Grid site, including site access and insuring multimodal accessibility from the core of Bridesburg to the riverfront. The future phase(s) of the Delaware Avenue Extension from Buckius to Bridge Streets and ultimately to a connection with I-95 in the vicinity of Sanger Street, may be complete by PennDOT as a component of the I-95 rehabilitation project. A multi-use side path is proposed along its length to connect with the K&T trail on the north side of Old Frankford Creek.

4. Consider area-wide truck routing strategies for new and existing streets.

While transportation efficiency is a goal, it should not be achieved at the cost of safety or further negative impacts on existing neighborhoods. This especially supports the need for critical new roadway connections that will funnel truck traffic from industrial truck traffic generators towards the Delaware Avenue Extension and ultimately I-95. New roadways through the Rohm & Haas/Dow and the Philadelphia Coke Co./National Grid sites are planned to direct traffic in this manner to serve new development and potentially reduce existing truck traffic currently traveling through Bridesburg via Richmond Street.

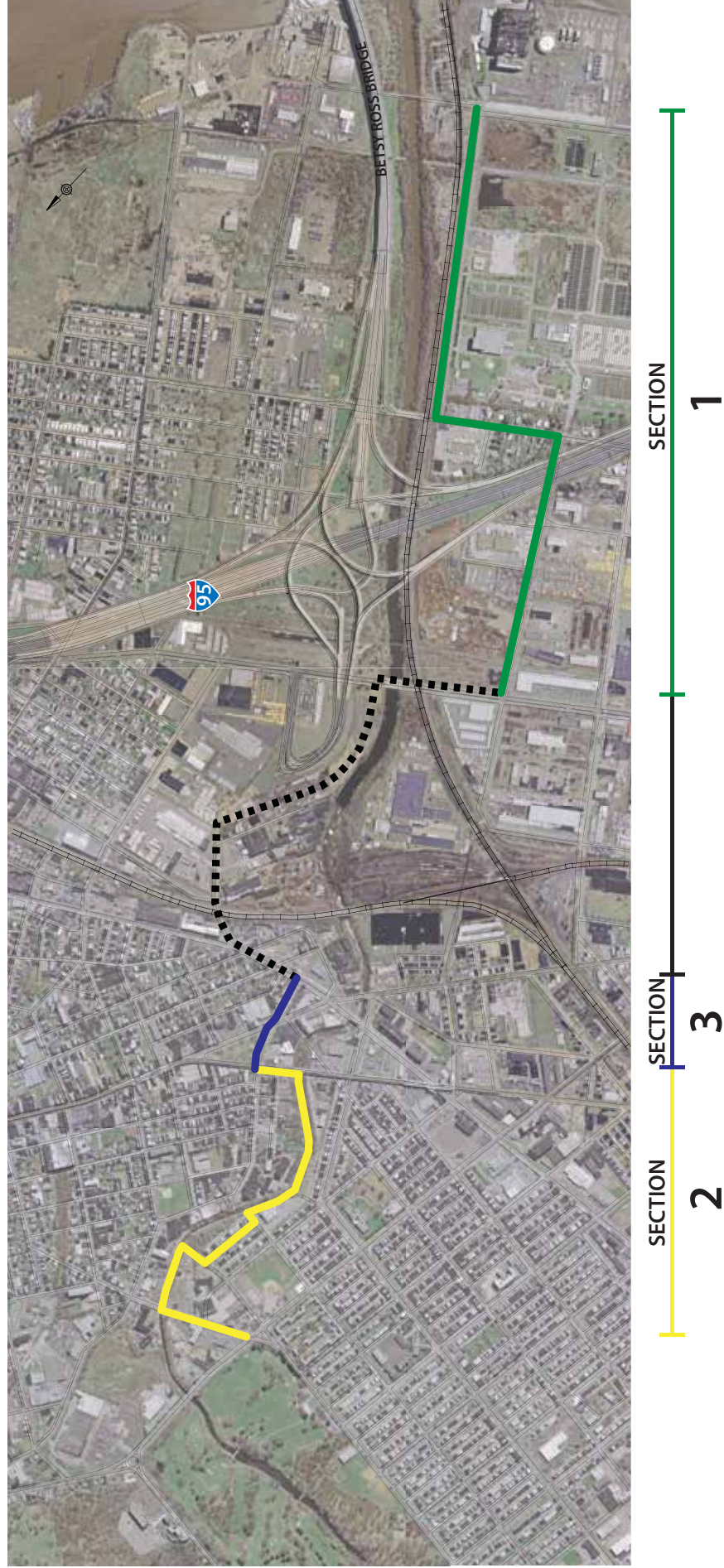
5. Construct pedestrian and bicycle trail connections to provide dedicated interconnections between neighborhoods, schools, open space/parks and commercial/employment centers.

In addition to the creation of the major greenway trail efforts along the Delaware River and Frankford Creek it is also important to emphasize the need to create dedicated bicycle and pedestrian facilities which feed into those regional trail networks. Complete streets standards following the Philadelphia Complete Streets Design Handbook with multi-use side paths, on-street bike lanes, and marked shared lanes (sharrows) will provide the ability to provide the maximum potential for linking neighborhoods to regional trails and the riverfront. This desire was one of the most universally expressed comments from the public.

6. Promote opportunities to maximize the parking supply, especially within the public rights-of-way.

Available parking is a premium in all of the neighborhoods within the study area. Additional on-street parking, including diagonal parking where appropriate, would help to manage parking demands. This is also relevant on and around the catalyst sites, even if ample off-street parking is provided for workers, since the surrounding streets can provide overflow parking from the neighborhoods as well as for those accessing future riverfront open spaces.

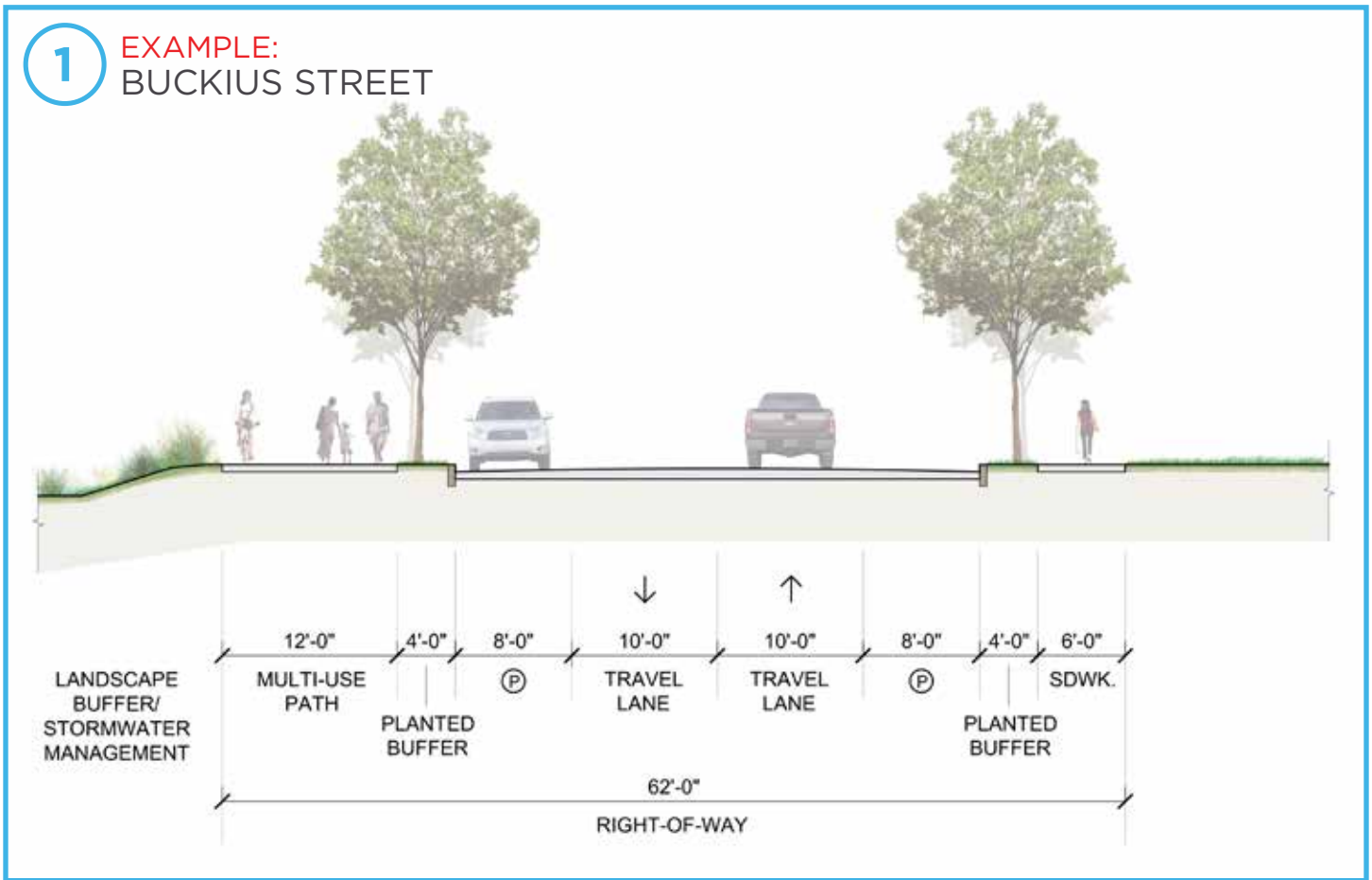
FRANKFORD CREEK GREENWAY TRAIL



This diagram illustrates the phases of the Frankford Creek Greenway Trail. See Multimodal Transportation Infrastructure Recommendation #5 on page 3.17 for how this plan incorporates and responds to the Frankford Creek Greenway Trail.

[STREET IMPROVEMENTS]

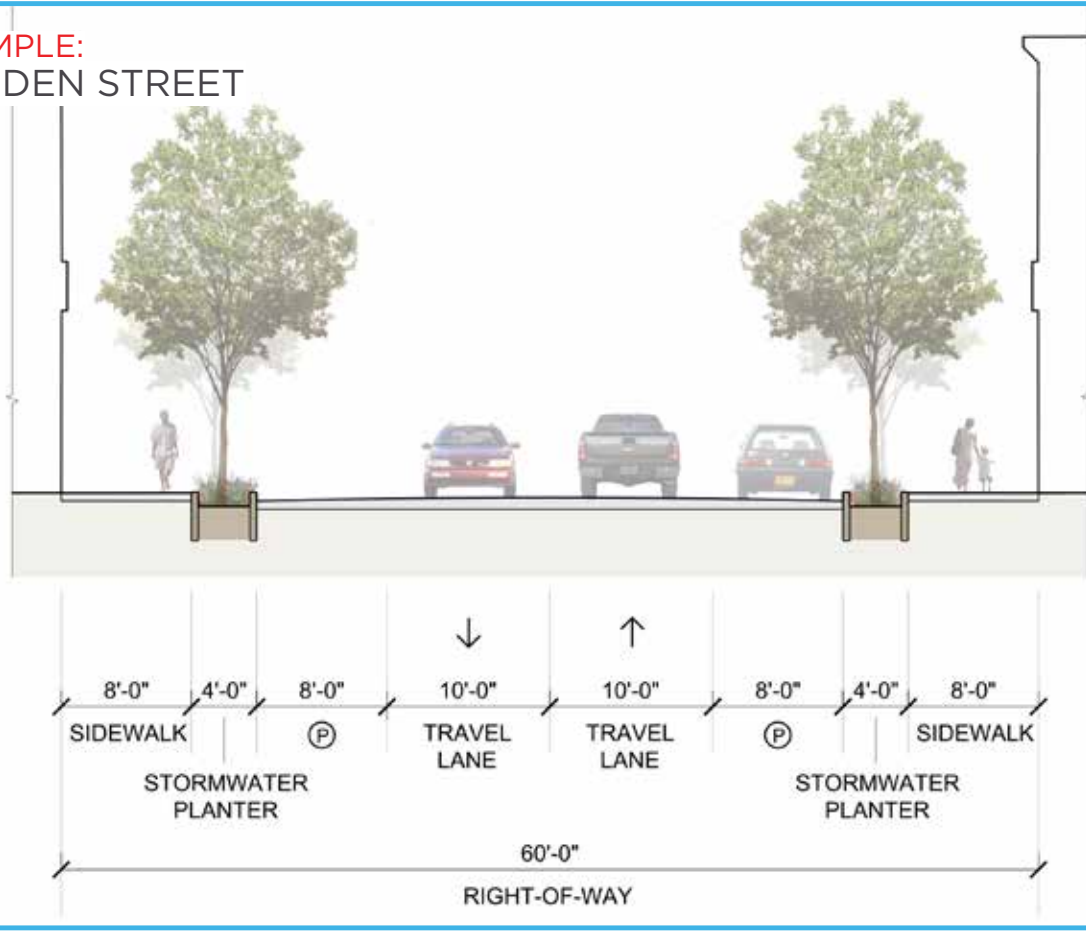
This plan proposes street improvements in accordance with the City of Philadelphia’s Complete Streets Design Handbook. These street section show possibilities for the type of street improvements that could be made throughout the study area and on the catalyst site where applicable.



Due to the mix of uses in these neighborhoods, many streets must accommodate a complex set of needs. Buckius is an example of one such street, as it serves neighborhood residential, commercial, and park uses. This section illustration combines elements of the Complete Streets Design Handbook’s “Park Road”, “Auto-Oriented Commercial/Industrial”, and “City Neighborhood Street” typologies, with a multi-use path, street trees, a wide sidewalk, stormwater management features, and an appropriate balance between vehicles and pedestrians.

2

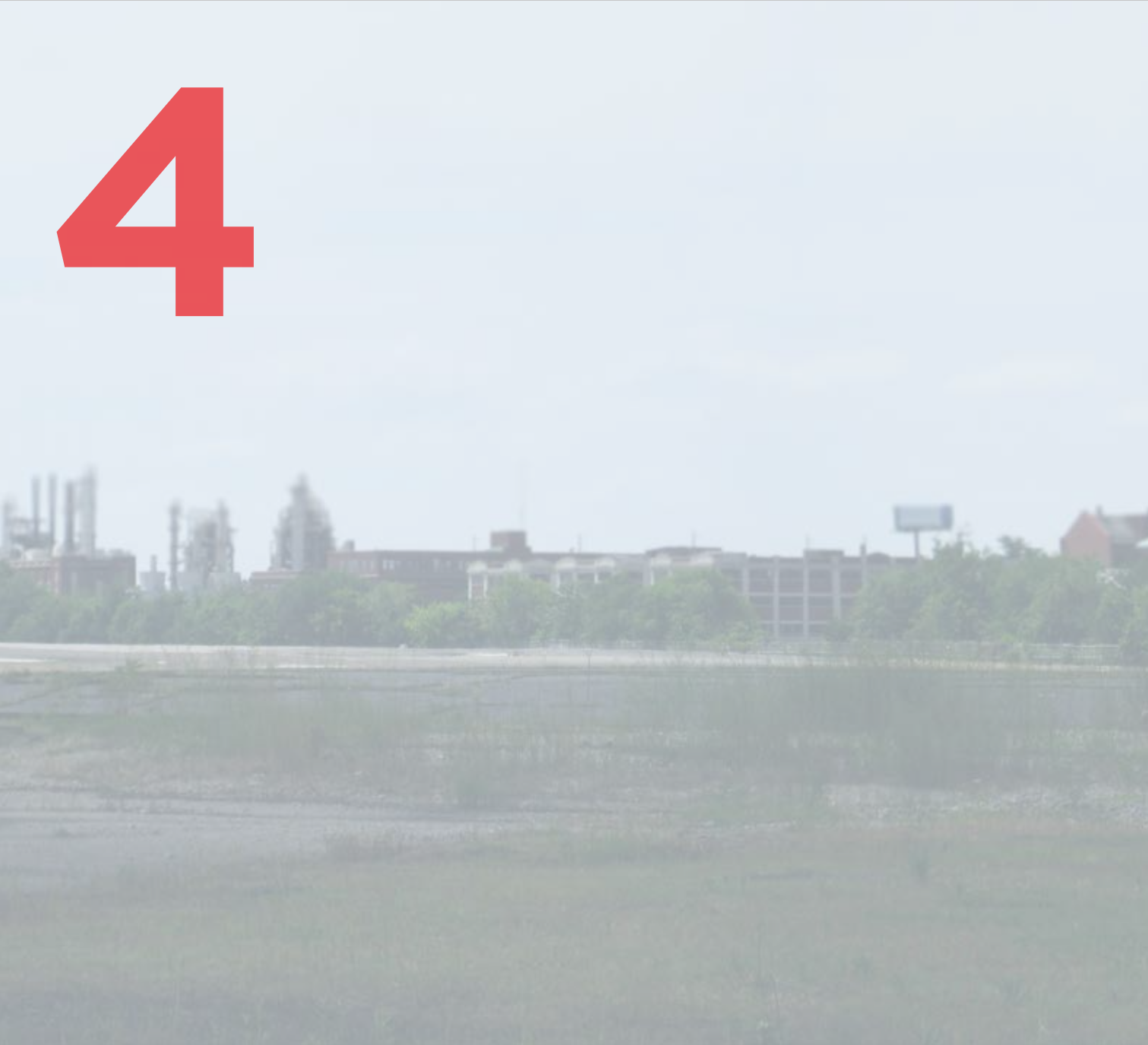
EXAMPLE:
GARDEN STREET



This section illustration shows how an extended Garden Street may be treated in the proposed residential portion of the Philadelphia Coke Co. site. This follows the recommendations of the “City Neighborhood Street” typology in the Complete Streets Design Handbook. It features elements that cater to local traffic and an equal balance between pedestrian and vehicular significance. A priority is placed on street trees with stormwater management features.

CATALYST SITES

4





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- 4.3 / Rohm and Haas
- 4.5 / Philadelphia Coke Co.
- 4.7 / Upper Reach Vision
- 4.9 / Regulatory Process

CHAPTER FOUR

“Chapter Four: Catalyst Sites” contains site reuse plans for each of the three brownfield catalyst sites and areas. It describes this Area-Wide Plan’s vision for new development, open space, and connections.

Emphasis is placed on the sites’ relationships to the Delaware River and the new and old Frankford Creeks, especially as they relate to environmental impact, accessibility, and broader awareness of the watershed’s value to the city and adjoining neighborhoods

/ Rohm and Haas

[DOW]

The focus of proposed redevelopment for the Rohm and Haas/Dow site is primarily industrial. Due to the environmental legacy of the property, reuse potential is restricted to non-residential activity. New industrial uses on the site can be compatible with environmental controls and can contribute to the economic vitality of the surrounding community. The concept also calls for a new connector road, neighborhood-serving commercial along Bridge Street, new public open space along the Delaware River, and improved environmental management along both the River and Old Frankford Creek.

The proposed reuses for the Rohm and Haas/Dow catalyst site offer the community economic benefits, service options, and public amenity. New jobs on the site would help address the wider community's relatively high rate of unemployment. The addition of neighborhood-serving commercial activities along Bridge Street (2) can help buffer industrial reuses from the existing neighborhood, help to retain spending within the neighborhood, and fill gaps in the community's existing mix of stores and services. New waterfront access is recommended in the form of a new waterfront park (14-19) and trails (8, 12, 13).

The riverfront park would create strong connections from the residential neighborhood to the river and Old Frankford Creek. This, coupled with other amenities such as an activity lawn (18) and educational elements, would increase awareness of the waterways and have a positive impact on their relationship to the residents of Bridesburg and the study area as a whole. This park represents an important link in a chain of existing and proposed public spaces along the North Delaware Greenway. This plan also proposes an extensive system of stormwater management bands (11) running through the site and along the waterways, including a city-required fifty foot setback (7) around the perimeter of the development. Areas of floodplain restoration would continue improvements to the environmental conditions of the site and complement watershed-wide education and risk management efforts.

The core of the site is recommended for industrial reuse, with a connector road (1) to ensure that truck traffic between I-95 and Bridesburg industrial areas is routed away from Richmond Street. The portion of the site between Brill Street and the proposed connector road could accommodate a variety of industrial reuses, consistent with future environmental controls. As illustrated here (3), the site would be accessed principally from the connector road and by freight rail (4), with a potential build-out typical of other recent private development. On the other side of the connector road, and in the FEMA-designated flood plain, an area is proposed to be devoted to low-intensity, environmental support services such as container-based horticulture (10). Throughout the entire site, various areas and strategies can be employed to help manage stormwater to comply with the site's environmental controls and with city stormwater requirements (6, 9, 11).



PAGE 4.4 MAP KEY:

- ① Potential Connector Road
- ② Neighborhood Serving Retail
- ③ Industrial Complex (FAR .25-.3)
- ④ Potential Freight Rail
- ⑤ Truck Access
- ⑥ Rain Cisterns for Roof Run-Off - Gray Water Re-use
- ⑦ Minimum 50' Buffer
- ⑧ Potential Multi-Use Trail Connector (Private)
- ⑨ Meadow Cover
- ⑩ Environmental Support Services (e.g. Container Stock Nursery/Garden Center)
- ⑪ Stormwater Treatment
- ⑫ North Delaware Greenway Trail/K&T
- ⑬ North Delaware Greenway Trail
- ⑭ Entry Plaza, Public Park
- ⑮ Park Parking
- ⑯ Woodland Bosque
- ⑰ Waterfront Green
- ⑱ Activity Lawn
- ⑲ Cultural Landscape/ Education "Pier" Terrace

ROHM AND HAAS/ DOW SITE PLAN

DIETZ &
WATSON

PROPOSED I-95
INTERCHANGE
CONNECTION

ARSENAL
BUSINESS
CENTER

OLD FRANKFORD CREEK

DELAWARE RIVER



BRIDESBURG
ELEMENTARY SCHOOL

BOYS & GIRLS
CLUB

HONEYWELL
BARGE TERMINAL

*map not to scale

The viability of these features and land allocations is uncertain pending completion of the remedial design and approval under Act 2.

/ Philadelphia Coke Co.

[NATIONAL GRID]

This plan proposes a mix of uses that reflect and respond to the site's community context, future accessibility, and market potential. The concept calls for an extension of Bridesburg's existing neighborhood fabric into the portion of the property extending east from Richmond Street to a new, completed Bath Street. Framed by streets that would be extended and enhanced as neighborhood connections to the riverfront, the largest portion of the site is proposed for future industrial reuse. East of the future Delaware Avenue Extension, the plan prioritizes waterfront sites for recreation and environmental management.

A significant portion of the Philadelphia Coke parcel fronts along Richmond Street between the Bridesburg Recreation Center and residential development along LeFevre Street and Garden Street. This area has potential for neighborhood-oriented development. The recommendation for this portion of the site includes adaptive reuse of the historic green entrance to the site and a privately-maintained open space (1) to complement bordering, neighborhood-compatible commercial and mixed-use investments (2,3,4).

The concept for the rest of this neighborhood-centric portion of the site is illustrated here to show the potential to accommodate a variety of housing types consistent with evolving housing demands in Bridesburg. These include townhouses (5), patio homes (6), townhouses with detached garages (7), and market-rate rentals (4,8). Also shown is a rain garden court (9), which can add an attractive, green amenity to the new development while also helping to meet stormwater management requirements. Actual, future development proposals may include one or more of these housing types and amenities.

The largest portion of the site is proposed as a primarily industrial parcel that can be redeveloped in a variety of ways. As conceptually illustrated here, the site (13) could be accessed from Delaware Avenue and by freight rail (12), with a build-out typical of other private properties in the market. New industrial activity could be buffered from adjoining uses by an extended Bath Street (11) and vegetative buffer/path (15). Depending on future developers' interests, resources, and site engineering requirements, stormwater features could be designed to also accommodate privately-managed parking, surface storage, open space, or recreation uses (14).

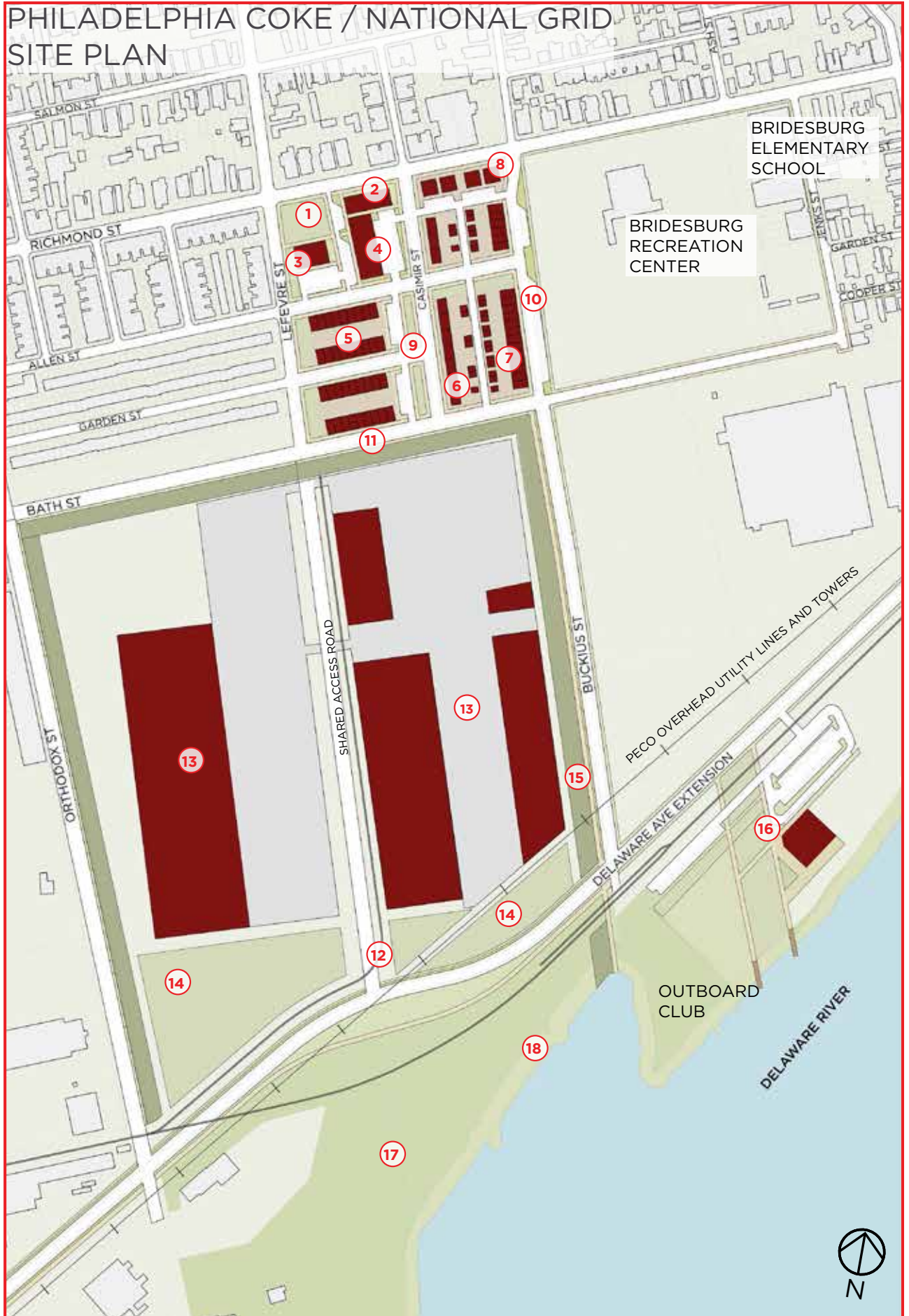
Bridesburg residents and workers would be connected to the Delaware River waterfront by multi-use paths and greening designed to make Orthodox and Buckius into true connector streets. These streets would link to the Delaware Avenue Extension and sidepath, the new public park proposed for the foot of Orthodox Street (17), and potential waterfront-oriented commercial (16) and environmental resources (18).

PAGE 4.6 MAP KEY:

- ① Historic Green Entrance + Privately Owned Public Spaces
- ② Retail
- ③ Park-Facing Commercial
- ④ Mixed-Use - Commercial and Residential
- ⑤ Townhouses
- ⑥ Patio Homes
- ⑦ Townhouses with Detached Garages
- ⑧ Multi-Family Stacked Flats
- ⑨ Rain Garden Court
- ⑩ Shared, Angled Parking
- ⑪ Potential Bath Street Extension
- ⑫ Potential Freight Rail
- ⑬ Industrial Complex (FAR .25-.3)
- ⑭ Stormwater Management Areas
- ⑮ Vegetative Buffer with Multi-Use Path
- ⑯ Riverfront-Oriented Commercial
- ⑰ Potential Waterfront Park
- ⑱ Potential Habitat Restoration/ Wetlands Restoration/Flood Mitigation



PHILADELPHIA COKE / NATIONAL GRID SITE PLAN



*map not to scale

/ Upper Reach Vision

+ Environmental Resiliency Plan

This long-term vision for the Upper Reach of Frankford Creek builds on the work of previous and ongoing planning and investment to further enhance the creek as a community amenity and environmental resource. Over time, the creation of a green buffer along the creek can spur new investment in adjacent parcels and spark efforts to improve the environmental resiliency of the area as well as the overall community's transportation network, property maintenance, and competitiveness for local businesses.

This vision suggests a new future for the area surrounding Frankford Creek's Upper Reach by transforming the waterway into a public amenity. This is accomplished in several ways. The plan promotes pedestrian activity and increases awareness, making the area safer and more attractive to the community. The trails will expand and complement plans for the future Frankford Creek Greenway, strengthening connections through the neighborhood. A series of parks, creek crossings, and open spaces will improve the overall pedestrian environment of the area. Future development is recommended in the vicinity of two park focal points. The first is at the creek cover (4) at the termination of Leiper Street. This park will create a new location for pedestrians to cross the creek. Adjacent to this park is a potential parks management facility (5) that will increase activity, making the park more safe and secure. The second park is located at the intersection of Torresdale Avenue and Frankford Avenue. This space will create a new gateway for the neighborhood and an educational resource for the Mariana Bracetti Academy Charter School.

Transforming the creek into an amenity will promote new development. As is shown by the new Walgreens and CVS as well as in the Market Analysis Report completed as part of this planning effort, there is a market for certain types of retail and service development. Using greenspace as a focal point can help to concentrate new development in a way that has the most positive impact. This is especially true at the intersection of Torresdale Avenue and Frankford Avenue, where close proximity to transit could help support private reinvestment. Promoting an urban-oriented development pattern focused on a walkable streetscape would improve a key gateway into Frankford.

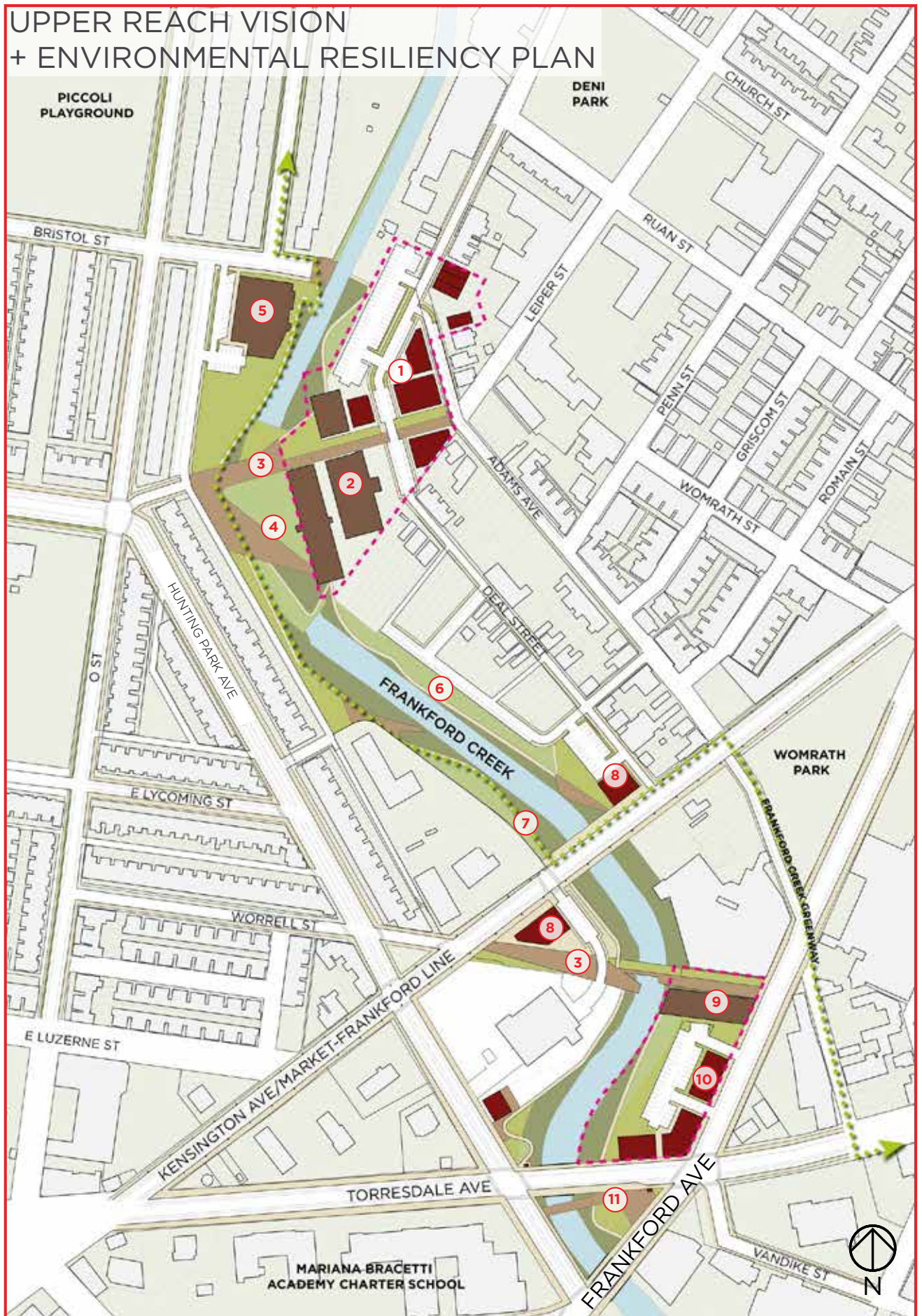
The former Edgewater Dyeing & Finishing Co. Site (9) and the former U.S. Pile Fabric site (1,2) are key catalyst areas for the Upper Reach. The Edgewater Dyeing site could potentially accommodate adaptive reuse of the existing four story building and infill mixed-use development. Any residential development on this site would likely require subsidies in order to be feasible, as noted in the Market Analysis Report. The U.S. Pile Fabric site is envisioned as an industrial arts park (similar to Globe Dye Works), and could include "maker" spaces to promote entrepreneurship and economic diversity in the neighborhood. Additionally, adaptive reuse and new infill development at this site would complement the new park space and attract visitors to the Upper Reach, improving the overall economic conditions of the area.

PAGE 4.8 MAP KEY:

- ① Industrial Arts Park
- ② Former U.S. Pile Fabric - Historic/Adaptive Reuse
- ③ Pedestrian Creek Crossing / Promenade
- ④ Creek Cover Park
- ⑤ Potential Reuse for City Management Facility
- ⑥ Minimum 50' buffer with integrated multi-use trail
- ⑦ Frankford Creek Greenway
- ⑧ Infill Retail
- ⑨ Former Edgewater Dyeing & Finishing Co.
- ⑩ Infill Mixed-Use
- ⑪ Green "Gateway" Park



UPPER REACH VISION + ENVIRONMENTAL RESILIENCY PLAN



*map not to scale

/ Regulatory Process

Catalyst Site Redevelopment

This section explains the ongoing environmental regulatory process for each of the three catalyst sites. This process both determines the kinds of development that can take place and informs possible engineering controls and mitigation techniques that can be integrated into site design.

The guidelines of the Area-Wide Planning process provide for a gathering and analysis of readily or publicly available environmental information for each of the catalyst sites in the study area. Available information is reviewed in order to:

- > understand what is, and is not, known about the environmental impacts at each catalyst site;
- > identify any data gaps that require additional investigation in order to move forward with land development;
- > determine any limitations for land uses with regard to future development based on the environmental conditions, and;
- > coordinate the regulatory processes for site remediation and site closure in a manner that provides for safe reuse of the site while not unduly limiting potential end uses.

Review of existing environmental information and interviews with property owners and regulatory officials at both EPA Region 3 and PADEP yielded the information that was utilized to prepare the conceptual site designs presented in this Area-Wide Plan. The following outlines the steps that are recommended in order to move each of the sites through remaining regulatory processes and towards site redevelopment.

Rohm and Haas [DOW]

- > Current site owners are addressing environmental impacts through the One Cleanup Program which is a joint regulatory process which engages EPA Region 3 and PADEP simultaneously. The One Cleanup program allows the remediator to address both Federal and state obligations at the same time, thus streamlining the process and moving sites towards redevelopment in a more time-efficient manner.
- > It is expected that the proposed remedial measures will allow the site to achieve a non-residential standard across the majority of the property. The remedial actions proposed will be conducive for re-uses such as commercial and industrial redevelopment, but will not support residential or residential-type end uses.
- > If future property owners would desire to incorporate any new future land use, including residential or residential-type end uses, Pennsylvania's Land Recycling Program allows for the land uses contemplated by approved site closures to be updated and for sites to be cleaned up by a future property owner to any higher cleanup standard.
- > It is recommended that the coordination established during the Area-Wide Planning process continue as the property is moved to closure under the One Cleanup Program.

Philadelphia Coke Co./National Grid

- > Environmental impacts at the site have been addressed under the oversight of EPA Region 3 only. The site conditions are considered stable under the current land usage.
- > The site is currently for sale and it is recommended that any perspective purchasers complete thorough environmental due diligence as part of the acquisition process.
- > Environmental data for this site are quite dated and it is recommended that any site development plans include an evaluation of current environmental conditions to provide context for site design.
- > Given the former industrial uses of the property, it is reasonable to expect that existing environmental conditions could support non-residential end uses. However, it is likely that developers desiring to implement residential end uses on portions of the site may need to do additional environmental evaluation and remediation in order to achieve a residential cleanup standard.
- > Dependent on the results of new environmental evaluations, future property developers may need to implement remedial measures and pursue site closure under the PA Land Recycling Program in order to support the desired end uses of the property.

Upper Reach Vision

The former Edgewater Dyeing & Finishing Co. Site (9) and the former U.S. Pile Fabric site (1,2) are key catalyst areas for the Upper Reach. However, very little is known about the environmental conditions of these sites. It is recommended that any new development plans include environmental due diligence and if necessary, remediation and site closure under the Land Recycling Program.

ACTION PLAN

5





CONTENTS

- 5.3 / Fundable Projects
- 5.3 / Organizing For Effective Resource Advocacy
- 5.6 / Best Resources to Pursue

CHAPTER FIVE *This chapter provides an action plan for implementation, and recommends a strategy for seeking resources that can help pay for the planning and construction of the public works portions of the Area-Wide Plan, from a variety of local, state, federal, private sector, and philanthropic sources. The chapter includes recommendations on how the City of Philadelphia and its public and private partners can organize to be most effective in pursuing resources, and highlights the best sources of potential funding and finance to support project implementation.*

/ Fundable Projects

This section focuses on components of the overall area-wide plan that are the most likely to be fund-able with resources outside of normal City general funds, from sources such as federal agencies, state agencies, philanthropic foundations, or private sector philanthropy. This would include:

- > **Site preparation** on publicly owned sites and, in some cases, privately owned properties
- > **Public infrastructure** improvements including transportation (roadway, streetscaping, walking/biking facilities, transit facilities), utilities, and **stormwater management**
- > Public **parks and recreational** facilities including multi-use trails
- > **Waterfront** restoration and revitalization
- > **Economic development** of catalyst sites and areas with manufacturing, industrial, commercial, and targeted residential investment

This section also considers ways that private sector landowners or redevelopers might be encouraged or required to construct facilities that support the overall vision and components of the plan. For instance, if the owners and/or future developers of catalyst sites seek to construct infrastructure to serve their sites' redevelopment, that infrastructure could be designed and implemented in ways that support the connectivity and environmental goals of the plan. For example, if a site owner must construct riparian buffers or stormwater controls, these could be done in a fashion that meets plan objectives.

/ Organizing For Effective Resource Advocacy

The section provides recommendations on how the Philadelphia project team can best organize itself to pursue and secure resources for implementation of key public works projects. Philadelphia is already highly adept and effective at gathering resources, with significant grants and advocacy experience, and thus this section is not suggested as a basic tutorial. Instead, the recommendations here are meant to suggest an approach that builds on current experience and accelerates progress in the Bridesburg/Upper Frankford neighborhoods. An effective approach to resource advocacy would involve the following steps and organizing approaches:

1. **Transition to Project Area Teams with Identified Leaders & Managers** - The community should establish and maintain organized task forces or working groups of key project leaders and participants, to ensure continued coordination, leveraging, project management, resource allocation, and general momentum. This area-wide brownfield initiative has involved a collaboration of key entities, including the Philadelphia City Planning Commission, the Philadelphia Department of Parks & Recreation, the Philadelphia Department of Commerce, the Philadelphia Streets Department, the Philadelphia Water Department, and the Philadelphia Industrial Development Corporation. Beyond municipal entities, there are a variety of community and non-profit organizations, including the Delaware River City Corp., and interested landowners involved in the development of this project area.

With this many entities involved in the project, Philadelphia needs to avoid the “everybody’s responsible, and so nobody’s responsible” or “too many cooks in the kitchen” pitfalls that could derail progress. One simple but important action item resulting from this planning effort could be the establishment of ongoing task forces for relevant project areas, with designated leadership, representatives from key entities, and dedicated staff resources to maintain collaborative efforts. Such organization will

also have the positive impact of demonstrating that Philadelphia is well prepared to receive and utilize grant resources, as funders need to see that recipients have a well-organized approach to project management and stakeholder engagement.

Teams should regularly consult with the most senior officials in the City of Philadelphia, such as the Mayor, Deputy Mayors or department heads, and City Councilmembers to ensure that they understand project plans, and are ready to back proposed efforts.

- 2. Identify Priority Public Sector Projects** - Grants and other resources are provided for specific, discreet projects or project components, and thus it is important that the Philadelphia team identify the specific projects and project components that are critical for the transformation of targeted areas, and to prioritize those that are most important. This Area-Wide Plan recommends a number of specific projects and project components including land acquisition projects, roadway extensions and improvements, streetscaping, park and recreational facilities, public walking/biking trails, riparian preservation and restoration, stormwater management and green infrastructure, and economic development projects. The Philadelphia team and lead departments should confirm the list of projects to pursue, and identify which ones are the highest priorities for implementation.
- 3. Delineate Project Phasing** - Each discreet project within the brownfield redevelopment areas should be considered as a multi-stage project, with each stage potentially fundable (and sometimes from different sources). A typical public works project consists of phases including planning, design & engineering, ROW acquisition, permitting, construction and operation. Most importantly, determine costs for the immediate next stages of each project, and seek funding and support for that stage. Often, funders who support an early stage of a project can be a continuing funder in a later stage. When seeking funding, it is often best to consider “eating the elephant” one bite at a time.
- 4. Create Estimates of Project Costs** - Once priority projects have been identified, and their key phases have been delineated, Philadelphia should conduct analyses and planning to estimate project costs for each key project and its core components. With well-estimated project costs, the community can better identify the best potential funding sources, understand the levels of matching funds that you will need to leverage, and tailor advocacy efforts to gain political support for funding requests. Philadelphia could utilize in-house staff with project management and cost estimation expertise, and/or retain expert consulting to help confirm cost estimates for key projects.
- 5. Match Funding Sources to Project Components & Phases** - Philadelphia should regularly identify the best and most significant sources of federal, state, local, corporate, investor & philanthropic funds for each priority project. Review grant solicitations and confer with funding officials to determine whether key projects are eligible and competitive for specific resources. Consider whether and how a particular project can be shaped or changed to reflect the priorities of funders.

It is also likely that sponsors of other projects in Philadelphia may be seeking the same grant resources sought for Frankford Creek redevelopment projects. This means that established task forces or working groups need to ascertain whether there may be other, competing applications, and to determine how Frankford Creek applications will fit within other City priorities.

The next section of this Chapter provides an initial assessment of the most promising sources of funds for projects in the brownfields planning initiative. However, the entire Philadelphia team should review priority projects and potential funding sources to make informed determinations on which funding is most attractive to pursue.

- 6. Establish Matching/Leverage Strategies & Assess Feasibility of Debt Financing** - The most competitive funding requests will have committed matches and high leverage, which takes municipal financial planning, budgeting, and requests to key funding stakeholders (such as department heads, City Council, or state officials) well before grants become due. Create a match/leverage strategy for each funding request, and do the work necessary to explore and secure match commitments from key funding partners in the City, with philanthropy, with the Commonwealth of Pennsylvania, and other potential supporters.

A top matching tool that should definitely be considered is the use of Tax Increment Financing to produce public bonds that can be used up-front for site development, infrastructure upgrades, and other revitalization. TIF financing would be particularly well-suited for the project area if manufacturing, industrial, or other commercial development can be attracted to the major catalyst brownfield sites, as such development can produce the future revenues to service the TIF bonds. Likewise, waterfront Business Improvement District resources that use planned assessments on future development could be used to support up-front bonding for site and infrastructure development. Philadelphia should consider using expert bond consulting to identify the potential TIF and/or BID strategies that are feasible for this project area.

Many projects will require more funding than grants alone can supply, meaning that some projects may need to be financed with some form of municipal debt, particularly for the construction phase. There are many good sources of publicly-backed or subsidized lending (as discussed in the following section), but these are only feasible and will only be available for applicants who can demonstrate a viable repayment strategy. Thus, there should be an analysis done for each major project that considers the possible revenue streams for servicing debt, the eligibility and competitiveness of the project for local bonding, the potential sources of state- or federally-backed debt that can provide lower-cost financing, and the political feasibility of debt strategies. Revenue streams that might be available to service debt for public works projects in the Frankford Creek redevelopment area could include development fees, stormwater fees, or incremental future tax revenues associated with economic development.

- 7. Create Strategic Plans & Outreach Materials for Each Priority Project** – When ready to proceed on a specific project or project components, it is valuable to create a written, step-by-step strategy for securing funding and other support for that project. This strategy can describe the specific objective for that project, describe the specific source(s) of funding source for that project, identify the entities and persons who need to be included, delineate the persons responsible for leading each task, establish timelines and key tasks, and identify contingency plans. Further and very importantly, the team should create a well-crafted briefing sheet for Frankford Creek projects, or for major project components (for instance, one briefing sheet could focus on transportation infrastructure elements of the project, while another could focus on parks and recreational plans for the area). A 1-sheet briefing document can be used to succinctly explain to the public, key stakeholders, and funders the scope and objectives of the project, its benefits, its status and progress, its supporters, its challenges, and its specific funding requests.
- 8. Seek Commonwealth Backing** – Often, the best sources of funding and other support can be found at state agencies, such as the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Community and Economic Development, the Pennsylvania Department of Transportation, the Pennsylvania Department of Conservation and Natural Resources, PENNVEST and other state agencies. It is usually valuable to coordinate with these agencies closely, whether or not one seeks funding from them at any particular point. Further, federal, philanthropic, and private sector funders will typically be more supportive if they understand that the Governor, state agency leadership, and other key state agency and elected officials support a project (and may even be willing to commit State match or leverage). Work with state legislative representatives, who can play decisive roles in advocating for Commonwealth support, particularly in the early stage of an Administration that seeks to establish new priorities and strengthen particular programs, particularly brownfields, urban revitalization, and transportation infrastructure programs.
- 9. Collaborate with Federal Agency Officials** – It is critical to be engaged with relevant federal agency and program officials on projects and key components before actually asking for money. Officials at the U.S. Environmental Protection Agency (EPA), the Department of Commerce, the Department of Transportation, the Department of Housing and Urban Development, the U.S. Army Corps of Engineers, and other agencies can be supportive guides and boosters of redevelopment efforts. Approach agency leaders to build their understanding and support for Frankford Creek projects and funding requests. Visits to funder HQs (Washington DC), invitations for site and project tours in Philadelphia, and collaborative roundtable events and project workshops can build ongoing support. Federal agencies have also been willing to convene in joint meetings with cities like Philadelphia, under the Brownfields Area-Wide Planning process, to get briefings on the status of projects and the needs for moving into implementation. Engagement with such federal officials will likely benefit Philadelphia when seeking grant funding from these agencies.

- 10. Prepare for Grant-Writing** - Prepare ahead of time to write effective grant applications, and do not wait until notices of funding opportunity and submission deadlines. Determine the best City agency or other entity to be the lead applicant. Confirm key application partners. Identify the internal/external grantwriter(s) for each application, and have that lead grantwriter review past application materials to consider how to position future applications to be most effective. Confirm project costs, and seek to solidify matching and leverage commitments. Consider using graphic designers to create renderings, charts, and other visual designs to make the application look its best.
- 11. Secure Congressional Support** - When funding requests are ready to be submitted, seek and secure congressional support, working with the district representatives of U.S. Senate and House members, as well as the relevant staff in their Washington, DC offices. It is important to ask the Members and their staff for support beyond the standard letter, which will not have a major impact by itself. Instead, request that they make calls and have meetings with the federal agency leaders running the funding programs, the White House and other decision-makers, or even to host federal officials in Philadelphia to discuss the progress and potential of Frankford Creek projects.

/ Best Resources to Pursue

This section of Chapter 5 identifies some of the best potential funding sources that could support Frankford Creek brownfields and community revitalization, with 30+ specific sources of funding identified, for which the revitalization project would be likely to be eligible and competitive. Of these wide range of resources, certain funds should be considered as top priority opportunities that may be the most promising to pursue:

For brownfields activities, continue to apply for EPA brownfield assessment and cleanup grants, as the City may have an advantage as an Area-Wide Planning community that has produced a strong vision and plan. Also be prepared to apply for PA Business in Our Sites brownfield development loans and PA Industrial Site Reuse Program funds for site and infrastructure development.

For transportation infrastructure investments particularly the full extension of Delaware Avenue and the expansion of greenway multi-use trails, enlist the continued support of PennDOT and the Delaware Valley Regional Planning Commission, and seek Surface Transportation Program, Transportation Alternative Program, and CMAQ funds, which could also complement City applications for other, future, grants including PA Multi-modal and U.S. DOT TIGER.

For park, trail and recreational facility development, support the passage of proposed State legislation that would provide Waterfront Development Tax Credit incentives to private parties such as Dow and National Grid, to make tax-advantaged contributions to the Delaware River City Corporation or other eligible entities for a variety of waterfront development activities on the Delaware River and Lower Frankford Creek. Also, enlist the support of the PA DCNR and DCED for investment in land acquisition, planning, trail, riverfront conservation, and waterfront development projects.

For economic development of manufacturing, industrial and commercial facilities on catalyst brownfield sites and areas, seek a Public Works grant from the U.S. Economic Development Administration for infrastructure, and PA DCED resources including Infrastructure Development Grants, a RACP award, and designation of the area or key parcels as a special reinvestment area.

Consider **publicly-backed and low-interest loan financing** for major site preparation, infrastructure upgrade, and economic development projects including HUD Section 108 loans, Federal Home Loan Bank Community Lending finance, Business in Our Sites loans, or Pennsylvania Infrastructure Bank lending for transportation infrastructure. Also consider , depending on the scale and timing of redevelopment, tax-increment financing (TIF) could be considered as a financing and grant matching source.

Resource	Details on the Resource & Key Tactics	How the Resource Could Support the Project
BROWNFIELDS RESOURCES		
<p>U.S. Environmental Protection Agency, Brownfield Grants</p> <ul style="list-style-type: none"> > Targeted Assessment Grant > Brownfield Assessment Grants > Brownfield Cleanup Grants > Brownfield Cleanup Revolving Loan Fund (RLF) Grants 	<p>Through a fairly easy and very time-responsive, rolling application process, EPA Region 3 can provide its technical contractors to conduct a Targeted Assessment Grant, at no charge, at a targeted site</p> <ul style="list-style-type: none"> > Assessment grants can be used to support environmental investigations, assessment, and remedial planning on either publicly- or privately-owned sites (with some limitations on use where there is a responsible party). Can also be used for public outreach, stakeholder organization, and reuse planning activities (that is, to take the AWP process even further) > Up to \$400,000 can be awarded, split between hazardous materials (up to \$200k) and petroleum contamination (\$200k) > No match required > Cleanup grants can only be awarded to public/municipal entities or non-profit organizations, and can only be used on sites that are owned by the applicant (presumably the City of Philadelphia or DRCC) > Up to \$200,000 > 20% match (\$40,000) > Entity must have used “All Appropriate Inquiries” or municipal taking/tax foreclosure in the site acquisition > RLF grants are used to capitalize a fund within a municipal or non-profit entity, which in turn can give very low-cost loans on flexible terms to other entities, or grants to other municipal or non-profit entities for brownfield cleanup. > Grants up to \$1 million, but more typically \$600,000 each > Fairly simply to re-fill the fund with an EPA “Supplemental RLF” grant, if funds expended > Limits on how much of the RLF fund can be used on grants rather than loans, but these limits can be waived by EPA <p><i>Key Tactics: Present AWP report to senior EPA Region 3 and HQ officials and brownfield management, request their guidance on securing additional assessment and cleanup resources for implementing AWP plan.</i></p>	<ul style="list-style-type: none"> > If an opportunity emerges at a catalyst site (for instance, a developer proposes a promising use, or Philadelphia Parks & Rec has an opportunity to extend a greenway through a site), but an environmental assessment is needed, ask Region 3 for a quick Targeted Assessment at that property > Assessment, more detailed reuse planning, and cleanups for public park and green infrastructure facilities along River and Creek > Assessment, remedial planning, and cleanup at any brownfield sites acquired by municipal/public/non-profit entities for redevelopment or public use > Incentives to redevelopers who seek to bring commercial activities back to catalyst sites, but seek to mitigate and manage risks of contamination, by providing assessment resources

<p>Commonwealth of Pennsylvania</p> <ul style="list-style-type: none"> > PA Department of Environmental Protection - Industrial Site Reuse Program (ISRP) Grant > PA Department of Community & Economic Development - Business in Our Sites Loans > PENNVEST Loans 	<ul style="list-style-type: none"> > PADEP will provide ISRP grants and loans of up to \$200,000 or 75% of total costs (whichever is less), and cleanup grants and loans of up to \$1 million (or 75% of total cost, whichever is less, for brownfield sites) <ul style="list-style-type: none"> > Only municipal or economic development entities may get grants > Either public or private entities may seek loans > DCED Business in Our Sites Loans are available even when the brownfield reuse project is speculative, and no specific developer or end user has yet been secured. Can be used for a wide variety of purposes, including site remediation, site preparation, or infrastructure upgrades. No repayment is required until property is sold or leased, for up to 5 years from the date of closing. When the site is ready for specific development, the Commonwealth Finance Authority will negotiate a specific interest rate for the loan. <ul style="list-style-type: none"> > BOS program must be re-funded by PA legislature, a top priority of the Wolf Administration budget > PENNVEST Brownfield Redevelopment Loans - The State will give 2.5% interest loans of up to \$11 million from the State's Clean Water State Revolving Fund when, as in this case, brownfields improvement can protect water quality. <p><i>Key Tactics: Determine which public entity is ready and willing to acquire a site for public purposes, and confer with DEP about ISRP funding. Confer with private sector owners of catalytic sites about using BOS funding as incentive for future industrial development.</i></p> 	<ul style="list-style-type: none"> > Cleanup grants for sites owned or acquired by the City, DRCC or other public entity, on properties for projects such as waterfront parks and trails > Low-cost loan funding for major site preparation activities to support future manufacturing, industrial or commercial projects on catalytic sites. Borrower could be public sector or future developer/user > PENNVEST loan could be used for green infrastructure along waterways, potentially paid through the significant stormwater fees now being paid by the site owners.
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TRANSPORTATION INFRASTRUCTURE

<p>U.S. Department of Transportation</p> <ul style="list-style-type: none"> > TIGER 8 Grant > MAP-21 Reauthorization 	<p>> The TIGER grants remain essentially the only federal grant for local road and multi-modal projects. Typically funded at ~\$500,000,000 annually, these U.S. DOT grants average between \$10 and \$20 million each, and require high matching of between ~30-70% to be competitive. As there will be only 30-75 awarded nationally, any Frankford Creek transportation project must be identified as the Mayor's top transportation priority for TIGER funding, and as a high priority for the Governor and Pennsylvania Secretary of Transportation.</p> <ul style="list-style-type: none"> > As recently as 2014, Congress allowed U.S. DOT to set aside a portion of TIGER funding to support planning, design and engineering projects. In 2015, Congress directed that all grants be for construction only. Philadelphia should monitor whether Congress again allows TIGER to be used for planning and, if so, there may be great opportunities for transportation project design in the Frankford Creek area. If planning is not allowed, Philadelphia will not be competitive for TIGER construction funding until local projects are more designed and "shovel ready". > At the time of the submission of this report, the U.S. Congress was in serious deliberations about the reauthorization of the federal surface transportation law, now known as "MAP-21". A reauthorized law is likely to have funding up to the level of the President's proposed amount of \$478 billion. The law is likely to continue significant funding for states, cities, and MPOs for urban road corridor improvements and multi-use trails. Philadelphia should continue to work closely with the PA congressional delegation and Federal Highway Administration officials to identify the funding opportunities that emerge from any reauthorized law. <p><i>Key Tactics: Identify clear transportation project priority; get project listed in TIP; coordinate with City Hall officials and PA congressional delegation about moving that project forward.</i></p>	<ul style="list-style-type: none"> > Delaware Avenue extension beyond Phase IB/Buckius Street to the junction of Taony Street and I-95, including a continuation of the sidewalk and multi-use trail through the brownfields project area. > To the extent that a full Delaware Avenue extension might not occur in the shorter-term, consider a stand alone multi-use trail project along the River and the Creek through the project area.
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<p>Pennsylvania Department of Transportation</p> <ul style="list-style-type: none"> > Surface Transportation Program Funding > Transportation Alternative Program Grant > Act 89 Multimodal Transportation Fund Grant 	<ul style="list-style-type: none"> > PennDOT is already a significant investor in this area, via its involvement in the I-95 Betsy Ross Interchange and Bridge Street Ramps project, and on the Delaware Avenue Extension. Philadelphia should consider seeking PennDOT support for additional investment in a full Delaware Avenue extension, and a multi-use trail along the waterfronts. > In addition to the annual state appropriations for transportation infrastructure administered by PennDOT, PennDOT is also the lead on choosing and administering projects for the pass-through of federal funds including Surface Transportation Project funding (around \$340M per year in PA), which can fund a variety of roadway (if classified as federal-aid highway) and trail projects. PennDOT and the Delaware Valley Regional Planning Commission/MPO split the federal Transportation Alternative Program (TAP) funds, which are slated primarily for pedestrian, bicycle, and urban livability transportation projects – for which the Frankford Creek brownfields project is well suited. > PennDOT and the Commonwealth Financing Agency both have significant pools of funds under the Act 89 transportation legislation for annual Multimodal Transportation Fund grants. <ul style="list-style-type: none"> > Up to \$3 million > 30% match > Best suited for shovel-ready projects, with limited ability to use on design <p><i>Key Tactics: Identify clear project priority; get project listed in TIP; work with PennDOT district engineer and other state officials.</i></p>	<ul style="list-style-type: none"> > Multi-use trails on Delaware Riverfront, Lower Frankford Creek, and other areas of brownfield revitalization area
<p>Delaware Valley Regional Planning Commission</p> <ul style="list-style-type: none"> > TAP Grants > Congestion Mitigation & Air Quality Grants 	<ul style="list-style-type: none"> > As mentioned above, the MPO receives an annual allocation of TAP funds for distribution in the Delaware Valley region including Philadelphia. > The Delaware Valley Regional Planning Commission receives an allocation from U.S. DOT of approximately \$40 million annually in CMAQ funds, which can support road and trail projects that reduce congestion. Note that CMAQ is helping fund the Northern Delaware Avenue extension already. <p><i>Key Tactics: Building from support already provided by MPO for Northern Delaware Avenue extension, get broader roadway and trail projects entered into TIP to support further applications for MPO funding.</i></p>	<ul style="list-style-type: none"> > Delaware Avenue extension through brownfield project area > Multi-use trails on Delaware Riverfront, Lower Frankford Creek, and other areas of brownfield revitalization area

PARKS, RECREATIONAL, WATERFRONT REVITALIZATION & GREEN INFRASTRUCTURE FACILITIES

PA Waterfront Development Tax Credit

> The Pennsylvania General Assembly is now considering a new “Waterfront Development Tax Credit” (SB 282 / HB 457) that would provide \$10 million annually in tax credits for waterfront development. Any taxable entity that contributes funding to an eligible non-profit waterfront development organization can take an income tax credit of between 75%-90% of the contribution amount (the higher credit is for a 2-year commitment of contributions). The non-profit waterfront development organization must get an approval from PA DCED of its waterfront development plan, which can include project components on the waterfront including streets and public rights-of-way, waterfront parks, gardens and open spaces, public utility access, stormwater water infrastructure, environmental projects, public water transit landings and boat dockings, infrastructure upgrades, and recreational amenities. This act has not passed the legislature yet, but has many bi-partisan cosponsors in both the PA House and Senate.

Key Tactics: Ask state legislative delegation to renew their efforts to have this state law passed in this term; approach catalyst site owners about making contributions to key projects using tax credit.

> The Delaware River City Corp. could approach private sector entities such as Dow and National Grid and encourage them to proffer significant contributions to DRCC for capital projects on the Delaware River and Frankford Creek waterfronts, which could include projects on their catalyst brownfield sites that they would seek anyway to improve the properties while also providing public benefit. This could include stormwater management, roadway, or recreational projects. Given the 75-90% tax credit that would result to these private contributors, they could potentially make much larger contributions to these projects than they otherwise might have planned.

<p>PA Department of Conservation and Natural Resources (DCNR)</p>	<ul style="list-style-type: none"> > PA Community Recreation and Conservation Program – PA DCNR provides grant funds for public parks, recreation, and trails projects, including under its administration of the “Keystone Recreation, Park and Conservation Fund.” These funds can include: <ul style="list-style-type: none"> > Land acquisition grants, for park and recreation areas, greenways, trails, river conservation, and natural and critical habitat areas. 50% match requirement; > Planning grants for general or site development plans for parks, recreation areas, greenways, trails, and river conservation areas. 50% match requirements; > Development grants for construction of parks, recreation areas, greenways, trails, and river conservation areas; 50% match requirement which may be met with land donation value, with grants typically in range of \$15,000 to \$200,000. > Trail acquisition, planning and development grants for public trails; 50% match which may be met with land donation value. > River Conservation projects for a variety of land acquisition, planning and development projects, on approved river segments with approved River Conservation Plans. <p><i>Key Tactics: Philadelphia Parks & Recreation has a long-time successful relationship with DCNR's Southeast Region Office, and can coordinate with them on the best potential resources for this project area.</i></p>	<ul style="list-style-type: none"> > Riverfront park along Delaware River > Multi-use trails along Delaware River and Lower Frankford Creek
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<p>U.S. Army Corps of Engineers</p>	<p>U.S. Army Corps of Engineers Continuing Authorities Program – The Corps has several “Continuing Authorities Programs” (CAP) that support feasibility studies, design and engineering projects, and construction for projects. Key authorities could include:</p> <ul style="list-style-type: none"> > Section 22 Planning Assistance – to conduct feasibility and planning studies for potential Corp projects on waterways. Maximum grants of \$500,000 annually in any one state, with a 50% match. > Section 1135 Project Modification for Improvement of the Environment – planning, design, engineering and construction funding for improvement of areas that have been degraded by past Corps activities. Maximum federal share is \$10 million, with 25% non-federal match required. > Section 206 Aquatic Ecosystem Restoration – for environmental improvements to waterways. Could be used for shoreline restoration, vegetation, green infrastructure, creek improvements. Maximum federal share is \$10 million with 35% non-federal match required. > A project under a Corps authority may use up to 10% of the project funding to support recreation along waterways, which could support a trail or riverfront park construction activity. <p>Key is to work cooperatively with the USACE Philadelphia District Office, and then build support at the Mid-Atlantic Division and HQ levels (particularly for larger-cost construction components). Congressional officials have an important influence on Corps resource allocation to projects. A key first step will be to get agreement from the Philadelphia District to include an initial feasibility study in District’s Budget Work Plan for 2016 or 2017. Feasibility studies can lead into planning, design, engineering and then construction projects.</p> <p><i>Key Tactics: Meet with the Corps’ Philadelphia District Deputy Engineer for Programs and Project Management Curtis Heckleman to determine whether the Corps would find potential federal interest in the restoration of the shoreline in this area; coordinate with district offices of PA congressional delegation.</i></p>
	<p>> Shoreline restoration and improvements along Delaware River and Frankford Creek, potentially including recreational components.</p>

<p>EPA/PENNVEST Green Reserve</p>	<p>> Clean Water SRF Fund – the longtime traditional source of funding for wastewater infrastructure and, in the past decade or so, for stormwater infrastructure has been the ‘Clean Water State Revolving Fund’ or “SRF” program. The SRF is funded and guided by the U.S. Environmental Protection Agency, but administered by PENNVEST. The Commonwealth typically has >\$50 million annually for this program. These resources are loans with generally favorable (2.5% interest) terms, and the funding process is more appropriate for larger, more expensive projects than smaller projects. PENNVEST typically provides approximately \$5 to 6 million annually for nonpoint source / stormwater and other “green reserve” projects.</p> <p><i>Key Tactics: Coordinate with Philly Water on its Green City/Clean Waters campaign, which is likely using these funds on green infrastructure projects. The Philly Water campaign could provide major support and resources for green infrastructure projects in the target area, whether or not funded by the EPA/PENNVEST green reserve program.</i></p>	<p>> Green infrastructure/ stormwater projects on the River or Creek</p>
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ECONOMIC DEVELOPMENT RESOURCES

<p>U.S. Department of Commerce, Economic Development Administration (EDA)</p>	<ul style="list-style-type: none"> > EDA's Public Works & Economic Development Facilities Grants can provide up to \$3 million to support public infrastructure projects that support job creation. > Likely that only industrial/manufacturing expansion projects, such as projects on Rohm & Haas/Dow or Philly Coke/National Grid, would be competitive for funding > Important that the Delaware River waterfront revitalization is already included \$100 million initiative in the Comprehensive Economic Development Strategy produced by the Delaware Valley Regional Planning Council (p. 1-39 of the Investing in People & Places document finalized in September 2014) > 50% match requirement for EDA grants > Applications accepted on a rolling basis > Must show real job creation (or retention), no speculative development > Projects compete better if shovel-ready <p><i>Key Tactics: Confer with Delaware Valley Regional Planning Commission; and then meet with EDA Mid-Atlantic Regional Office (based in Philadelphia), including the Pennsylvania-assigned EDA Economic Development Representative and the Regional Administrator.</i></p>	<ul style="list-style-type: none"> > Access roads and utilities to support manufacturing, industrial development and commercial investment on catalytic brownfield sites
<p>U.S. Department of Housing and Urban Development (HUD)</p> <ul style="list-style-type: none"> > Community Development Block Grant & Section 108 Resources 	<ul style="list-style-type: none"> > HUD's CDBG funds can support a wide variety of activities including economic planning, property acquisition, infrastructure upgrades, community centers, brownfields revitalization, low- and moderate-income housing, and other purposes. The City of Philadelphia receives roughly \$39 million annually (although these funds are highly subscribed). > Beyond CDBG funding from the City's Department of Housing and Community Development, Philadelphia could leverage more funding, in the form of "Section 108" guaranteed loans, which are low-interest, 20-year federally guaranteed loans for any eligible CDBG purpose as described just above. These loans must be collateralized by the County's CDBG program. Philadelphia has used Section 108 loans on numerous occasions, including on brownfield projects such as the Edison Square, Schmidt's Development, and Bakers Centre projects. As these are loans, there needs to be a re-payment strategy. <p><i>Key Tactics: If an economic development project in the area has the potential to support low-cost debt repayment, discuss potential financing with redeveloper/user, and coordinate with Philadelphia OHCD about potential Section 108 support.</i></p>	<ul style="list-style-type: none"> > Manufacturing or industrial development on catalyst sites > Infrastructure upgrades on brownfield sites, particularly when linked to economic development

<p>Federal Home Loan Bank of Pittsburgh</p> <ul style="list-style-type: none"> > Community Lending Program 	<ul style="list-style-type: none"> > The Federal Home Loan Bank of Pittsburgh provides, through its member institutions of local banks and finance organizations, low cost loans and credit support to local governments throughout Pennsylvania for its “Community Lending Program,” which can support development of public facilities and infrastructure. Also provides intensive training, support and partnerships with philanthropic foundations through the “Blueprint Communities” program. If a development projects needs funding, approach a Member of the FHLB of Pittsburgh, see www.fhlb-pgh.com/about-us/our-customers.html, and consider visiting the FHLB’s Director of Community Investment Programs. <p><i>Key Tactics: Determine if any commercial/jobs project can repay a loan and, if so, find member bank in Philadelphia that is ready to use FHLB backing to provide finance.</i></p>	<ul style="list-style-type: none"> > For public and community facilities and infrastructure, as well as private sector economic development projects such as manufacturing or industrial development on catalyst sites
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<p>PA DCED</p> <ul style="list-style-type: none"> > Economic Development Programs & Resources 	<p>DCED provides a variety of economic development funds to support infrastructure upgrades and business investment. DCED uses a “Community Action Team” (CAT) approach to support priority projects, and assigns a “Strategic Investment Officer” as a single point of contact. Note that all of these DCED and other programs are under state legislative and budget debates at the time of this report, and which programs emerge with funding remains to be seen. Key sources of potential funding include:</p> <ul style="list-style-type: none"> > Infrastructure Development Program: grants up to \$1.25 million for public infrastructure including transportation projects, brownfields site improvements, water / sewer / stormwater, energy facilities, parking facilities, waterways, telecommunication infrastructure, and land and building rehabilitation at former industrial sites. > Keystone Opportunity Zone: KOZ incentives are a proven economic development tool which provide significant state and local tax liability relief to businesses and investors who locate within a designated KOZ area. Philadelphia already has KOZ areas designated, administered by the Department of Commerce. Naming the Lower Frankford Creek area as a new Philadelphia KOZ would take both a solid application and state political advocacy. > Housing & Community Development Assistance: provides grants of \$150,000-\$200,000 for community revitalization and economic development projects, as well as housing rehab. > Keystone Communities Enterprise Zone: deteriorated industrial areas with a five-year business strategy can get priority consideration for DCED grants and incentives, and businesses located in a Zone can get business tax incentives, priority consideration for state contracts, priority consideration for state brownfield resources, up to \$350,000 in Enterprise Zone RLF loans, and various grant opportunities. <p>Another potential State funding source:</p> <ul style="list-style-type: none"> > Redevelopment Assistance Capital Grant Program: \$125 million annual program that provides grants administered through the Governor’s office for the acquisition and construction of regional economic, cultural, civic and historic improvement projects. Typically two funding rounds per year, depending on state assembly funding of program. Must be a project included in a PA Capital Budget Itemization Act. The program has set criteria and funding preferences, projects must have a business plan, must have a 50% match, and the minimum funding request must be \$1 million
	<ul style="list-style-type: none"> > Infrastructure and economic development projects, particularly industrial and manufacturing projects on catalyst sites

<p>U.S. Department of Treasury</p> <ul style="list-style-type: none"> > New Market Tax Credits 	<ul style="list-style-type: none"> > The NMTC Program provides tax credit incentives to investors to provide cash equity investments in certified Community Development Entities (lending and financial institutions), which may invest this equity in business and public facility projects in eligible low-income communities (this project area qualifies). The credit equals 39% of the investment paid out, and can result in multiple millions of dollars in equity investment in local projects. The planning for a NMTC is complex, and requires significant expertise and transactional efforts to pursue. 	<ul style="list-style-type: none"> > Construction of manufacturing, commercial, or public building facilities.
<p>U.S. Department of Homeland Security</p> <ul style="list-style-type: none"> > EB-5 Foreign Direct Investment 	<ul style="list-style-type: none"> > The U.S. Department of Homeland Security's, U.S. Citizen and Immigrant Services office has, since 1990, run a program that allows foreign investors to provide funding for qualified, new commercial enterprises, for which they can gain passports for the investing nation's citizens. Investments at a minimum level of \$1 million can be provided for qualified "Regional Centers" and qualified activities which create direct and indirect jobs. Such investments are available for only for-profit enterprises. 	<ul style="list-style-type: none"> > Manufacturing, industrial, and commercial capital projects on catalyst brownfield sites