



CAMDEN, NEW JERSEY

Mt. Ephraim Neighborhood

EPA BROWNFIELD
AREA-WIDE PLAN

November 2017



WRT



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Acknowledgments



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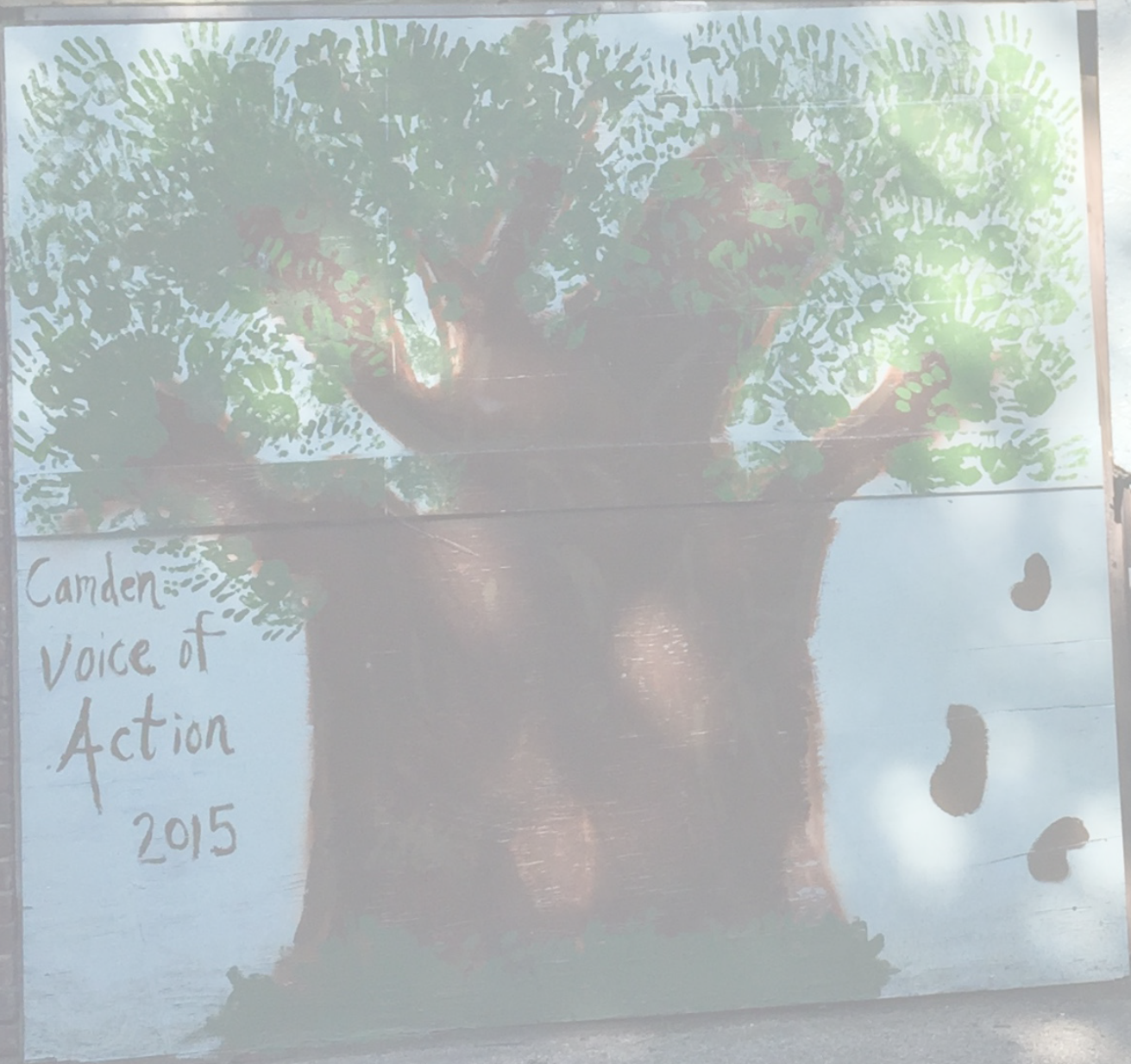
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Camden
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EXECUTIVE SUMMARY

Executive Summary

PROGRAM OVERVIEW + GOALS

Brownfields sites are defined 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.” The U.S. Environmental Protection Agency (EPA) Brownfields Area-Wide Planning (BF AWP) grant program assists communities in responding to local brownfields challenges, particularly where multiple brownfield sites are in close proximity, connected by infrastructure, and limit the economic, environmental and social prosperity of their surroundings.

This program provides grant funding to communities to develop an area-wide plan and implementation strategies for brownfields assessment, cleanup, and reuse. The resulting area-wide plan will provide direction for future brownfields area improvements that are:

- » protective of public health and the environment,
- » economically viable, and
- » reflective of the community's vision for the area.

In 2015, EPA selected the Camden Redevelopment Agency (CRA) as a Brownfield Area-Wide Plan (AWP) Grant recipient. CRA received \$200,000 to work with community stakeholders to develop an area-wide plan and implementation strategy for the Mt. Ephraim Choice Neighborhood. The goals of the Camden Mt. Ephraim Brownfield AWP are to

- » Work with the community to develop a plan to address brownfields,
- » Create a toolkit of strategies for the reuse of smaller brownfield sites, and
- » Develop community-supported reuse concepts for large, catalyst sites.

PROJECT AREA

This AWP grant focuses on developing a strategy for addressing brownfields in the 664-acre Mt. Ephraim Choice Neighborhood within the borders of the City of Camden, New Jersey. The targeted area is bounded by Haddon Avenue to the east, Liberty Street to the north, Interstate 676 to the west, and portions of Bulson Street and Ferry Avenue to the south. The area covers three neighborhoods in Camden known as Liberty Park, Whitman Park, and Centerville, and is shown on the map on the following page.

The project area consists of a local commercial corridor, Mt. Ephraim Avenue, surrounded by diverse residential neighborhoods that also contain a variety of institutional uses, such as hospitals, schools and churches. The area also contains many vacant and blighted brownfield sites, owing to commercial and industrial uses historically located in the community. The primary brownfield sites, or “catalyst” sites, are the Camden Laboratories and Phil-Mar sites, located in the southeastern section of the Mt. Ephraim Neighborhood. These catalyst sites are within walking distance of the Ferry Avenue PATCO high speed commuter rail station, and are surrounded by a predominantly residential area. Whitman Park adjoins the Camden Laboratories site directly to the south and east.

The project area is called “The Mt. Ephraim Choice Neighborhood” because the project boundaries are roughly coterminous with the portions of the Mt. Ephraim Avenue Corridor which received a \$300,000 Choice Neighborhood Planning Grant from HUD in 2012 for the redevelopment of two (2) public housing projects, Branch Village and J. Allen Nimmo Court. In 2016, the Choice Neighborhood received an additional \$13 million grant through the HUD Choice Neighborhood Implementation program to implement the “Moving Our Neighborhood Forward” plan for Mt. Ephraim. Because of this, the AWP planning team aimed to ensure that the redevelopment scenarios proposed for the neighborhood's brownfield sites were consistent with the Choice Neighborhood plan.

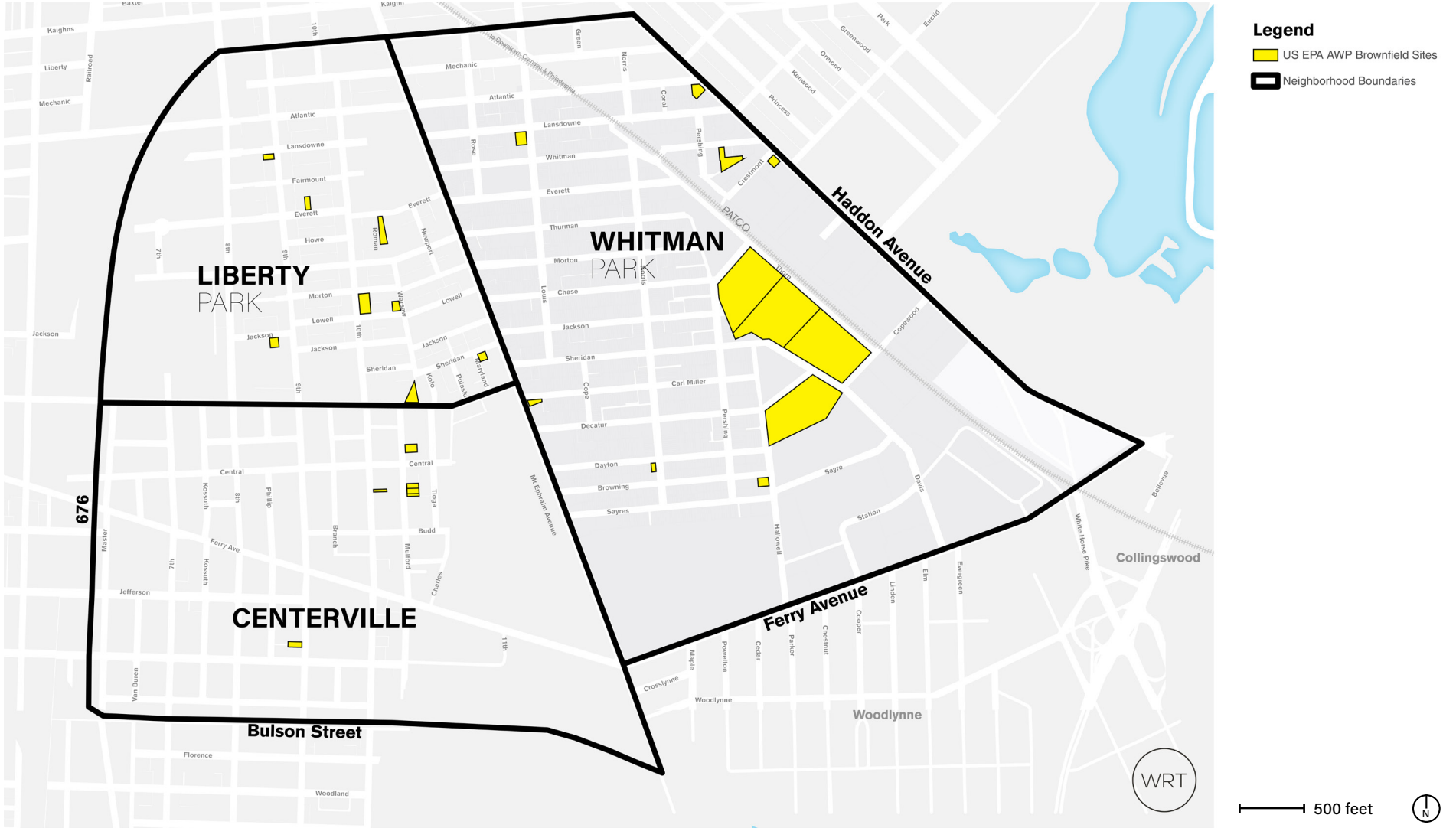


Figure 1. Project Area Map
The Mt. Ephraim Neighborhood consists of three adjoining neighborhoods: Liberty Park, Centerville, and Whitman Park

PROJECT PARTNERS

According to the EPA, a fundamental component of the AWP is that stakeholders who are affected by brownfields contamination and historical disinvestment must benefit from the cleanup and reuse of the sites. These stakeholders must have a sense of ownership in developing the community's vision for brownfields cleanup and reuse, and strong input in the decision making. When the planning for brownfields cleanup and reuse is driven by meaningful public engagement, the community members, project partners, public funders, and private investors recognize that there is strong commitment to, and capacity for, making improvements in the area. This commitment to revitalization can be used to prioritize resources and hold decision makers accountable.

Implementation of the AWP was led by the Camden Redevelopment Agency (CRA). CRA was assisted by the planning firms of BRS and WRT, who served as the consultant team for this project. Together the planning team used a variety of approaches throughout the project to involve members of the Mt. Ephraim Choice Neighborhood community. Through meetings of the Mayor's Choice Neighborhood Executive Leadership Committee (Steering Committee) and public meetings, stakeholders shared information and provided feedback to inform the area-wide plan.

Key partners represented on the Mayor's Choice Neighborhood Executive Leadership Council included the City of Camden, Housing Authority of the City of Camden, Camden County Municipal Utilities Authority, Cooper's Ferry Partnership, the New Jersey Department of Environmental Protection (NJDEP) and the U.S. Environmental Protection Agency (USEPA).

PROJECT ACTIVITIES

In order to develop a comprehensive strategy for brownfield redevelopment in the Mt. Ephraim Choice Neighborhood, the project team conducted research, analysis and visioning activities, including a review of existing plans, brownfield inventory and prioritization, brownfield mapping, urban land market analysis, infrastructure analysis, health impact assessment and a review of available environmental data.

The team also conducted extensive community engagement and outreach activities, including hosting five (5) meetings of the Mayor's Choice Neighborhood Executive Leadership Council (the Steering Committee) and four (4) public meetings to identify community priorities and opportunities to meet those priorities through cleaning up and reusing brownfield sites. These activities ultimately helped determine the viable future reuse for both the priority and secondary catalyst sites and provided guidance on how neighborhood infrastructure could be developed.

KEY PARTNERS

Stakeholders of the Mt. Ephraim Brownfield Area-Wide Plan included residents, businesses, government, nonprofits, and interest groups.

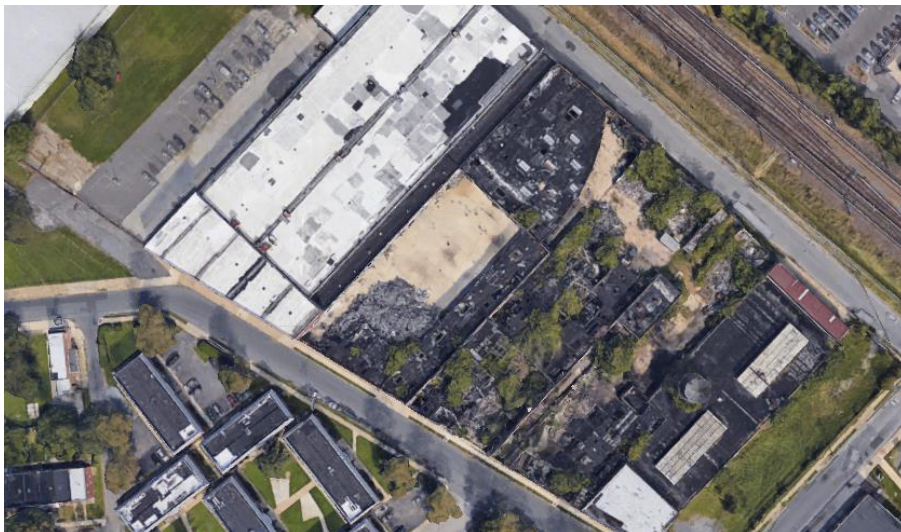
Key organizational partners represented on the Plan Steering Committee included:

- » City of Camden
- » Housing Authority of the City of Camden
- » Camden County Municipal Utilities Authority
- » Cooper's Ferry Partnership
- » New Jersey Department of Environmental Protection
- » U.S. Environmental Protection Agency





Catalyst Site - Camden Labs
Prior to Assessment and Remediation, Fall 2016



Catalyst Site - Phil-Mar
Aerial View of Site Prior to Assessment and Remediation (Google Earth)

BROWNFIELD SITES

Developing a Brownfield Inventory is one of the first steps towards assessing and remediating brownfield sites. The planning team identified brownfield sites in the project area, and catalogued their size, ownership type, condition, redevelopment constraints, and other information that would be used to inform redevelopment potential. Next, a Brownfield Prioritization was used to analyze and rank brownfield sites and identify smaller redevelopment sites.

The primary catalyst site identified in the EPA Brownfield Area-Wide Plan grant application for the Mt. Ephraim neighborhood is the **CAMDEN LABORATORIES** site. Located in the southeastern section of the Mt. Ephraim Neighborhood at 1661 Davis Avenue (Block 1392, Lot 33), the catalyst site is within walking distance of the Ferry Avenue PATCO high speed commuter rail station. It is surrounded by a predominantly residential area, and Whitman Park adjoins the site directly to the south and east. The Whitman Park Redevelopment Plan calls for "brownfield redevelopment" at this site.

The other priority catalyst site is the **PHIL-MAR** site. This site was formerly home to the Radio Condenser Company and was later subdivided into three separate parcels now identified as Pro-Build, RF Products and Phil-Mar sites.. All three of these are shown in yellow on the map at right. "The Phil-Mar site" collectively refers to both the RF Products/Fast Doors and Phil-Mar parcels, which are the two parcels farthest south located at 1605 Thorne Street (Block 1386, Lot 1.01) and 1800 Copewood Street (Block 1388, Lot 7). Like the Camden Labs site, the property is currently abandoned and the Whitman Park Redevelopment Plan calls for "brownfield redevelopment" at this site.



Figure 2. Catalyst Sites

The map above highlights the catalyst sites within the larger vision map for the Mt. Ephraim Corridor South Choice Neighborhood.

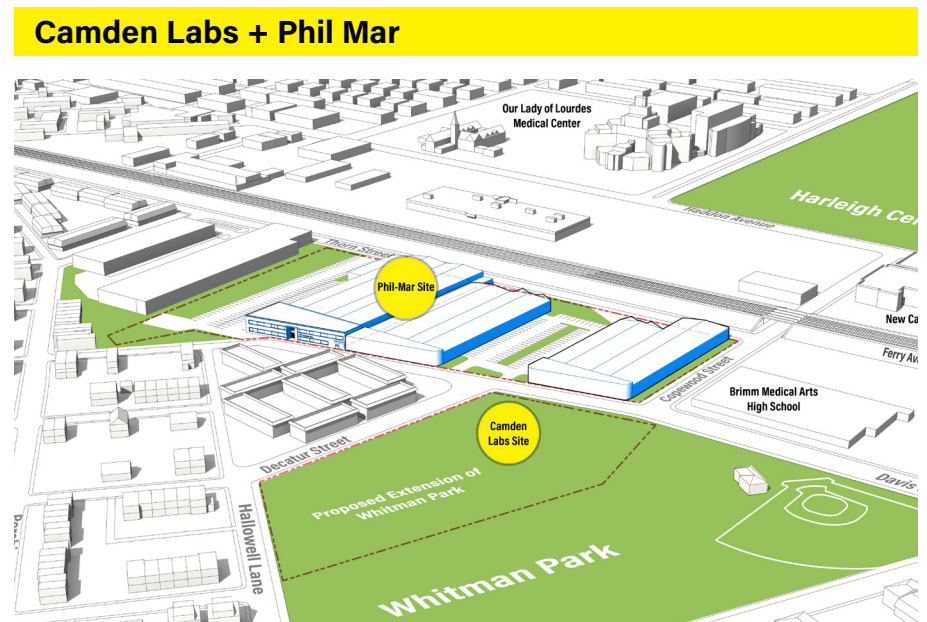
RECOMMENDATIONS

The AWP prioritizes redevelopment of high-value brownfields, particularly the Camden Labs site, to catalyze further development in the Mt. Ephraim neighborhood. Using information obtained from the background research and the Urban Land Market and Infrastructure Analyses, as well as input received from steering committee and community meetings, the consultant team developed reuse scenarios for each of the catalyst and smaller scale brownfield sites.

Building upon existing planning efforts, such as the *Mt. Ephraim Choice Neighborhood Plan* and *Area in Need of Redevelopment Plans*, the planning team recommends the redevelopment of brownfield sites for the creation of parks, green stormwater infrastructure, community flex space, infill housing, neighborhood retail, industrial re-use and parking. Each of the reuse scenarios supports the goals of the Brownfield Area-Wide Plan by providing economic, environmental and social benefits to residents of the project area.

The recommended conceptual redevelopment scenarios are as follows:

- » **Camden Labs:** The redevelopment concept at this location is for an extension of Whitman Park.
- » **Phil-Mar:** This redevelopment option includes 5,000 s.f. of commercial space along the street; a 287,447 s.f. rehabilitated industrial building; and a new 191,283 s.f. industrial building.
- » **1700 Mt. Ephraim Avenue:** The redevelopment concept for this site is walk-up apartments with a 1,825 s.f. community/flex space on the ground floor.
- » **Mulford Street:** The redevelopment concept at this location is four (4) infill townhouse units on existing residential lots.
- » **1572 South 10th Street:** The redevelopment concept for this site is a mix of townhomes and apartment units over a 1,658 s.f. commercial space, plus area for circulation and an option for green parking.



1700 Mt. Ephraim



1572 South 10th Street



Mulford Street



1572 South 10th Street (Green Parking Option)



PROJECTED IMPACTS

The consultant team assessed the potential impacts of the proposed redevelopment scenarios for each of the five (5) priority sites on the City's infrastructure.

The project area has a good transit network, including access to 28 bus routes, and a PATCO station located directly within the project area. There is also planned and existing bicycle and pedestrian access that will connect the project area to other parts of the city and region. For vehicular traffic, the proposed redevelopments are likely to produce 247 additional trips. This slight increase in traffic volume is unlikely to have an adverse impact on operating characteristics of the local roadways and intersections that serve the project area.

The total water demand projection for all of the brownfields redevelopment sites is approximately 9,200 gallons per day. The provisions of New Jersey's Safe Drinking Water Act require that systems that serve persons other than residential consumers must yield at least three times the average daily water demand. New Jersey's Residential Site Improvement Standards also require that daily water supply flows should be computed by applying a peaking factor of three times the average daily residential consumption.¹

To meet the requirements of the Safe Drinking Water Act and the Residential Site Improvement Standards, the supply to the redevelopment parcels would need to be sufficient to provide approximately 27,600 gallons per day. The net available capacity of water system serving Camden is 7.756 million gallons a day. Consequently, the projected demand related to the proposed redevelopment of the catalyst and second-tier sites can easily be absorbed by the available system capacity and will have no adverse supply impacts.

¹ See N.J.A.C. 5:21, 5.2 (d)

The city water pollution control facility has a net available capacity of 22 million gallons per day. If the wastewater generation rates for the catalyst and second-tier brownfields redevelopment site concepts were equivalent to the peak water supply demand projections – under the proposed development concept (9,200 gallons per day), the city's system would easily absorb the demand.

IMPLEMENTATION + NEXT STEPS

The project team has presented these redevelopment concepts for each of the five (5) catalyst sites in order to facilitate site assessment, cleanup and eventual redevelopment. However, the actions and resources needed to realize the redevelopment scenarios described in this plan varies for each of the priority sites, depending on site ownership and proposed redevelopment.

The Camden Redevelopment Agency (CRA) will lead implementation of the Mt. Ephraim Choice Neighborhood Brownfield Area-Wide Plan, in coordination with stakeholder groups represented on the Choice Neighborhood Executive Leadership Council. Plan implementation will also be closely coordinated with the neighborhood investment initiatives of the Mt. Ephraim Choice Neighborhood Transformation Plan.

Identifying and evaluating potential technical or financial resources at the local, regional, state and federal levels are critical steps for the realization of BF AWP goals. Both the U.S. EPA and the New Jersey Department of Environmental Protection (NJDEP) provide competitive grant funding to support Brownfield Assessment and Clean-up efforts, which Camden has successfully applied for and received for other projects in the past. Additional funding may be available from private and philanthropic sources.

The Area-Wide Plan falls primarily within the Pre-Development Phase of brownfield remediation. The next steps are to investigate and analyze the extent of contamination on each site, and determine appropriate actions that must be taken to clean up the land before development occurs. This report details the actions taken and addresses the modified short- and long-term plans for the site.

The general process for evaluating and cleaning up environmental contamination at a brownfield site is to:

- » Conduct a Phase 1 (Preliminary Assessment)
- » Acquire the property, if applicable
- » Conduct a Phase 2 (Site Investigation)
- » Conduct a Remedial Investigation
- » Complete Remedial Action, often in concert with development.

Following site cleanup, CRA will then work to actively market these sites to a developer for redevelopment according this strategy, the Choice Neighborhood Plan, and the applicable neighborhood and redevelopment plans.

The Camden Labs property has already begun the path to remediation. The City is in the process of acquiring the property through foreclosure, and CRA received a \$344,710 brownfield grant from EPA to assess the nature and extent of environmental contamination at the site. Remediation funding has not yet been secured; however, following site clean-up Camden County has committed to spending up to \$5 million from its capital budget and open space fund on the proposed Whitman Park expansion.



Centerville Neighborhood
Recently Completed Housing Redevelopment



Centerville Neighborhood
Branches at Centerville Housing Under Construction (Summer 2017)





INTRODUCTION



Housing Centerville Neighborhood
Typical rowhomes of the Mt. Ephraim Neighborhood



Mt. Ephraim Avenue
Mt. Ephraim Avenue is the main commercial corridor for the neighborhood, with many small businesses.

Introduction

The City of Camden, New Jersey has a rich industrial heritage dating to the early 19th Century. With a strategic location adjacent to Philadelphia and near the intersection of the Delaware and Cooper Rivers, Camden was home to a diverse group of manufacturing businesses, such as glass works, lumber firms, woolen mills, chemical plants, and factories producing goods like carriages, cigars and oil cloth. During the first half of the 20th Century, Camden also became home to major companies such as RCA Victor, Campbell's Soup, and the New York Ship Building Corporation. Immigrants and residents from other communities poured into Camden in large numbers to work in these industries, and would frequently live in two- and three-story rowhouse neighborhoods in close proximity to their place of work.

In the second half of the 20th Century, Camden experienced a well-documented industrial and population decline, similar to many other Rust Belt communities. It is no surprise, then, that a major challenge for these Camden and other urban communities has been identifying and implementing a strategy for the clean-up and re-use of abandoned commercial and industrial sites called "brownfields." The United States Environmental Protection Agency (EPA) defines brownfields sites 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" (USEPA, Comprehensive Environmental Response, Compensation, and Liability Act of 1980).

Brownfield: 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.

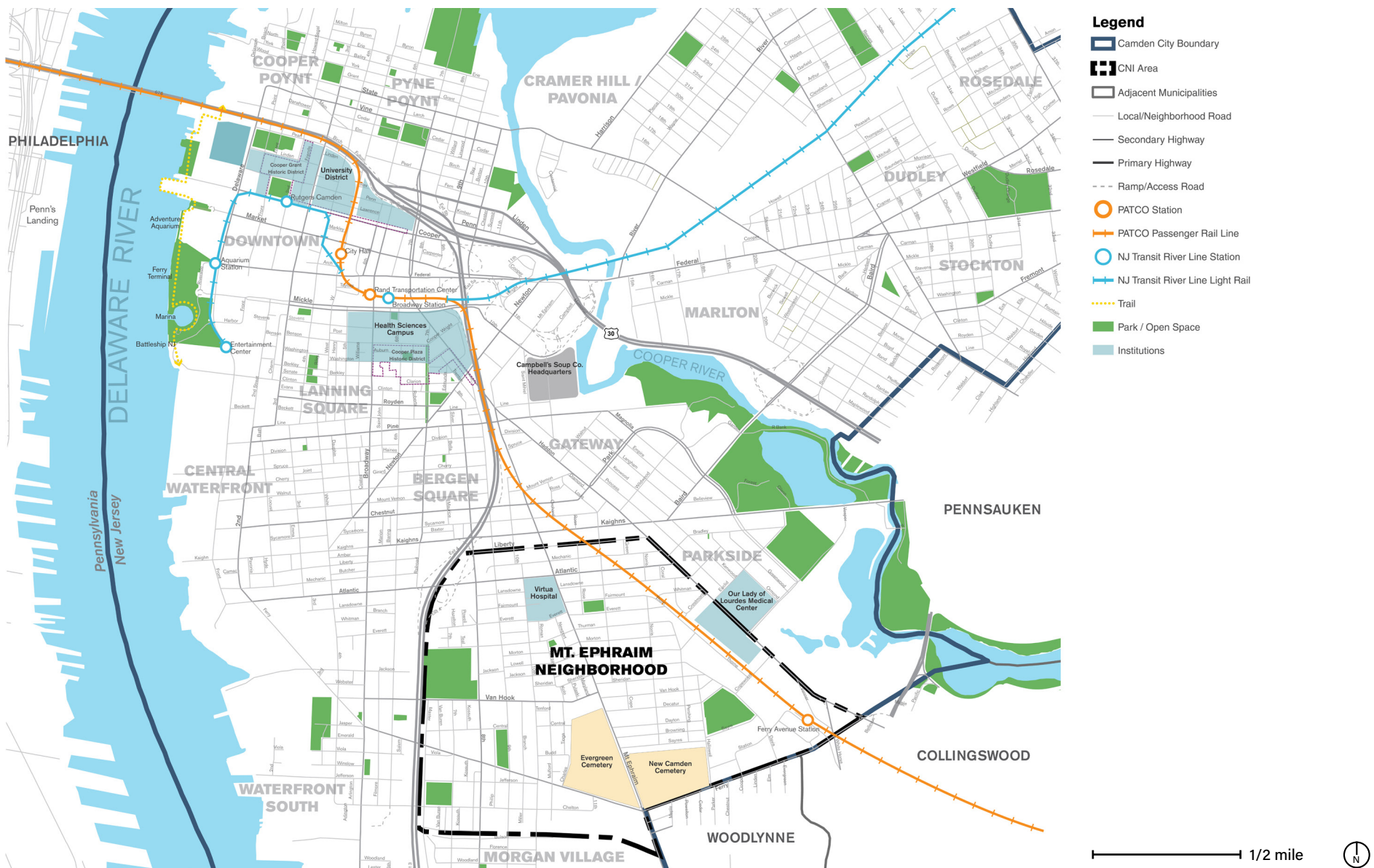


Figure 3. Regional Context
Mt. Ephraim regional context

ABOUT EPA'S BROWNFIELDS PROGRAMS

One factor that makes redevelopment particularly challenging is the cost and risk associated with remediating site contamination. For this reason, EPA provides funding to communities like Camden to inventory, characterize, assess, conduct planning related to, remediate, or capitalize revolving loan funds for, eligible brownfield sites. Through the Small Business Liability Relief and Brownfields Revitalization Act (2002), entities are selected from proposals prepared in accordance with the Request for Proposals submitted in a national competition.

With enactment of the Small Business Liability Relief and Brownfields Revitalization Act in 2002, EPA assistance was expanded to provide greater support for brownfields cleanup and reuse. The law modified the EPA's existing brownfields grants and technical assistance program by:

- » Increasing the funding authority up to \$200 million per year;
- » Providing grants for assessments, revolving loan funds, direct cleanups and job training;
- » Expanding the entities, properties and activities eligible for brownfields grants;
- » Expanding applicability to sites with petroleum contamination such as abandoned gasoline stations;
- » Providing authority for brownfields training, research and technical assistance; and
- » Allowing local government entities up to 10 percent of the grant funds to be used to monitor the health of exposed populations and enforce any institutional controls.

The **Brownfields Area-Wide Planning (BF AWP)** Program, which provides funding to communities that struggle with the challenges presented by a concentration of brownfield sites to develop an area-wide plan and implementation strategies for brownfields assessment, cleanup, and reuse.

EPA supports an area-wide approach to brownfields cleanup and redevelopment: when multiple brownfield sites are concentrated in a specific area, they are connected not just by proximity, but also often by environmental conditions and infrastructure, which together limit the environmental health, and economic and social prosperity of their surroundings. Rather than addressing brownfield sites one by one, an area-wide approach provides an opportunity to systematically consider the challenges related to multiple brownfields and incorporate site-specific assessment and cleanup into larger community revitalization efforts. An area-wide planning process enables a community to develop a shared vision for revitalization within the project area, strategize the best way to implement that vision, and more efficiently remediate and reuse brownfield sites to help reverse disinvestment.

As brownfield area-wide plans are implemented by communities like Camden, and properties within the area affected by brownfields are cleaned up and reused, EPA expects there will be positive environmental outcomes related to public health, air and water quality, such as reduced exposure to contaminants, reduced greenhouse gas emissions and other air pollutants, reduced stormwater runoff, and substantial reductions in pollutant loadings in local waterways. EPA expects these types of environmental outcomes at brownfields and other infill properties that accommodate the growth and development that would otherwise have occurred on undeveloped, greenfield properties.

BROWNFIELDS AREA-WIDE PLANS

Area-Wide Plans provide direction for future brownfields area improvements that are:

- » protective of public health and the environment,
- » economically viable, and
- » reflective of the community's vision for the area.



Centerville Neighborhood

The Branches at Centerville Under Construction (Summer 2017)

PROJECT DESCRIPTION

EPA selected the **Camden Redevelopment Agency (CRA)** as a BF AWP Grant recipient in 2015. CRA received \$200,000 to work with community stakeholders to develop an area-wide plan and implementation strategy for the Mt. Ephraim neighborhood of Camden.

This BF AWP project establishes a strategy to address brownfields in three neighborhoods that comprise it in the Mt. Ephraim neighborhood of Camden, which covers known as Liberty Park, Whitman Park, and Centerville.

The community recently completed a US Department of Housing and Urban Development (HUD) Choice Neighborhoods Planning grant targeting the Mt. Ephraim neighborhood and received a \$13 million Choice Neighborhoods Implementation Grant in December 2016. The Choice Plan sets forth strategies for using the redevelopment of distressed public housing as a catalyst for community transformation into a transit-oriented neighborhood. Working with residents and the private sector, the plan focuses on the transformation of several public and other federally subsidized housing developments as a force for revitalization. During the development of the Choice Transformation Plan, community members overwhelmingly agreed that one brownfield site in particular, the Camden Labs site offered tremendous redevelopment potential given its size and location.

Building upon the momentum created by the Choice planning initiative, some of the beneficial outcomes expected to result from implementation of the BF AWP project include the following:

- » **Stimulate economic development**

Redevelopment of brownfield sites in the Mt. Ephraim neighborhood will create economic benefits by providing a sustainable mix of residential and commercial components. As the area becomes safer and abandoned or vacant storefronts are identified and addressed, this area is expected to be revived into a more vibrant commercial corridor, with improved shopping choices and more commercial jobs.

- » **Facilitate use or reuse of existing infrastructure**

Given the age and layout of the Mt. Ephraim neighborhood, extensive infrastructure already exists in the form of streets, sidewalks, and utilities. It is not expected that future redevelopment will result in large-scale block realignments that would necessitate the construction of large-scale infrastructure.

- » **Create or preserve green space**

Area residents have expressed concerns over the lack of high quality, accessible, and safe open space. There are almost 40 acres of existing open space within the Mt. Ephraim neighborhood. Thus any reuse plan developed for the neighborhood will not be at the expense of the existing open space network and could only further help improve existing amenities.

- » **Equitable Development**

The Choice planning effort set forth the need for expansion and upgrades to the existing Section 8/public housing in the area. The Choice Plan calls for over 1,200 new or rehabilitated housing units for low- to low-moderate-income levels, ensuring that any 'market rate' housing stock to be developed in the community would not be at the expense of new affordable housing or the area's existing low- to low-moderate residents. Equitable development is examined in greater detail in the Equitable Development sub-chapter.

GOALS OF THE BROWNFIELDS AREA-WIDE PLANNING PROCESS



**Work with the community
to develop a plan to address
brownfields**



**Create a toolkit of strategies
for the reuse of smaller
brownfield sites**



**Develop community-
supported reuse concepts
for large, catalyst sites**



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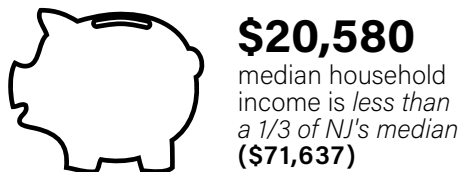
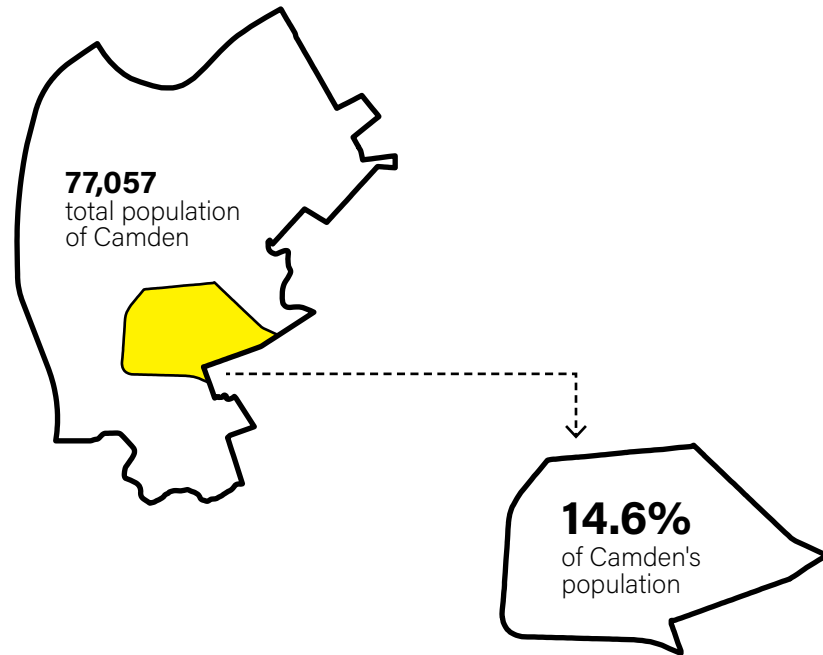
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COMMUNITY PROFILE



Community Profile

The Mt. Ephraim Brownfield Area-Wide Plan area, or “project area,” is roughly coterminous with the boundaries of the Mt. Ephraim Choice Neighborhood Plan, and consists of three adjoining neighborhoods: Whitman Park, Liberty Park, and Centerville. The project area encompasses slightly less than one square mile and is located in the south-central portion of Camden, adjacent to Collingswood Borough and Woodlynne Township. The project area is bounded by Haddon Avenue to the east, Liberty Street to the north, Interstate 676 to the west, and portions of Bulson Street and Ferry Avenue to the south. A map of the project area is shown at right.

General characteristics of the three project area neighborhoods are presented in the table below. The boundaries of each of the three neighborhoods are co-terminus with a single U.S. Census Tract and the combined population of these three tracts is estimated to be 11,342.¹

Area Name	Census Tract	Area (sq. mi.)	Population
Whitman Park	6015	0.452	5,789
Liberty Park	6016	0.203	2,373
Centerville	6017	0.339	3,180
Total		0.99	11,342

Source: U.S. Census Bureau, ESRI Business Analyst forecasts

¹ Source: U.S. Census Bureau, 2011-2015 American Community Survey, 5-year estimates

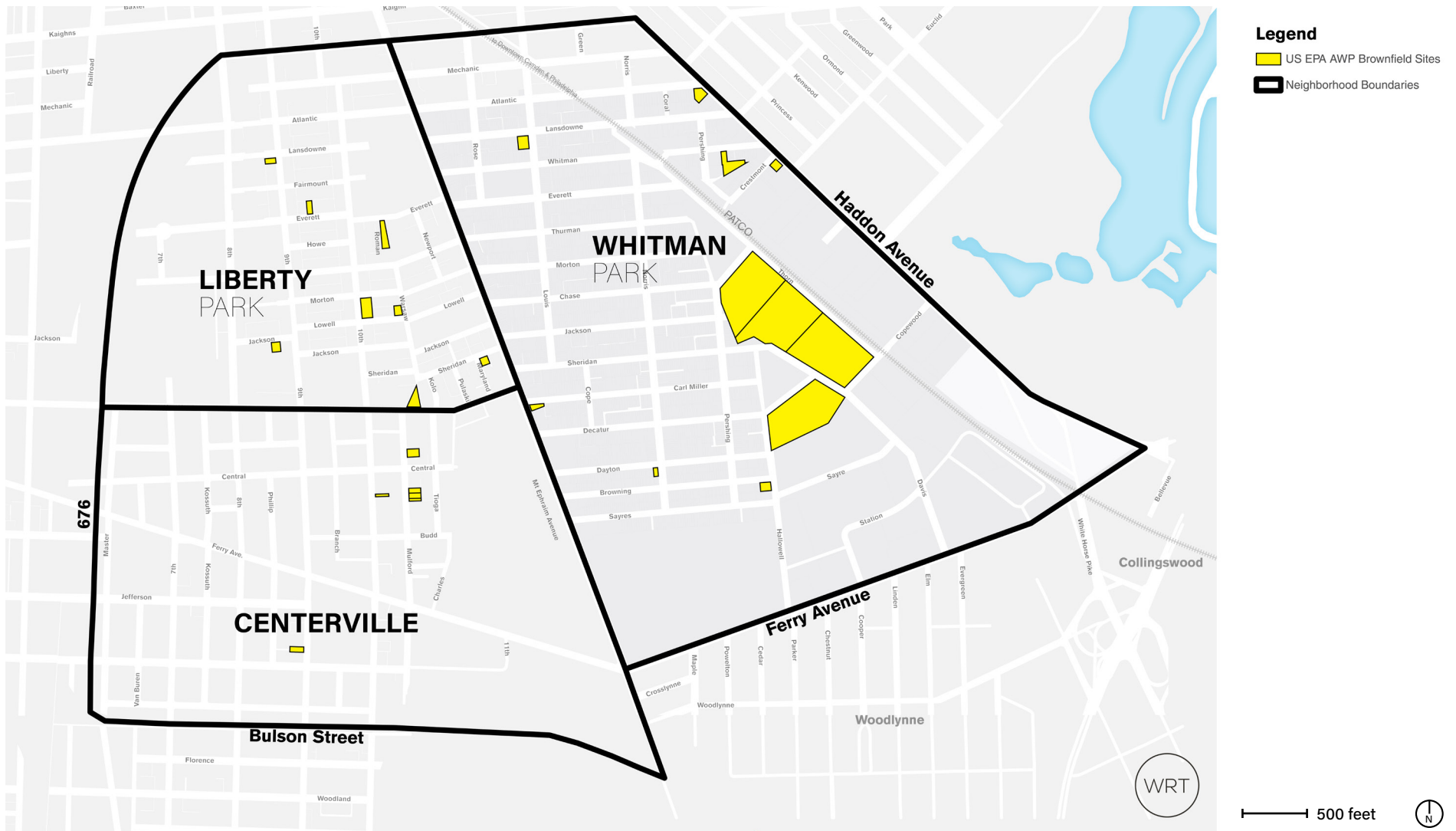


Figure 4. Project Area Map
The Mt. Ephraim Neighborhood consists of three adjoining neighborhoods: Liberty Park, Centerville, and Whitman Park



Vacant and Underutilized Land
Sheridan St and Maryland St



Blight and Vacancy
S. 9th St and Jackson St

CHALLENGES

Mt. Ephraim contains significant environmental burdens, especially when compared with other parts of Camden County, such as a county incinerator and a county sewage treatment plant whose odors have impacted the targeted area. In addition, numerous brownfield sites, like abandoned dry cleaners and gas stations, are located along Mt. Ephraim Avenue, the commercial corridor that serves as the spine of the Mt. Ephraim Neighborhood.

In the eastern section of the neighborhood, there are larger brownfield sites such as the Camden Laboratories site (3.56 acres) and the Phil-Mar site (4.1 acres). These sites are abandoned and in extremely poor condition and subject to vandalism, illegal dumping and various other criminal activities. Given their substantial size, they represent impediments to the advancement of community revitalization efforts.

In addition, brownfields contribute to the area's substantial vacancy rate. Vacancy rates within the Mt. Ephraim Neighborhood run as high as 21.4%, compared to 16.7% within the City overall and 10.4% overall in the State of New Jersey (2008-2012 American Community Survey 5-year estimates). According to the 2016 Choice Neighborhood Plan, "An ongoing concern among residents is the deteriorating condition and lack of maintenance of abandoned lots."

Finally, the project area experiences significant challenges with public safety and crime. According to the FBI's Uniform Crime Reporting Statistics, in 2012 the violent crime rate in Camden was nearly seven times that of the national rate and nearly nine times the state rate. Mt. Ephraim Avenue has one of the highest crime rates in the City of Camden. According to the Camden County Police Department, two focal points along Mt. Ephraim Avenue are considered "high density" crime areas in the City for the 2013 reporting period. Over the past few years, hundreds of shooting and dozens of homicides have taken place in this area, much of it associated with the open air drug trade.

ASSETS

Despite its many challenges, the planning area has significant assets and redevelopment potential, serving as the location of one of the city's major employers, Our Lady of Lourdes Hospital, and containing a PATCO High-Speed Line's station. In 2012, the U.S. Department of Housing and Urban Development (HUD) awarded the Housing Authority of the City of Camden (HACC) a \$300,000 Choice Neighborhood Planning Grant for the Mt. Ephraim Corridor, to plan for the redevelopment of two (2) public housing projects in the Mt. Ephraim neighborhood: Branch Village and J. Allen Nimmo Court.

This plan, ***Moving Our Neighborhood Forward: Mt. Ephraim Choice Neighborhood***, established strategies to address community-wide priority concerns including improved housing, safety, neighborhood improvements, and youth programs, and uses a model of asset-based community development. The Choice Plan also uses the Leadership in Energy and Environmental Design (LEED) rating system to ensure future neighborhood development achieves a high level of environmental, economic and social sustainability.

This Plan used a community-driven leadership structure that was continued in the BF AWP process, namely activating the Choice Neighborhood Executive Leadership Team to serve as a communication tool for the Mayor and resident leaders throughout the neighborhood.

In December 2016, Camden was selected as a recipient of a \$13 million grant through the HUD Choice Neighborhood Implementation program to implement a portion of the "Moving Our Neighborhood Forward" plan for Mt. Ephraim. Because of this, the AWP planning team aimed to ensure that the redevelopment scenarios proposed for the neighborhood's brownfield sites were consistent with the Choice Neighborhood plan. These are discussed in greater detail in the "Site Redevelopment" section below.



Invested Neighborhood Organizations
United Neighbors of Whitman Park



Invested Residents
Despite vacancy and blight, many residents take pride and invest in their homes and neighborhood



PRIVATE PROPERTY

PRIVATE PROPERTY

PRIVATE PROPERTY

PRIVATE PROPERTY

NO PARKING
VIOLATORS WILL BE
TOWED AWAY

PRIVATE PROPERTY



METHODOLOGY

Methodology

The project team utilized the following process and timeline outlined in Figures 5 and 6 below in order to develop a comprehensive strategy for brownfield redevelopment in the Mt. Ephraim Choice Neighborhood.



Figure 5. Mt. Ephraim Brownfield AWP Timeline

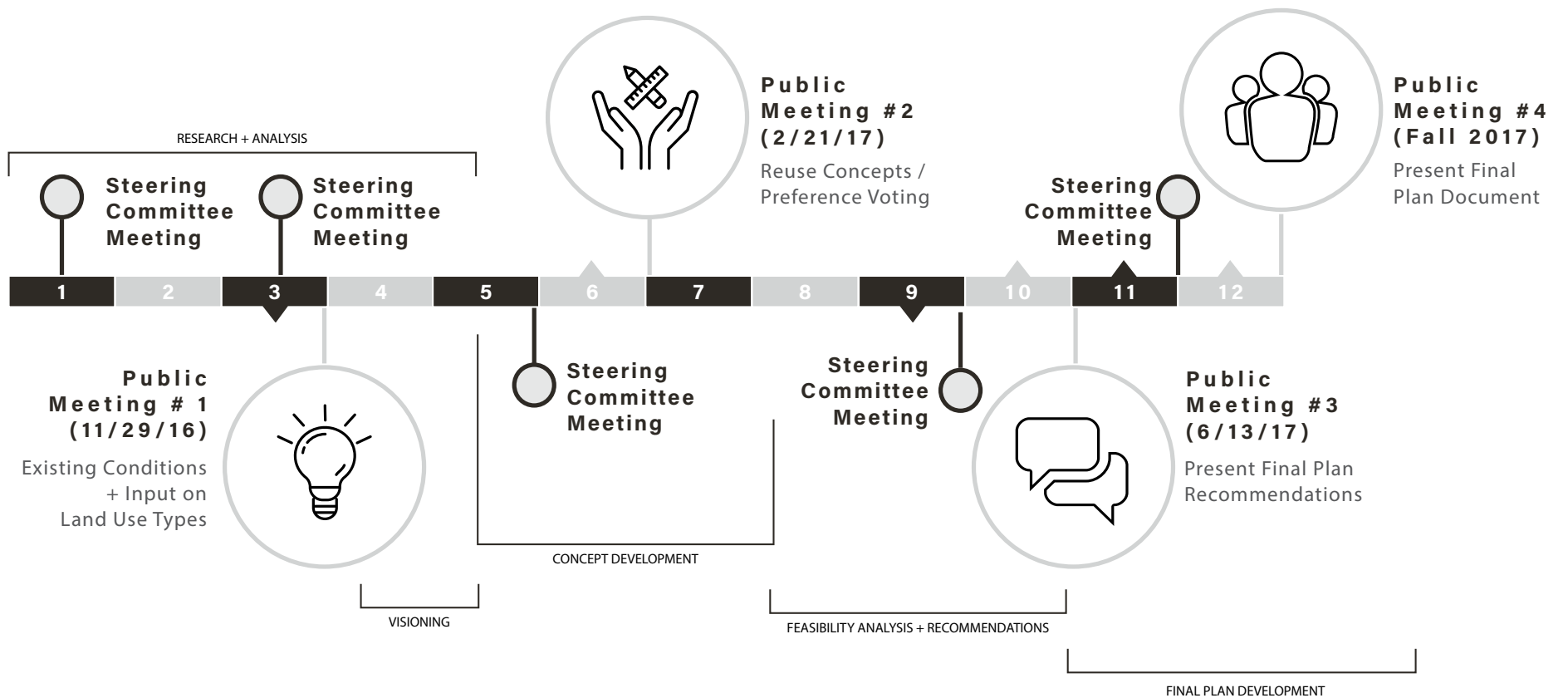
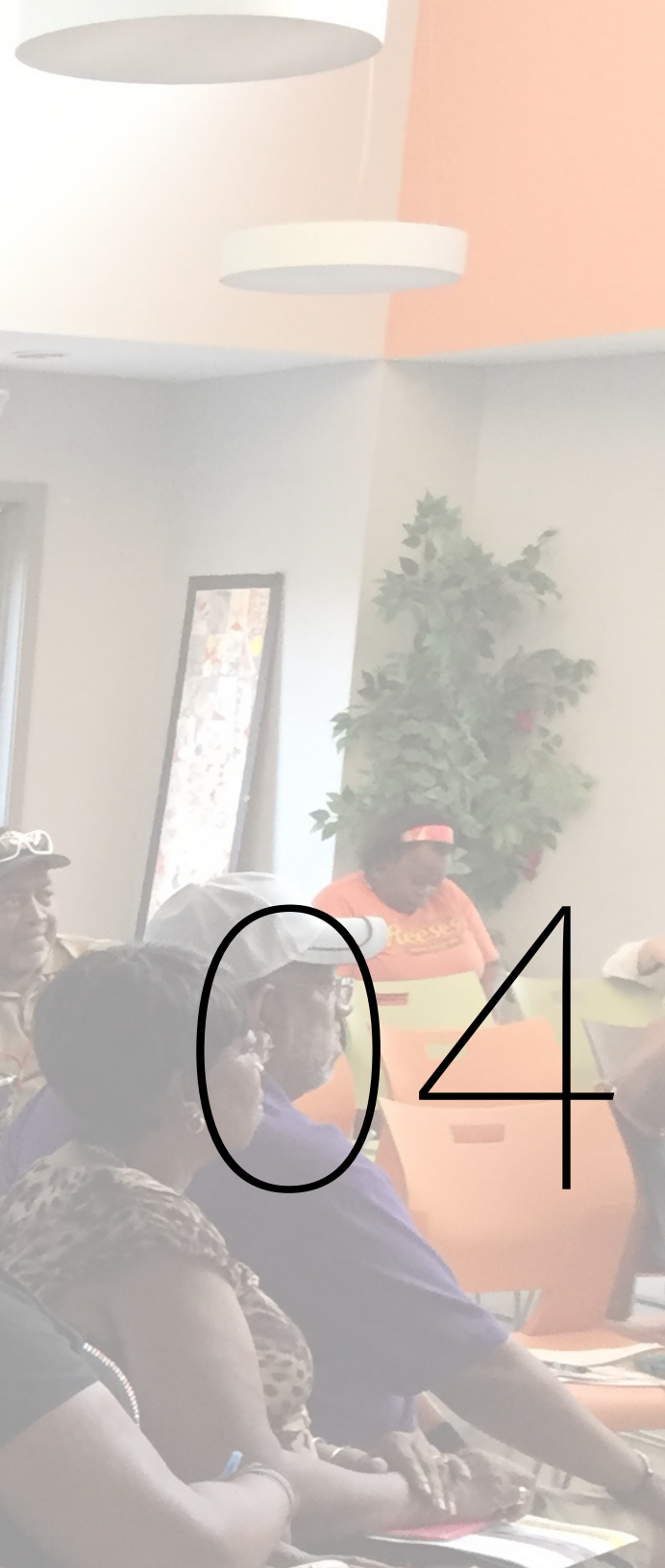


Figure 6. Mt. Ephraim Brownfield AWP Process





COMMUNITY OUTREACH

Community Outreach

Involving neighborhood residents, city officials, local organizations, and other stakeholders in planning for the reuse of brownfield sites was one of the key goals of the AWP planning process, as the interests of many stakeholders must be integrated into the overall redevelopment process. The community outreach plan for the process consisted primarily of **Steering Committee Meetings** and **Community-Wide Meetings**.

STEERING COMMITTEE MEETINGS

The AWP planning process utilized existing networks of stakeholders and community groups from the Choice Neighborhoods planning process described previously, including the Mayor's Choice Neighborhood Executive Leadership Council. The Mayor's Choice Neighborhood Executive Leadership Council, created in 2013, consists of representatives from local partners including the Housing Authority of the City of Camden, Cooper's Ferry Partnership, and the Camden County Municipal Utilities Authority. The Council, along with representatives from neighborhood groups, became the AWP's "Steering Committee." The Steering Committee met five (5) times during the planning process and helped ensure continuity with prior planning efforts, supported outreach efforts, solidified the goals of the process, and helped guide the development of reuse concepts and plan strategies.

Right: Our Lady of Lourdes Medical Center, hospital and institutional stakeholder in the Whitman Park neighborhood



LOURDES
Lourdes Hospital

PUBLIC ENGAGEMENT

Four (4) community-wide meetings were held during the AWP process to provide residents from the Centerville, Liberty Park, and Whitman Park neighborhoods with opportunities to learn more about the issues related to brownfields, provide input on brownfield reuse concepts, and understand the potential redevelopment process and timeline for brownfields. Each of the three neighborhoods – Centerville, Liberty Park, and Whitman Park – hosted at least one of the community meetings.

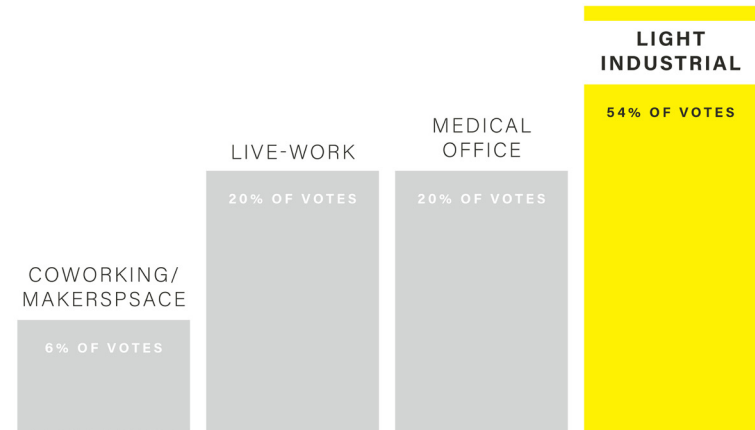
PUBLIC MEETING #1

The first community meeting was held on **November 29, 2016** at New Life Ministries in the Whitman Park Neighborhood. During this kick-off meeting, the planning team gave an introduction to the project and discussed the AWP planning process. This meeting included an overview of brownfields, the brownfield prioritization process, and presented initial opportunities for small and large sites. During the presentation, the team described a potential toolkit for the reuse of small brownfield sites. This toolkit included a variety of intensity of uses from parks and green stormwater infrastructure to neighborhood retail and mixed use developments.

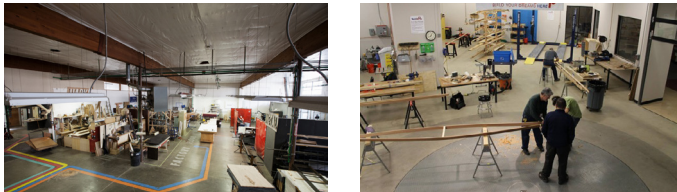
Following the presentation, the planning team led breakout sessions aimed at gathering public input for the reuse options for one of the potential large sites – the Phil-Mar site. During these breakout sessions, residents used dots to vote for their most preferred use. Options included: light industrial, co-working/makerspace, live-work, and medical office. 54 percent of participants chose light industrial as their preferred use. Live-work and medical office both received 20 percent of the vote with co-working/makerspace making up the final 6 percent. Residents were also encouraged to use the “parking lot” board to ask additional questions about the process or neighborhood revitalization.

REUSE OPTIONS FOR THE PHIL- MAR SITE

Results from the Public Meeting held on Tuesday,
November 29TH @ 6PM



Light Industrial 54%



Less intensive industrial uses. They have fewer environmental impacts and are often used to produce small manufactured goods for sale.

Medical Office 20%



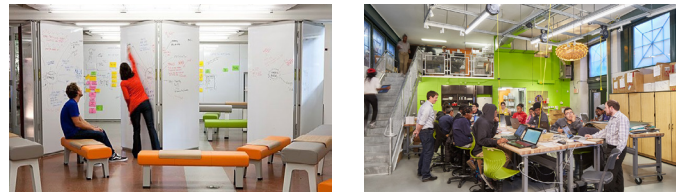
Offices where one or more medical doctors (dentists, general practitioners, etc.) see and treat patients.

Live-Work 20%



A space that is both a residence and place of business (art studio, manufacturing space, storefront, gallery, etc).

Coworking/Makerspace 20%



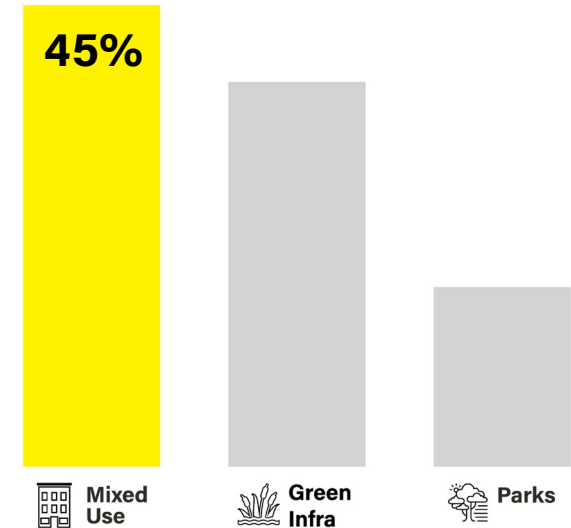
Spaces for small companies or individual freelancers/contractors to create, invent, collaborate, and conduct business meetings.

PUBLIC MEETING #2

The second community meeting was held on **February 21, 2017** at Virtua Hospital in the Liberty Park neighborhood. During this meeting, the planning team presented findings from the urban land market analysis and potential reuse concepts. Potential reuse concepts were developed for five brownfields sites in the neighborhood based on comments from community residents at the first meeting and input from the Steering Committee.

The team presented concepts for the two larger catalyst sites and three smaller sites. The concept for one of the larger sites, the Phil-Mar site, included the rehabilitation of an existing industrial building along with two new industrial/manufacturing buildings. The two new buildings are separated by a parking lot that incorporates green infrastructure. The new building along Copewood Street also includes a small amount of neighborhood-serving retail on the ground floor. The concept for the other large site, Camden Labs, included creating a larger park by merging the existing Whitman Park with the Camden Labs site.

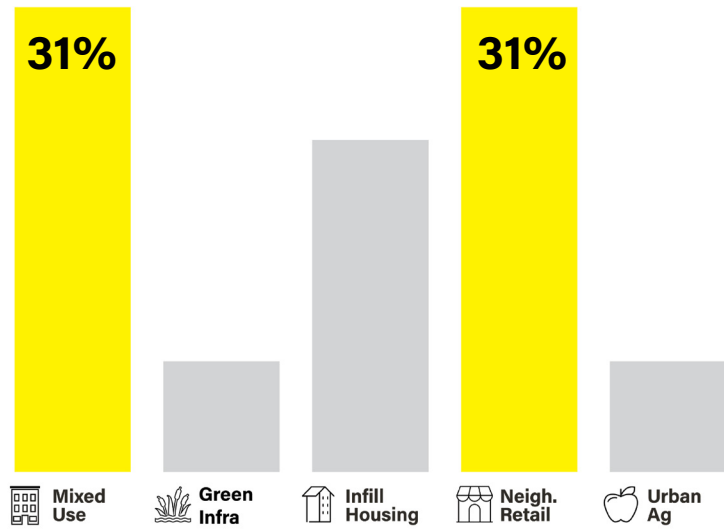
The three smaller sites include a parcel along 1700 Mt. Ephraim Avenue, a former drycleaner site at 1572 S. 10th Street, and a collection of small lots on Mulford Street. The concept for 1700 Mt. Ephraim is a multi-use building that includes new housing units and a community space. Site features include stormwater management through stormwater planter bumpouts and a rain garden as well as a space for urban agriculture. The concept for the 10th Street site includes new infill housing units on the northern portion of the site and a new mixed use building along the southern portion of the site. The mixed use building includes neighborhood retail on the ground floor with apartments above. New stormwater planters line the sidewalk along 10th street to manage runoff. The concept for the Mulford Street sites includes new infill housing units, new stormwater planters along the sidewalk, and a community garden and park space at the end of the block. After the presentation of each concept, neighborhood residents were asked to use electronic clicker polling to vote on the elements, up to three, in each concept that were most important to them.



Phil-Mar/Camden Labs

Survey Results: *Which reuse element is most important to you?*

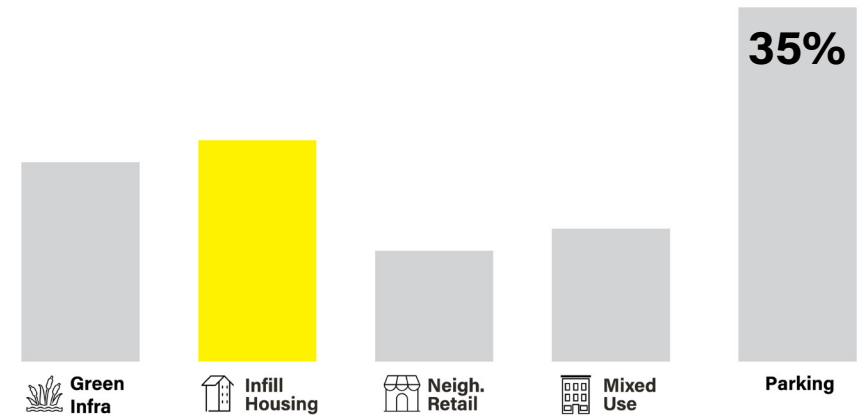
The mixed use element was the deemed the most important element with 45% of the votes.



1700 Mt. Ephraim Avenue

Survey Results: *Which reuse element is most important to you?*

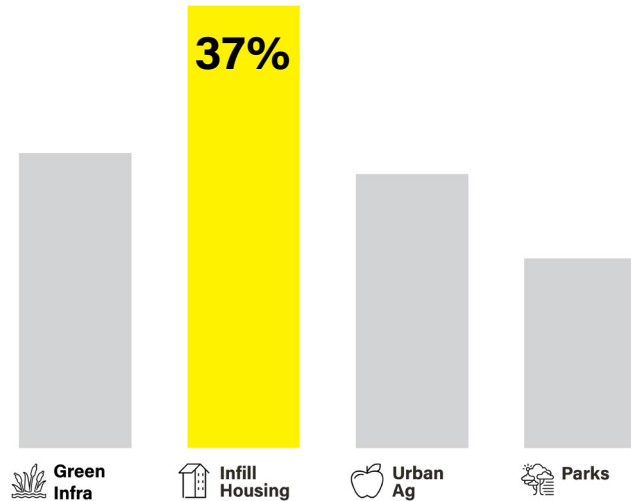
The neighborhood retail and mixed use elements both received 31% of the votes.



1572 S. 10th Street

Survey Results: *Which reuse element is most important to you?*

The parking element received 35% of the votes with infill housing coming in second.



Mulford Street Lots

Survey Results: *Which reuse element is most important to you?*
Infill housing received 37% of the votes.

PUBLIC MEETING #3

The third community meeting was held on **June 13, 2017** at the Branch Village Community Center in the Centerville neighborhood. During this meeting the planning team presented an overview draft plan structure including the updated brownfield reuse concepts, plan strategies and implementation options.

Participants also reviewed a handout that included overview of brownfields, overview of area wide planning process, and overview of planning options for several priority sites, and a description of the brownfield assessment and clean-up process. Key terms were included on the last page so that community members could understand technical terms and abbreviations used as part of the brownfield assessment, clean-up and redevelopment process. A copy of this handout is provided in the **Appendix**.

Finally, the planning team presented findings from its in-depth analysis of how the proposed development would impact the City's current capacity in water, sewer, green infrastructure, transportation, open space and recreation.

PUBLIC MEETING #4

The fourth and final community meeting was held on **October 24, 2017** at New Life Ministries in the Whitman Park neighborhood. This meeting was a public open house format whereby community stakeholders could review all of the work done over the course of the Brownfield Area-Wide Plan process, review the draft Brownfield Area-Wide Plan, and provide their review and comments for inclusion in the final plan document. Participants were also provided the weblink for the full text of the draft Brownfield Area-Wide Plan to review and share with friends, family and other community members.

COMMUNITY FEEDBACK

Residents shared valuable insight to what the best re-use options would be for brownfield sites:

- » There is a need for more homeownership opportunities in an area with a significant renter population.
- » New retail should be focused along existing commercial corridors.
- » Interim uses should use land productively (i.e. urban agriculture, green parking, pocket parks).





NOTICE
AUTHORIZED PARKING ONLY
UNAUTHORIZED VEHICLES WILL BE TOWED AT THE OWNER'S RISK AND WITHOUT NOTICE. ALL APPLICANTS MUST BE AT LEAST 21 YEARS OLD AND HAVE A VALID DRIVER'S LICENSE. APPLICATIONS ARE AVAILABLE AT THE OFFICE OF THE PROPERTY MANAGER, 1000 W. 10TH ST., SUITE 100, OMAHA, NE 68102. FOR MORE INFORMATION, CALL 402-441-1111.

NOW
ACCEPTING
APPLICATIONS

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LS9-AYE

X28-AYG

2015



05

BACKGROUND RESEARCH

Background Research

EXISTING PLAN + DATA REVIEW

The Mt. Ephraim Neighborhood has benefited from being the subject of extensive planning studies over the past five (5) years, ranging from the City-wide Comprehensive Master Plan and Comprehensive Economic Development Report, to neighborhood-level plans and redevelopment reports. This section briefly examines other recent plans for the Mt. Ephraim Choice neighborhood and relates their significance to the Brownfield Area-Wide Planning project.

CITY-WIDE + REGIONAL PLANS

- » **FutureCAMDEN Master Plan:** FutureCAMDEN, the City's Comprehensive Master Plan, focuses on land use and specific recommendations for physical development and redevelopment. This plan's Land Use Plan Element specifically calls for "cleaning up and remediating known contaminated sites." Specific land use recommendations for the planning area include: infill housing development and rehabilitation; a mixed-use Transit Oriented development near the Ferry Avenue PATCO station; and medical and support facilities and uses in and around the Our Lady of Lourdes Medical Center; green corridor landscape buffers along the high speed rail line corridor; improved retail land uses along commercial corridors; and upgraded parks, recreation and open space throughout the neighborhood.

FutureCAMDEN



Master Plan
City of Camden, NJ

- » **Comprehensive Economic Development Strategy, Camden, New Jersey:** The Comprehensive Economic Development Strategy identifies and prioritizes local economic development projects, and establishes a “roadmap” for leveraging economic development efforts. According to the report, the planning area is intended for many different land uses: residential within all of the neighborhoods, commercial/retail development along the major roadway corridors, a mixed-use Transit-Oriented Development (TOD) near the Ferry Avenue PATCO station, and medical and support facilities and uses in and around the Our Lady of Lourdes Medical Center.
- » **Connections 2040: Plan for Greater Philadelphia:** The Delaware Valley Regional Planning Commission developed this long-range plan for Greater Philadelphia in order to address significant development pressures in the region, including loss of open space, increased congestion and stormwater runoff, decreased air and water quality, lack of mobility and accessibility to jobs for workers, and disinvestment in established communities. The plan references brownfields as a serious environmental justice consideration for disadvantaged communities, and calls for a more sustainable future that offers a superior quality of life by increasing mobility choices, preserving more open space, reinvigorating existing communities, and reducing demand for energy.



Neighborhood Plans

- » **Centerville Redevelopment Plan:** The Centerville Redevelopment Plan plans for the redevelopment of vacant or substandard buildings and lots in the Centerville neighborhood. Because of the concentration of public housing projects in this neighborhood, the plan focuses heavily on the redevelopment of three sites – Branch Village/Nimmo Court, Franklin Roosevelt Manor and Chelton Terrace – as well as reversing the neighborhood trend of high-density housing development. Other recommendations include public infrastructure, construction of a new elementary school, construction of Senior Housing, creation of expanded passive recreational opportunities, and mitigating the environmental impacts of proposed development.
- » **Liberty Park Redevelopment Plan:** The Liberty Park Redevelopment Plan promotes revitalization that strengthens this predominately residential neighborhood. It proposes acquisition of certain properties, including three (3) that also appear on the Mt. Ephraim Brownfield Area-Wide Plan Brownfield Inventory: Block 417/Lot, Block 432/Lot 44 and Block 453/Lot 42. It also proposed end uses for two (2) other sites on the Brownfield Inventory (Block 440/Lot 82 and Block 416/Lot 52).
- » **Whitman Park Neighborhood Plan:** The Whitman Park Neighborhood Plan provides strategies for revitalization of the Whitman Park neighborhood. Specific recommendations include the redevelopment of large institutional and industrial tracts to promote revitalization in Whitman Park's established residential section; new transit-oriented development surrounding the Ferry Avenue PATCO station to encourage renovation of Whitman Park's existing residential units; new schools on vacant industrial properties to provide improved community services to the neighborhood and attract middle-class families to the neighborhood; and reconfiguration of the Mt. Ephraim Avenue commercial district to create a safer, more attractive, and vibrant neighborhood.
- » **Whitman Park Area In Need of Redevelopment Report Proposed:** The proposed Whitman Park Area in Need of Redevelopment Report (AINR) builds on FutureCAMDEN and determines that the entire Whitman Park neighborhood is qualified as an area in need of redevelopment. The AINR identifies six (6) known brownfield sites within the neighborhood, and states that they may require more environmental assessment and investigation during redevelopment to determine contamination and develop a plan for remediation. Five (5) of these are included in the BF AWP brownfield inventory:
 1. Camden Laboratories (1667 Davis Street)
 2. RF Products Incorporated (Davis Street and Copewood Street)
 3. Our Lady of Lourdes (1600 Haddon Avenue)
 4. Charlie and Son Service Center LLC (1503 Haddon Avenue)
 5. Harry Pape and Sons (1427 Haddon Ave)
- » **Whitman Park Redevelopment Plan Proposed:** The proposed Whitman Park Redevelopment Plan establishes a vision and framework to guide future development in the Whitman Park neighborhood, while recommending land use changes, such as an overlay zone, and design guidelines. The Redevelopment Plan's three main goals are to build on assets and invest in areas of strength; create a safe place to raise a family and promote homeownership; and develop an innovative land management strategy.

In developing the Mt. Ephraim Choice Neighborhood BF AWP, CRA and the consultant team built upon these existing planning efforts for initiatives such as housing rehabilitation, new business creation, and the rehabilitation or demolition of existing business structures.

Mt. Ephraim Choice Neighborhood Transformation Plan

U.S. HUD Choice Neighborhood Planning Grants support the development of comprehensive neighborhood revitalization plans which, when implemented, transform distressed public and assisted housing, support positive outcomes for families in the target development(s), and transform distressed, high-poverty neighborhoods into viable, mixed-income neighborhoods with access to well-functioning services, high quality public schools and education programs, high quality early learning programs and services, public assets, public transportation, and improved access to jobs.

As previously noted, the U.S. Department of Housing and Urban Development (HUD) awarded the Housing Authority of the City of Camden (HACC) a \$300,000 Choice Neighborhood Planning Grant for the Mt. Ephraim Corridor in 2012, to plan for the redevelopment of two (2) public housing projects in the Mt. Ephraim neighborhood: Branch Village and J. Allen Nimmo Court.

This plan, ***Moving Our Neighborhood Forward: Mt. Ephraim Choice Neighborhood***, establishes strategies to address community-wide priority concerns including, improved housing, safety, neighborhood improvements, and youth programs and uses a model of asset-based community development. The Neighborhood Plan also uses the LEED ND rating system to ensure future development achieves a high level of environmental, economic and social sustainability.

Several of the goals identified in the Choice Neighborhood plan support the redevelopment of brownfield sites in the AWP project area, for example, reduce blight, problem properties and address the physical conditions that impact neighborhood safety and quality of life; and improve circulation, recreation, and green infrastructure working closely with the City of Camden, HACC, transit agencies, and Camden SMART (Stormwater Management and Resource Training).



BROWNFIELD INVENTORY

The EPA Brownfields Area-Wide Planning Grant program requires grantees to identify a "catalyst site—a site that, if redeveloped, will have radiating positive effects for the surrounding community. CRA chose the catalyst site to be the Camden Laboratories (or "Camden Labs") site located at 1667 Davis Street (Block 1392/Lot 33). Camden Labs was historically used as a hospital for Contagious Diseases and later for medical laboratories. It has been vacant since 2008, and the City is in the process of obtaining ownership of the property

The AWP project team then set out to create a comprehensive inventory of other brownfield sites in the Mt. Ephraim Choice Neighborhood plan area. For the purposes of this project, the project team utilized the EPA's definition of a "brownfield," which is "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

The AWP project team first started with a brownfield inventory that had been developed by the Camden Redevelopment Agency with assistance from the New Jersey Institute of Technology (NJIT) Technical Assistance to Brownfields (TAB) Program. Any former or current commercial or industrial site that was vacant or underutilized, and on which there had been, or there was suspected to have been, a discharge of a contaminant, was examined using the following criteria to determine if the site is a brownfield:

- » Is the site look perceived to be a former or current commercial or industrial site?
- » Does the site look abandoned?
- » Does the site look like it could have the presence of a discharge of a contaminant?

If all questions result in a **yes**, the site was added to the inventory.

The AWP consultant team then built upon this inventory by adding additional brownfield sites that were identified using available environmental records, historic aerial photographs, vacant land data, and planning documents. Brownfield sites were catalogued by size, ownership type, condition, redevelopment constraints, and other information that would be used to inform redevelopment potential. On August 22, 2016, members of the consultant team conducted a windshield survey of identified brownfield sites in the plan area to confirm this information.

This comprehensive brownfield inventory yielded a total of 23 sites, which are shown in Figure 7: Map of Brownfield Inventory, Mt. Ephraim Neighborhood, Camden, New Jersey, on the following page.

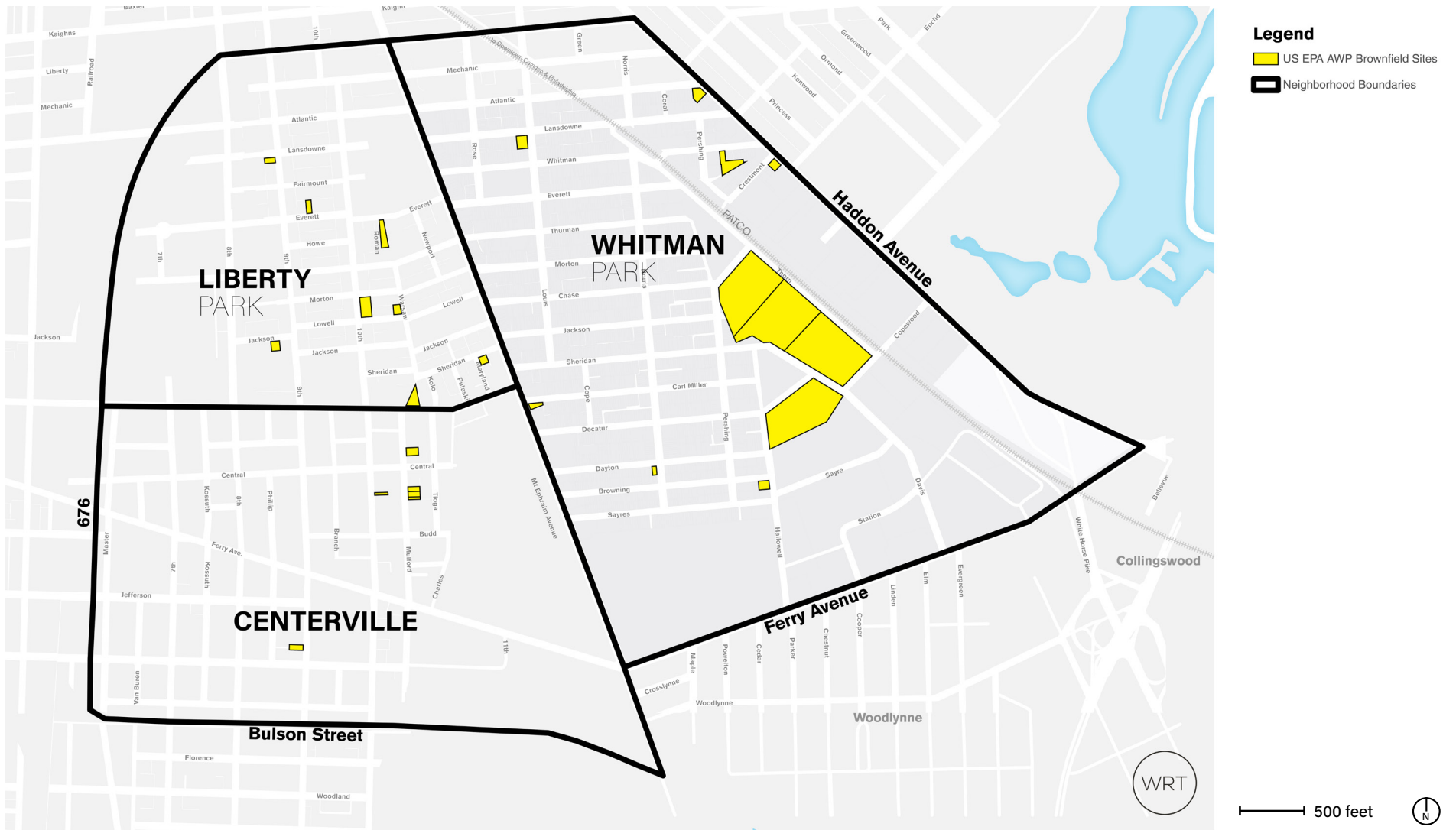


Figure 7. Brownfield Inventory Sites
Mt. Ephraim Brownfield Sites

Figure 8. Mt. Ephraim Choice Neighborhood Brownfield Inventory

Site ID	Site Name	Neighborhood	Street Address	Descriptive Location (if no address)	Owner	Site Size (Area)	Block	Lot
1	1572 S 10th St	Liberty Park	1572 S 10th St		Respond, Inc	0.2755	440	99
2	SW 9th and Lansdown Ave	Liberty Park		SW 9th and Lansdown Ave	First Nazarene Baptist Church	0.073	417	4
3	927 Everett St	Liberty Park	927 Everett St		Onuoha Cajetan O	0.09	420	61
4	1030-1032 Everett St	Liberty Park	1030-1032 Everett St		Joseph Seward	0.21	432	44
5	NW Lowell and Warsaw St S	Liberty Park		NW Lowell and Warsaw St S	GSVJMW INC	0.092	440	82
6	SS Jackson 87 W of 9th St	Liberty Park		SS Jackson 87 W of 9th St	Camden City	0.107	444	33
7	NS Carl Miller 273 E 10th	Liberty Park		NS Carl Miller 273 E 10th	Hollis, Steven	0.551	449	2
8	SW Corner of Sheridan and Marylind Streets	Liberty Park		SW Corner of Sheridan and Marylind Streets	Chinn, W	0.083	453	42
9	1744 Mulford St	Centerville	1744 Mulford St		Camden City	0.041	553	34
10	1816 S 10th St	Centerville	1816 S 10th St		Ferguson, H	0.046	555	11
11	1814-1820 Mulford St	Centerville		ES Mulford St 240 N of Budd	Camden City	0.14	556	43, 44, 45, 89
12	Centerville Revitalization	Centerville		Florence St btwn 7th/8th and 9th/10th Streets	Camden Redevelopment Agency	0.092	570	17
13	1198 Lansdown Ave	Whitman Park	1198 Lansdown Ave		Orlando Rolon & Sons, LLC	0.178	1328	1
14	Harry Pape & Sons	Whitman Park	1427-9 Haddon Ave		Unity Community Center of SJ	0.138	1336	43
15	BDF Industrial Fasteners	Whitman Park	1360 Whitman Ave		Holy Trinity Intl Ministries	0.171	1348	31
16	1700 Mt Ephraim Ave	Whitman Park	1700 Mt Ephraim Ave		Camden Redevelopment Agency	0.114	1363	83
17	1801-1811 Norris St	Whitman Park	1801-1811 Norris St		GSVJMW, Inc	0.03	1370	35
18	SS Browning 170 E Pershing	Whitman Park		SS Browning 170 E Pershing	Wilson, Arthur T	0.116	1378	19
19	Charlie & Sons Service Ctr	Whitman Park	1503 Haddon Ave	SW corner of Haddon and Crestmont Ave	Chomiczewski, Charles	0.1045	1381	24
20	Pro-Build	Whitman Park	1601 Thorne St		RF Products	3.65	1386	1
21	RF Products	Whitman Park	1605 Thorne St		Foursome LLC	3.95	1386	1.01
22	Phil-Mar	Whitman Park	1800 Copewood St		Phil-Mar Industries	4.1	1388	7
23	Camden Labs	Whitman Park	1667 Davis St		Camden Laboratories	1.8	1392	33

Use Intensity	Redevelopment Plan	Proposed Acquisition	Redevelopment Plan - Proposed Use	Current Use	Adjacent operating businesses	Located in Floodplain
Abandoned	Liberty Park	yes	develop new residential	vacant building	mixed residential/commercial	yes
underutilized	Liberty Park	yes	conserve/upgrade existing residential	vacant lot	mixed residential/commercial	yes
Abandoned	Liberty Park	no	conserve/upgrade existing residential	commercial storage	mixed residential/commercial	yes
Abandoned	Liberty Park	yes	develop new residential	vacant building	residential	yes
Abandoned	Liberty Park	no	develop new residential	vacant building	residential	no
Abandoned	Liberty Park	no	develop new institutional uses	vacant lot	residential	no
Abandoned	Liberty Park	no	conserve/upgrade existing residential	vacant lot w/ building	mixed residential/commercial	yes
Abandoned	Liberty Park	yes	develop new residential	vacant lot	residential	no
Abandoned	Centerville	no	n/a	vacant lot	residential	no
Abandoned	Centerville	no	n/a	vacant lot w/ building	residential	no
Abandoned	Centerville	no	develop new residential	vacant lots	residential	no
Abandoned	Centerville	no	n/a	vacant warehouses	light industry	no
Abandoned	Whitman Park	no	n/a	vacant lot w/ building	mixed residential/commercial	no
Abandoned	Whitman Park	no	brownfield redevelopment	vacant building	commercial/ retail	no
underutilized	Whitman Park	no	n/a	institutional	residential	no
Abandoned	Whitman Park	no	commercial, part of "investment" zone	vacant lot	mixed residential/commercial	no
Abandoned	Whitman Park	no	n/a	commercial storage	mixed residential/commercial	no
Abandoned	Whitman Park	no	n/a	vacant lot	residential	no
Abandoned	Whitman Park	no	brownfield redevelopment	vacant lot w/ building	commercial/ retail	no
fully operational	Whitman Park	no	brownfield redevelopment	industrial building	light industry	no
fully operational	Whitman Park	no	brownfield redevelopment	industrial building	light industry	no
Abandoned	Whitman Park	no	brownfield redevelopment	industrial building	light industry	no
Abandoned	Whitman Park	no	brownfield redevelopment	vacant building	other	no

BROWNFIELD PRIORITIZATION

The sites were then organized into a prioritization table to select which sites would the project team would develop redevelopment concepts for through the AWP.

Using site ranking criteria developed by the New Jersey Institute of Technology (NJIT) Technical Assistance to Brownfields (TAB) Program, the project team analyzed the information and ranked the sites. Sites scoring high on the brownfield prioritization were considered smaller-scale priority sites, provided they meet EPA eligibility criteria, and were then included in the community visioning efforts and the BF AWP.

Prioritization categories included location, physical site characteristics, environmental considerations, planning considerations, and ownership. Sites received additional points if they were located within the boundaries of the HUD Choice Neighborhood Implementation project area.

A total of five (5) priority sites were identified using this prioritization. These are shown in the table in Figure 9 below as well as on the map in Figure 10 at right. The complete brownfield prioritization tool is provided in Figures 11 and 12 in the pages that follow.

CATALYST SITES

A total of five (5) large and smaller-scale priority sites were identified:

- 1 » Camden Labs
- 2 » Phil-Mar (Phil-Mar + RF Products parcels)
- 3 » 1700 Mt. Ephraim Avenue
- 4 » Mulford Street Lots
- 5 » 1572 S. 10th Street (Dual Cleaners)

Figure 9. Mt. Ephraim Choice Neighborhood Brownfield Prioritization

Site Name	Neighborhood	Street Address	Block	Lot	Owner (as of 12/2016)	Current Use	Proposed Acquisition	Redevelopment Plan – Proposed Use
Camden Labs	Whitman Park	1667 Davis St	1392	33	Camden Labs	vacant building	no	brownfield redevelopment
Phil-Mar	Whitman Park	1800 Copewood St	1386 1388	1.01 7	Phil-Mar Industries and Foursome LLC	industrial building	no	brownfield redevelopment
1700 Mt Ephraim Ave	Whitman Park	1700 Mt Ephraim Ave	1363	83	Camden Redev. Agency	vacant lot	no	commercial, part of "investment" zone
Mulford Street Sites	Centerville	1814-1820 Mulford St	556	43, 44, 45, 89	Camden City	vacant lots	no	develop new residential
	Centerville	1744 Mulford St	553	34	Camden City	vacant lot	no	n/a
1572 S 10th St	Liberty Park	1572 S 10th St	440	99	Respond, Inc.	vacant building	yes	develop new residential



Figure 10. Catalyst Sites
 Catalyst Brownfield Sites Mt. Ephraim Neighborhood, Camden, New Jersey

Location	Score
Is the site readily accessible by major transportation mode (rail, highway, and/or water)? yes=1 point no=0 points	
Does the site have the potential of being clustered with adjacent properties? yes=3 point no=0 points	
Physical Site Characteristics	
Is the site vacant (no structures present)? yes=1 point no=0 points	
Environmental Considerations	
Contamination * (only one criteria can apply)	
Has a site assessment been completed resulting in no known contamination? 3 points	
Has the site remediation been completed ? 3 points	
If site remediation has not been completed or even started, has a Remedial Action Work plan been prepared and approved by the NJDEP and/or certified by a LSRP? 2 points	
Has a site assessment been completed resulting in known contamination (but remediation plan has not yet been approved/certified)? 1 point	
Is site contamination unknown, or is a site assessment underway (not yet completed)? 0 points	
Is the site listed on the National Priorities List (Superfund)? 0 points	
Is the property under a federal or state enforcement action? 0 points	
Other Constraints	
Is the site located within a floodplain? yes=0 points no=1 point	
Are there wetlands present on the site? yes=0 points no=1 point	
Is the site or structures on the site listed on either the National or State Register of Historic Places? yes=0 points no=1 point	
Planning Considerations	
Is redevelopment of the site for economic purposes inconsistent with regional plans (e.g., DVRPC Connections Plan)? no=1 point yes=0 points	
Is redevelopment of the site for economic purposes inconsistent with state plans (e.g., New Jersey Energy Master Plan)? no=1 point yes=0 points	
Is redevelopment of the site for economic purposes consistent with the City of Camden Master Plan? yes=2 point no=0 points	
Is redevelopment of the site for economic purposes consistent with an existing Neighborhood Redevelopment Plan, Neighborhood Plan or Redevelopment Project as designated for review by the City of Camden? yes=2 point no=0 points	
Is the site specifically mentioned in an existing Neighborhood Redevelopment Plan, Neighborhood Plan or Redevelopment Project as designated for review by the City of Camden in a manner consistent with economic redevelopment? yes=2 point no=0 points	
Is the site located within the boundaries of the Mt. Ephraim Choice Neighborhood HUD Implementation Grant boundaries? yes= 3 points no=0 points	
Ownership	
Is the site owned by a public entity (municipality, county or state)? yes=6 points no=0 points	
If the site is not owned by a public entity, is an agreement in place with the property owner? Yes=2 points no=0 points	
Total Score:	

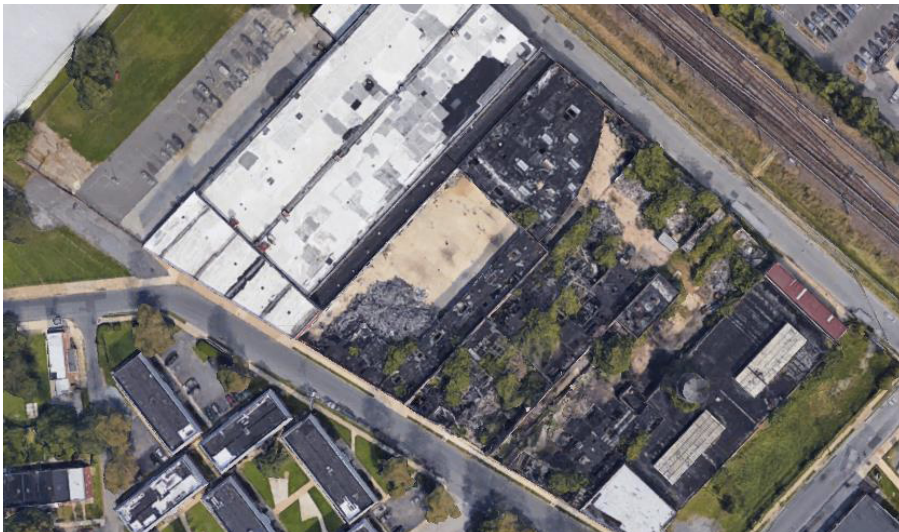
Figure 11. Brownfield Site Redevelopment Prioritization Tool

Site ID	Site Name	Neighborhood	Street Address	Descriptive Location	Block	Lot	Ownership	Score
23	Camden Labs	Whitman Park	1667 Davis St		1392	33	Camden Labs	25
11	1814-1820 Mulford St	Centerville	1814-1820 Mulford St		556	43, 44, 45, 89	Camden City	23
16	1700 Mt Ephraim Ave	Whitman Park	1700 Mt Ephraim Ave		1363	83	Camden Redev. Agency	22
9	1744 Mulford St	Centerville	1744 Mulford St		553	34	Camden City	20
12	Centerville Revitalization	Centerville		Florence St btwn 7th/8th/9th/10th Sts	570	17	Camden Redev. Agency	19
21	RF Products	Whitman Park	1605 Thorne St		1386	1.01	Foursome LLC	19
22	Phil-Mar	Whitman Park	1800 Copewood St		1388	7	Phil-Mar Industries	19
6	SS Jackson 87 W of 9th St	Liberty Park		SS Jackson 87 W of 9th St	444	33	Camden City	17
1	1572 S 10th St	Liberty Park	1572 S 10th St		440	99	Respond, Inc.	16
20	Pro-Build	Whitman Park	1601 Thorne St		1386	1	RF Products	16
15	BDF Industrial Fasteners	Whitman Park	1360 Whitman Ave		1348	31	Holy Trinity Intl Ministries	14
18	SS Browning 170 E Pershing	Whitman Park		SS Browning 170 E Pershing	1378	19	Wilson, Arthur T	14
2	SW 9th and Lansdown Ave	Liberty Park		SW 9th and Lansdown Ave	417	4	First Nazarene Baptist Ch.	13
8	SW Corner of Sheridan and Marylind Streets	Liberty Park		SW Corner of Sheridan and Marylind Streets	453	42	Chinn, W	13
10	1816 S 10th St	Centerville	1816 S 10th St		555	11	Ferguson, H	13
14	Harry Pape & Sons	Whitman Park	1427-9 Haddon Ave		1336	43	Unity Community Center	13
17	1801-1811 Norris St	Whitman Park	1801-1811 Norris St		1370	35	GSVJMW, Inc	13
19	Charlie & Sons Service Ctr	Whitman Park	1503 Haddon Ave		1381	24	Chomiczewski, Charles	12
4	1030-1032 Everett St	Liberty Park	1030-1032 Everett St		432	44	Joseph Seward	11
5	NW Lowell and Warsaw St S	Liberty Park		NW Lowell and Warsaw St S	440	82	GSVJMW INC	10
13	1198 Lansdown Ave	Whitman Park	1198 Lansdown Ave		1328	1	Orlando Rolon & Sons, LLC	10
3	927 Everett St	Liberty Park	927 Everett St		420	61	Onuoha Cajetan O	9
7	NS Carl Miller 273 E 10th	Liberty Park		NS Carl Miller 273 E 10th	449	2	Hollis, Steven	9

Figure 12. Mt. Ephraim Choice Neighborhood Brownfield Prioritization, Overall Ranking



Catalyst Site - Camden Labs
Prior to Assessment and Remediation, Fall 2016



Catalyst Site - Phil-Mar
Aerial View Courtesy of Google Earth

Catalyst Sites

- » **Camden Labs:** As noted above, the primary catalyst site identified in the EPA Brownfield Area-Wide Plan grant application for the Mt. Ephraim neighborhood is the 3.65 acre Camden Labs site. Located in the southeastern section of the Whitman Park neighborhood at 1667 Davis Avenue (Block 1392, Lot 33), the catalyst site is within walking distance of the Ferry Avenue PATCO high speed commuter rail station. It is surrounded by a predominantly residential area, and Whitman Park adjoins the site directly to the south and east. The site history dates back to the early 1920's when it was developed as a Hospital for Contagious Diseases. The site was last used as medical laboratories as recently as 2007, but has been abandoned since that time. As a result, the site is currently in tax arrears and can be foreclosed upon. The Whitman Park Redevelopment Plan calls for "brownfield redevelopment" at this site. It is zoned R-2, a residential zone which is permits single-family dwellings, two-family dwellings, municipal buildings, community centers, schools and parks, playgrounds or recreation areas.
- » **Phil-Mar:** The other catalyst site is the Phil-Mar site. This site was formerly home to the Radio Condenser Company and was later subdivided into three separate parcels now identified as Pro-Build, RF Products and Phil-Mar sites. For the purposes of this plan, the "Phil-Mar site" refers to the two sites farthest south and east comprising Block 1388, Lot 7 and Block 1386, Lot 1.01 respectively. Like the Camden Labs site, the property is currently abandoned and the Whitman Park Redevelopment Plan calls for "brownfield redevelopment" at this site. The former industrial complex comprises a one-story and a two-story slab-on-grade building covering approximately 240,000 square feet of the property. Interior walls divide this industrial complex into seven buildings, known as Building 1, 2, 3, 4, 6, 7 and 8. It is zoned C-3, a commercial zone which permits retail and business uses, offices, social clubs, municipal buildings and parks and parking structures.

Second-Tier Catalyst Sites

The Brownfield Inventory and Prioritization identified a total of three (3) secondary redevelopment sites, one in each of three (3) neighborhoods that comprise the larger Mt. Ephraim Choice Neighborhood project area.

- » **1700 Mt. Ephraim Avenue** (Block 1363, Lot 83) is a former gas station and auto repair site located at the northeast corner of Mt. Ephraim Avenue and Carl Miller Boulevard in the Centerville neighborhood. The original buildings on this property have been razed, and the property currently sits vacant. The site is owned by the Camden Redevelopment Agency.
- » The **Mulford Street Lots** are a collection of small, city-owned residential lots on the east side of the 1700 and 1800 blocks of Mulford Street in the Whitman Park neighborhood. These lots are currently vacant and unimproved, but recommended for infill residential development in the Choice Neighborhood Plan. It appears that some of these parcels are utilized by adjoining neighbors for informal storage and surface parking.
- » **1572 S. 10th Street** (Block 440, Lot 99) is a former dry-cleaning site located at the corner of 10th and Lowell Streets in the Liberty Park neighborhood. It is also known on NJDEP records as the "Dual Cleaners" site. The property measures approximately one-quarter acre. ab\nd contains a single, one-story building. The former commercial building is vacant and blighted. The property is privately-owned by Respond LLC.



Second-Tier Catalyst Site - 1700 Mt. Ephraim Avenue



Second-Tier Catalyst Site - 1572 S. 10th Street

ENVIRONMENTAL CONDITIONS

The consultant team requested files on all of the catalyst and smaller-scale priority sites from NJDEP and EPA. Only the two catalyst sites contained available records, a full file review was conducted on these sites. The purpose of these reviews was to gather information regarding prior assessment and remediation efforts at the sites.

Importance of Environmental Research

Camden residents potentially suffer direct health impacts which could in part be due to their adjacency to unmitigated brownfield sites, such as the Camden Lab and Phil-Mar catalyst sites. These sites present potential risks to public health from the continuing contaminated soil and groundwater at the site. The public may be at potential risk of exposure through multiple pathways, including direct contact with site soil; airborne dust; and migration of site contaminants to surface water or drinking water resources via groundwater transport.

In addition, it is important to keep in mind that the type and spatial extent of contamination on a brownfield may influence the type of redevelopment that is permitted following completion of the site's remediation.

Therefore, the planning team utilized the Brownfield Area-Wide Planning Program to conduct NJDEP and EPA file reviews on catalyst sites. These file reviews enabled the planning team to evaluate existing environmental conditions and develop strategies for brownfield site remediation and reuse.

Research Findings

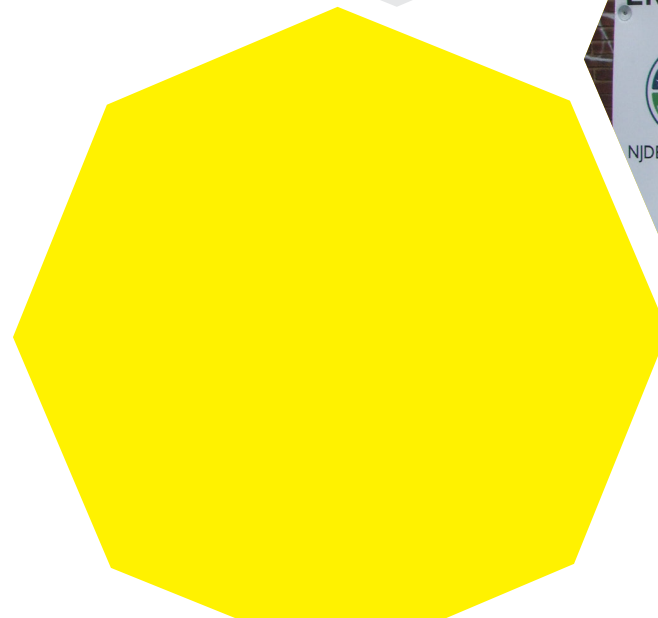
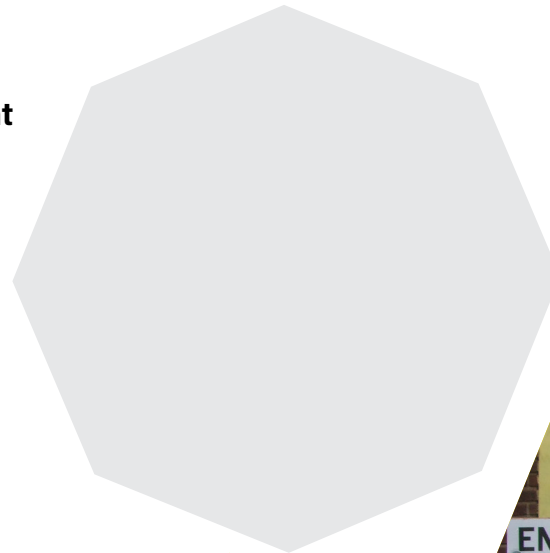
Research revealed that Phase I Environmental Site Assessments had been conducted at both of the catalyst sites, Camden Labs and Phil-Mar. A Phase I Environmental Site Assessment (ESA) includes a review of site and government records, a site visit to visually inspect existing site conditions and identify any potential releases of hazardous substances, and interviews with people who have direct knowledge about historical uses of the site, past and current operational practices, and any potential for related environmental concerns (USEPA).

Information obtained in this Phase I ESA is important because it indicates whether the property may need to be cleaned up to support its intended reuse; and if further environmental investigation and cleanup is needed.

ENVIRONMENTAL RESEARCH

Environmental Site Assessments (ESAs) are important because they indicate:

- » whether the property may need to be cleaned up to support its intended reuse;
- » if further environmental investigation and clean-up is needed.



CAMDEN LABS

Historic Uses

Camden Labs is located at 1667 Davis Street, Camden, NJ 08103 (Block 1392, Lot 33). As noted above, the site was originally developed for use by the City of Camden in the early 1920's as the Camden Municipal Hospital for Contagious Diseases. In the 1950's the facility was transformed into the South Jersey Medical Research Foundation Laboratory as the home for the Coriell Institute for Medical Research (CIMR). The original hospital buildings were subsequently demolished and the laboratory buildings were built in various phases between the 1950's to 1980's. The site was purchased by its current owner, Camden Laboratories, LP, in 1989 and then operated as a series of medical laboratories including "Viro-Med Biosafety" and "Quality Bio-tech" until at least 2007. The site was vacant after 2008.

Prior Environmental Investigation and Remediation

This site has been subject to environmental investigation and remediation under the oversight of the NJDEP since 1989. The various phases of investigation and remediation include

- » closure of the three (3) fuel oil USTs in 1989;
- » Preliminary Assessment in 2007 by Environmental Resolutions Inc.;
- » Preliminary Assessment, Site Investigation, and Remedial Action Workplan in 2008 by CMX, LLC; and
- » Supplemental Site Investigation by CMX in 2009.

Following the submittal of the PA/SI/RAW in August 2008 and a subsequent on-site meeting conducted in November 2008 with the NJDEP case management team, a representative of the site, and the environmental consultant (CMX), NJDEP issued a Notice of Deficiency (NOD) in December 2008 to Camden Laboratories, LP. The NOD provided findings of "No Further Investigation Required" for ten (10) of the original 16 environmental AOCs. Required additional investigation and/or remediation at the following six (6) AOCs:

- » AOC 1: 275-Gallon Fuel Oil Aboveground Storage Tank
- » AOC 2: Former No. 2 Fuel Oil Underground Storage Tanks
- » AOC 3: Storage Containers
- » AOC-13: Liquid Nitrogen Spill
- » AOC-14: Groundwater
- » AOC 16: Mercury

Accordingly, CMX, LLC conducted a Supplemental Site Investigation between December 2008 - January 2009, which included additional site reconnaissance, records research and the collection and analysis of soil samples. According to the 2009 Supplemental Site Investigation Report, sufficient evidence was developed by the investigation for CMX to request a finding of "No Further Action" from NJDEP for AOC 1 (275-Gallon Fuel Oil Aboveground Storage Tank), AOC 2 (Former No. 2 Fuel Oil Underground Storage Tanks), AOC 3 (Storage Containers), AOC 13 (Liquid Nitrogen Spill), and AOC 14 (Groundwater).

However, DEP did not confirm this finding, and since then, the Tate has transitioned to a new model of site remediation. No longer does the State issue No Further Action (NFA) letters; instead, Licensed Site Remediation Professionals (LSRP) issue documentation that the work has been satisfactorily completed via a Remedial Action Outcome (RAO).

NJDEP File Review

In 2014, the consultant firm BRS, Inc. conducted a review of NJDEP environmental case files for the Camden Labs site in order to develop an understanding of the environmental activities conducted to date. This file review effort was funded by the CRA's EPA brownfield assessment grant. It is important to note that CRA and BRS, Inc. make no representation as to the accuracy or completeness of the information or the actual environmental conditions of the sites based on these environmental file reviews.

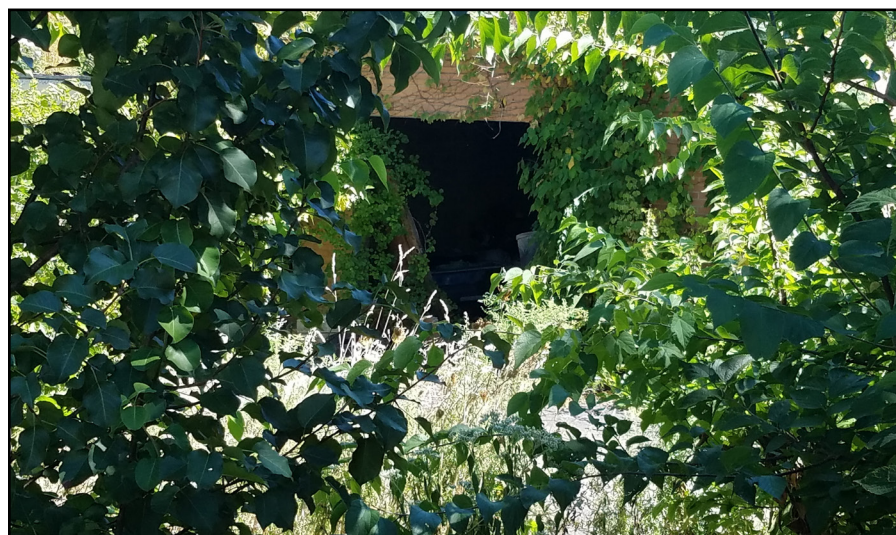
The findings of this review include the following:

- » The site is an active case with the NJDEP Site Remediation Program (SRP). Outstanding environmental issues must be addressed in accordance with state law.
- » There have been prior environmental assessments and limited environmental remediation activities conducted at the site between 1989 and 2009.
- » An area of mercury contamination in soil has been confirmed at the site and requires further delineation.
- » Chlorinated solvents have been confirmed in the groundwater from a suspected off-site source. This must be confirmed, and appropriate steps must be taken to ensure that there is no vapor intrusion issue at the Camden Labs site post-development.
- » Additional AOCs that still require investigation and remediation are an old septic system, sumps and vaults, and small containers on the site.
- » Redevelopment plans for the site will likely need to include engineering and institutional controls to mitigate potential for exposure to any residual contamination at the site.

EPA Brownfields Assessment Grant

Looking to build upon the momentum of the Choice Neighborhoods Planning grant, CRA applied for and received an EPA Brownfields Assessment Grant in 2015 to develop and implement a program to assess the Camden Labs property whose expansion, redevelopment or reuse may be complicated by the presence of hazardous substances. As part of the assessment process, CRA will involve residents and other stakeholders surrounding the site by holding community meetings and sharing information.

As of the date of publication of this report, the City of Camden is in the process of foreclosing on the property. Once the property is under City control, the buildings will be demolished and an LSRP will be retained to complete the investigation, develop the remedial action workplan, and oversee the remedial action.



Camden Labs Site
Existing Conditions

PHIL-MAR

The Phil Mar site, as referred to in DEP environmental records, is located on the 1800 block of Copewood Street. Today this consists of an active business (Pro-Build, Block 1386 Lot 1), RF Products (Block 1386 Lot 1.01), with an active business, Fast Doors, utilizing a small portion of the space, and a vacant and dilapidated building on the third lot, known as Phil Mar (Block 1388 Lot 7). The focus of this report is on these last two lots; though from the early 20th century prior to 1991 the site was operated as a single industry.

Historic Uses

This site was originally occupied by B.F. Sturtevant Company Sheet Metal Works, Radio Condenser Company Incorporated Machine Shop, and Collings Carriage Company. Dating back into the 1920's, the main industry associated with the industrial complex was the manufacturer of electronic components; however, several smaller businesses occupied the site beginning around 1977, to include a steelworks and rolling mill, and a bookbinder.

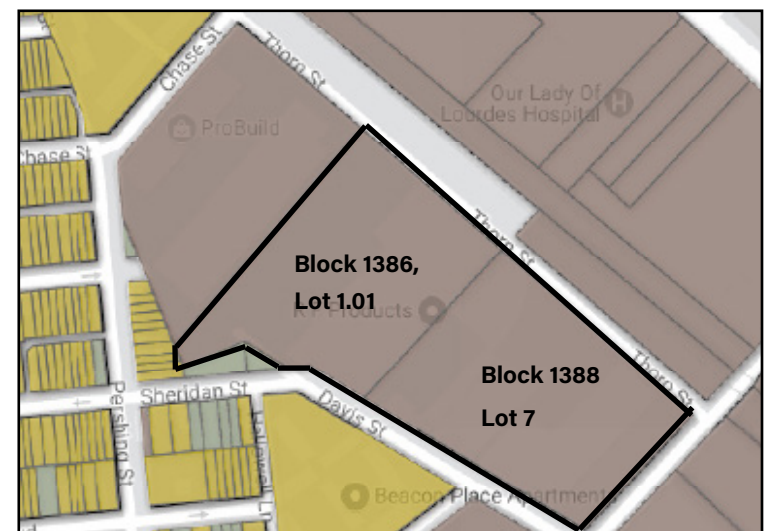
Preliminary Assessment + Site Investigation (2010-2011)

In February 2009, an NJDEP Directive and Notice letter was issued to the responsible parties: R F. Products, Phil-Mar Industries, Inc. and Northrop Grumman (as the successor company to TRW). The letter required that a Remedial Investigation be conducted and an approved remedial action be implemented under an Administrative Consent Order at the site, as necessary. The three Directive recipients submitted good faith defense letters to the NJDEP. Northrop Grumman agreed to "opt-in" to the New Jersey Licensed Site Remediation Professional (LSRP) program to conduct a Preliminary Assessment and Site Investigation and groundwater RI at the site.

A Preliminary Assessment (2010) and Site Investigation (2011) was performed by AECOM Technical Services, Inc. on behalf of Northrop Grumman under oversight of the LSRP of Record. Based on the results of the PA and SI, nine (9) AOCs were identified at the RF Products/Phil-Mar sites that required additional remedial investigation including the following four (4) AOCs located at the Phil-Mar site:

- » AOC 2A (10,000-gallon Fuel-Oil UST) to delineate petroleum contamination;
- » AOC 3 to delineate and develop a site-specific impact to groundwater soil remediation standard for arsenic;
- » AOC 6B (Building 2, Plating Room) for further delineation of cadmium and arsenic and development of a site-specific standard for arsenic, beryllium, cadmium and TCE; and
- » AOC 10A (Building 2, Boiler Room) to develop a site-specific standard for cadmium.

Due to previous detections of groundwater impacts at the site identified by the NJDEP during their Unknown Source Investigation, on-site and off-site groundwater was identified as a separate area of concern (AOC 14).



Phil-Mar Site
Parcel Map

NJDEP File Review

In 2014, the consultant firm BRS, Inc. conducted a review of NJDEP environmental case files for the Phil-Mar Industries site, located at 1661 Davis Street, Camden, NJ 08103. It is important to note that CRA and BRS, Inc. make no representation as to the accuracy or completeness of the information or the actual environmental conditions of the sites.

The findings of this review include the following:

- » The site is an active case with the NJDEP and is currently being investigated and remediated jointly with the adjoining RF Products site. Northrup Grumman is the remediating party conducting the investigation/remediation activities on both sites.
- » As the current investigation and future remediation are being controlled by a responsible party that is pursuing a cleanup appropriate for an industrial, 'restricted' use, there will likely be challenges if it is decided to have the site remediated for a more restrictive residential or 'unrestricted' cleanup standard.
- » Soils and groundwater at the site have been found to be impacted with levels of contamination including petroleum, polyaromatic hydrocarbons and volatile organic compounds due to prior industrial operations.
- » There are potential vapor intrusion concerns which exist at the site due to the presence of groundwater contamination. New construction may mitigate this risk by incorporation of vapor barrier engineering controls in any new facilities.
- » There is likely to be protracted timeframes with resolving groundwater contamination issues associated with the site. Additional investigation of possible on-site sources for on-site and regional contamination of groundwater by chlorinated compounds may be required by NJDEP.

SECONDARY SITES

The only secondary site for which a file review uncovered information on environmental conditions was the 1700 Mt. Ephraim Avenue site (alternately identified as 1714 Mt. Ephraim Avenue). As noted above, 1700 Mt. Ephraim Avenue is the site of a former gasoline service station. An Environmental Site Investigation (ESI) performed by Calmar Associates in 2009 found that the site originally contained four (4) underground storage tanks (USTs); however, these were all removed by River Road Environmental in 2010. Additional remediation activities occurred in 2010, including removal of petroleum impacted soil, removal of fuel dispensers and removal of two (2) hydraulic lifts.

In addition, the 1572 S. 10th Street site, which is also known as the "Dual Cleaners" site, had several Program ID (or "PI") numbers with NJDEP, including one for air emissions, one for hazardous waste emissions, and a pollution prevention / right to know for toxic emissions. While these do not necessarily mean that the site is contaminated, it does indicate that contaminants were used on site, thus increasing the potential for contamination to exist.

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CHURCH
1841

BETHEL AME CHURCH
1841 PHILLIPS ST.
CHURCH, N.J. 07030
BIBLE STUDY & PRAYER
SUNDAY 9AM
REV. PAITH ELBICK PASTOR
PAME BEA-SALLES
MEMBERSHIP SERVING THE COMMUNITY



06

**ANALYSIS +
VISIONING**

Analysis + Visioning

Having evaluated the known environmental conditions for each of the catalyst sites, the project team subsequently analyzed existing development and physical conditions in order to inform potential reuses for these sites. Specifically, the project team conducted an Urban Land Market Analysis and a series of Infrastructure Analyses, which are described in detail below.

URBAN LAND MARKET ANALYSIS

The purpose of an Urban Land Market Analysis is to evaluate the Choice Neighborhood and catalyst sites' ability to support a variety of general reuse considerations by

- analyzing developments completed and underway; and
- characterizing and quantifying market potential for additional job-generating commercial (retail) and industrial land uses in the Mt. Ephraim corridor study area.

These analyses are based on local and regional demographics, economic indicators, and growth trends. The consultant team first conducted research on project area characteristics, including the following:

- Study area and market area location and description,
- Employment and industry,
- Local transportation networks,
- Land use patterns, and
- Brownfield redevelopment potential.

The consultant team then carried out a Geographic Information System (GIS) mapping analysis. This analysis consisted of a series of data-driven maps used to conduct demographic, economic and market analysis. These maps include: aerial overlays, street maps, neighborhood maps, zoning, transportation networks, land use patterns, and Brownfield overview maps.

Study + Market Area Description

The Urban Land Market Analysis evaluates the market at three different levels: target study area, contributing market area, and extended market area. These are described below.

- **Target study area:** The Mt. Ephraim Choice Neighborhood planning area consisting of three neighborhoods in the City of Camden: Whitman Park, Liberty Park, and Centerville.
- **Contributing market area:** The greater metropolitan areas of Camden County that are within a 10-15 minute drive time of the target study area including Camden City and the adjoining areas of Collingswood Borough, Woodlynne Borough, and a portion of Pennsauken Township.
- **Extended market area:** For purposes of additional analysis, portions of the City of Philadelphia within a 5-mile radius of the target study area (and adjoining the 3 major bridges) are included in an extended analysis of market conditions.

A map of each of these market areas is shown in Figure 13 to the right, and demographic information about each of these market areas is shown in Figure 14 below.

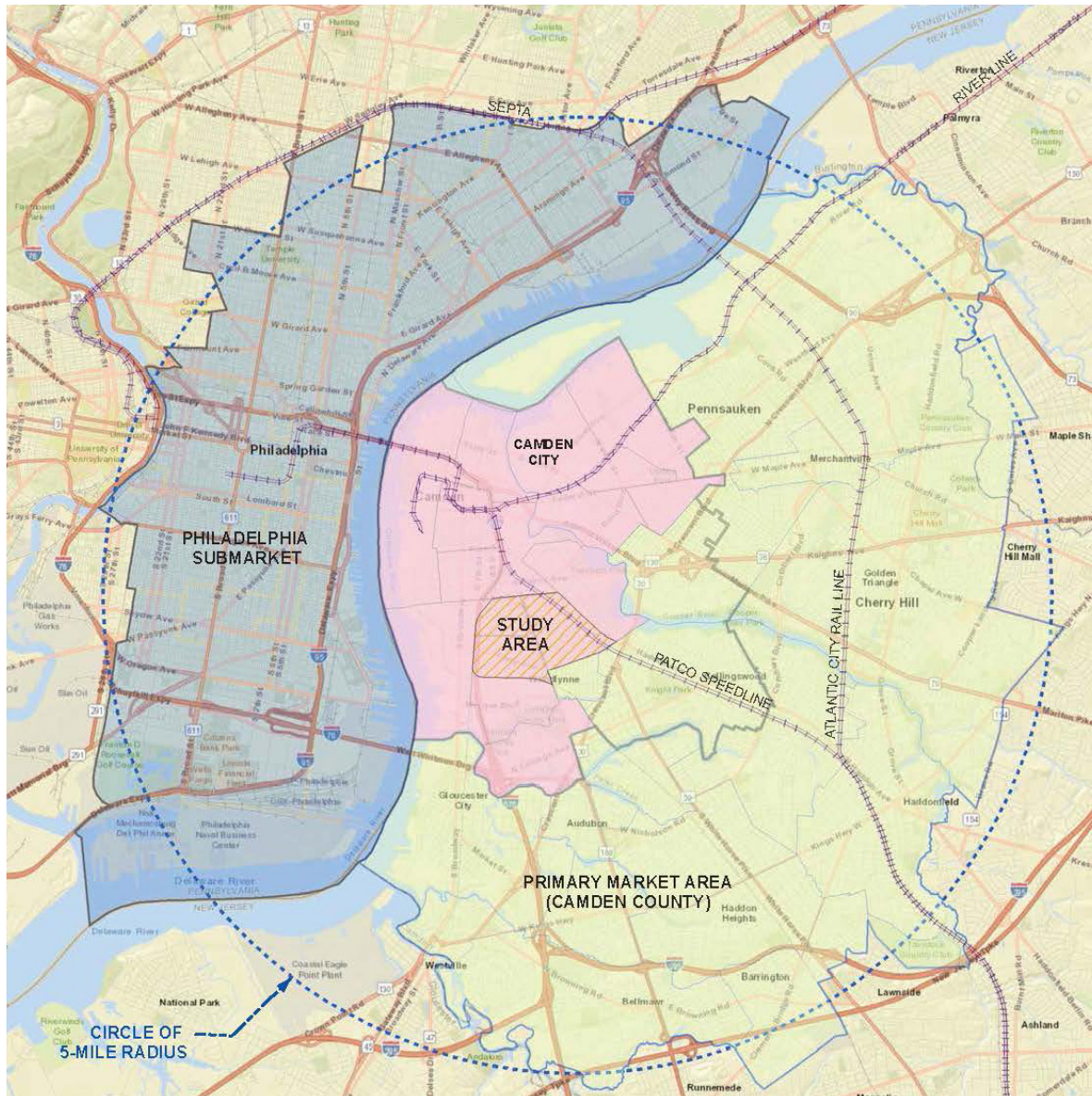


Figure 13. Market Study Area
Mt. Ephraim Neighborhood, Camden, New Jersey

	Study Area		Camden County Market Area		Philadelphia Submarket Area		Philadelphia (City)	
Area	0.994 sq mi.		51.12 sq mi.		28.84 sq mi.		143 sq mi.	
Population	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT
Total	11,342	100.0%	238,260	100.0%	460,572	100.0%	1,555,072	100.0%
Population Reporting one Race								
White	1,052	9.3%	131,837	55.3%	247,502	52.7%	648,032	41.7%
Black or African American	8,007	70.6%	54,654	22.9%	126,747	27.5%	664,911	42.8%
American Indian and Alaska Native	14	0.1%	790	0.3%	1,936	0.4%	5,326	0.3%
Asian	-	0.0%	10,726	4.5%	38,757	8.4%	106,753	6.9%
Native Hawaiian and Other Pacific Islander	-	0.0%	35	0.0%	342	0.1%	1,874	0.1%
Some Other Race	1,895	16.7%	33,785	14.2%	37,593	8.2%	86,668	5.6%
Population Reporting Two or More Races	374	3.3%	6,433	2.7%	12,695	2.8%	41,508	2.7%
Total Hispanic Population	3,598	31.7%	58,227	24.4%	90,813	19.7%	207,721	13.4%
Population by Sex								
Male	4,616	40.7%	114,478	48.0%	221,244	48.0%	734,521	47.2%
Female	6,726	59.3%	123,782	52.0%	239,328	52.0%	820,551	52.8%
Nativity and Citizenship Status								
U.S. citizen, born in the United States	9,607	84.7%	198,131	83.2%	379,714	82.4%	1,302,301	83.7%
U.S. citizen, born in Puerto Rico/U.S. Island	565	5.0%	12,279	5.2%	21,942	4.8%	44,709	2.9%
U.S. citizen, born abroad of American parent(s)	19	0.2%	1,247	0.5%	4,149	0.9%	10,499	0.7%
U.S. citizen by naturalization	692	6.1%	12,309	5.2%	25,500	5.5%	98,403	6.3%
Not a U.S. citizen	459	4.0%	14,294	6.0%	29,267	6.4%	99,160	6.4%
Mean Income (by household)	\$29,587		\$72,636		\$63,591		\$56,418	
Employment (age 16 yrs and older)								
In labor force	60.1%		65.0%		61.6%		59.7%	
Employment/Population Ratio	48.1%		57.3%		54.0%		51.4%	
Unemployment rate	20.0%		12.4%		13.5%		13.9%	
Housing								
Total Housing Units	5,355	100.0%	97,916	100.0%	213,402	100.0%	670,229	100.0%
Total Occupied Housing Units	4,352	81.3%	86,192	88.0%	181,793	85.2%	581,050	86.7%
Total Vacant Housing Units	1,003	18.7%	11,724	12.0%	31,609	14.8%	89,179	13.3%
Owner Occupied	895	20.6%	52,185	60.5%	89,322	49.1%	305,884	52.6%
Renter Occupied	3,457	79.4%	34,007	39.5%	92,471	50.9%	275,166	47.4%
Year Structure Built								
Total Housing Units	5,355	100.0%	97,916	100.0%	213,402	100.0%	670,229	100.0%
Built 2010 or later	159	3.0%	557	0.6%	2,948	1.4%	4,725	0.7%
Built 2000 to 2009	889	16.6%	5,877	6.0%	13,679	6.4%	23,262	3.5%
Built 1990 to 1999	49	0.9%	2,530	2.6%	6,900	3.2%	19,878	3.0%
Built 1980 to 1989	491	9.2%	4,816	4.9%	8,829	4.1%	27,377	4.1%
Built 1970 to 1979	508	9.5%	7,691	7.9%	11,617	5.4%	47,421	7.1%
Built 1960 to 1969	471	8.8%	11,891	12.1%	13,980	6.6%	72,875	10.9%
Built 1950 to 1959	502	9.4%	19,493	19.9%	18,581	8.7%	110,285	16.5%
Built 1940 to 1949	1,187	22.2%	14,720	15.0%	19,497	9.1%	97,302	14.5%
Built 1939 or earlier	1,099	20.5%	30,341	31.0%	117,371	55.0%	267,104	39.9%

Figure 14. Neighborhood Demographics
Mt. Ephraim Market Demographics, Camden, New Jersey

Employment + Industry

Labor and employment data from 2016 indicates that the Philadelphia/Camden/Wilmington Metropolitan Statistical Area (MSA) has seen an increase in private sector employment in many fields, including Education and Health Services, Professional and Business Services, Financial Activities, Retail Trade, Leisure and Hospitality, and Other Services, such as repair shops and beauty parlors. In addition, Manufacturing, Wholesale Trade, Transportation and Utilities, and Construction and related sectors demonstrated solid growth in both production and distribution.

Meanwhile, the real estate trends from 2016 indicate that the market for industrial real estate is growing in the greater Philadelphia region, specifically for Warehouse/Distribution and Flex/Research & Development (R&D), Mixed-Use Retail Development and Community-Neighborhood Shopping Centers (more information provided in the "Land Use Patterns" section below).

Transportation Networks + Transit-Oriented Development

Extensive transportation networks, including interstate highways and commuter rail connect the study area to other locations in the Philadelphia/Camden/Wilmington MSA. Commuter rail lines with stops in Camden County or direct connections include SEPTA Regional Rail, New Jersey Transit (NJT) and the PATCO Speedline connecting Philadelphia to Lindenwold in Camden County (with a stop at Ferry Ave. in the study area) with connections to the NJT Atlantic City Line. These extensive networks, particularly for public transportation, provide excellent opportunities for development of strips of stores on downtown streets and multi-tenant retail venues that are part of transit facilities, or the retail component of apartment, office, or industrial developments. Figure 15 below shows the means of transportation residents of the region utilize to get to work, according to 2011-2015 American Community Survey 5-Year Estimates.



Employment and Industry

MD Anderson Cancer Center (pictured) is one of the many medical institutions in Camden



Transportation

Ferry Avenue PATCO Station connects the Mt. Ephraim Choice Neighborhood with the rest of the Camden/Philadelphia region

Figure 15. Means of Transportation to Work in Mt. Ephraim Choice Neighborhood Market Area, Camden, New Jersey

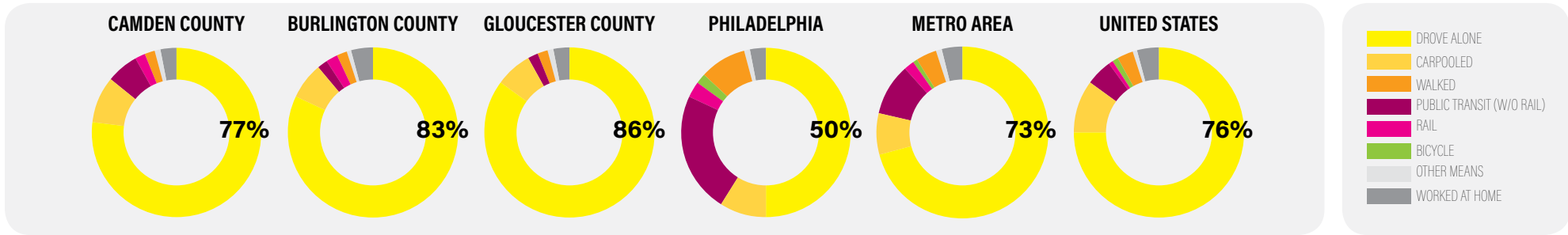
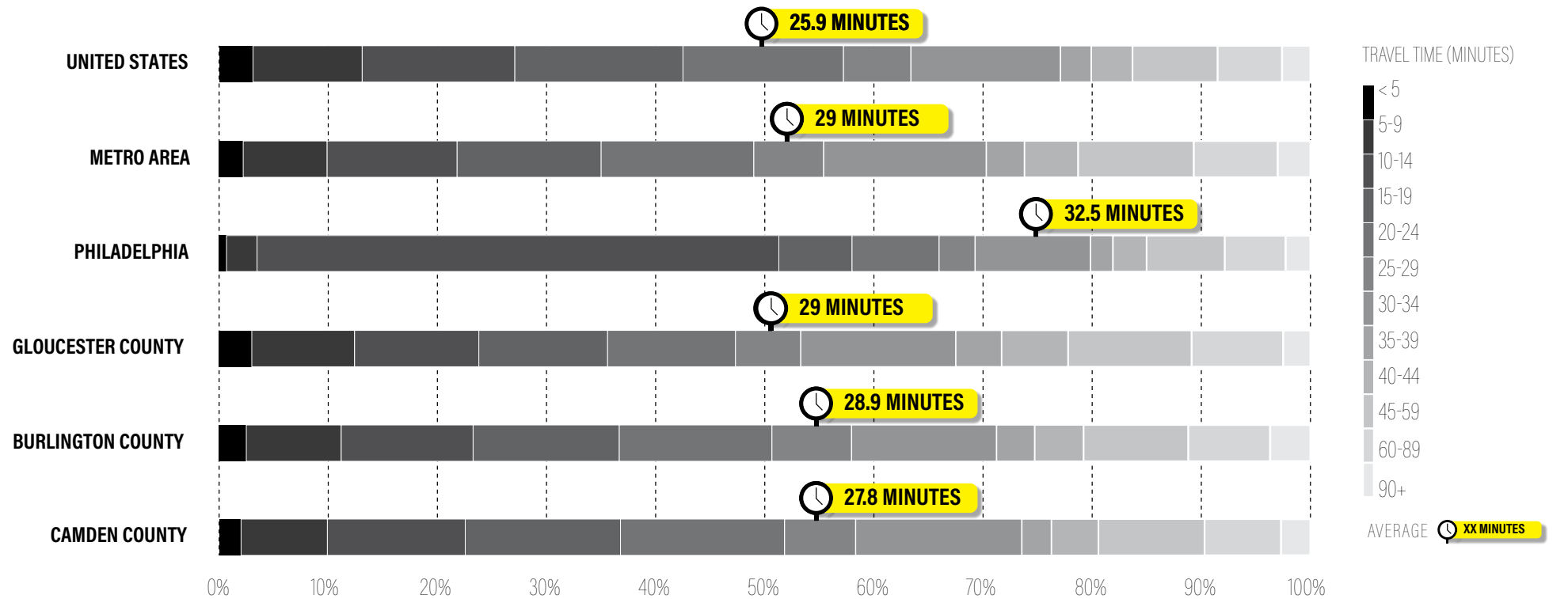


Figure 16. Commute Times in Mt. Ephraim Choice Neighborhood Market Area, Camden, New Jersey



U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

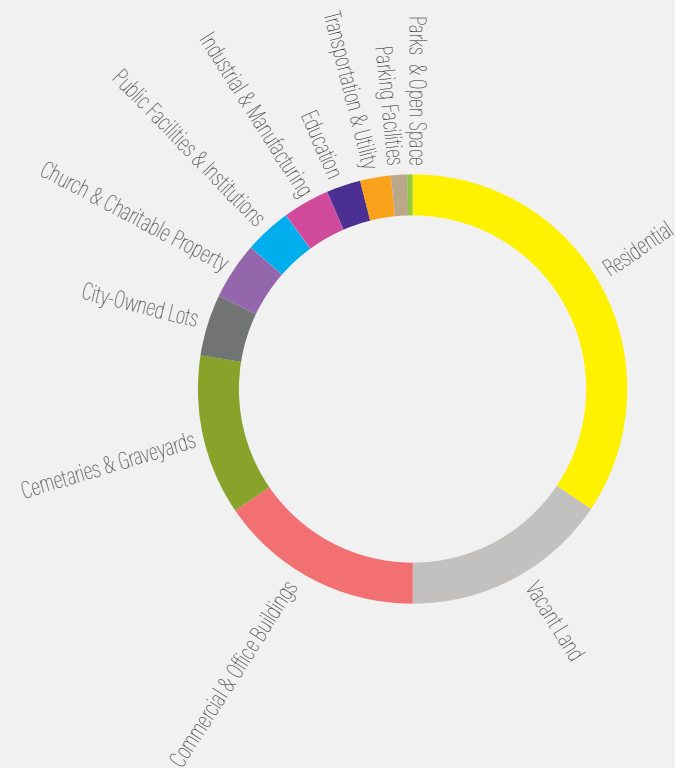
Land Use Patterns

The study area is dominated by residential and commercial uses with the Residential Property and Commercial & Office Buildings classifications comprising 34.36% and 15.54% of all land use, respectively. However, over half of the entire land area (52.14%) of the study area is comprised of Vacant Land (15.54%), Cemeteries & Graveyards (12.11%), City-Owned Lots (4.62%), and Church and Charitable Property (4.38%). Industrial and Manufacturing uses include only 3.52% of land use in the study area, compared to almost 5% in the Camden County market area. These Land Uses are shown in the table below. City zoning in the study area is designated as a mix of residential and commercial districts.

Figure 17. Land Uses in the Mt. Ephraim Choice Neighborhood Study Area, Camden, New Jersey

Type	# of Parcels	% Total Land Area
Residential	2,455	34.0%
Vacant Land	561	15.6%
Commercial & Office Buildings	226	15.4%
Cemetaries & Graveyards	2	12.1%
City-Owned Lots	114	4.6%
Church & Charitable Property	29	4.3%
Public Facilities & Institutions	13	3.5%
Industrial & Manufacturing	8	3.5%
Education	11	2.6%
Transportation & Utility	20	2.3%
Parking Facilities	14	1.2%
Open Space & Outdoor Recreation	1	0.4%
Total	3,455	100%

Land Use in Mt. Ephraim Choice Neighborhood



Brownfield Redevelopment Potential

As part of the planning process for the Mt. Ephraim Corridor Brownfields Area-Wide Planning study, properties that are known or suspected to be environmentally contaminated (“brownfields”) were identified based on their history of land use and, in some cases, documented environmental investigations.

The type and spatial extent of the contamination may influence the type of redevelopment that is permitted following completion of the site’s remediation. For example, the site remediation regulations of the New Jersey Department of Environmental protection (NJDEP) will allow contamination to remain on-site after remediation, under certain conditions, when institutional and engineering controls have been put in place to protect the public from the residual contamination. In this case, where a site may not have been fully remediated to the “unrestricted” standard (meaning that the use of the land in the context of the environmental contamination is unrestricted), certain types of post-remediation development, such as residential or community facility uses may be restricted. These considerations must be fully evaluated and included with any redevelopment plans.

Brownfields also have a unique standing in New Jersey tax law and appraisal methodologies. According to the Handbook for New Jersey Assessors (issued by the Property Administration, Local Property Division of Taxation of the Department of the Treasury State of New Jersey, January 2016), environmental contamination has an impact on property valuation for local property tax purposes. Chapter 614 of the Handbook indicates that N.J. state court decisions have determined that where environmental contamination drives down the value of commercial property potentially subject to cleanup costs, the effect of those market forces cannot be ignored in the tax assessment process as it would be counter to state environmental policy.

The two catalyst and five smaller-scale brownfield sites that were identified in the Brownfield Area-Wide Plan process are listed in Figure 18 below with their MOD-IV tax, assessment data, and value (not to be further discounted due to contamination) provided. However, the ultimate sales price for such property will depend significantly on the perceived costs to remediate.

No.	Property Address	Neighborhood	Block	Lot	Area (acres)	Land-use Type	Owner	Land Value	Imp. Value	Net Value	Bldg. Description
1	1700 Mt. Ephraim Ave	Whitman Park	1363	83	0.081	City-owned Lot	CRA	\$ 98,500	\$ 4,100	\$ 102,600.00	Ind./Garage
2	NW Copewood & Thorn Sts	Whitman Park	1388	7	4.146	Commercial	Phil-Mar Ind.	\$ 159,300	\$ 55,700	\$ 215,000	Industrial
3	1572 S. 10th St	Liberty Park	440	99	0.275	Commercial	Respond, Inc	\$ 27,000	\$ 84,000	\$ 6,600	3-story block
4	1744 Mulford St	Centerville	553	34	0.124	City-owned Lot	Camden City	\$ 6,600	\$ -	\$ 5,200	N/A
5	1814 Mulford St	Centerville	556	43	0.074	Vacant Land	Camden City	\$ 5,200	\$ -		N/A

Figure 18. Estimated Value of Catalyst Sites, Mt. Ephraim Neighborhood, Camden, New Jersey

Market Redevelopment Potential

The consultant team analyzed potential end uses for the Phil-Mar site within the context of real estate and market conditions for industrial re-development. The market for industrial real estate is growing across the U.S., and especially in the greater Philadelphia region. The industrial real estate market in this region is dominated by two types of industrial uses: Warehouse/Distribution and Flex/Research & Development (R&D).

- » **Warehouse/Distribution:** The vacancy rate for 21.1 million square feet of Warehouse/Distribution space in Camden County is 12.1% (the highest in the Philadelphia region due to the older/obsolete nature of many facilities). There were 1.1 million square feet added in the Philadelphia metro in 2016; however, there are only two (2) projects currently in development. It is expected that vacancies will continue to fall.
- » **Flex/Research and Development (R&D):** A Flex/Research and Development (R&D) space is an industrial building with a minimum total office percentage of 25% and consisting of either Warehouse/Distribution and/or specialty industrial space, such as Research & Development and High-Tech space. Other characteristics include: loading docks, high doors, and high-tech characteristics, like lab space. The vacancy rate for 5.4 million square feet of Flex/R&D space in Camden County is 20.1% with an average asking rent of \$6.64/square feet (second lowest rents in the Philadelphia Region). There was zero (0) square feet /new developments added in 2016.



Image Source: Flickr Photo Credit STML

Warehouse / Distribution Building
Example of Warehouse/Distribution Use



Image Source: Flickr Photo Credit UNC Department of Marine Sciences

Research And Development Space
UNC Chapel Hill Department of Marine Biology's Murray and Venable Hall



Stock Photo
Mixed-Use Retail Development



Stock Photo
Anchor Retail Space

In addition to Industrial Uses, the Urban Land Market Analysis looked at the market for Commercial Uses in the Mt. Ephraim Choice area. The commercial analysis focused on **mixed-use retail development** that is typical of densely developed urban centers and community-neighborhood shopping centers. These developments include multi-tenant downtown retail property, and is often further distinguished from other retail property types by the lack of on-site parking and by its reliance on pedestrian traffic. Examples include a strip of stores on a downtown street, multi-tenant retail venues that are part of transit facilities, and the retail component of apartment, office, or industrial developments.

At the time of analysis, there was 3.8 million square feet of anchor retail space in Camden County with a third quarter vacancy rate of 21.1%, the largest vacancy rate in the Philadelphia region. Relatedly, the average asking rent for anchor retail space in Camden County was \$12.48/sf, the second-lowest in the region. For non-anchor retail space, the vacancy rate was 12.2%, with an average asking rent is \$16.67/sf, also the second-lowest in the region. It is important to note that commercial uses have been significantly impacted by both the shift to online shopping, as well as the expansion of major chains into meeting neighborhood retail needs (i.e. Walmart, CVS/Walgreens, Dollar Stores, etc.) Despite the high vacancies in the Camden County area, these low rents may help attract end users to spaces that are modernized for current needs.

INFRASTRUCTURE ANALYSES

After conducting the Urban Land Market Analysis above, it was important for the project team to further evaluate the Choice Neighborhood and catalyst sites' ability to support a variety of general reuse considerations by analyzing its transportation, water, sewer and open space infrastructure.

Transportation Infrastructure

The project team first analyzed the project area's existing transportation infrastructure, with a focus on connections to the brownfield sites across transportation modes.

Transit Access

The Delaware Valley Regional Planning Commission (DVRPC)¹ periodically assesses and ranks the appropriateness of various modes and intensities of transit service throughout the DVRPC region using "transit scores."² Transit scores are a function of population per acre + jobs per acre + the number of car households per acre. TDVRPC's 2010 Transit Score ranked the entire Mt. Ephraim project area as "medium-high" to "high."

¹ DVRPC is a metropolitan planning organization, a federally mandated and federally funded transportation planning organization made up of representatives from local government and government transportation authorities. MPOs were introduced by the Federal-Aid Highway Act of 1962 and are required in any urbanized area with a population exceeding 50,000. Federal funding for transportation projects and programs are channeled through the MPO process.

² The DVRPC region encompasses nine counties: Bucks; Chester; Delaware; Montgomery; Philadelphia; Burlington; Camden; Gloucester; and Mercer

Currently, the Mt. Ephraim project area is accessible by both bus service and commuter rail. Six (6) New Jersey Transit bus routes service many of the streets of the Mt. Ephraim project area.¹ Stops are primarily located along Carl Miller Boulevard (Route 453); Mt. Ephraim Avenue (Route 400); and Haddon Avenue (routes 403 and 451). These routes interconnect with the city-wide and regional bus network.

The project area is also serviced by the east/west PATCO (Port Authority Transit Corporation) rail line. The Ferry Avenue PATCO station is located at the easterly boundary of the Mt. Ephraim project area and within a quarter mile (5-minute walk) of the catalyst sites under evaluation as part of this Area-Wide Plan. Each of these transit networks is shown in Figure 19: Area Transit, at right.

¹ 313, 400, 403, 451, 453, 460



Ferry Avenue PATCO Station
Aerial View (Courtesy of Google Earth)

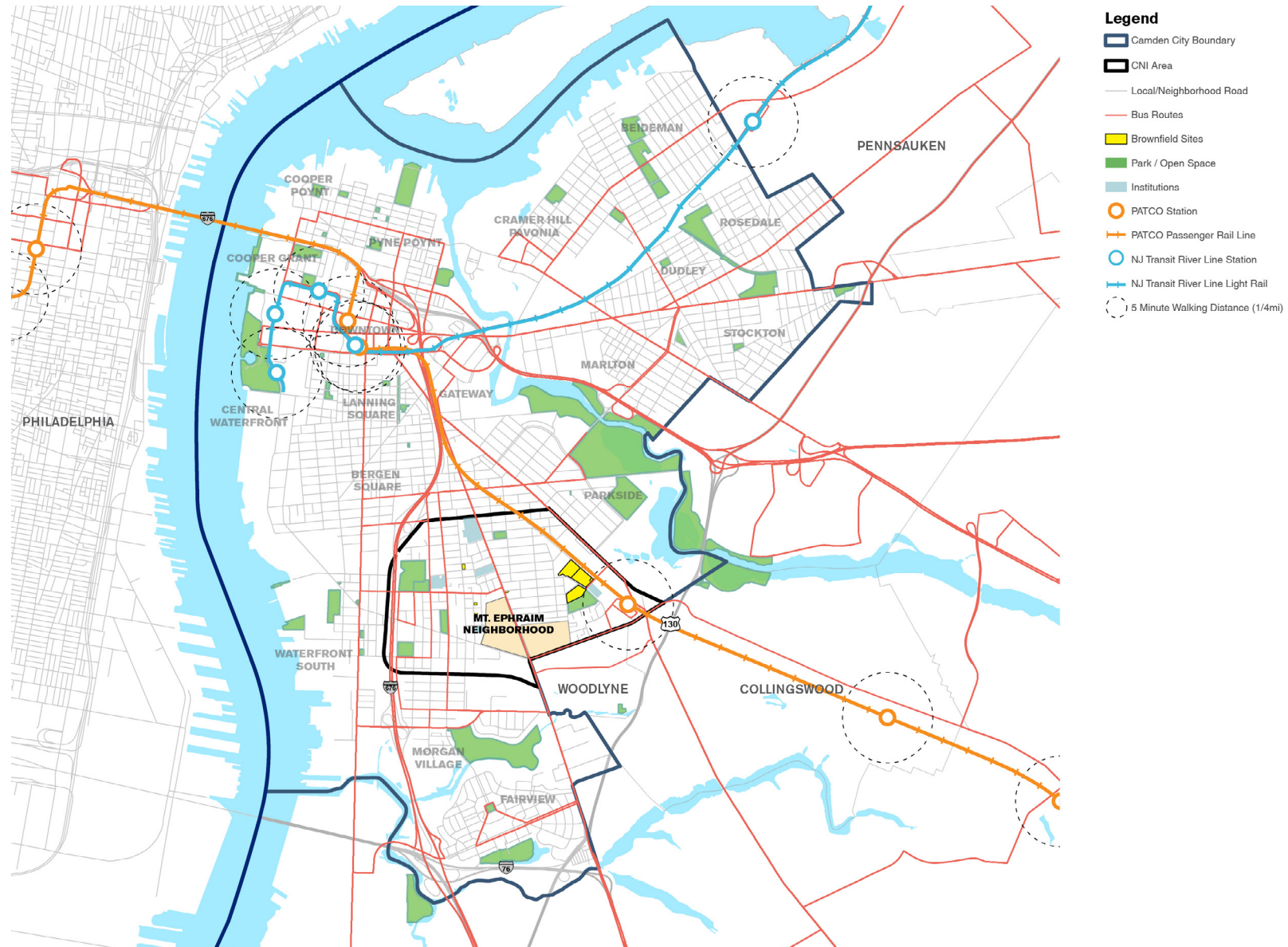


Figure 19. Area Transit
 Mt. Ephraim Bus Routes and Transit

Vehicular Access

In addition to transit, the project area is accessible to several regional roadways, which link the Mt. Ephraim project area to locations in the Philadelphia, Camden, and Wilmington metropolitan areas. U.S. Interstate 676 (I-676), which runs through the west portion of the project area, serves as a major thoroughfare to and through Center City Philadelphia (as the Vine Street Expressway) and through Camden, where it is known as the northern segment of the North-South Freeway, and the Martin Luther King Jr. Memorial Highway. The western terminus of I-76 is located in Center-City Philadelphia, near the Philadelphia Museum of Art and Fairmount Park. From there it heads east, crossing the Ben Franklin Bridge into Camden. On the New Jersey side of the bridge, the highway heads south terminating at I-76 in Gloucester City near the Walt Whitman Bridge. Between the western terminus and downtown Camden, I-676 runs concurrent with U.S. Route 30 (US 30).

U.S. Route 130 (US 130), which passes near the southeast portion of the study area near Whitman Park, is a north/south U.S. Highway completely encompassed within New Jersey state boundaries. It extends from Interstate 295 (I-295) and US 40 in Pennsville Township, Salem County, and from there it continues south as Route 49, north to US 1 in North Brunswick Township, Middlesex County, where Route 171 continues north into New Brunswick. Route 130 briefly runs concurrent with US 30 (near the project area). The road runs within a close distance of I-295 south of Bordentown and a few miles from the New Jersey Turnpike for its entire length, serving as a major four- to six-lane divided local road for most of its length. US 130 passes through several towns including Penns Grove, Bridgeport, Westville, Camden, Pennsauken, Burlington, Bordentown, Hightstown, and North Brunswick.



Access to Transportation
Ferry Avenue PATCO Station



Pedestrian Access
Pedestrian Access includes Safe Routes to Schools

Bicycle and Pedestrian Access

On July 13, 2013, Camden formally adopted a Complete Streets Policy that is explicitly intended to ensure safe access for all users including pedestrians, bicyclists, transit riders, motorists, and people of all ages and abilities. The policy commits the city to design and operate a comprehensive, integrated, connected multi-modal network of transportation options. There are several features of Camden's bike/pedestrian environment and projects in which the city is engaged that contribute toward its Complete Streets policy objective.

In 2014, Camden received the Safe Routes to School Grant from the New Jersey Department of Transportation for the Haddon Avenue Transit Village, which, in part will include bike lanes, new traffic signals, crosswalks, and ADA-accessible sidewalks.

DVRPC has an ongoing program to collect bicycle and pedestrian counts on roadways and trails throughout the region. Counts collected within the Mt. Ephraim project area, in 2012, focused on Mt. Ephraim Avenue where the average number of pedestrian trips ranged from 660 (Thurman to Everett Streets) to 1,136 (Decatur Street to Carl Miller Boulevard). There average number of bicycle trips along Mt. Ephraim Avenue (north-bound lanes) was 7. This number could probably be increased with the installation of dedicated, on-road bike lanes.

Sidewalks are present on both sides of most of the streets throughout the Mt. Ephraim project area and a sidewalk provides a clear and direct connection between the PATCO station at Ferry Avenue and the neighborhood. This station received a score of 5.9 under DVRPC's RideScore Program, which assesses the physical and demographic characteristics around transit stations that relate to how supportive of bicycling the area is, or could be. The Ferry Avenue Station score is comparable to or greater than that of all proximate stations on the PATCO and River Lines.

In 2016, Camden and the Cooper's Ferry Partnership¹ completed the Camden Circuit Trails Plan, a plan to connect existing and planned bicycle paths together and to surrounding municipalities and eventually to an interconnected, 750-mile system called The Circuit Trails that will extend to nine New Jersey and Pennsylvania counties (see map at right). The proposed Gloucester County Light Rail with Trail will extend along the westerly border of the project area and the planned East Atlantic Bikeway will run along Ferry Street, the southern border of the project area. These trails will eventually link to the east/west Camden County Greenway, which connects to the Cooper River Trail through the well-used Cooper River Park, and to the proposed Pearl Street Connector, which will extend over the Benjamin Franklin Bridge into Philadelphia (see maps in the "Open Space Infrastructure" section below).

Freight Access

Conrail's South Jersey/Philadelphia Shared Assets Area is operated out of Pavonia Yard in Camden, immediately east of the Cooper River. Pavonia is the main classification yard (where freight cars are separated on one of several tracks) for the Southern New Jersey area. From the Pavonia Yard, Conrail has trackage rights along New Jersey Transit's Atlantic City Line and Amtrak's Northeast Corridor. Freight is also transported along Beesley's Point Secondary, which runs from the city's ports along the Delaware River through Camden south to Tuckahoe; Vineland Secondary, which runs to Millville; the Delair Branch, which runs to Philadelphia; the Pemberton Branch, which runs to Mount Holly; Penns Grove Secondary, running to Pens Grove; Salem Running Track, running to the Southern Railroad of New Jersey's Salem Branch; and the Chester Secondary, which runs to SEPTA's Airport Line, Lester and Chester.

¹ The Cooper's Ferry Partnership (Cooper's Ferry Development Association (CFDA) was founded in 1984 as a private, non-profit corporation dedicated to coherently plan and implement high-quality urban redevelopment projects in order to help replenish Camden's depleted tax base and to create jobs for city residents.

Figure 20. Current and Proposed Circuit Trail Map, Greater Philadelphia Region



Figure 21. Circuit Trail Map
Current and Proposed Circuit Trail Map, Greater Philadelphia Region. Credit: DVRPC

Water, Sewer and Green Infrastructure

Stormwater and Sewer

Camden's 100 year old combined sewer system (CSS) is operated by the Camden County Municipal Utilities Authority (CCMUA). The collection system extends along every roadway to every area of the city. The design capacity of CCMUA's Water Pollution Control Facility is 80 millions of gallons per day (mgd) and it has a net available capacity of over 22 mgd, well in excess of the level required to serve the projected increase in demand by 2040. However, because the system is old, it is prone to capacity loss due to inflow and infiltration and considerable siltation from leaks. When it rains, stormwater volumes can overwhelm the capacity of these systems, resulting in the discharge of a mix of sewage and stormwater - Combined Sewer Overflows (CSOs) - polluting area rivers and bays. According to a 2014 Rutgers report, entitled Water Infrastructure in New Jersey's CSO Cities, the drainage areas of the City's 29 CSO discharge points - almost all of which are located along the Delaware River - encompassed over 58% of the area of Camden. This catchment area includes the Mt. Ephraim neighborhood (excluding the Evergreen and New Camden Cemeteries).

The CCMUA is presently engaged in the first step of preparing a Long Term Control Plan or LTCP (see graphic at right) and expects to complete this planning process by 2020. The Authority has formally committed to complete the design and financing of a \$50 million component of its long term CSO control plan to eliminate flooding problems along the Camden waterfront. This project includes green infrastructure strategies, a new stormwater pumping station and upgrades to the existing combined sewer system and the wastewater treatment plant.

Water Supply

According to the 2014 Rutgers report, the Camden Water System serves all areas of the City, with the exception of those neighborhoods east of the Cooper River, which are

served by New Jersey American Water. Camden's water supply is obtained from 26 wells located near the Delaware River and 158 miles of mains extend to every neighborhood of the city. Two water treatment plants serve Camden, the Morris-Delair Treatment Plant, the city's primary treatment facility with a capacity to generate 18 million gallons of water a day; and the Parkside Water Treatment Plant, which has an effective production capacity of two million gallons per day. The system's net available capacity of 7.756 million gallons a day far exceeds the likely demands from the City's 2040 population, which is projected to grow by only 855 people from its 2010 population of 77,344, and, as of the 2014 Report, no capacity expansion was deemed necessary.

Green Stormwater Infrastructure (GSI)

The CCMUA has implemented several efforts to aggressively enhance existing capacity, reduce sewer overflows, and mitigate impacts from its combined sewer system. According to its Executive Director and Chief Engineer, Andy Kricun, the utilities authority eliminated six CSO discharge points since 2014. In addition, the Authority is in the process of removing siltation from the city's distribution lines, cleaning one third of its entire system each year and thereby considerably increasing system capacity. The CCMUA is also partnering in several innovative initiatives to assertively address storm water management issues and improve environmental quality including the following:

- CAMDEN COLLABORATIVE INITIATIVE (CCI): CCI is a partnership between governmental, non-profit, private, and community-based agencies formed to plan and implement strategies to improve the environment and the quality of life of Camden's residents. CCI was launched in Camden in 2013 with the support of Cooper's Ferry Partnership, Camden County Municipal Utilities Authority (CCMUA), New Jersey Department of Environmental Protection (NJDEP), and the United States Environmental Protection Agency (USEPA). The Collaborative focuses on maintaining, restoring, and enhancing the city's environmental resources.

SEWER SYSTEM

NJDEP requires CCMUA to develop, adopt and implement a Long Term Control Plan (LTCP) to control overflows of raw sewage. There are five steps to completing a LTCP:

- » Characterizing the sewer system.
- » Modeling the effect of rain and snow melt on flows and overflows.
- » Identifying potential gray and green infrastructure solutions to reduce or stop overflows.
- » Engaging the community in discussions about solutions.
- » Evaluating which options will have the most impact at the lowest cost.





Centerville Neighborhood
Green Stormwater Infrastructure on Right-of-Way

- CAMDEN SMART (Stormwater Management and Resource Training): Camden Smart is an initiative to address Camden's urban water infrastructure challenges. The initiative was founded in 2011 by a coalition of six entities: Cooper's Ferry Partnership (CFP); the City of Camden (City); Camden County Municipal Utilities Authority (CCMUA); Rutgers Cooperative Extension Water Resources Program (RCE); New Jersey Tree Foundation (NJTF); and the NJ Department of Environmental Protection (NJDEP). The objective of this community-driven movement is to protect human health, improve conditions for economic development, improve water quality, and enhance the quality of life for the city and the Delaware River watershed through the broad use of green and grey infrastructure techniques for stormwater management in Camden Neighborhoods. The 49 green infrastructure projects implemented through the Camden Smart program between 2011 and 2014 have resulted in the capture

of over 61 million gallons of storm water, distribution of over 220 rain barrels and planting of over 1,725 trees. Rain gardens have been installed at schools, churches, and public spaces in almost every neighborhood in the city.

- JERSEY WATER WORKS (JWW): The CCMUA is also an active member of Jersey Water Works, a collaborative initiative among many diverse organizations and individuals to transform New Jersey's inadequate water infrastructure by investing in sustainable, cost-effective solutions that provide communities with clean water and waterways; healthier, safer neighborhoods; local jobs; flood and climate resilience; and economic growth. JWW is engaging with elected officials, community organizations, and sewer utility operators in the 21 New Jersey communities with combined-sewer systems, including Camden, to provide them with tools and resources to help address system overflows. JWW is also providing recommendations to New Jersey's Department of Environmental Protection on stormwater best management practices to promote green infrastructure. Finally, JWW is developing New Jersey AIMS4, a menu of strategies for managing sewer and stormwater systems.
- URBAN AIRSHED REFORESTATION PROGRAM (UARP): In addition to the considerable efforts of the CCMUA to address the city's water infrastructure issues, the New Jersey Tree Foundation (NJTF) has implemented the UARP, a community-based street tree planting program that began in Camden in 2002 and is now expanding to serve additional South Jersey cities. According to information on NJTF's web site, UARP is grassroots, volunteer-driven program designed to improve air quality, manage stormwater, and provide shade. The UARP has removed approximately 87,000 square feet of impervious surface to plant 6,296 trees along city streets, 220 of which were planted in the fall of 2016. Residents apply for and adopt trees, help organize events, and assist with the planting of each tree.

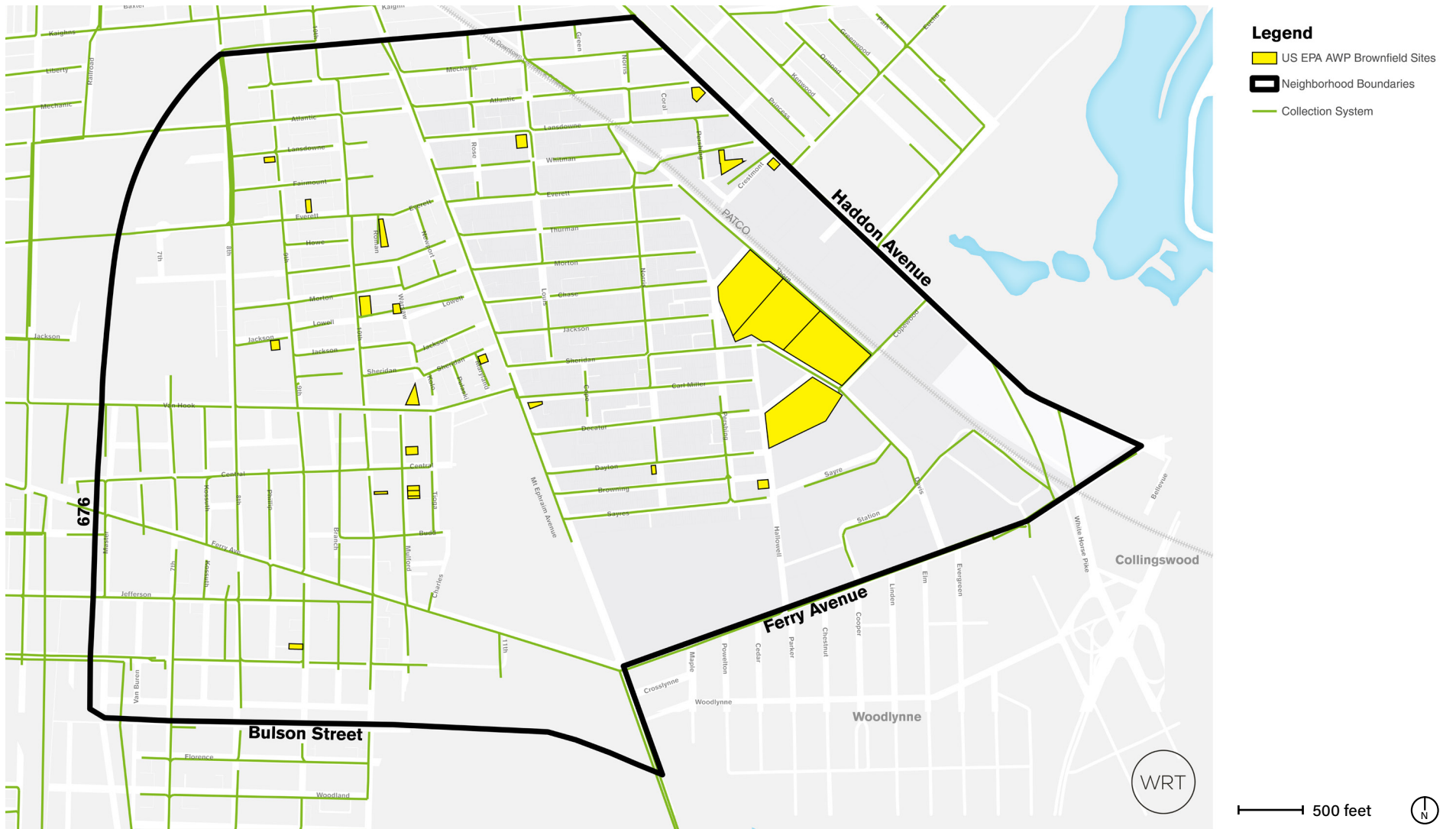


Figure 22. Collection System
Mt. Ephraim Neighborhood, Sewer / Stormwater Collection System Network

Open Space Infrastructure

The project team developed an open space framework to analyze the project area's open space needs, with a focus on the catalyst sites. The "Public Parks and Open Space" table in Figure 23 below offers summary characteristics of the five parks located within the boundaries of the Mt. Ephraim project area. All of these parks are included on the New Jersey Recreation and Open Space Inventory (ROSI), which identifies the parks as municipal-owned facilities. In addition, the 346.55 acre Cooper River Park, the premier active and passive recreation and open space amenity in the region, is located about three-quarters of a mile from the westerly boundaries of Mt. Ephraim project area, and is connected by a narrow sidewalk that runs along Ferry Avenue and under Route 30 provides pedestrian access to the Park from the project area. Limited open space is available at two (2) of the project area's public schools, Riletta T. Cream Family School Elementary (1875 Mulford Street) and Sumner Elementary (1600 S. 8th St.), both of which have an on-site playground.

Park Name	Location	Size (acres)	Recreational Amenities
Judge Robert Burke Johnson/Isabel Miller Center	303 Cooper Street	15.4	Walt Whitman Cultural Arts Center, fountain, sculptures and benches, soccer fields, baseball field, basketball courts community center, swimming pool
Elijah Perry	9th Street and Ferry Avenue	3	1 playground, 4 basketball courts, ball field, passive recreation space
Staley	Chelton Avenue and Master Street	4.2	3 basketball courts, multi-purpose field and baseball field
Whitman Park Youth Organization Baseball Field	812 Sayrs Avenue	6.5	2 baseball fields, pavilion, playground equipment, 2 basketball courts
Whitman Square	1180 Whitman Avenue	1.6	passive recreation area
Total		30.7 acres	

Figure 23. Public Parks and Open Space in Mt. Ephraim Neighborhood

The National Recreation and Park Association (NRPA), a non-profit organization dedicated to the advancement of public parks, recreation, and conservation, conducts a regular performance review of data from park and recreation agencies throughout the United States. That data is evaluated and summarized to create a benchmarking tool that is used for management and planning of operating resources and capital facilities development.

According to the “[2017 NRPA Agency Performance Review](#),” the typical park and recreation agency offers **one park for every 2,266 residents served**, with 9.6 acres of parkland per 1,000 residents.¹ However, the Mt. Ephraim project area falls significantly below this number for the amount of parkland available to residents. Below is a comparison of the NRPA

¹ NRPA stresses that their benchmarks should be used primarily as a planning tool. The Association acknowledges that park and recreation agencies serve different populations with varying needs, desires, and challenges and have different access to funding.

Benchmarks to the park and recreation facilities found in the Mt. Ephraim area as well as to the number of facilities city-wide (41 parks).²

▪ Acres parkland in project area	30.7
▪ Acres parkland in city (TPL report)	507
▪ Number of project area residents/park	2,268
▪ Number of city residents/park (TPL report)	4,211
▪ Acres per 1,000 residents in project area	2.7
▪ Acres per 1,000 residents in City	6.3
▪ Percentage of parkland in project area	3.2%
▪ Percentage of parkland in City	9%

² City-wide data was obtained from the 2004 Trust for Public Land (TPL) study entitled “The Role of Parks and Greenspace in Redevelopment, Camden, New Jersey.”

School Name	Location	Facilities
Henry L. Bonsall Elementary	1575 Mt. Ephraim Avenue	No on-site exterior playgrounds/recreation spaces
Dr. Charles E. Brimm Medical Arts High School	1626 Copewood Street	No on-site exterior playgrounds/recreation spaces
Riletta T. Cream Family School Elementary	1875 Mulford Street	On-site playground/hard-surface recreation area
Sumner Elementary	1600 South 8th Street	On-site playground
D.U.E. Season Charter	1000 Atlantic Avenue	No on-site exterior playgrounds/recreation spaces

Figure 24. School Parks and Open Space in Mt. Ephraim Neighborhood



Centerville Neighborhood
Rileta T. Cream Family Elementary School Playground



Centerville Neighborhood
Elijah Perry Park and Playground

The number of project area residents per park is almost exactly equal to the typical ratio identified in the NRPA benchmarks. However, at 2.7, the number of acres of parkland per 1,000 residents is considerably less than the NRPA typical 9.6, and is also only about 1/3 that for the city as a whole. The city does plan to redevelop the 3.7-acre Camden Labs site as an extension of Whitman Park. That addition will help to increase the acres of parkland per 1,000 residents ratio in the project area to 3, but it will still be significantly lower than what NRPA considers a typical distribution.

Similarly, a 2004 Trust for Public Land (TPL) prepared a study entitled "[The Role of Parks and Greenspace in Redevelopment, Camden, New Jersey](#)" noted that overall, Camden provides its inhabitants with less parkland for every 1,000 residents than comparable cities surveyed for its report. However, it was noted that park distribution was a more important metric than overall acreage. See map "Mt. Ephraim Project Area, Quarter-mile walk." In addition, while virtually every section of the project area is within a quarter-mile walk of one of the five neighborhood parks identified in the table above, many of these provide limited on-site active recreation options.

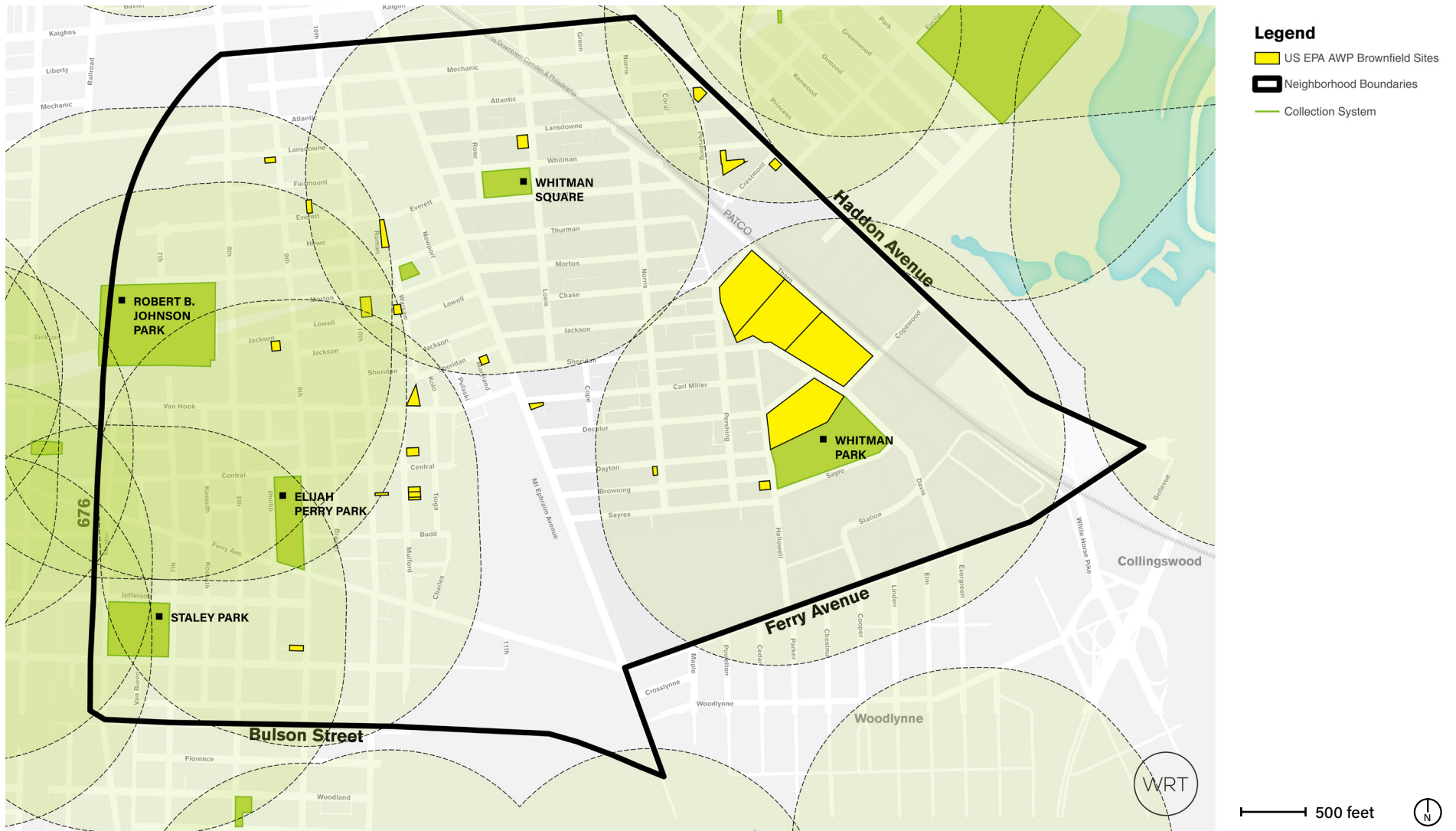


Figure 25. Park System
Quarter-mile Walk to Parks in Mt. Ephraim Project Area



CAT

CENTENNIAL AVE
ONE WAY



SITE REDEVELOPMENT

Site Redevelopment

SITE REDEVELOPMENT OVERVIEW

Using information obtained from the background research and the Urban Land Market and Infrastructure Analyses, as well as input received from steering committee and community meetings, the consultant team developed reuse scenarios for each of the catalyst and smaller-scale brownfield sites.

The consultant produced conceptual sketches of each of these reuse scenarios, within the parameters of the Whitman Park Redevelopment Plan and the HUD Choice Plan. These conceptual sketches included a site plan and illustrative massing diagram for each preferred reuse scenario.

Each of the reuse scenarios includes at least one of six (6) essential elements that support the goals of the Brownfield Area-Wide Plan by providing specific economic, environmental and social benefits. These elements consist of

- » parks,
- » green stormwater infrastructure,
- » urban agriculture,
- » infill housing,
- » neighborhood retail and
- » mixed-use developments.

It is important to keep in mind that the type and spatial extent of contamination on a brownfield may influence the type of redevelopment that is permitted following completion of the site's remediation. Understanding the existing development and physical conditions are key to informing potential reuses for these sites.



Parks

Small parks, on vacant, remediated brownfield sites managed by community groups.

Potential Benefits:

ECONOMIC:

- » increase property values
- » reduce amount of vacant land

ENVIRONMENTAL:

- » reduce number of active brownfield sites
- » reduce heat island effect
- » additional green space
- » improve health of local ecosystem

SOCIAL:

- » community building
- » reduction of blight
- » increase community pride
- » improve community health



Green Infra

Green stormwater infrastructure (GSI) projects that reduce runoff (e.g., rain gardens).

Potential Benefits:

ECONOMIC:

- » increase property values
- » reduce amount of vacant land

ENVIRONMENTAL:

- » reduce possibility of contamination of groundwater
- » reduce heat island effect
- » improve health of local ecosystem
- » filter and manage stormwater

SOCIAL:

- » increase community health
- » reduction of blight
- » increase community pride

Essential Elements of Mt. Ephraim Redevelopment Concepts



Urban Ag

Community gardens or commercial gardens on vacant, remediated brownfield sites.

Potential Benefits:

ECONOMIC:

- » create employment opportunities
- » increase property values
- » decrease maintenance costs

ENVIRONMENTAL:

- » additional green space
- » reduce heat island effect
- » improve health of local ecosystem

SOCIAL:

- » increase access to healthy foods
- » opportunities for nutritional education
- » community building
- » improve community health



Green Parking

Surface parking that incorporates greening and green infrastructure strategies.

Potential Benefits:

ECONOMIC:

- » create employment opportunities
- » increase property values
- » decrease maintenance costs

ENVIRONMENTAL:

- » additional green space
- » reduce heat island effect
- » improve health of local ecosystem

SOCIAL:

- » increase access to healthy foods
- » opportunities for nutritional education
- » community building
- » improve community health



Infill Housing

One or more infill housing units on vacant, remediated brownfield sites.

Potential Benefits:

ECONOMIC:

- » spur local economy / create jobs
- » increase property values
- » reduce amount of vacant land
- » increase homeownership/rental opportunities

ENVIRONMENTAL:

- » reduce possibility of contamination of groundwater

SOCIAL:

- » community building
- » reduction of blight
- » increase community pride



Mixed Use

Building with neighborhood retail or community space on the ground floor and housing above.

Potential Benefits:

ECONOMIC:

- » spur local economy / create jobs
- » increase property values
- » reduce amount of vacant land
- » increase homeownership/rental opportunities

ENVIRONMENTAL:

- » reduce auto-dependency
- » reduce developed land

SOCIAL:

- » reduction of blight
- » increase community pride
- » reduce crime ("eyes on the street")



Neigh. Retail

Retail stores (e.g., hardware store, cafe) that primarily serve the neighborhood.

Potential Benefits:

ECONOMIC:

- » spur local economy / create jobs
- » increase property values
- » reduce amount of vacant land
- » increase local retail opportunities

ENVIRONMENTAL:

- » reduce auto-dependency

SOCIAL:

- » reduction of blight
- » increase community pride
- » reduce crime ("eyes on the street")



Camden Labs
Existing Conditions



Camden Labs
Existing Conditions

PRIORITY SITES

Camden Labs

According to the Mt. Ephraim Choice Neighborhood Plan, residents expressed concerns over the lack of high-quality, accessible, and safe open space, particularly related to opportunities for children to experience the natural environment and participate in safe recreational activities. This is supported by the data in the "Open Space Infrastructure" section above, which shows that the Mt. Ephraim project area has only 2.7 acres of parkland per 1,000 residents. The number is considerably less than the National Recreation and Park Association (NRPA) average of 9.6 acres of parkland per 1,000 residents, and is also only about 1/3 that for the city of Camden as a whole.

For this reason, the project team recommends the clean-up and redevelopment of the Camden Labs catalyst site at 1667 Davis Street (Block 1392, Lot 33) as an extension of the adjacent Whitman Park. The proposed expansion would increase the ratio of parkland to residents in the project area to 3.0 acres per 1,000 residents. The site's R-2 zone permits open space uses "by right."

Camden County has committed to spending up to \$5 million from its capital budget and open space fund on improving four Camden City parks, including the proposed Whitman Park expansion. The Camden County Board of Freeholders, has already awarded a contract for the design of the project to an engineering firm, and plans to hold sessions with community members in the coming months to help determine what residents want to see in the park expansion.¹ In addition to the park use, the Mt. Ephraim Choice Neighborhood Plan identifies Whitman Park and the Camden Labs site as having underutilized areas that could support additional green infrastructure along the proposed Carl Miller Boulevard green corridor. This green infrastructure would build on Camden SMART's past and proposed green infrastructure investments in the area. For this reason, the Camden Labs site is also recommended for green stormwater infrastructure.

¹ Steele, Allison. "Building better parks for Camden's kids." *The Philadelphia Inquirer and Daily News*. April 21, 2017

Phil-Mar

The other priority catalyst site is the Phil-Mar site located at 1800 Copewood Street (Block 1388, Lot 7 and Block 1386, Lot 1.01). According to the Mt. Ephraim Choice Neighborhood Plan, job opportunities and readiness are concerns for Mt. Ephraim residents. For residents without jobs, the most frequent reason that was noted was the lack of jobs available.

For this reason, the proposed redevelopment scenario at the Phil-Mar site is for a job-generating light industrial and commercial mixed-use, consistent with the development pattern of the surrounding area and the C-3 zone in which it is located.

“Light Industrial” is a less intensive industrial use that has fewer environmental impacts and is often used to produce small manufactured goods for sale.

The redevelopment proposed would be primarily composed of industrial uses (a 287,447 sq. ft. rehabilitated industrial building; and a new 191,283 sq. ft. industrial building) and include 5,000 sq. ft. of commercial space along Thorne Street that would primarily be focused on servicing on-site employees.



Figure 26. Phil-Mar and Camden Labs Site
Aerial depicting the location of the two catalyst sites – Camden Labs and Phil-Mar

Our Lady of Lourdes
Medical Center

Haddon Avenue

Thorn Street

Phil-Mar Site

Brimm Medical
High School

Copewood Street

Camden
Labs Site

Decatur Street

Proposed Extension of
Whitman Park

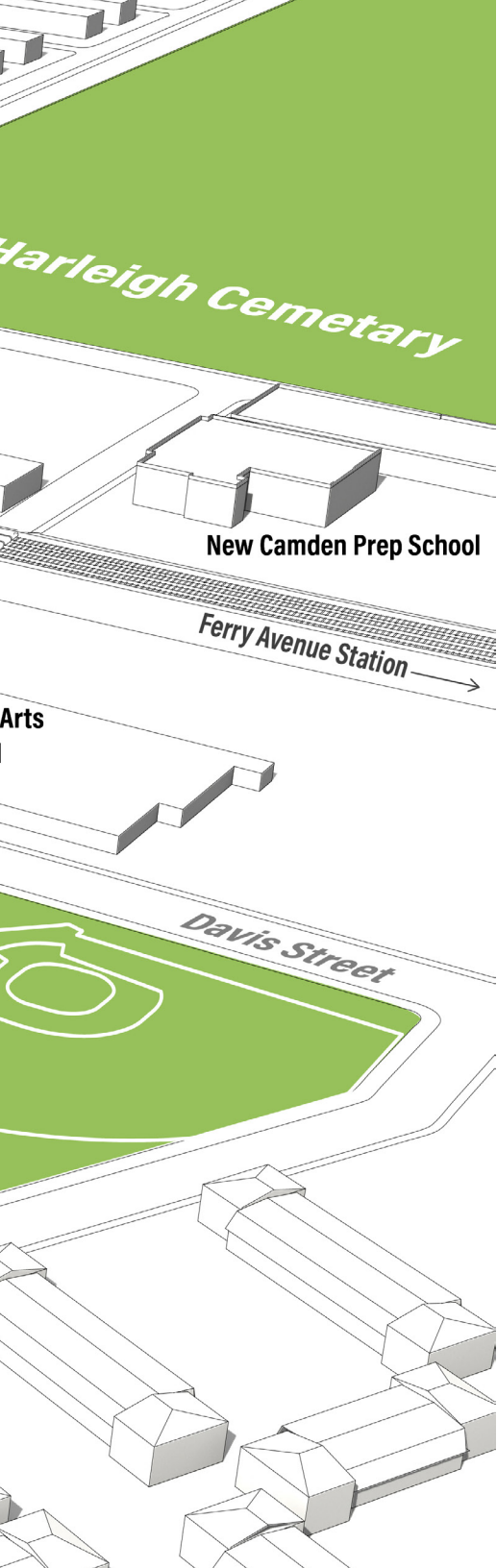
Whitman Park

Says Avenue

Hallowell Lane

Pershing Street

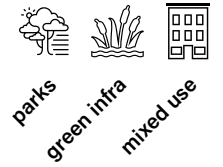




Phil-Mar

Conceptual Redevelopment

- » 5,000 FT² Commercial Space
- » 191,283 FT² Industrial Space
- » Green Infrastructure integrated into site





1700 Mt. Ephraim Avenue
Existing

SMALLER-SCALE SITES

1700 Mt. Ephraim Avenue

1700 Mt. Ephraim Avenue (Block 1363, Lot 83) is a former gas station and auto repair property located at the northeast corner of Mt. Ephraim Avenue and Carl Miller Boulevard in the Centerville neighborhood. The original buildings on this property have been razed, and the property currently sits vacant. The site is owned by the Camden Redevelopment Agency.

Mt. Ephraim Avenue is a neighborhood main street that functions as a walkable commercial corridor for residents, but also as a regional transportation corridor that connects residents to downtown Camden. According to the Mt. Ephraim Choice Neighborhood Plan, Mt. Ephraim Avenue remains a viable commercial center with the potential for future economic development. There are many small shops and stores along the corridor that have continued operating through difficult economic conditions, as well as a few new businesses that have opened in recent years. In addition, it is important to note that Virtua Health, a hospital operator that is one of the City's largest employers, is investing \$22 million in a 34,500-square-foot Family Health Center on the 1400 block of Mount Ephraim Avenue. The center is expected to open by the fall of 2018. Also on Mt. Ephraim Avenue, the non-profit Uncommon Schools plans to spend more than \$25 million to upgrade the Bonsall school building at 1575 Mt. Ephraim Avenue. The building houses Camden Prep, a renaissance school for about 425 children in grades K-5. That project is slated to begin in late 2017.¹

The proposed redevelopment scenario aims to strengthen the commercial corridor by redeveloping the site as a mixed use building with 5 walk-up apartments and space for a new commercial tenant. The site also includes space for urban agriculture and green stormwater infrastructure.

¹ Walsh, Jim. "Virtua plans expansion at Camden complex." *Courier-Post*. <http://www.courierpostonline.com/story/news/local/south-jersey/2017/02/11/virtua-camden-expansion-center/97749058/>







1700 Mt. Ephraim Avenue
Conceptual Redevelopment

- » 3,200 FT² Retail Space
- » 5 Units of Housing
- » Community Garden Space





Mulford Street Lots
Existing

Mulford Street Lots

The Mulford Street Lots are a collection of small, city-owned residential lots on the east side of the 1700 and 1800 blocks of Mulford Street in the Centerville neighborhood. These lots are currently vacant and unimproved, but used informally for vehicle parking and storage by neighborhood residents, as observed in various site visits.

The Mt. Ephraim Choice Neighborhood Plan identifies the Mulford Street sites as part of the Centerville neighborhood's infill housing. The Plan calls for infill housing and green infrastructure investments to be made on "a significant cluster" of privately owned vacant lots located immediately to the east of Branch Village, and in close proximity to R.T. Cream Elementary School. The plan specifically proposes the development of townhomes and stacked flats that face the street and reinforce the street grid of the city, with parking in the rear.

The Mt. Ephraim Choice Neighborhood Plan also identifies the Mulford Street Sites as a second-tier opportunity site for green infrastructure. Second tier opportunity areas are clusters of public and private properties that are smaller and may not have the same level of potential to affect change according to the Camden SMART Preliminary Opportunities Analysis. However, these areas still offer opportunities to take advantage of public site control and can leverage existing and planned green infrastructure projects.

For the reasons stated above, the consultant team recommends a reuse scenario for these sites that consists of four (4) market-rate townhouse units on existing residential lots, with green infrastructure proposed for the street edge. This reuse scenario is shown on the following pages.



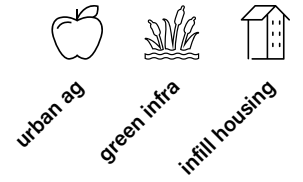




Mulford Street Lots

Conceptual Redevelopment

- » Four townhomes (potential for six more)
- » Community Garden Space
- » Green infrastructure integrated into public space





1572 S. 10th Street
Existing

1572 S. 10th Street

1572 S. 10th Street (Block 440, Lot 99) is a former dry-cleaning site located at the corner of 10th and Lowell Streets in the Liberty Park neighborhood, just north of the Mt. Ephraim Choice Neighborhood boundaries. The former commercial building is vacant, and the property measures approximately one-quarter acre. This site is also sometimes called "Dual Cleaners" in state environmental records.

The Liberty Park Redevelopment Plan has proposed this site for acquisition and redevelopment. The proposed redevelopment concepts includes a neighborhood commercial use on the ground floor, with residential above. Parking will be located behind the building with the possibility of infill townhouse units on corner where area becomes more residential. The planning team also proposes a small park space for the site.

An alternative or interim redevelopment scenario envisions this site as a green pervious parking lot for neighborhood use. There is significant demand for limited on-street parking in this section of the neighborhood because most of the homes are row-houses without on-site parking, and the adjacent Bonsall School and School Annex Building created additional daytime demand for on-site parking. For these reasons, the community expressed their desire for potential use of this site for additional surface parking. This use is compatible with the fact that this site is also located in a floodplain.



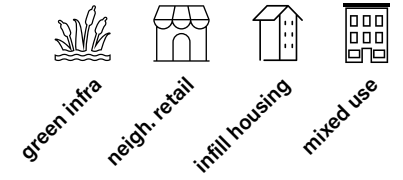




1572 S. 10th Street

Conceptual Redevelopment

- » Four units of housing (two townhomes, two apartments)
- » 1,825 FT² Retail Space
- » Green infrastrucutre integrated into public space



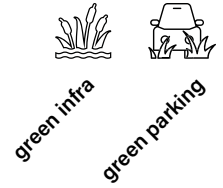




1572 S. 10th Street (Green Parking Alternative)

Conceptual Redevelopment

- » Interim use as 18-space neighborhood parking lot
- » Permeable pavers and green infrastructure integrated into site



PROJECT IMPACTS

Transportation Impacts

The consultant team assessed the potential impacts of the proposed redevelopment scenarios on the City's transportation infrastructure, including:

- Vehicular Traffic
- Transit (Bus, Commuter Rail),
- Freight, and
- Bicycle/Pedestrian Access

The project area has a good transit network, as described in the "Transportation Infrastructure" section above. This includes access to 28 bus routes, and a PATCO station located directly within the project area. There is also planned and existing bicycle and pedestrian access that will connect the project area to other parts of the city and region.

To evaluate the likely impacts on current roadway conditions in the project area, the key trip generation variable to consider is the PM peak number because this is the period when roadway traffic volumes are typically at their highest levels. The trip generation rates used to develop these calculations were obtained from the Institute of Traffic Engineers (ITE) Trip Generation Rate Manual (8th Edition).

For vehicular traffic, ***the proposed redevelopment is likely to produce 346 additional trips overall.*** The total number of PM Peak period trips that would be generated by the development of 18 residential townhomes and walk-up apartment units, the community flex space and commercial space associated with the mixed-use development concept for Mulford Street, 1572 South 10th Street and 1700 Mt. Ephraim Avenue is 16. This slight increase in traffic volume is unlikely to have an adverse impact on operating characteristics of the local roadways and intersections that serve the project area.

The proposed redevelopment concept for the Phil-Mar site involves a mix of commercial and industrial uses. The total number of PM Peak trips that is likely to be generated under this concept is 231. According to data available on DVRPC's website, average daily traffic counts along Mt. Ephraim Avenue, within the Mt. Ephraim project area, range from approximately 5,000 to 6,900 vehicles. The traffic count on Haddon Avenue, in the vicinity of Copewood Street, shows approximately 6,300 average daily trips. As noted above, Mt. Ephraim and Haddon Avenues currently experience high crash rates and congestion. The additional traffic volume that could accompany development of the Phil-Mar site is likely to exacerbate these conditions. Consequently, when the final development program for the site is determined a detailed traffic analysis should be prepared with the objective of minimizing roadway congestion and neighborhood impacts.

The Phil-Mar site fronts on Davis Street but extends the entire width of the block to Thorn Street, which would permit creation of multiple access points, depending on the site design. In addition, the parcel is conveniently located within a quarter mile/5-minute walk of the PATCO Ferry Street Station. These features suggest a variety of methods to reduce potential traffic impacts associated with the conceptual site development. The number of vehicle trips could be reduced substantially if the businesses that eventually occupy the Phil-Mar site are encouraged to employ city residents – an approach that was supported by neighborhood residents participating in the Area-Wide Plan public meetings. This is certainly a feasible objective because 13% of Camden County's residents typically work and live in the same municipality.

Furthermore, the businesses that occupy the site could use staggered work hours and encourage employees to use transit, working with DVRPC's Safe Routes to Transit program, Mobility Alternatives Program, Share-A-Ride program, parking cash out or other similar initiatives to reduce auto-dependency and promote alternative travel modes. Aggressive participation in these initiatives could result in considerable reductions in potential roadway trips and associated congestion.

Finally, since the commercial activity that is proposed under the Phil-Mar development concept will primarily serve on-site employees the number of associated vehicle trips is likely to be significantly lower than ITE-calculated volume.

Water + Sewer Impacts

The consultant team also assessed the potential impacts of the proposed redevelopment scenarios on the City's water and sewer infrastructure. The total water demand projection for all of the brownfields redevelopment sites is approximately 8,500 gallons per day. The provisions of New Jersey's Safe Drinking Water Act require that systems that serve persons other than residential consumers must yield at least three times the average daily water demand. New Jersey's Residential Site Improvement Standards also require that daily water supply flows should be computed by applying a peaking factor of three times the average daily residential consumption.¹

To meet the requirements of the Safe Drinking Water Act and the Residential Site Improvement Standards, the supply to the redevelopment parcels would need to be sufficient to provide approximately 8,500 gallons per day. The net available capacity of water system serving Camden is 7.756 million gallons a day. Consequently, the projected demand related to the proposed redevelopment of the catalyst and second-tier sites can easily be absorbed by the available system capacity and will have no adverse supply impacts.

The city water pollution control facility has a net available capacity of 22 million gallons per day. If the wastewater generation rates for the catalyst and second-tier brownfields redevelopment site concepts were equivalent to the peak water supply demand projections – under the proposed development concept (9,200 gallons per day), the city's system would easily absorb the demand.

Furthermore, with the exception of a small, empty area along Copewood Street, at the south end of the 4-acre Phil-Mar site, the parcel is almost entirely covered with impervious surfaces, primarily several dilapidated industrial buildings (see Phil-Mar site photo below). The proposed redevelopment concept would not increase storm water flows as compared to the current site conditions.

Finally, all of the redevelopment sites under consideration for residential redevelopment are currently vacant. Redeveloping these sites for residential use would introduce new impervious surface. However, the combined area of all of these lots is slightly more than one half acre. The contribution of stormwater flows to the city's stormwater management system from the development of these sites will have negligible impact on Camden's available system capacity.



Aerial View of Phil-Mar Site
Courtesy of Google Earth

¹ See N.J.A.C. 5:21, 5.2 (d)

The CCMUA has taken considerable strides to address Camden's stormwater management issues, to expand the capacity of the existing, aging infrastructure, and to manage CSOs and reduce demands through system maintenance and aggressive implementation of green infrastructure and low impact development techniques to capture, treat, and/or use stormwater runoff from public and private properties. Although the development concepts presently under consideration for the catalyst and second tier sites would not generate demands that would over-tax the current available capacity of the city's water infrastructure system, to compliment the CCMUA's efforts, any new development should be designed to minimize stormwater runoff and reduce demand.

As a guiding design principle, redevelopment concepts for the catalyst and second-tier brownfields site currently under consideration should incorporate sustainable stormwater and green infrastructure design techniques to the greatest feasible extent. This should include the use of green roofs, rain barrels, rain gardens, and impervious surfaces, consistent with Camden's 2013 Green Infrastructure Design Handbook, its Camden Smart initiatives and the 2016 Trust for Public Land "Greening Camden" report.

In addition to the foregoing recommendations, the Energy Strategy Plan, developed as part of this Mt. Ephraim Choice Neighborhood Brownfield Area-Wide Plan, identifies specific stormwater management strategies that will address capacity issues and reduce CSO overflows, for example

- » Using streets and other public rights of way for on-site stormwater retention;
- » Incorporating stormwater retention in the design for Branch Village; and
- » Exploring the use of vacant lots in Centerville and Liberty Park as receptors for stormwater.

This would require directing storm drainage pipes to vacant lots and re-grading the lots so that water could be collected. In non-rainy periods the lots could continue to be used as neighborhood passive open space.

Health Impacts

The consultant team developed a framework for evaluating the proposed reuse scenarios in terms of their potential health impacts on the residents of the Mt. Ephraim project area. The team also provided guidance on how to perform a Health Impact Assessment when weighing the proposed reuse concepts.

A **Health Impact Assessment (HIA)** is intended to provide decision-makers with a method to understand the environmental, social, and economic impacts of decisions on affected communities, and to consider recommendations for how a proposed activity or development can best support public health, health equity, and environmental justice.

Reuse options currently under consideration for the Phil Mar site envision a mix of industrial and commercial activity. Health impacts are likely to be associated with the three life cycle phases of industrial/commercial development: 1) project design and construction; 2) facility operations; and eventually 3) decommissioning, when the facility is taken down and the site prepared for other uses.

The factors for analysis are derived from the transportation and water system infrastructure assessments and open space framework developed in conjunction with this Brownfield Area Wide Plan. In addition, the project team consulted "Resource Kit for HIA Practitioners: HIA for Industrial Projects" and input received from community residents during public meetings in November 29, 2016 , February 21, 2017 and June 13, 2017.

A full HIA could not be accomplished until more detail of a proposed use is available, and thus, the City, CRA and interested residents are encourage to evaluate proposes resuses within the HIA Framework provided in the **Appendix**.

EQUITABLE DEVELOPMENT

According to Carlton Eley of the EPA's Office of Environmental Justice, "equitable development" is an approach for meeting the needs of underserved communities through policies and programs that reduce disparities while fostering places that are healthy and vibrant.¹

Brownfields are disproportionately located in low-income, minority communities, such as the Mt. Ephraim neighborhood of Camden. In fact, the *Connections 2040: Plan for Greater Philadelphia* developed by the Delaware Valley Regional Planning Commission identifies brownfields as a serious environmental justice consideration for disadvantaged communities, and calls for a more sustainable future that offers a superior quality of life by increasing mobility choices, preserving more open space, reinvigorating existing communities, and reducing demand for energy.

For this reason, intentional community engagement strategies were put into place to ensure that stakeholders in the Mt. Ephraim neighborhood, which is low-income and majority African-American, would both participate in, and benefit from the brownfield redevelopment strategy developed through the AWP process.

The site redevelopment strategies proposed in this plan promote equitable development by ensuring access to a mix of housing types across a range of incomes; local, family-sustaining wage jobs; and expanded open space and recreation opportunities. As development commences, local policies can be implemented to further promote equitable development, such as supporting local entrepreneurship and enacting preferences for local hiring.

¹ Eley, Carlton. "Planning for Equitable Development: Social Equity by Design." *Planning Advisory Service (PAS)* (2017).



ONUOHA
EXPORT CLOTHINGS
927 EVERETT ST

RIPTOWN!!

Handwritten graffiti including a large bubble letter 'E', a circle with an 'X', and a circle with 'F2'.





NEXT STEPS

Next Steps

IMPLEMENTATION PARTNERSHIPS

The project team has presented these redevelopment concepts for each of the five (5) priority sites in order to facilitate site assessment, cleanup and eventual redevelopment. However, the actions and resources needed to realize the redevelopment scenarios described in this plan varies for each of the catalyst and smaller-scale priority sites, depending on site ownership and proposed redevelopment.

The Camden Redevelopment Agency will lead implementation of the Mt. Ephraim Choice Neighborhood Brownfield Area-Wide Plan, in coordination with stakeholder groups represented on the Choice Neighborhood Executive Leadership Council. Plan implementation will also be closely coordinated with the neighborhood investment initiatives of the Mt. Ephraim Choice Neighborhood Transformation Plan.

Redevelopment of the priority catalyst site, Camden Labs, involves collaboration from multiple stakeholder groups. The site is in the process of being acquired by the City of Camden, and the City of Camden and Camden County are in discussions to enter into a long-term lease agreement but Camden County is entering into a long-term lease agreement to manage the land. Camden County is also partnering with the City of Camden and Cooper's Ferry Partnership to oversee park rehabilitation, expansion, and green stormwater infrastructure.

Summary of Key Partnerships

- » **United States Environmental Protection Agency (USEPA):** CRA and the City of Camden will continue to work with the USEPA to facilitate redevelopment of the brownfield sites identified in this AWP. The USEPA can also provide technical and financial assistance for site assessment and remediation activities.
- » **United States Department of Housing and Urban Development (HUD):** As noted above, much of the AWP project area is contained within the boundaries of the Mt. Ephraim Choice neighborhood. Funded by a HUD Choice Neighborhood Implementation grant, the City of Camden, CRA, Cooper's Ferry Partnership, and community groups will continue work with HUD to realize neighborhood revitalization goals, such as the reuse of vacant sites for green infrastructure. HUD may also provide financing for the constructions, rehabilitation or acquisitions of property to support the development of affordable housing on brownfield sites.
- » **New Jersey Department of Environmental Protection (NJDEP):** NJDEP has participated in the AWP process as a member of the plan Steering Committee and by providing information on site environmental conditions and considerations. NJDEP can also provide technical, financial and enforcement assistance to facilitate redevelopment of the brownfield sites identified in the AWP.

- » **City of Camden:** The City of Camden, under the leadership of Mayor Dana L. Redd, plays an integral role in strengthening communities and revitalizing neighborhoods in the City of Camden includes not only economic sustainability, but also environmental sustainability. The City has been a key partner in all phases of the Mt. Ephraim Brownfield Area-Wide Plan, particularly in utilizing the Mayor's Choice Neighborhood Executive Leadership Council to convene the plan's Steering Committee. CRA will continue to work in full partnership with the Mayor's Office to ensure implementation of this Brownfield Area-Wide Plan.
- » **Housing Authority City of Camden (HACC):** The Housing Authority of the City of Camden provides housing to 4,000 residents annually. HACC has been an integral member of the AWP Steering Committee. HACC will continue to lead the implementation of the Mt. Ephraim Choice Neighborhood Plan, which will transform the Branch Village public housing complex in the AWP project boundaries into a community of mixed-income town houses and apartments.
- » **Camden County:** As noted above, Camden County has already committed funding from its capital budget and open space fund on the proposed Whitman Park expansion, which is the desired reuse concept for this plan's catalyst site, Camden Labs. The Camden County Board of Freeholders has already awarded a contract for the project to an engineering firm and is committed to engaging community members to determine what residents want to see in the park expansion. In addition, Camden County can assist potential redevelopers with accessing low-interest loans, incentives, grants and creative tax structures for brownfield remediation and redevelopment.
- » **Camden County Municipal Utilities Authority (CCMUA):** CCMUA has been recognized by the U.S. EPA because of their efforts to integrate water conservation and green infrastructure adaptive measures into its infrastructure investment plan. CCMUA has been an active participant in the Mt. Ephraim Brownfield Area-Wide Plan Steering Committee, CamdenSMART (Stormwater Management and Resource Training) Initiative, and the Camden Collaborative Initiative (CCI). CCMUA's role in implementation of this AWP will be focused on stormwater management, green infrastructure, and water and energy conservation measures.
- » **Cooper's Ferry Partnership (CFP):** Cooper's Ferry Partnership is a private, non-profit corporation that works with community development corporations in the City of Camden to provide technical assistance on a wide range of revitalization projects. CFP has served an integral role in the planning process, including participating on the plan Steering Committee, and has also participated in the CamdenSMART and CCI partnerships. In addition, CFP has been tasked to lead the implementation of neighborhood initiatives for the Mt. Ephraim Choice Neighborhood Plan. CFP's role in implementation of this AWP will be focused on large-scale green infrastructure and green re-development projects.
- » **Community Partners and Neighborhood Groups:** Community partners and neighborhood groups have participated in both the Steering Committee and public meetings for this plan. It is envisioned that they will continue to engage residents in discussions surrounding clean-up and re-use of community brownfield sites, as well as participate in the implementation of neighborhood initiatives for the Mt. Ephraim Choice Neighborhood Plan.

ACTION ITEMS

EPA's Brownfield Area-Wide Plan process is intended to assist communities, like Camden's Mt. Ephraim neighborhood, organize the short-and long-term actions that they need to take to achieve the cleanup and reuse goals for the project area. Often times, economic limitations (such as financial resources and market conditions), local policy challenges and other obstacles can prevent a brownfields area-wide plan from being implemented immediately.

Short-term Action Items: Building Momentum

The Area-Wide Plan falls primarily within the Pre-Development Phase of brownfield remediation. The next steps are to investigate and analyze the extent of contamination on each site, and determine appropriate actions that must be taken to clean up the land before development occurs.

Additionally, in order to keep momentum behind the Mt. Ephraim Brownfield Area-Wide Plan, CRA, the City of Camden, and their partners must also consider the following short-term action items

Long-term Action Items: Remediation + Redevelopment

The remediation of a brownfield site is a multi-step process. To address the environmental concerns of a contaminated lot, a series of assessments, plans, and actions are necessary. The first step is to determine which sites are in need of remediation. After an inventory of brownfield locations is developed, the next step is to work with community members to develop a reuse plan. Following the planning effort, funding must be secured to begin the remediation process. At this point is it necessary to find a Licensed Site Remediation Professional (LSRP). The LSRP is necessary to begin the actual environmental remediation work on a site. The process of assessing, investigating, and cleaning up the AWP's brownfield sites occurs over a series of phases shown on the diagram at right.

Short Term Action Items



Work to integrate the plan across local government departments, into partnership priorities or into regional planning efforts, including:

- » Through CRA workplan
- » Integration with Choice neighborhood implementation
- » Collaboration with Camden County on expansion of Whitman Park



Pursue interim cleanup and reuse at brownfields sites



Apply for implementation financing and funding

Formalize Partnerships and Agreements with organizations listed in Implementation Partnerships section above



Continue outreach and communication by the City and CRA with stakeholders of the Mt. Ephraim community

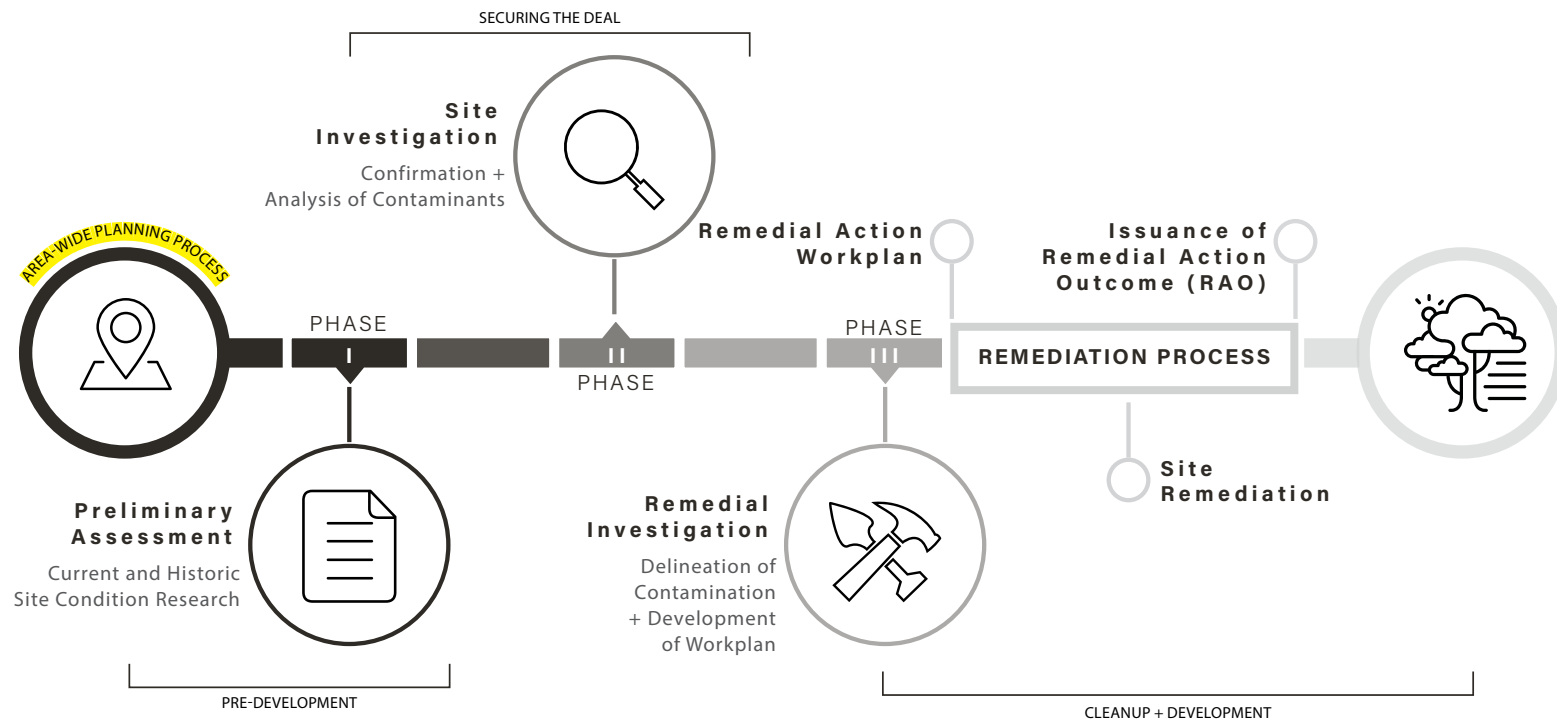
After the remedial investigation is complete, a workplan to address the contamination on the site must be developed. Workplans often recommend removing soil from the site, or capping the site to prevent exposure and spreading of contamination.

At the completion of the environmental remediation process, a report known as a Remedial Action Outcome (RAO) is issued. This report details the actions taken and addresses the modified short- and long-term plans for the site.

Following remediation, CRA will need to actively market these sites to a developer for redevelopment according this strategy, the Choice Neighborhood Plan, and the applicable neighborhood and redevelopment plans. The project team further developed a

companion Energy Strategy Plan which contains a detailed list of methods and resources for integrating net-zero energy consumption into the redevelopment of the project sites.

Each of the brownfield sites identified in this plan is in a different stage of this process. For example, a Phase I Environmental Site Assessment (ESA) has already been completed for the two priority catalyst sites, Camden Labs and Phil-Mar; however, whereas the City is in the process of foreclosing on the Camden Labs site, Phil-Mar remains privately owned. Meanwhile, none of the three smaller-scale priority sites have had a Phase I ESA, but two of the three – 1700 Mt. Ephraim Avenue and the Mulford Street sites, have already been acquired.



Camden Labs

The project team recommends the clean-up and redevelopment of the Camden Labs catalyst site as an extension of the adjacent Whitman Park. Camden County has committed to spending up to \$5 million from its capital budget and open space fund on improving four Camden City parks, including the proposed Whitman Park expansion. The Camden County Board of Freeholders, has already awarded a contract for the project to an engineering firm, and plans to hold sessions with community members in the coming months to help determine what residents want to see in the park expansion.¹

In addition to the park use, the Mt. Ephraim Choice Neighborhood Plan identifies Whitman Park and the Camden Labs site as having underutilized areas that could support additional green infrastructure along the proposed Carl Miller Boulevard green corridor, building on Camden SMART's past and proposed green infrastructure investments. For this reason, the Camden Labs site is also recommended for green stormwater infrastructure.

As per the requirements of the Site Remediation Reform Act of 2009, N.J.S.A. 58:10C-1 et seq. (SRRA) and the NJDEP Technical Requirements for Site Remediation, N.J.A.C 7:26E, the person responsible for remediating the Camden Labs site is obligated to hire a Licensed Site Remediation Professional (LSRP) to continue and complete the remediation. Upon completion of the foreclosure process, the City of Camden will retain an LSRP in accordance with these requirements.

To complete the investigation and remediation with a goal to receive a full-site Remedial Action Outcome (RAO), an LSRP must be engaged to review the existing environmental record to determine what additional remedial actions are required. A scope of work to complete this final phase of investigation and remediation would include the following:

1. LSRP Retention and SRRA compliance including submission to NJDEP of Annual Remediation Fee Form, Initial Receptor Evaluation and Public Notification requirements.
2. Review of environmental case files pertaining to the site, including NJDEP, USEPA and local governing agencies.
3. Completion of a Remedial Investigation Workplan (RIW) for soil and groundwater including Case Inventory Document (CID), site-specific Quality Assurance Project Plan (QAPP) and Health and Safety Plan. The RIW should also include requirements for a vapor study if required by groundwater findings and a pre-demolition survey to identify and quantify the various hazardous waste streams that would be generated by demolition of the existing buildings and subsurface structures. The Pre-Demolition Survey has been completed by an environmental contractor, TRC, and demolition will commence once the City obtains ownership.
4. Following the completion of the Remedial Investigation and Pre-Demolition Survey, a Remedial Action Workplan (RAW) may be developed to implement the final phase of remedial action required at the site in conformance with expected site re-use goals. If final remediation includes the use of engineering or institutional controls such as capping or a Groundwater Classification Exception Area (CEA), remedial permits, long-term biennial inspections and certifications, and deed restrictions may be required.
5. Engineering controls may need to be incorporated into subsequent design elements for new construction at the site, such as vapor barriers and mercury ambient air monitoring systems.

As previously noted, CRA was awarded an EPA Brownfields Assessment Grant in 2015 develop and implement a program to perform environmental investigations at the Camden Labs property. Grant funding will be used to perform a Remedial Investigation (RI) of the site, as well as for building demolitions.

¹ Steele, Allison. "Building better parks for Camden's kids." *The Philadelphia Inquirer and Daily News*. April 21, 2017.

Phil-Mar

The project team recommends the clean-up and redevelopment of the Phil-Mar catalyst site for light industrial uses. The Phil-Mar site is currently being investigated and remediated jointly with the RF Products site under the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program (SRP) Program Interest (PI) No. 015474. The entity responsible for conducting the remediation of both the Phil-Mar site and the RF Products site is Northrop Grumman System Corp. of Falls Church, VA. Northrop Grumman is the successor company of Thompson Ramo Wooldridge, Inc. (TRW) a corporation that owned and operated the industrial complex that includes the Phil-Mar site and the RF Products site in the 1960's and 1970's.

As per the requirements of the Site Remediation Reform Act of 2009, N.J.S.A. 58:10C-1 et seq. (SRRA) and the NJDEP Technical Requirements for Site Remediation, N.J.A.C 7:26E, the person responsible for remediating the RF Products/Phil-Mar site (Northrop Grumman) has retained a New Jersey Licensed Site Remediation Professional (LSRP) to continue and complete the remediation. According to NJDEP case files submitted in 2013, Northrop Grumman planned on completing all required remedial actions within regulatory time frames and under an Administrative Consent Order at the site, as necessary.

It should be noted that all work conducted at the site was being performed to standards appropriate for industrial usage which include non-residential standards for soil, groundwater and vapor contaminant pathways. As the CRA's re-use strategy for this site is to maintain industrial site use, continued environmental investigation and remediation to achieve a full-site Response Action Outcome (RAO) by Northrop Grumman is warranted based on the information reviewed for this assessment. Such activities may include additional investigation of soil and groundwater. Further, additional investigation for potential point sources for contamination of local and regional groundwater by chlorinated solvents may be required by NJDEP.

In order to complete the investigation and remediation with a goal to receive a full-site RAO, the current remediating party, Northrup Grumman, and any active businesses on site would likely need to be involved with negotiations. The CRA could engage their own LSRP as well as experienced environmental legal counsel to review the existing environmental record to determine what additional remedial actions, if any, are required to achieve remediation goals for re-use as industrial. A scope of work to complete this final phase of investigation and remediation would include the following:

1. Completion of a Remedial Investigation Workplan (RIW) for soil and groundwater including Case Inventory Document (CID), site-specific Quality Assurance Project Plan (QAPP) and Health and Safety Program. The RIW should also include requirements for a vapor study if required by groundwater findings and a pre-demolition survey to identify and quantify the various hazardous waste streams that would be generated by demolition of the existing buildings and subsurface structures.
2. Pre-acquisition site access would need to be arranged.
3. Following the completion of the Remedial Investigation and Pre-Demolition Survey, a Remedial Action Workplan (RAW) may be developed to implement the final phase of remedial action required at the site in conformance with expected site re-use goals. If final remediation includes the use of engineering or institutional controls such as capping or a Groundwater Classification Exception Area (CEA), remedial permits, long-term biennial inspections and certifications, and deed restrictions may be required.
4. Engineering controls may need to be incorporated into subsequent design elements for new construction at the site, such as vapor barriers and ambient air monitoring and ventilation systems.

All environmental work to date has assumed that the site will continue to be used for industrial purposes. Any proposed development that assumes residential or open space as a reuse would have to reopen the environmental status and remediate the site to a higher level.

FUNDING

Identifying and evaluating potential technical and financial resources at the local, regional, state, and federal levels is critical to the realization of BF AWP goals. The City will need to secure funding to conduct the Phase I and Phase II Environmental Site Assessments, as indicated in the Action Items sub-section above. When the Phase II assessments have been completed, additional funding must be secured to facilitate the remediation, or “clean up” efforts at each of these sites to a level that is required to support the intended redevelopment scenario.

Funding to support brownfield remediation and redevelopment is available from a variety of sources, including

- » **Technical Assistance**
- » **Tax Incentives**
- » **Local Financing Tools**
- » **Loans/Loan Guarantees**
- » **State and Federal Grants**
- » **Private Foundations**
- » **Private Capital**

For example, both the U.S. EPA and the New Jersey Department of Environmental Protection (NJDEP) provide competitive grant funding to support Assessment and Clean-up efforts, which Camden has successfully applied for and received for other projects in the past. A preliminary list of committed and potential federal, state, local and foundation-based funding sources has been identified as follows:

Funding for Brownfield Assessment, Cleanup and Reuse

- **USEPA Brownfields Assessment Grants:** Assessment grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to brownfields sites. These grants are available to state, local, and tribal governments and quasi-governmental entities. Up to \$200,000 is available per site, with larger amounts with a waiver or for a coalition of applicants.
- **USEPA Brownfields Cleanup Grants:** Cleanup grants provide funding for a grant recipient to carry out cleanup activities at brownfield sites. These grants are available annually, and are available to state, local, and tribal governments; quasi-governmental entities; and nonprofits. The applicant must own the site. Up to \$200,000 is available per site, and the grant requires a 20% cost share.
- **USEPA Brownfields Revolving Loan Fund (RLF) Grants:** Revolving Loan Fund (RLF) grants provide funding for a grant recipient to capitalize a revolving loan fund and to provide subgrants to carry out cleanup activities at brownfield sites. When loans are repaid, the loan amount is returned into the fund and re-lent to other borrowers, providing an ongoing source of capital within a community. Eligible applicants include state, local, and tribal governments and quasi-governmental entities. Up to \$1,000,000 is available with a 20% cost share requirement, and at least 60% of the total amount must be used for the RLF.
- **U.S. HUD Community Development Block Grants:** The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs, and can be used for a range of brownfield-related purposes. Larger cities and urban counties receive annual grants from HUD, while smaller communities must apply through their state.

- » **United States Economic Development Agency (USEDA) Public Works Program:** EDA's Public Works program helps distressed communities revitalize, expand, and upgrade their physical infrastructure. in order to attract new industry; encourage business expansion; diversify local economies; and generate long-term, private-sector jobs and investment through the acquisition or development of land and infrastructure improvements.
- » **New Jersey Economic Development Agency (NJEDA) Brownfields and Contaminated Site Remediation Reimbursement Program:** The Brownfields and Contaminated Site Remediation Program allows for qualified developers to obtain reimbursement of up to 75% of authorized remediation costs incurred during the redevelopment process. This reimbursement program is funded by new sales taxes derived from the businesses that are located on these formerly contaminated and unusable properties.
- » **New Jersey Environmental Infrastructure Financing Program (NJEIFP):** The NJEIFP provides low-interest loans to municipalities, counties, and public authorities to support a wide range of cleanup and remediation activities necessary to restore the brownfield sites for reuse. The Program will finance the removal of contaminated soil, site-capping and the installation of stormwater controls which result in a water quality improvement.
- » **NJDEP/NJEDA Hazardous Discharge Site Remediation Fund:** HDSRF grants and loans are available to public entities, private entities, and nonprofit organizations that perform a remediation pursuant to DEP's Site Remediation Program requirements. Applications for the various programs are accepted on an ongoing basis.
- » **USEPA Technical Assistance to Brownfields (TAB) Communities Program:** The EPA's Technical Assistance to Brownfields (TAB) Communities program, provides in-kind technical assistance and training to communities and other stakeholders on brownfields issues with the goal of increasing the community's understanding

and involvement in brownfield cleanup and revitalization. This program assists communities with questions relating to brownfield site assessment, remediation, and site preparation activities, brownfield finance, and integrated approaches to brownfield cleanup and redevelopment.

Funding for Energy-Efficiency

The project team has also conducted extensive research on funding opportunities available to support energy-efficient redevelopment at brownfield sites within the project area.

According to the U.S. Department of Energy (DOE), energy efficiency is one important way to reduce both operating costs and greenhouse gas emissions; however, upfront costs can be a major barrier to implementing energy efficiency projects. Specifically, many property owners do not have the capital available or the imperative to pay for the equipment, installation, and servicing of energy efficiency upgrades directly. Detailed below is information on two (2) important sources of funding for energy-efficiency project, transitional financing and government incentives

Financing

In addition to the incentives detailed below, there are also many traditional mechanisms for financing energy-efficient building projects. According to a November 2016 report by the Department of Energy Office of Energy Efficiency and Renewable Energy (DOE EERE), the term "energy efficiency financing" refers to debt or debt-like products that support the installation of energy efficiency measures by allowing costs to be spread over time. The report provides state and local government decision makers with overview of specific types of financing products, including the following:

Traditional Products

- » **Unsecured lending**, including unsecured loans and credit cards, is not backed by collateral that could be used to mitigate a lender's losses in case of non-payment. The lack of collateral makes these loans generally more expensive than comparable secured loans.
- » **Secured lending**, including mortgages, home equity loans, and home equity lines of credit (HELOC), is backed by collateral, usually tied to the property that receives efficiency improvements. This added security allows lenders to charge lower interest rates and offer longer loan terms.
- » **Leases**, which include capital leases (purchase of leased equipment) and operating leases (no purchase of equipment), are agreements under which a lessee (the equipment user) pays a lessor (the equipment owner) for the possession and use of an efficiency measure or measures.

Specialized Efficiency Financing Products

Certain financing products have been developed specifically with energy efficiency in mind. Examples include on-bill finance, property assessed clean energy (PACE) financing, and various forms of savings-backed arrangements. In some cases, specialized products have played a key role in encouraging greater investment in energy efficiency, such as performance contracting arrangements in institutional and public sector markets.

- » **On-bill financing and repayment arrangements** let borrowers pay back the cost of efficiency improvements on their utility bill.
- » **Property Assessed Clean Energy (PACE) financing** enables participants to pay off clean energy investments through a special assessment applied by their

municipality. It also uses an alternative underwriting approach that opens up access to financing for more consumers, and it can transfer to a new occupant if a borrower moves before the loan is paid off.

- » **Energy Savings Performance Contracts (ESPC)** are arrangements generally offered by Energy Service Companies (ESCOs) that guarantee some level of energy savings for the customer. Customers typically arrange financing through a third party.
- » **Energy Service Agreements (ESA) and Managed Energy Service Agreements (MESA)** are agreements between a customer and provider who provides financing for the project and delivers energy savings at a negotiated price. MESAs are a variant of ESA in which the provider becomes a signer on the customer's utility bill (or bills) and pays the bills directly, keeping the difference between the actual bill and an estimated average bill. Consumers can use ESAs and MESAs to finance efficiency projects with no up-front cost, while minimizing their performance risk and price risk, i.e., the risk that energy prices will increase.

Incentives

From an economic perspective the City of Camden is working to encourage new businesses by providing energy audits and equipment upgrades which can reduce operational costs for new and existing businesses. These are administered through the Camden POWER program, which is detailed in the Incentives section below. Additional incentives are provided by the New Jersey Economic Development Authority, State of New Jersey Board of Public Utilities Clean Energy Program, and other sources.

A detailed table is provided below that shows available local, state and federal incentives to support energy-efficiency projects for the Mt. Ephraim Brownfield Area-Wide Plan. This information is also contained in the Energy Strategy Plan in the Appendix.

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>New Jersey Community Capital</p> <p>Camden POWER Commercial Loan Program</p>	Low-interest loans	<p>All owners of business and commercial properties located in the City of Camden are eligible to participate in the Camden POWER Commercial program. Nonprofit organizations are also eligible. Businesses and nonprofits that lease commercial space are also eligible with the property owner's consent.</p> <p>The Camden POWER Commercial program helps qualified business and commercial property owners conserve energy and reduce utility costs by providing financing to lower the up-front costs of energy efficiency improvements.</p>	<p>Not specified</p> <p><u>Interest Rate:</u> Fixed rate 2-5%</p> <p><u>Loan Term:</u> 1-7 years.</p> <p><u>Repayment Schedule:</u> Loans may provide for interest-only payments during the renovation/construction period; thereafter principal and interest payments shall be made during the remaining loan term.</p> <p><u>Fees:</u> Borrower may be responsible for the following expenses, all of which are collected at loan closing:</p> <ul style="list-style-type: none"> • A \$550 loan application fee • Commitment fee equal to the greater of 1.0% of the total loan amount or \$500. • Professional fees related to loan underwriting and origination, including fees for lender's attorney closing costs and loan document preparation. 	To apply call (732) 640-2061 x408	<p>For more information call (732) 640-2061 x408</p> <p>https://www.newjerseycommunitycapital.org/initiatives/camden-power</p>
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>NJ Smart Starts Program</p>	Rebates/incentives	<p>Financial incentives are available to offset some - or maybe even all - of the added cost to purchase qualifying energy-efficient equipment. Listed below are the types of qualifying equipment and ranges of incentives.</p> <ul style="list-style-type: none"> • Electric Chillers • Gas Cooling • Electric Unitary HVAC • Ground Source Heat Pumps • Gas Heating • Variable Frequency Drives • Gas Water Heating • Prescriptive lighting Application • Lighting Controls • Performance Lighting • Refrigeration Doors • Refrigeration Controls • Food Service Equipment • Refrigerator/Freezer Motors • Custom Measures 	<p>Varies, up to \$500,000. For details on equipment incentives, refer to the online application forms available here:</p> <p>http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/application-forms/application-forms</p>	<p>A customer, contractor or vendor must submit a properly completed application package, including:</p> <ul style="list-style-type: none"> • Completed application forms signed by the customer • Manufacturer specification sheets and supporting documentation of qualifications. • Recent copy of a full utility bill from a participating utility showing societal benefits charge. <p>Complete and submit the SmartStart Buildings incentive application, found at www.NJCleanEnergy.com/SSBApplication</p>	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/nj-smartstart-buildings</p>
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>Energy Benchmarking</p>	Technical Assistance	<p>Benchmarking is a free service that assesses the energy performance of your facilities compared to similar buildings.</p> <p>Program representatives track and score energy usage based on industry type.</p>	<p>N/A – Program provides a detailed energy usage report along with</p> <ul style="list-style-type: none"> • information on implementing energy-efficient technologies, and • available financial incentives to lower project costs. 	To begin an application, complete and submit a Utility Data Release Form available here: http://www.njcleanenergy.com/files/file/benchmarking/Fuel%20Release%20Authorization%20Form%202016-2017.pdf	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/benchmarking</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
State of New Jersey Board of Public Utilities Clean Energy Program Direct Install Program	Partial reimbursement	<p>Existing small to mid-sized commercial and industrial facilities with a peak electric demand that did not exceed 200 kW in any of the preceding 12 months are eligible.</p> <p>Buildings must be located in New Jersey and served by one of the state's public, regulated electric or natural gas utility companies.</p> <p>Eligible systems:</p> <ul style="list-style-type: none"> • Lighting • Heating, Cooling & Ventilation (HVAC) • Refrigeration • Motors • Natural Gas • Variable Frequency Drives 	<p>The program provides free energy assessments and a participating contractor will work with the property owner to reduce energy costs by replacing lighting, HVAC and other outdated operational equipment with energy efficient alternatives.</p> <p>The program pays up to 70% of retrofit costs.</p>	To apply, visit www.NJCleanEnergy.com/DI or call 866-NJSMART and, if the building meets eligibility requirements, program staff will refer the applicant to a participating contractor for a free energy assessment.	866-NJSMART (866-657-6278) http://www.njcleanenergy.com/commercial-industrial/programs/direct-install
State of New Jersey Board of Public Utilities Clean Energy Program Pay for Performance	Technical assistance and financial plans for project funding	<p>Program is available to all commercial, industrial, and institutional customers.</p> <p>A minimum of 15% source energy reduction is required for existing buildings, which can be achieved through a combination of electric, gas and other fuel source reductions, but incentives will only be paid for electric and natural gas savings.</p> <p>The Existing Buildings component is designed for commercial and industrial buildings with a peak demand in excess of 200 kW in any of the preceding twelve months, and 100kW for select multifamily buildings.</p> <p>The New Construction component is designed for new commercial, industrial, and multifamily buildings with 50,000 square feet or more of planned space, as well as buildings undergoing substantial renovation.</p>	<p>Program partners provide technical services, Energy Reduction Plans, financial plans for project funding and construction schedules for implementation.</p> <p>Incentives are paid to the participant (customer). There will be three incentives: Incentive #1 is based on the size of the facility and Incentives #2 and #3 are based on the level of savings in kWh and/or therms.</p> <p>The average incentive per project is roughly 40% of the total project cost.</p>	Incentives will not be paid from multiple Clean Energy Programs for the same energy efficiency measures, additionally projects may not apply for this program and other Clean Energy Programs at the same time.	866-NJSMART (866-657-6278) www.NJCleanEnergy.com/P4P
State of New Jersey Board of Public Utilities Clean Energy Program Small Scale CHP and Fuel Cell Incentive Program	Grant	The Board of Public Utilities provides financial incentives for the installation of Combined Heat & Power (CHP) that provide energy-efficient on-site power generation while recovering and re-using of waste heat.	<p>Varies by system type and size. Incentive design includes:</p> <p>Capacity based per KW incentive</p> <p>Additional Pay for Performance incentive of \$0.25 per Watt from NJCEP (maximum of \$250,000)</p> <p>Maximum Incentive: Varies by system type. Incentive limited to 30% of the total project cost. Cap increased to 40% for systems using absorption chillers</p>	Applications must be submitted through the on-line portal.	866-NJSMART (866-657-6278) http://www.njcleanenergy.com/commercial-industrial/programs/combined-heat-power/combined-heat-power Questions may be emailed" chp@njcleanenergy.com

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>U.S. Internal Revenue Service</p> <p>Federal Income Tax Credits for Energy Efficiency</p>	Tax Credit	<p>Solar water heaters: At least half of the energy generated by the "qualifying property" must come from the sun. The system must be certified by the Solar Rating and Certification Corporation (SRCC) or a comparable entity endorsed by the government of the state in which the property is installed.</p> <p>Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirements.</p> <p>Solar panels: Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirements.</p>	Tax Credit: 30% of cost with no upper limit, including installation costs.	File Tax Form 5695 with your tax return.	https://energystar.zendesk.com/hc/en-us/sections/202350427-Tax-Credits-Rebates-Financing-Grants
HUD FHA Energy Efficient Mortgage Program (EEM)	Loan Financing	<p>FHA's Energy Efficient Mortgage program (EEM) enables homeowners to finance energy efficient improvements with their FHA insured mortgage.</p> <p>Borrowers who obtain FHA's Section 203(b) Mortgage Insurance for one to four family homes are eligible for approximately 96.5 percent financing, and are able to add the upfront mortgage insurance premium to the mortgage. EEM can also be used with the FHA Section 203(k) rehabilitation program.</p> <p>Eligible improvements include energy-saving equipment, and active and passive solar and wind technologies. The energy package can include materials, labor, inspections, and the home energy assessment by a qualified energy assessor.</p>	<p>The maximum amount of the energy package that can be added to the borrower's regular FHA loan amount is the lesser of:</p> <ol style="list-style-type: none"> 1. A cost-effective improvements to be made (energy package) based on the home energy assessment; or 2. the lesser of 5 percent of: <ol style="list-style-type: none"> a. the Adjusted Value; b. 115 percent of the median area price of a Single Family dwelling; or c. 150 percent of the national conforming mortgage limit. <p>An FHA-approved lender can access FHA's EEM Calculator to determine the dollar maximum amount that a borrower can finance for energy improvements.</p>	Applications accepted on a rolling basis.	https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/energy-r
It Pay\$ to Plug In: NJ's Electric Vehicle Workplace Charging Grant	Grant	<p>The Workplace Charging Grant Program provides grants to employers to offset the cost of purchasing and installing electric vehicle charging stations. This program is designed to support and encourage employees to purchase and drive electric vehicles to work, which reduces vehicle emissions.</p>	<p>Upon completion of work in accordance with the eligibility criteria, NJDEP will reimburse each applicant as follows:</p> <ul style="list-style-type: none"> • Up to \$250 per Level 1 charging station; and • Up to \$5,000 per Level 2 charging station. 	<p>Applications accepted on a rolling basis. No funding currently available, but the program is accepting applications for its waitlist.</p> <p>Complete the Application Form, Certification Checklist, W-9 Form, and submit to NJDEP Bureau of Mobile Sources at DriveGreen@dep.nj.gov.</p>	<p>For additional information, contact NJDEP Bureau of Mobile Sources at DriveGreen@dep.nj.gov or call (609) 292-7953</p> <p>http://www.drivegreen.nj.gov/programs.html</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
NJ Housing and Mortgage Finance Authority (NJHMFA) Federal Low Income Housing Tax Credit (LIHTC) Program – Green Points	Financing, Tax Credits	<p>As the housing credit agency for the State of New Jersey, the New Jersey Housing and Mortgage Finance Agency (NJHMFA) allocates low-income housing tax credit (LIHTC) credits to qualified taxpayers who have invested in certain buildings providing housing for families of low-income.</p> <p>Residential projects that are utilizing affordable housing subsidies offered by NJHMFA and NJ-DCA are already required to conform to green building standards which meet the statutory requirement</p>	In each calendar year, the total dollar value of the credits that can be allocated is limited by the State housing credit ceiling provided in Section 42 of the Code.	<p>NJHMFA awards these limited credits on a competitive basis.</p> <p>Applicants seeking an allocation of these credits must apply under one of the cycles set forth in N.J.A.C. 5:80-33.4, 33.5, 33.6 or 33.7.</p>	<p>http://www.nj.gov/dca/hmfa/developers/credits/green/greenfuture.shtml</p> <p>For Multifamily & Special Needs Projects: Pam DeLosSantos, Green Technical Advisor NJ Housing & Mortgage Finance Agency PDeLossantos@njhmfa.state.nj.us (609) 278-7627</p>
NJ Environmental Infrastructure Trust (NJEIT) New Jersey Environmental Infrastructure Financing Program (NJEIFP)	Interest-free Loans	<p>Communities in a CSO sewershed sponsoring construction projects that reduce or eliminate excessive infiltration are eligible for 100% interest free loans, through the Trust, for 30 years or life of project.</p> <p>Projects that also include the following “green” components are eligible for up to \$1 million principal forgiveness through the NJEIFP Fund:</p> <ul style="list-style-type: none"> - green roofs - blue roofs - rain gardens - porous pavement - other activities addressing infiltration, evapotranspiration, harvesting storm water <p>In order to be eligible for the interest-free loan and/or principal forgiveness, application must include how the proposed project is related to reduction/elimination of CSO.</p>	<p>\$3 million (total) in principal forgiveness loans was available in FY16; Up to \$1million/project principal forgiveness</p> <p>Smaller “bridge loans” are available through the NJEIT</p>	<p>Must create a User Account to submit application on-line through H2Loans</p> <p>http://www.h2loans.com/app or call (609) 219-8600 for help</p>	https://www.njeit.org/
U.S. Department of Energy Title XVII Loan Guarantee Program	Loan Program	<p>Eligible applicants:: Commercial, Industrial, Local Government, Nonprofit, Schools, State Government, Agricultural, Institutional</p> <p>Eligibility Requirements:</p> <ul style="list-style-type: none"> • Be an “Eligible Project” as defined in an open solicitation in the technology area described therein. • Employ new or significantly improved technologies as compared to commercial technologies in services in the United States at the time the guarantee is issued. • Avoid, reduce, or sequester anthropogenic emissions of greenhouse gases. • Be located in the United States (foreign ownership or sponsorship of the projects is permissible as long as the projects is located in one of the fifty states, the District of Columbia, or a U.S. territory). • Provide a reasonable prospect of repayment. 	<p>Up to \$3 billion is available in loan guarantees for projects in renewable energy, efficient end-use, and efficient generation, transmission, and distribution technologies (plus an additional amount that may be imputed based on the credit subsidy cost of the loan guarantee authority). See the program website for more details on eligibility</p> <p>Full repayment is required over a period not to exceed the lesser of 30 years or 90% of the projected useful life of the physical asset to be financed.</p>	<p>Loan guarantees are provided in response to open solicitations. The application is a two part process - applicants that meet the specified requirements laid out in Part I receive an invitation to submit a Part II application. The updated supplemental guidance for Renewable Energy Projects and Energy Efficiency Projects includes an application solicitation schedule, with final Part I and Part II. Open solicitations are available on the DOE website.</p>	https://energy.gov/lpo/title-xvii

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>U.S. Internal Revenue Service</p> <p>Business Energy Investment Tax Credit (ITC)</p>	<p>Tax Credit</p>	<p>A U.S. federal corporate tax credit that is applicable to commercial, industrial, utility, and agricultural sectors. Eligible technologies for the ITC are solar water heat, solar space heat, solar thermal electric, solar thermal process heat, photovoltaics, wind, biomass, geothermal electric, fuel cells, geothermal heat pumps, CHP/cogeneration, solar hybrid lighting, microturbines, and geothermal direct-use.</p> <p>This program is co-administered by the Internal Revenue Service (IRS) and the U.S. Department of Energy (DOE).</p> <p>Eligible System Size:</p> <ul style="list-style-type: none"> Small wind turbines: 100 kW or less Fuel cells: 0.5 kW or greater Microturbines: 2 MW or less CHP: 50 MW or less* 	<p>30% for solar, fuel cells, small wind*</p> <p>10% for geothermal, microturbines and CHP</p> <p>Maximum Incentive:</p> <ul style="list-style-type: none"> Fuel cells: \$1,500 per 0.5 kW Microturbines: \$200 per kW Small wind turbines: no limit <p>All other eligible technologies: no limit.</p>	<p>Form 3468, Investment Credit on Federal Tax Return</p> <p>Expired at the end of 2016</p>	<p>https://energy.gov/savings/business-energy-investment-tax-credit-itc</p>

LESSONS LEARNED

1. Work with community members to ensure that they are knowledgeable about environmental conditions in their own neighborhood.

Residents are understandably concerned about health outcomes, and whether they or their families are in an imminent risk of harm from living, working, learning or playing near the identified brownfield sites. Therefore, it is important to acknowledge these concerns from the beginning, and where available, provide information on environmental conditions that addresses these concerns.

2. Identify and address the public health needs of area residents through the brownfield planning and redevelopment process.

Related to ensuring the community members are knowledgeable about the environmental conditions and risks associated with brownfield sites in their own neighborhoods, it is important to ensure that the Area-Wide Plan addresses the community's health needs, including reducing exposure to toxins and pollutants at contaminated sites; providing for ample park space and recreational opportunities; and planning for accessible community spaces through brownfield site redevelopment.

3. Explain technical terms and jargon in a manner that is easily understandable.

Practitioners in brownfield planning, assessment and remediation process frequently use technical terms that are unfamiliar to most people outside this line of work. Therefore, it is critical to engage plan stakeholders using language that is familiar to them, and to clearly define technical terms when used. To this end, the consultant created a handout that provided an overview of the planning process, summary of brownfield sites and redevelopment scenarios, answers to frequently asked questions and definitions of common brownfield terms.

4. Engage a broad cross-section of community stakeholders throughout the area-wide planning process.

The planning team found that it was important to hold public outreach throughout the target community, including conducting public meetings in each of the three (3) neighborhoods that comprise the large AWP project area. This helped to ensure that the redevelopment scenarios selected for each of the brownfield sites were reflective of the community's priorities. Participants in public meetings included residents, business owners, institutional stakeholders and public officials. In addition, at each of the public meetings, these stakeholders were able to share information and provide feedback to the consultant team that ultimately strengthened the area-wide plan. This work was greatly enhanced by a dedicated intern working for the Camden Redevelopment Agency who conducted community outreach and provided programmatic support for steering committee and public meetings.

5. Ensure that proposed redevelopment scenarios are implementable based on environmental conditions and market realities.

The consultant team conducted detailed analyses of the available environmental records, real estate and market conditions and water, sewer, transportation and green space infrastructure. The team also reviewed local land use plans and documents that would further inform use of the area's brownfield sites. The results of these analyses provided important information that helped the planning team to determine which redevelopment scenarios were feasible to pursue, and to eliminate potential re-use options that were unrealistic. This information was shared widely with the Steering Committee and members of the public in order to demonstrate viability of various end uses.



Sign Indicating Environmental Investigation in Progress
Borden Chemical Site, Camden, New Jersey



Site Remediation in Progress
ABC Barrel Site, Camden, New Jersey

6. Plan for sporadic involvement by community residents

CRA, the plan Steering Committee and the consultant team put extensive efforts into conducting community outreach and notifying members of the public about upcoming public meetings; however, it was observed that while some stakeholders regularly participated in public meetings, it was common for others to participate sporadically. This posed unique challenges, especially when a resident would engage with the plan for the first time near the end of the project timeline. The planning team found that it was important to prepare for the possibility of “new” participants at each and every meeting. In addition, it was imperative to be patient, answer questions, and take the time to walk through the planning process that had occurred up to that point.

7. Understand the political realities

A key element of the success of this planning project was the collaboration between the City of Camden, Camden Redevelopment Agency, the Housing Authority of the City of Camden and the Camden County Municipal Utilities Authority. Only through the support of these local government entities could this plan be poised to capitalize on opportunities for redevelopment. These entities also have knowledge of local conditions and existing networks that serve an integral resource for planning and implementation efforts.



· ONUOHA ·
EXPORT · CLOTHINGS
927 · EVERETT · ST

RIP TOWN!!

Handwritten graffiti including a large bubble-style word, a circle with an 'X', and the letters 'F2'.





APPENDIX A

ENERGY STRATEGY PLAN



Energy Strategy Plan

Mt. Ephraim Choice Neighborhood Brownfield Area-Wide Plan (BF AWP) Camden, New Jersey

Introduction

Energy costs are a significant consideration in the viability of redevelopment projects. This Energy Strategy Plan element of the Mt. Ephraim Choice Neighborhood Brownfield Area-Wide Plan (BF AWP) introduces conceptual ideas to address community energy needs that also reduce energy usage, and therefore, redevelopment costs, for identified brownfield sites in the AWP target neighborhoods.

This Energy Strategy Plans examines different ideas and ways to incorporate current energy trends with City and community goals; introduces strategies to promote a “Net Zero” site for energy use and carbon creation; makes recommendations for sustainable design at the primary and secondary brownfield redevelopment sites; and provides recommendations for leveraging available local, state or federal incentives.

Definition and Benefits

According to the U.S. Department of Energy, a net-zero or zero-energy building (ZEB) produces enough renewable energy to meet its own annual energy consumption requirements, thereby reducing the use of non-renewable energy in the building sector.

There are a number of long-term advantages of moving toward a low- or zero-energy building, including lower environmental impacts, lower operating and maintenance costs, better resiliency to power outages and natural disasters, and improved energy security.

Environmental Benefits

Improving energy efficiency shrinks a building’s environmental footprint, because most energy use in buildings causes pollution and has other environmental impacts. As markets begin to place a monetary value on avoiding pollutants, especially carbon dioxide and other greenhouse gases, the price of energy that produces pollutants is likely to rise. Higher energy prices will improve the already attractive economics of optimizing building energy efficiency. And increased



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United State Department of Energy (DOE)

According to the US Department of Energy, “zero energy buildings” combine energy efficiency and renewable energy generation to consume only as much energy as can be produced onsite through renewable resources over a specified time period. Achieving zero energy is an ambitious yet increasingly achievable goal that is gaining momentum across geographic regions and markets. Private commercial property owners have a growing interest in developing zero energy buildings to meet their corporate goals, and in response to regulatory mandates, federal government agencies and many state and local governments are beginning to move toward zero energy building targets.

The DOE’s Commercial Buildings Integration program provides several resource documents to help those involved in ZEB design and construction control costs, define boundaries and metrics, and otherwise achieve success. These include the following:

- How-to-Guide for Energy-Performance-Based Procurement: This guide provides best practices and lessons learned to help building owners work with their design and construction team to procure high-performance, energy-efficient buildings within typical construction budgets.
- Cost Control Strategies for Zero Energy Buildings: There is mounting evidence that zero energy can, in many cases, be achieved within typical construction budgets. This guide assembles recommendations for replicating specific successes of early adopters who have met their energy goals while controlling costs. A factsheet summarizing the guide is also available.
- Strategies for Procuring High-Performance Buildings on Typical Construction Budgets: This report documents recommended practices in training materials and a how-to guide so that other owners can create market viable, world-class energy performance in the built environment without increasing first costs.

In addition, the National Renewable Energy Lab of the U.S. Department of Energy provides replicable, recommended strategies for achieving high energy performance on a budget, based on the NREL’s experiences from past projects: “When applied holistically, the recommended cost control strategies promote innovative design and construction solutions that can facilitate the achievement of a wide range of aggressive energy goals, whether zero energy or otherwise.” These recommended strategies are presented below:

Strategies for Acquisition and Delivery

- Utilize performance-based procurement to balance energy savings, other benefits, and budget constraints.
- Prioritize project objectives early on.
- Incorporate one or more measurable energy goals into the project request for proposals or contract.
- Procure a project team that demonstrates experience and provides best value.
- Address equipment efficiency in procurement specifications.

Strategies for Design

- Integrate simple and passive efficiency strategies.
- Consider life cycle cost impacts.
- Allow for cost tradeoffs across disciplines.
- Leverage value-added benefits of efficiency strategies.
- Maximize the use of modular, repeatable design strategies.
- Size the glazing area to balance daylighting, thermal performance, and architectural amenities.
- Consider alternative financing for higher cost systems.

Strategies for Construction

- Integrate experienced subcontractors early in the design process.
- Use a continuous, integrated approach to value engineering to preserve features critical for meeting energy goals.
- Maximize the use of offsite prefabrication.

(Source: "[Introduction to Cost Control Strategies for Zero Energy Buildings](#)" Factsheet, NREL)

NJ Green Buildings Manual

The New Jersey Green Building Manual (NJGBM) is a comprehensive, web-based document that defines a baseline of environmental best practices for green building in the State of New Jersey. The legislature authorized the creation of the Manual (C:52:27D130.6) to provide this guidance to owners and builders who participate in any state program that either encourages or requires the construction of green buildings.

The NJGBM is organized into four sections – New Commercial, Existing Commercial, New Residential and Existing Residential – each of which contains performance baselines, best practice strategies, and case studies that illustrate how these strategies have been implemented in New Jersey.

Best practice strategies include all aspects of green building, but are *focused on those that promote energy efficiency* in keeping with State of New Jersey policy objectives. The best practice strategies are presented using an operational framework based on either

- a new building's design-build-operate-evaluate process, or
- on common building upgrades for existing buildings.

The NJGBM was created using two groups, the Residential and the Commercial Technical Advisory Group, which provided substantive expertise and judgement across all aspects of the Manual. Additional groups that contributed to the Manual include Municipal Advisors, Local Code Officials and a group of state agencies, known as the Managing Partners.

The NJ Green Building Manual leverages existing, highly-researched and widely-piloted green building standards and rating systems to identify a baseline level of green building performance for new and existing commercial and residential buildings in New Jersey.

In the case of LEED, it relies on an established third party verification system. In the case of green building codes such as Standard 189.1, it will rely on code officials or green professionals with verification training/credentials to verify a building's compliance. This approach allows a building to achieve recognition under multiple green building verification systems, encouraging a market-driven vs. regulatory approach to encouraging green building in the state. It also relieves some of the administrative burden related to verification.

Strategies for New Residential Construction
 (click on [strategy](#) for more information)

DESIGN			
Envelope	Electric	Mechanicals and Equipment	Controls
			Renewable Energy
Building Orientation	High-Efficiency Lighting Systems	Properly Sized HVAC Equipment	Smart Controls On-Site Wind Energy System
Natural Ventilation	Downlighting	Minimize Duct Lengths and Turns	Sensor Controls Photovoltaic Systems
Cool Roofs		Part Load Efficiency	Programmable Thermostat Solar Thermal Systems
Air Infiltration		Chilled Beams	Automatic Shut-off on Bathroom Fan On-Site Renewable Energy
Insulation		Thermal Massing	
Insulated Exterior Door		Energy Recovery Systems	
Air Lock Dryer Vent		ENERGY STAR Equipment	
Glare and Heat Gain Reduction		Geothermal Heat Pumps	
Daylighting		On-Demand Hot Water Heating Systems	
Energy Efficient Windows		Insulate Hot Water Heater	
Seal and Flash Windows/Skylights		High Efficiency Water Heater	
Shade Skylights		Solar Water Heating	
		Plumbing Access Panel	
		Configure Plumbing for Efficiency	
BUILD			
		Air Infiltration Reduction	
		ENERGY STAR Equipment	
		Insulate Hot Water Pipes	

Strategies for New Commercial Construction
(click on strategy for more information)

DESIGN				
Envelope	Electric	Mechanicals and Equipment	Controls	Renewable Energy
Building Orientation	High-Efficiency Lighting Systems	Properly Sized HVAC Equipment	Smart Controls	On-Site Wind Energy System
Natural Ventilation	Downlighting	Minimize Duct Lengths and Turns	Sensor Controls	Photovoltaic Systems
Cool Roofs		Part Load Efficiency		Solar Thermal Systems
Air Infiltration		Chilled Beams		Bio-Fuel Based Electrical Systems
Insulation		Thermal Massing		Integrated Generation and Delivery Systems
Glare and Heat Gain Reduction		Energy Recovery Systems		
Daylighting		ENERGY STAR Equipment		
		Geothermal Heat Pumps		
		On-Demand Hot Water Heating Systems		
BUILD				
		Air Infiltration Reduction		
		ENERGY STAR Equipment		

(Source: NJ Green Building Manual)

Sustainable Neighborhood Assessment

The Sustainable Neighborhood Assessment for the Mt. Ephraim Choice Neighborhood provides the following recommendations that aim to increase the overall level of sustainability in the neighborhood and minimize energy consumption at all scales:

Strategies for New Construction

- New buildings should be encouraged to pursue Energy Star and LEED certification.
- Establish local building code standards for efficient indoor water use. This would include high-efficiency toilets (1.28 gallons/flush), faucets (1.0 gallons/ minute), showerheads (1.75 gallons/minute), and urinals (.125 gallons per flush).

Strategies for Energy Retrofits

- Environmental performance measures should also address existing buildings through weatherization, upgrades to heating and cooling systems, and plumbing fixture replacement.
- Encourage use of the Camden Power Program for the retrofit of existing residential properties in the Centerville, Liberty Park, and Whitman Park neighborhoods. While it is often challenging to upgrade an existing home to Energy Star standards, upgrades can be made that lead to a significant reduction in energy use and costs.

Strategies for Stormwater Management

- Pursue strategies for stormwater retention on, including swales, rain gardens, green roofs, and permeable paving, should be evaluated and implemented as appropriate.
- Explore options for using streets and other public rights of way for on-site stormwater retention. In neighborhoods such as Whitman Park that are largely developed and where there is limited open space, the public right-of-way is a potential location for water capture through the use of permeable concrete in parking lanes and alleys or by directing water to landscaped swales at the edge of the sidewalk.
- Incorporate stormwater retention in the design for Branch Village and explore the use of vacant lots in Centerville and Liberty Park as receptors for stormwater. This would require directing storm drainage pipes to the vacant lots and re-grading the lots so that water could be collected. In non-rainy periods the lots could continue to be used as passive open space in the neighborhood.

Strategies for Public Infrastructure

- Coordinate with the Department of Public Works regarding repaving or sidewalk repair projects, and establishing efficiency and green standards for the repair and replacement of public infrastructure such as sidewalks, streets, streetlights, and traffic signals.
- Establish a citywide standard for street lighting efficiency that applies when new street infrastructure is installed.

Review of Existing City/Community Energy Goals

Mt. Ephraim Choice Neighborhood Plan

As part of the preparation of this Energy Plan, the BRS Consultant Team reviewed available information on the existing energy related infrastructure in the Mt. Ephraim Choice

Neighborhood Brownfield Area-Wide Plan (BF AWP) planning area. This area consists of several neighborhoods, including Whitman Park, Liberty Park and Centerville.

In 2012, the U.S. Department of Housing and Urban Development (HUD) awarded the Housing Authority of the City of Camden (HACC) a \$300,000 Choice Neighborhood Initiatives (CNI) Planning Grant for the Mt. Ephraim Corridor, to plan for the redevelopment of two (2) public housing projects in the Mt. Ephraim neighborhood: Branch Village and J. Allen Nimmo Court.

This plan, *Moving Our Neighborhood Forward: Mt. Ephraim Choice Neighborhood*, establishes strategies to address community-wide priority concerns including, improved housing, safety, neighborhood improvements, and youth programs and uses a model of asset-based community development. In 2017, HUD once again awarded HACC a \$13,000,000 HUD Choice Implementation Grant to implement the Choice Neighborhood Plan that had been developed for the Mt. Ephraim Neighborhood.

Sustainable Neighborhood Assessment

Overview

The Choice Neighborhood Plan uses the LEED ND rating system to ensure future development achieves a high level of environmental, economic and social sustainability. In 2013, a team of Global Green USA and the U.S. Green Building Council, with funding from the U.S. EPA's Office of Sustainable Communities Building Blocks for Sustainable Communities Grant Program, conducted a Sustainable Neighborhood Assessment of the Choice Neighborhood. The Sustainable Neighborhood Assessment Tool is based on LEED for Neighborhood Development (LEED-ND) criteria.

Process

The goal of the sustainable neighborhood assessment process is to identify topical and physical focus areas where policy or planning changes will promote sustainable urban development. Prior to a site visit, the planning team conducts an initial assessment, which includes a review of background documents, city priorities, and the LEED-ND categories. Following the initial assessment, the planning team conducts a three-day site visit and evaluation, where they walk each block of the target neighborhood, document existing conditions, and conduct a series of meeting with stakeholders and City staff. Findings are presented and discussed at a community neighborhood sustainability, based on the LEED-ND standards.

Findings

According to the Sustainable Neighborhood Assessment, buildings and infrastructure in urbanized areas account for over 40% of energy consumption and represent significant investments in materials and their associated embodied energy. Meanwhile, urban development also changes hydrological patterns and causes higher ambient temperatures through the urban heat island effect. LEED-ND addresses these issues primarily in the Green Infrastructure and Building category, through credits related to green building, energy and water efficiency, landscape water use reduction, stormwater management, heat island reduction, infrastructure energy and materials efficiency, and solid waste and recycling.

Focus Areas Related to LEED-ND Credits

Character of the Neighborhood

Category: Smart Location & Linkages

- Bicycle Network & Storage (credit 4)

Category: Neighborhood Pattern & Design

- Walkable Streets (prerequisite & credit 1)
- Access to Civic and Public Spaces (credit 9)
- Access to Recreation Facilities (credit 10)
- Community Outreach and Involvement (credit 12)
- Tree-Lined & Shaded Streets (credit 14)

Vacant Land

Category: Neighborhood Pattern & Design

- Community Outreach and Involvement (credit 12)
- Access to Civic and Public Spaces (credit 9)
- Access to Recreation Facilities (credit 10)
- Local Food Production (credit 13)

Walking and Biking

Category: Smart Location & Linkages

- Preferred Locations (prerequisite & credit 1)
- Locations w/Reduced Auto Dependence (credit 3)
- Bicycle Network & Storage (credit 4)

Category: Neighborhood Pattern & Design

- Walkable Streets (prerequisite & credit 1)
- Mixed-Income Diverse Communities (credit 4)
- Transit Facilities (credit 7)

Amenities

Category: Neighborhood Pattern & Design

- Mixed-Use Neighborhood Centers (credit 3)
- Access to Civic & Public Space (credit 9)
- Access to Recreational Facilities (credit 10)
- Local Food Production (credit 13)
- Neighborhood Schools (credit 15)

Recommendations for Sustainable Design

Phil-Mar

The redevelopment concept for this site includes the demolition of severely damaged buildings on the southern portion of the site and the rehabilitation of a vacant building on the northern portion of the site. The cleared southern portion of the site will be redeveloped to include two new manufacturing buildings with a connected parking lot. Sustainable design strategies for this property include transportation, green infrastructure, water efficiency, energy efficiency, renewable energy, and building materials. The strategies below are in accordance with LEED, Passive House, and the NJ Green Building Council's recommendations for sustainable design.

Transportation

The site is well-positioned to allow future employees to take advantage of local and regional transportation options. In addition to being within a five minute walk from the Ferry Avenue PATCO station, there is an existing local bus stop at the corner of the site at Copewood and Davis. Access to these transportation options along with new bike parking facilities will help reduce car dependency.

Green Infrastructure

The design of the site includes green infrastructure strategies to reduce the amount of stormwater entering the city's sewer system. These strategies also reduce the heat island effect and recycle water to be used for irrigation. Strategies include integrated bioretention/swale areas within the parking lot with native planting and trees, new street trees along Copewood and Davis Streets, and a cistern to harvest rain water for irrigation when necessary.

Water Efficiency

Water efficiency strategies for the site include reduction to both outdoor and indoor use. The site will incorporate native or adaptive plants and trees and use water from a rain harvesting cistern on site when additional irrigation is required. To reduce use of indoor water, the buildings will be equipped with low-flow toilets and sinks and ENERGY STAR or equivalent appliances. Cooling towers and other water sources will be outfitted with smart water meters that track overall usage to reduce waste.

Energy Efficiency

To reduce energy use, the buildings will be equipped with high performance windows, superinsulation, and cool roofs to reduce overall energy loss and usage. These elements will ensure that less energy is used for heating and cooling the buildings. In addition to these elements, building fenestration will include shades or louvers that help maximize solar gain in

the winter and control heat gain during the summer. Energy use will be curtailed within the buildings with the use of efficient lighting (LED and CFL), properly sized HVAC units with minimal duct lengths and turns, ENERGY STAR or equivalent appliances, and on-demand hot water heating systems. Smart controls for the heating and cooling systems and lighting will be installed to minimize energy use during off-hours or when daylighting is sufficient.

Renewable Energy

The site can potentially harvest most of the energy needed to support the buildings through the use of geothermal heat pumps installed beneath the parking lot and/or solar or photovoltaic panels attached to the roofs of the buildings. The geology of the site would need to be assessed before the installation of geothermal pumps to ensure feasibility. Both systems would need to be sized to accommodate the potential energy consumption of the buildings on site.

Building Materials

When possible, recycled or responsibly sourced materials will be used for site design and during the construction of the buildings. Options include low CO2 concrete, metal or reflective shingle roofing, and sustainably sourced wood products. In addition, interior finishes with low emissions will be used including low or zero-VOC paints and coatings and CRI certified carpets and tile.

Camden Labs

The redevelopment concept for this site includes the expansion of Whitman Park to allow for additional recreation and park space. Sustainable design strategies for this property include transportation, green infrastructure/open space, water efficiency, and energy efficiency. The strategies below are in accordance with LEED, Passive House, and the NJ Green Building Council's recommendations for sustainable design.

Transportation

The site is well-positioned to allow future employees to take advantage of local and regional transportation options. In addition to being within a five minute walk from the Ferry Avenue PATCO station, there is an existing local bus stop at the corner of the site at Copewood and Davis. Access to these transportation options along with new bike parking facilities will help reduce car dependency.

Green Infrastructure/Open Space

The design of the site will increase the amount of open space available to residents in the neighborhood and provides an opportunity for planting new trees to reduce the heat island effect. In addition, a cistern can be incorporated to harvest rainwater for irrigation.

Water Efficiency

Using native or adaptive plants and trees reduces the overall need for irrigation. However, when irrigation is necessary, rainwater from an on-site cistern can be used. Smart water meters will also be incorporated to track water usage and help reduce excess use.

Energy Efficiency

Solar powered downlighting will be used when possible to reduce energy use and light pollution.

1700 Mt. Ephraim

The redevelopment of the 1700 Mt. Ephraim site includes two potential reuse options. The first option includes a community space on the corner of Carl Miller Boulevard and Mt. Ephraim Avenue connected to a small block of low-rise apartments. The second option includes neighborhood retail space facing Mt. Ephraim Avenue with apartments above. Sustainable design strategies for this property include transportation, green infrastructure, water efficiency, energy efficiency, renewable energy, and building materials. The strategies below are in accordance with LEED, Passive House, and the NJ Green Building Council's recommendations for sustainable design.

Transportation

The site is well-positioned to allow future employees and residents to take advantage of local and regional transportation options. There is an existing local bus stop at the corner of the site at Mt. Ephraim and Carl Miller. Access to local bus service along with new bike parking facilities will help reduce car dependency.

Green Infrastructure

The design of the site includes green infrastructure strategies to reduce the amount of stormwater entering the city's sewer system. These strategies also reduce the heat island effect and recycle water to be used for irrigation. Strategies include stormwater bumpout planters along Mt. Ephraim Avenue and Carl Miller Boulevard, a rain garden on site, new street trees, and a cistern to harvest rainwater.

Water Efficiency

Water efficiency strategies for the site include reduction to both outdoor and indoor use. The site will incorporate native or adaptive plants and trees and use water from a rain harvesting cistern on site when additional irrigation is required. When water from the cistern is not sufficient, drip irrigation will be used. To reduce use of indoor water, the buildings will be

equipped with low-flow toilets, sinks, and showerheads and ENERGY STAR or equivalent appliances. Water meters with tracking will be installed to monitor water use and reduce waste.

Energy Efficiency

To reduce energy use, the buildings will be equipped with high performance windows, superinsulation, and cool roofs to reduce overall energy loss and usage. These elements will ensure that less energy is used for heating and cooling the buildings. In addition to these elements, building fenestration will include shades or louvers that help maximize solar gain in the winter and control heat gain during the summer. Energy use will be curtailed within the buildings with the use of efficient lighting (LED and CFL), properly sized HVAC units with minimal duct lengths and turns, ENERGY STAR or equivalent appliances, and on-demand hot water heating systems. Smart controls for the heating and cooling systems and lighting will be installed to minimize energy use during off-hours or when daylighting is sufficient.

Renewable Energy

The site can potentially harvest most of the energy needed to support the buildings through the solar panels attached to the roofs and/or window louvers of the buildings. The solar panels will need to be sized to accommodate the potential energy consumption of the buildings on site.

Building Materials

When possible, recycled or responsibly sourced materials will be used for site design and during the construction of the buildings. Options include low CO2 concrete, metal or reflective shingle roofing, sustainably sourced wood products, and other recycled material. In addition, interior finishes with low emissions will be used including low or zero-VOC paints and coatings and CRI certified carpets and tile.

Mulford Street Sites

The redevelopment of the Mulford Street site includes the construction of four new infill housing units and the construction of a small community garden. Sustainable design strategies for this property include transportation, green infrastructure, water efficiency, energy efficiency, renewable energy, and building materials. The strategies below are in accordance with LEED, Passive House, and the NJ Green Building Council's recommendations for sustainable design.

Transportation

The site is well-positioned to allow future residents to take advantage of local transportation options. There is an existing local bus stop less than a five minute walk from the site at the corner of 10th Street and Carl Miller Boulevard.

Green Infrastructure

The design of the site includes green infrastructure strategies to reduce the amount of stormwater entering the city's sewer system. These strategies also reduce the heat island effect and recycle water to be used for irrigation. Strategies include stormwater planters along the sidewalk on Mulford Street with new street trees and rain barrels.

Water Efficiency

Water efficiency strategies for the site include reduction to both outdoor and indoor use. The site will incorporate native or adaptive plants and trees and use water from a rain harvesting cistern on site when additional irrigation is required. When water from the cistern is not sufficient, drip irrigation will be used. To reduce use of indoor water, the buildings will be equipped with low-flow toilets, sinks, and showerheads and ENERGY STAR or equivalent appliances. Water meters with tracking will be installed to monitor water use and reduce waste.

Energy Efficiency

To reduce energy use, the buildings will be equipped with high performance windows, superinsulation, seal and flash windows, insulated exterior doors, and cool roofs to reduce overall energy loss and usage. Windows will also be positioned in a way to maximize the potential for cross ventilation and include an energy recovery ventilation system. These elements will ensure that less energy is used for heating and cooling the buildings. In addition to these elements, building fenestration will include shades or louvers that help maximize solar gain in the winter and control heat gain during the summer. Energy use will be curtailed within the buildings with the use of efficient lighting (LED and CFL), properly sized HVAC units with minimal duct lengths and turns, ENERGY STAR or equivalent appliances, insulated hot water heaters, on-demand hot water heating systems, and air lock dryer vents. Smart controls for the heating and cooling systems and lighting will be installed to minimize energy use during off-hours or when daylighting is sufficient.

Renewable Energy

The site can potentially harvest most of the energy needed to support the buildings through the solar panels attached to the roofs and/or window louvers of the buildings. The solar panels will need to be sized to accommodate the potential energy consumption of the buildings on site.

Building Materials

When possible, recycled or responsibly sourced materials will be used for site design and during the construction of the buildings. Options include low CO2 concrete, metal or reflective shingle roofing, sustainably sourced wood products, and other recycled material. In addition, interior finishes with low emissions will be used including low or zero-VOC paints and coatings and CRI certified carpets and tile.

1576 S. 10th Street

The redevelopment of the 1576 S. 10th Street site includes two potential reuse options. The first option includes a neighborhood retail space on the corner of 10th and Lowell Streets with apartments above and infill housing units on the corner of Morton and 10th Streets. The second option uses the entire site as green parking. Sustainable design strategies for this property include transportation, green infrastructure, water efficiency, energy efficiency, renewable energy, and building materials. The strategies below are in accordance with LEED, Passive House, and the NJ Green Building Council's recommendations for sustainable design.

Transportation

The site is well-positioned to allow future residents to take advantage of local transportation options. There is an existing local bus stop less than a five minute walk from the site at the corner of 10th Street and Carl Miller Boulevard.

Green Infrastructure

The design of the site includes green infrastructure strategies to reduce the amount of stormwater entering the city's sewer system. These strategies also reduce the heat island effect and recycle water to be used for irrigation. Strategies include stormwater bump-out planters along 10th Street with new street trees, a cistern to harvest rainwater, and a new pocket park located in the middle of the site between the commercial building and new infill housing. The green parking option also includes a bioretention area/swale with trees and native vegetation and pervious pavers that allow water to absorb into the ground instead of run off into the street and the sewer system.

Water Efficiency

Water efficiency strategies for the site include reduction to both outdoor and indoor use. The site will incorporate native or adaptive plants and trees and use water from a rain harvesting cistern on site when additional irrigation is required. To reduce use of indoor water, the buildings will be equipped with low-flow toilets, sinks, and showerheads and ENERGY STAR or equivalent appliances. Water meters with tracking will be installed to monitor water use and reduce waste.

Energy Efficiency

To reduce energy use, the buildings will be equipped with high performance windows, superinsulation, seal and flash windows, insulated exterior doors, and cool roofs to reduce overall energy loss and usage. Windows will also be positioned in a way to maximize the potential for cross ventilation and include an energy recovery ventilation system. These elements will ensure that less energy is used for heating and cooling the buildings. In addition to these elements, building fenestration will include shades or louvers that help maximize solar

gain in the winter and control heat gain during the summer. Energy use will be curtailed within the buildings with the use of efficient lighting (LED and CFL), properly sized HVAC units with minimal duct lengths and turns, ENERGY STAR or equivalent appliances, insulated hot water heaters, on-demand hot water heating systems, and air lock dryer vents. Smart controls for the heating and cooling systems and lighting will be installed to minimize energy use during off-hours or when daylighting is sufficient. All lighting for the second option, the green parking lot, will be solar powered downlighting to reduce energy use and light pollution.

Renewable Energy

The site can potentially harvest most of the energy needed to support the buildings through the solar panels attached to the roofs and/or window louvers of the buildings. The solar panels will need to be sized to accommodate the potential energy consumption of the buildings on site.

Building Materials

When possible, recycled or responsibly sourced materials will be used for site design and during the construction of the buildings. Options include low CO2 concrete, metal or reflective shingle roofing, sustainably sourced wood products, and other recycled material. In addition, interior finishes with low emissions will be used including low or zero-VOC paints and coatings and CRI certified carpets and tile.

Funding Energy-Efficiency Projects

According to the U.S. Department of Energy (DOE), energy efficiency is one important way to reduce both operating costs and greenhouse gas emissions; however, upfront costs can be a major barrier to implementing energy efficiency projects. Specifically, many property owners do not have the capital available or the imperative to pay for the equipment, installation, and servicing of energy efficiency upgrades directly. This report provides information on two (2) important sources of funding for energy-efficiency project, transitional financing and government incentives

Financing

In addition to the incentives detailed below, there are also many traditional mechanisms for financing energy-efficient building projects. According to a November 2016 report by the Department of Energy Office of Energy Efficiency and Renewable Energy (DOE EERE), the term “energy efficiency financing” refers to debt or debt-like products that support the installation of energy efficiency measures by allowing costs to be spread over time. The report provides state and local government decision makers with overview of specific types of financing products, including the following:

Traditional Products

- **Unsecured lending**, including unsecured loans and credit cards, is not backed by collateral that could be used to mitigate a lender's losses in case of non-payment. The lack of collateral makes these loans generally more expensive than comparable secured loans.
- **Secured lending**, including mortgages, home equity loans, and home equity lines of credit (HELOC), is backed by collateral, usually tied to the property that receives efficiency improvements. This added security allows lenders to charge lower interest rates and offer longer loan terms.
- **Leases**, which include capital leases (purchase of leased equipment) and operating leases (no purchase of equipment), are agreements under which a lessee (the equipment user) pays a lessor (the equipment owner) for the possession and use of an efficiency measure or measures.

Specialized Efficiency Financing Products

Certain financing products have been developed specifically with energy efficiency in mind. Examples include on-bill finance, property assessed clean energy (PACE) financing, and various forms of savings-backed arrangements. In some cases, specialized products have played a key role in encouraging greater investment in energy efficiency, such as performance contracting arrangements in institutional and public sector markets.

- **On-bill financing** and repayment arrangements let borrowers pay back the cost of efficiency improvements on their utility bill.
- **Property Assessed Clean Energy (PACE)** financing enables participants to pay off clean energy investments through a special assessment applied by their municipality. It also uses an alternative underwriting approach that opens up access to financing for more consumers, and it can transfer to a new occupant if a borrower moves before the loan is paid off.
- **Energy Savings Performance Contracts (ESPC)** are arrangements generally offered by Energy Service Companies (ESCOs) that guarantee some level of energy savings for the customer. Customers typically arrange financing through a third party.
- **Energy Service Agreements (ESA)** and **Managed Energy Service Agreements (MESA)** are agreements between a customer and provider who provides financing for the project and delivers energy savings at a negotiated price. MESAs are a variant of ESA in which the provider becomes a signer on the customer's utility bill (or bills) and pays the bills directly, keeping the difference between the actual bill and an estimated average bill. Consumers can use ESAs and MESAs to finance efficiency projects with no

up-front cost, while minimizing their performance risk and price risk, i.e., the risk that energy prices will increase.²

Incentives

From an economic perspective the City of Camden is working to encourage new businesses by providing energy audits and equipment upgrades which can reduce operational costs for new and existing businesses. These are administered through the Camden POWER program, which is detailed in the Incentives section below. Additional incentives are provided by the New Jersey Economic Development Authority, State of New Jersey Board of Public Utilities Clean Energy Program, and other sources.

A detailed table is provided below that shows available local, state and federal incentives to support energy-efficiency projects for the Mt. Ephraim Brownfield Area-Wide Plan.

² Greg Leventis Emily Martin Fadhonc Chris Kramer Charles Goldman, “Current Practices in Efficiency Financing: An Overview for State and Local Governments.” Ernest Orlando Lawrence Berkeley National Laboratory. November 2016. Accessed at <https://emp.lbl.gov/sites/all/files/lbnl-10.06406.pdf>.

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>New Jersey Community Capital</p> <p>Camden POWER Commercial Loan Program</p>	<p>Low-interest loans</p>	<p>All owners of business and commercial properties located in the City of Camden are eligible to participate in the Camden POWER Commercial program. Nonprofit organizations are also eligible. Businesses and nonprofits that lease commercial space are also eligible with the property owner’s consent.</p> <p>The Camden POWER Commercial program helps qualified business and commercial property owners conserve energy and reduce utility costs by providing financing to lower the up-front costs of energy efficiency improvements.</p>	<p>Not specified</p> <p><u>Interest Rate:</u> Fixed rate 2-5%</p> <p><u>Loan Term:</u> 1-7 years.</p> <p><u>Repayment Schedule:</u> Loans may provide for interest-only payments during the renovation/construction period; thereafter principal and interest payments shall be made during the remaining loan term.</p> <p><u>Fees:</u> Borrower may be responsible for the following expenses, all of which are collected at loan closing:</p> <ul style="list-style-type: none"> • A \$550 loan application fee • Commitment fee equal to the greater of 1.0% of the total loan amount or \$500. • Professional fees related to loan underwriting and origination, including fees for lender’s attorney closing costs and loan document preparation. 	<p>To apply call (732) 640-2061 x408</p>	<p>For more information call (732) 640-2061 x408</p> <p>https://www.newjerseycommunitycapital.org/initiatives/camden-power</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>NJ Smart Starts Program</p>	Rebates/incentives	<p>Financial incentives are available to offset some - or maybe even all - of the added cost to purchase qualifying energy-efficient equipment. Listed below are the types of qualifying equipment and ranges of incentives.</p> <ul style="list-style-type: none"> • Electric Chillers • Gas Cooling • Electric Unitary HVAC • Ground Source Heat Pumps • Gas Heating • Variable Frequency Drives • Gas Water Heating • Prescriptive lighting Application • Lighting Controls • Performance Lighting • Refrigeration Doors • Refrigeration Controls • Food Service Equipment • Refrigerator/Freezer Motors • Custom Measures 	<p>Varies, up to \$500,000. For details on equipment incentives, refer to the online application forms available here: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/application-forms/application-forms</p>	<p>A customer, contractor or vendor must submit a properly completed application package, including:</p> <ul style="list-style-type: none"> • Completed application forms signed by the customer • Manufacturer specification sheets and supporting documentation of qualifications. • Recent copy of a full utility bill from a participating utility showing societal benefits charge. <p>Complete and submit the SmartStart Buildings incentive application, found at www.NJCleanEnergy.com/SSBApplication</p>	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/nj-smartstart-buildings</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>Energy Benchmarking</p>	<p>Technical Assistance</p>	<p>Benchmarking is a free service that assesses the energy performance of your facilities compared to similar buildings.</p> <p>Program representatives track and score energy usage based on industry type.</p>	<p>N/A – Program provides a detailed energy usage report along with</p> <ul style="list-style-type: none"> • information on implementing energy-efficient technologies, and • available financial incentives to lower project costs. 	<p>To begin an application, complete and submit a Utility Data Release Form available here: http://www.njcleanenergy.com/files/file/benchmarking/Fuel%20Release%20Authorization%20Form%202016-2017.pdf</p>	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/benchmarking</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>Direct Install Program</p>	<p>Partial reimbursement</p>	<p>Existing small to mid-sized commercial and industrial facilities with a peak electric demand that did not exceed 200 kW in any of the preceding 12 months are eligible.</p> <p>Buildings must be located in New Jersey and served by one of the state's public, regulated electric or natural gas utility companies.</p> <p>Eligible systems:</p> <ul style="list-style-type: none"> • Lighting • Heating, Cooling & Ventilation (HVAC) • Refrigeration • Motors • Natural Gas • Variable Frequency Drives 	<p>The program provides free energy assessments and a participating contractor will work with the property owner to reduce energy costs by replacing lighting, HVAC and other outdated operational equipment with energy efficient alternatives.</p> <p>The program pays up to 70% of retrofit costs.</p>	<p>To apply, visit www.NJCleanEnergy.com/DI or call 866-NJSMART and, if the building meets eligibility requirements, program staff will refer the applicant to a participating contractor for a free energy assessment.</p>	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/commercial-industrial/programs/direct-install</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>Pay for Performance</p>	<p>Technical assistance and financial plans for project funding</p>	<p>Program is available to all commercial, industrial, and institutional customers.</p> <p>A minimum of 15% source energy reduction is required for existing buildings, which can be achieved through a combination of electric, gas and other fuel source reductions, but incentives will only be paid for electric and natural gas savings.</p> <p>The Existing Buildings component is designed for commercial and industrial buildings with a peak demand in excess of 200 kW in any of the preceding twelve months, and 100kW for select multifamily buildings.</p> <p>The New Construction component is designed for new commercial, industrial, and multifamily buildings with 50,000 square feet or more of planned space, as well as buildings undergoing substantial renovation.</p>	<p>Program partners provide technical services, Energy Reduction Plans, financial plans for project funding and construction schedules for implementation.</p> <p>Incentives are paid to the participant (customer). There will be three incentives: Incentive #1 is based on the size of the facility and Incentives #2 and #3 are based on the level of savings in kWh and/or therms.</p> <p>The average incentive per project is roughly 40% of the total project cost,</p>	<p>Incentives will not be paid from multiple Clean Energy Programs for the same energy efficiency measures, additionally projects may not apply for this program and other Clean Energy Programs at the same time.</p>	<p>866-NJSMART (866-657-6278)</p> <p>www.NJCleanEnergy.com/P4P</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>State of New Jersey Board of Public Utilities Clean Energy Program</p> <p>Small Scale CHP and Fuel Cell Incentive Program</p>	Grant	The Board of Public Utilities provides financial incentives for the installation of Combined Heat & Power (CHP) that provide energy-efficient on-site power generation while recovering and re-using of waste heat.	<p>Varies by system type and size. Incentive design includes: Capacity based per KW incentive Additional Pay for Performance incentive of \$0.25 per Watt from NJCEP (maximum of \$250,000)</p> <p>Maximum Incentive: Varies by system type. Incentive limited to 30% of the total project cost. Cap increased to 40% for systems using absorption chillers</p>	Applications must be submitted through the on-line portal.	<p>866-NJSMART (866-657-6278)</p> <p>http://www.njcleanenergy.com/commercial-industrial/programs/combined-heat-power/combined-heat-power</p> <p>Questions may be emailed” chp@njcleanenergy.com</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>U.S. Internal Revenue Service</p> <p>Federal Income Tax Credits for Energy Efficiency</p>	<p>Tax Credit</p>	<p>Solar water heaters At least half of the energy generated by the "qualifying property" must come from the sun. The system must be certified by the Solar Rating and Certification Corporation (SRCC) or a comparable entity endorsed by the government of the state in which the property is installed.</p> <p>Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirements.</p> <p>Solar panels Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirements.</p>	<p>Tax Credit: 30% of cost with no upper limit, including installation costs.</p>	<p>File Tax Form 5695 with your tax return.</p>	<p>https://energy.star.zendesk.com/hc/en-us/sections/202350427-Tax-Credits-Rebates-Financing-Grants</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
HUD FHA Energy Efficient Mortgage Program (EEM)	Loan Financing	<p>FHA's Energy Efficient Mortgage program (EEM) enables homeowners to finance energy efficient improvements with their FHA insured mortgage.</p> <p>Borrowers who obtain FHA's Section 203(b) Mortgage Insurance for one to four family homes are eligible for approximately 96.5 percent financing, and are able to add the upfront mortgage insurance premium to the mortgage. EEM can also be used with the FHA Section 203(k) rehabilitation program.</p> <p>Eligible improvements include energy-saving equipment, and active and passive solar and wind technologies. The energy package can include materials, labor, inspections, and the home energy assessment by a qualified energy assessor.</p>	<p>The maximum amount of the energy package that can be added to the borrower's regular FHA loan amount is the lesser of:</p> <ol style="list-style-type: none"> 1. A cost-effective improvements to be made (energy package) based on the home energy assessment; or 2. the lesser of 5 percent of: <ol style="list-style-type: none"> a. the Adjusted Value; b. 115 percent of the median area price of a Single Family dwelling; or c. 150 percent of the national conforming mortgage limit. <p>An FHA-approved lender can access FHA's EEM Calculator to determine the dollar maximum amount that a borrower can finance for energy improvements.</p>	Applications accepted on a rolling basis.	https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/energy-r

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>It Pay\$ to Plug In: NJ's Electric Vehicle Workplace Charging Grant</p>	<p>Grant</p>	<p>The Workplace Charging Grant Program provides grants to employers to offset the cost of purchasing and installing electric vehicle charging stations. This program is designed to support and encourage employees to purchase and drive electric vehicles to work, which reduces vehicle emissions.</p>	<p>Upon completion of work in accordance with the eligibility criteria, NJDEP will reimburse each applicant as follows:</p> <ul style="list-style-type: none"> • Up to \$250 per Level 1 charging station; and • Up to \$5,000 per Level 2 charging station. 	<p>Applications accepted on a rolling basis. No funding currently available, but the program is accepting applications for its waitlist.</p> <p>Complete the Application Form, Certification Checklist, W-9 Form, and submit to NJDEP Bureau of Mobile Sources at DriveGreen@dep.nj.gov.</p>	<p>For additional information, contact NJDEP Bureau of Mobile Sources at DriveGreen@dep.nj.gov or call (609) 292-7953</p> <p>http://www.drivegreen.nj.gov/programs.html</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>NJ Housing and Mortgage Finance Authority (NJHMFA)</p> <p>Federal Low Income Housing Tax Credit (LIHTC) Program – Green Points</p>	<p>Financing, Tax Credits</p>	<p>As the housing credit agency for the State of New Jersey, the New Jersey Housing and Mortgage Finance Agency (NJHMFA) allocates low-income housing tax credit (LIHTC) credits to qualified taxpayers who have invested in certain buildings providing housing for families of low-income.</p> <p>Residential projects that are utilizing affordable housing subsidies offered by NJHMFA and NJ-DCA are already required to conform to green building standards which meet the statutory requirement</p>	<p>In each calendar year, the total dollar value of the credits that can be allocated is limited by the State housing credit ceiling provided in Section 42 of the Code.</p>	<p>NJHMFA awards these limited credits on a competitive basis.</p> <p>Applicants seeking an allocation of these credits must apply under one of the cycles set forth in N.J.A.C. 5:80-33.4, 33.5, 33.6 or 33.7.</p>	<p>http://www.nj.gov/dca/hmfa/developers/credits/green/greenfuture.shtml</p> <p>For Multifamily & Special Needs Projects: Pam DeLosSantos, Green Technical Advisor NJ Housing & Mortgage Finance Agency PDelossantos@njhmfa.state.nj.us (609) 278-7627</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>NJ Environmental Infrastructure Trust (NJEIT)</p> <p>New Jersey Environmental Infrastructure Financing Program (NJEIFP)</p>	<p>Interest-free Loans</p>	<p>Communities in a CSO sewershed sponsoring construction projects that reduce or eliminate excessive infiltration are eligible for 100% interest free loans, through the Trust, for 30 years or life of project.</p> <p>Projects that also include the following “green” components are eligible for up to \$1 million principal forgiveness through the NJEIFP Fund:</p> <ul style="list-style-type: none"> - green roofs - blue roofs - rain gardens - porous pavement - other activities addressing infiltration, evapotranspiration, harvesting storm water <p>In order to be eligible for the interest-free loan and/or principal forgiveness, application must include how the proposed project is related to reduction/elimination of CSO.</p>	<p>\$3 million (total) in principal forgiveness loans was available in FY16; Up to \$1million/project principal forgiveness</p> <p>Smaller “bridge loans” are available through the NJEIT</p>	<p>Must create a User Account to submit application on-line through H2Loans http://www.h2loans.com/app or call (609) 219-8600 for help</p>	<p>https://www.njeit.org/</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>U.S. Department of Energy</p> <p>Title XVII Loan Guarantee Program</p>	<p>Loan Program</p>	<p>Eligible applicants:: Commercial, Industrial, Local Government, Nonprofit, Schools, State Government, Agricultural, Institutional</p> <p>Eligibility Requirements:</p> <ul style="list-style-type: none"> • Be an “Eligible Project” as defined in an open solicitation in the technology area described therein. • Employ new or significantly improved technologies as compared to commercial technologies in services in the United States at the time the guarantee is issued. • Avoid, reduce, or sequester anthropogenic emissions of greenhouse gases. • Be located in the United States (foreign ownership or sponsorship of the projects is permissible as long as the projects is located in one of the fifty states, the District of Columbia, or a U.S. territory). • Provide a reasonable prospect of repayment. 	<p>Up to \$3 billion is available in loan guarantees for projects in renewable energy, efficient end-use, and efficient generation, transmission, and distribution technologies (plus an additional amount that may be imputed based on the credit subsidy cost of the loan guarantee authority). See the program website for more details on eligibility</p> <p>Full repayment is required over a period not to exceed the lesser of 30 years or 90% of the projected useful life of the physical asset to be financed</p>	<p>Loan guarantees are provided in response to open solicitations. The application is a two part process - applicants that meet the specified requirements laid out in Part I receive an invitation to submit a Part II application. The updated supplemental guidance for Renewable Energy Projects and Energy Efficiency Projects includes an application solicitation schedule, with final Part I and Part II. Open solicitations are available on the DOE website.</p>	<p>https://energy.gov/lpo/title-xvii</p>

Potential Funding Source & Program	Funding Type	Eligible Applicant & Activities	Funding Amount	Funding Cycle & Application Type	Contact Information & Website
<p>U.S. Internal Revenue Service</p> <p>Business Energy Investment Tax Credit (ITC)</p>	<p>Tax Credit</p>	<p>A U.S. federal corporate tax credit that is applicable to commercial, industrial, utility, and agricultural sectors. Eligible technologies for the ITC are solar water heat, solar space heat, solar thermal electric, solar thermal process heat, photovoltaics, wind, biomass, geothermal electric, fuel cells, geothermal heat pumps, CHP/cogeneration, solar hybrid lighting, microturbines, and geothermal direct-use.</p> <p>This program is co-administered by the Internal Revenue Service (IRS) and the U.S. Department of Energy (DOE).</p> <p>Eligible System Size: Small wind turbines: 100 kW or less Fuel cells: 0.5 kW or greater Microturbines: 2 MW or less CHP: 50 MW or less*</p>	<p>30% for solar, fuel cells, small wind*</p> <p>10% for geothermal, microturbines and CHP</p> <p>Maximum Incentive: Fuel cells: \$1,500 per 0.5 kW Microturbines: \$200 per kW Small wind turbines: no limit All other eligible technologies: no limit</p>	<p>Form 3468, Investment Credit on Federal Tax Return</p> <p><i>Expired at the end of 2016</i></p>	<p>https://energy.gov/saving/business-energy-investment-tax-credit-itc</p>

Sites	Transportation	Green Infrastructure + Open Space	Water Efficiency (indoor + outdoor)	Energy Efficiency	Renewable Energy	Building Materials
Phil-Mar	<ul style="list-style-type: none"> > Within 1/4 mile (5 minute walk) of PATCO > Bus stop at the corner of the site > Bicycle parking facilities 	<ul style="list-style-type: none"> > Green parking with bioretention/swale > Street trees > Parking lot / site trees > Cistern (above or underground) for irrigation 	<ul style="list-style-type: none"> > Native or adaptive plants and trees > Low-flow toilets and sinks > ENERGY STAR or equivalent appliances > Cooling towers with efficient water meters, conductivity controllers, and drift eliminators > Water meters with tracking 	<ul style="list-style-type: none"> > High performance windows > Maximize solar gain & control heat gain with shades/louvers > Superinsulation of building envelope to reduce air infiltration > HVAC&R systems without CFCs > Maximize daylighting opportunities > Cool roofs to reduce cooling costs > Efficient lighting (LED & CFL) > Reduce light pollution by using downlighting for outdoor lights > Properly sized HVAC system > Reduce energy waste by minimizing duct lengths and turns > Smart controls for HVAC and lighting > ENERGY STAR or equivalent appliances > On-demand hot water heating system 	<ul style="list-style-type: none"> > Geothermal heat pumps > Solar or Photovoltaic system 	<ul style="list-style-type: none"> > Low- or Zero-VOC paints and coatings > CRI certified carpets and tile > Low CO2 concrete > Metal or reflective shingle roofing material
Camden Labs	<ul style="list-style-type: none"> > Within 1/4 mile (5 minute walk) of PATCO > Bus stop at the corner of the site > Bicycle parking facilities 	<ul style="list-style-type: none"> > Increase in open space (Whitman Park) > Park trees > Cistern (above or underground) for irrigation 	<ul style="list-style-type: none"> > Native or adaptive plants and trees > Water meters with tracking 	<ul style="list-style-type: none"> > Solar powered downlighting 	<ul style="list-style-type: none"> > Solar 	
1700 Mt. Ephraim (A) - Resi	<ul style="list-style-type: none"> > Bus stop at the corner of the site > Bicycle parking facilities 	<ul style="list-style-type: none"> > Stormwater bumpout planters (street) > Rain garden (on-site) > Street trees > Cistern (above or underground) for irrigation" 	<ul style="list-style-type: none"> > Native or adaptive plants and trees > Low-flow toilets and sinks > Low-flow showerheads > Energy Star or equivalent appliances > Water meters with tracking > Drip irrigation system for community garden irrigation 	<ul style="list-style-type: none"> > High performance windows > Maximize solar gain & control heat gain with shades/louvers > Superinsulation of building envelope to reduce air infiltration > HVAC&R systems without CFCs > Maximize daylighting opportunities > Cool roofs to reduce cooling costs > Natural ventilation system (cross) > Efficient lighting (LED & CFL) > Reduce light pollution by using downlighting for outdoor lights > Properly sized HVAC system > Reduce energy waste by minimizing duct lengths and turns > Smart controls for HVAC and lighting > On-demand hot water heating system 	<ul style="list-style-type: none"> > Solar 	<ul style="list-style-type: none"> > Low- or Zero-VOC paints and coatings > Sustainably harvested wood > Recycled material > CRI certified carpets and tile > Low CO2 concrete > Metal or reflective shingle roofing material

Sites	Transportation	Green Infrastructure + Open Space	Water Efficiency (indoor + outdoor)	Energy Efficiency	Renewable Energy	Building Materials
1700 Mt. Ephraim (B) - Comm	<ul style="list-style-type: none"> > Bus stop at the corner of the site > Bicycle parking facilities 	<ul style="list-style-type: none"> > Stormwater bumpout planters (street) > Rain garden (on-site) > Street trees > Cistern (above or underground) for irrigation 	<ul style="list-style-type: none"> > Native or adaptive plants and trees > Low-flow toilets and sinks > Low-flow showerheads > Energy Star or equivalent appliances > Water meters with tracking 	<ul style="list-style-type: none"> > High performance windows > Maximize solar gain & control heat gain with shades/louvers > Superinsulation of building envelope to reduce air infiltration > HVAC&R systems without CFCs > Maximize daylighting opportunities > Cool roofs to reduce cooling costs > Natural ventilation system (cross) > Efficient lighting (LED & CFL) > Reduce light pollution by using downlighting for outdoor lights > Properly sized HVAC system > Reduce energy waste by minimizing duct lengths and turns > Smart controls for HVAC and lighting > On-demand hot water heating system 	<ul style="list-style-type: none"> > Solar 	<ul style="list-style-type: none"> > Low- or Zero-VOC paints and coatings > CRI certified carpets and tile > Low CO2 concrete > Sustainably harvested wood > Metal or reflective shingle roofing material
10th Street (A) - Comm	<ul style="list-style-type: none"> > Within 1/4 mile (5 minute walk) of bus stop 	<ul style="list-style-type: none"> > Stormwater planters (street) > Street trees > New park space > Cistern (above or underground) for irrigation" 	<ul style="list-style-type: none"> > Low-flow toilets and sinks > Low-flow showerheads > Energy Star or equivalent appliances > Water meters with tracking 	<ul style="list-style-type: none"> > Energy recovery ventilation system > Insulated exterior door (storm door) > Air lock dryer vents > High performance windows > Seal and flash windows > Insulated hot water heater > Smart controls for HVAC and lighting > Maximize solar gain & control heat gain with shades/louvers > Superinsulation of building envelope to reduce air infiltration > HVAC&R systems without CFCs > Maximize daylighting opportunities > Cool roofs to reduce cooling costs > Natural ventilation system (cross) > Efficient lighting (LED & CFL) > Reduce light pollution by using downlighting for outdoor lights > Properly sized HVAC system > Reduce energy waste by minimizing duct lengths and turns 	<ul style="list-style-type: none"> > Solar 	<ul style="list-style-type: none"> > Low- or Zero-VOC paints and coatings > CRI certified carpets and tile > Low CO2 concrete > Sustainably harvested wood > Metal or reflective shingle roofing material
10th Street (B) - Parking	<ul style="list-style-type: none"> > Within 1/4 mile (5 minute walk) of bus stop 	<ul style="list-style-type: none"> > Stormwater planters (street) > Street trees > Parking lot / site trees > Pervious pavers > Bioretention / swale 	<ul style="list-style-type: none"> > Native or adaptive plants and trees 	<ul style="list-style-type: none"> > Solar powered downlighting 	<ul style="list-style-type: none"> > Solar 	<ul style="list-style-type: none"> > Recycled or regionally sourced pavers



NO PARKING
EXCEPT FOR



B

APPENDIX B

HEALTH IMPACT ASSESSMENT (HIA) FRAMEWORK

SITE REDEVELOPMENT PRIORITIES

1. HEALTH IMPACT EVALUATION OF REUSE CONCEPTS

A Health Impact Assessment (HIA) is intended to provide decision-makers with a method to understand the environmental, social, and economic impacts of decisions on affected communities, and to consider recommendations for how a proposed activity or development can best support public health, health equity, and environmental justice. HIAs consider a range of social, environmental, and economic influences on health and place an emphasis on identifying groups who might be particularly vulnerable or disproportionately impacted. A typical Health Impact Assessment follows a six-step method (screening; scoping; assessment; recommendations; reporting; monitoring/evaluation (**See illustration at right**) that results in a set of grounded recommendations intended to maximize positive health aspects and minimize negative impacts to health.

Timing is an important factor for consideration when performing a HIA. The optimal point in the decision process to perform the assessment is when the project goals have been set, but the project design has yet to be finalized. If the HIA is undertaken too late in the development process, it will not be possible to influence building and site design. However, if the HIA is performed too early in the process, an insufficient amount of information will be available to develop recommendations.

Since development of the Phil Mar site is at a very preliminary, conceptual stage, the following is not intended as a comprehensive health impact assessment. Rather the objective is to present a framework that can be used to evaluate proposed reuse scenarios for the catalyst site and determine how these scenarios can be assessed in terms of their potential health impacts on the residents of the Mt. Ephraim project area.

The following narrative describes factors that should be evaluated and questions that should be asked to ensure that the design, development, and use of the catalyst site are performed in a manner that mitigates or avoids any adverse health impacts that might otherwise occur. The factors for analysis are derived, in part, from the transportation and water system infrastructure assessments and open space framework developed in conjunction with this Brownfield Area Wide Plan. In addition, input received from community residents during public meetings on November 29, 2016 and February 21, 2017 contributed to the list of evaluation factors described in the following sections. Finally, the [Resource Kit for HIA Practitioners: HIA for Industrial Projects](#), was used extensively in the course of development of this evaluation framework.

A. REUSE SCENARIOS

Five brownfields sites in the Mt. Ephraim project area are under consideration for redevelopment. The two “catalyst sites” are the Phil-Mar Industries, Inc. parcel (1661 Davis Street; Block 1388, Lot 7; 4.1 acres), and Camden Laboratories (1667 Davis Street; Block 1392, Lot 33; 3.7 acres). Camden city officials have indicated that the Camden Laboratories site will be redeveloped for expansion of the immediately

The Steps of HIA	
1. SCREENING	Determine whether an HIA is needed and likely to be useful.
2. SCOPING	In consultation with stakeholders, develop a plan for the HIA, including the identification of potential health risks and benefits.
3. ASSESSMENT	Describe the baseline health of affected communities and assess the potential impacts of the decision.
4. RECOMMENDATIONS	Develop practical solutions that can be implemented within the political, economic or technical limitations of the project or policy being assessed.
5. REPORTING	Disseminate the findings to decision makers, affected communities and other stakeholders.
6. MONITORING AND EVALUATION	Monitor the changes in health or health risk factors and evaluate the efficacy of the measures that are implemented and the HIA process as a whole.
The HIA process encourages public input at each step.	

Source: RWJF Health Impact Project

adjacent Whitman Park. The three second-tier sites are: 1814-1820 Mulford Street (Block 556, Lot 43, 46, 89; .19 acres), 1572 South 10th Street (Block 440, Lot 99; .28 acres), 1700 Mt. Ephraim Avenue (Block 1363, Lot 83; .1 acres).

Table 1, below, provides a *conceptual* land use breakdown for the second-tier and Phil-Mar sites. The concept for the Mulford Street site envisions development of four, three-bedroom townhome units. The concept for the site located at 1572 South 10th Street contemplates two, three-bedroom and two, two-bedroom apartments over a 1,658 s.f. commercial space, with 892 s.f. of on-site circulation area. The development concept for 1700 Mt. Ephraim Avenue envisions two, two-bedroom and three, one-bedroom walkup apartments over 3,200 s.f. of ground-floor commercial space.

The development concept for the Phil-Mar site envisions three industrial/manufacturing buildings - two new buildings - (48,745 s.f.), and (92,300 s.f.); one rehabilitated building (53,448 s.f.) - and 5,000 s.f. of commercial space primarily serving on-site employees.

Table 1 Development Concepts

Redevelopment Site	Residential		Commercial square feet	Industrial square feet
	# Units	# Bedrooms		
1814-1820 Mulford Street	4	3		
1572 South 10th Street	2	3	1,658	
	2	2		
1700 Mt. Ephraim Avenue	2	2	3,200	
	3	1		
Phil-Mar Site			5,000	48,745
				92,300
				53,448
Total	13		9,858	194,493

As noted above, the reuse options under consideration for the Phil Mar (catalyst) site envision a mix of industrial and commercial activity, uses that are consistent with those that had occupied the site.

According to Camden’s Zoning Map (*Attached*), the Phil-Mar site is located in a Transit Oriented Development (TOD) Zone, one of two such zones in the City. Camden’s Zoning Ordinance allows for a range of uses within a TOD zone including: residential development; commercial uses (office, banks, professional offices, etc.); retail, entertainments, and restaurant activities; parks and playgrounds; and transit related activities such as the existing Ferry Street railroad stations and/or bus terminals.

B. HEALTH IMPACTS ASSOCIATED WITH INDUSTRIAL USES

Health impacts are likely to be associated with the three life cycle phases of industrial/commercial development: 1) project design and construction; 2) facility operations; and eventually 3) decommissioning, when the facility is taken down and the site prepared for other uses.

Project Evaluation Factors

The following questions relate to the major components of industrial projects in terms of their potential effects on human health. These questions are also designed to address issues specific to the Mt. Ephraim project area identified through analyses of the area transportation and water system infrastructure and development of the open space framework.



Phil Mar Site

1. Development Concept

- What exactly is being built, what will be produced, what industrial processes will be used, and what will be the hours of operation?

2. Water Quantity and Quality

- What is the anticipated water demand? What are the sources, levels, and types of project-related water pollution during construction and operation and how will it be managed and mitigated?
- What type and quantity of waste will be generated, how will it be managed and disposed of, and what processes will be used to treat water before its release?
- What features will be added to the site design to reduce water/sewer system demand?
- To what extent does the site design minimize impervious surfaces/maximize on-site storm water retention, and employ green infrastructure techniques?

3. Recreation and Open Space

- How can the site be designed to contribute to useable open space and/or recreation for the Mt. Ephraim project area?
- Will the project involve construction of or financial contribution to create off-site amenities such as parks, trails, and recreation facilities to benefit the surrounding community?

4. Employment

- How many and what types jobs will be created during construction and operation, what percent of these jobs will be reserved for Camden/neighborhood residents, how many new workers will move into the Mt. Ephraim project area, what impact will this have on existing residents (cost of housing)?

5. Transportation

- Will existing roadways be upgraded and what traffic calming features will the site provide (including stop signs, speed humps or dips, and crosswalks)?
- Will traffic studies be performed that provide details of anticipated traffic volumes, travel patterns, impacts on the surrounding roadway network, vehicle mix (truck and passenger traffic) accessing the site, and strategies to mitigate project impacts?
- To what extent will the project owners encourage employees to participate in ride sharing, transit, vehicular trip reduction techniques?

6. Hazardous Materials

- What, if any, hazardous materials will be used or created during the construction and/or operation of the site? How will such materials be contained and disposed of, what management plans will be in place?
- What emergency and risk communications plans will be in place and do these involve protective measures for the community?

7. Air Emissions

- What are the sources of project-related air pollution during construction and operation, how will air emissions be monitored during construction and operation, and what air contaminant and dust prevention strategies will be put into place?

8. Noise Impacts

- What are the sources, levels, and types of project-related noise?
- How will current background noise levels change, how will noise levels be monitored during construction and operation, and what management plans will be put into place to mitigate such impacts?

9. Revenue Generation

- How much revenue will be generated by federal, state, and local government from taxes on the facility? Will local, state, or federal incentives be offered to the project and if so, what tax burden would this place on existing tax payers?

C. HEALTH IMPACTS ASSOCIATED WITH RESIDENTIAL USES

As noted above, residential development is permitted in a TOD Zone, comprised of four different unit types – semi-detached dwellings, duplexes, townhomes, and multi-family structures. According to the city's area regulations for TOD Zones, a 3,000 sq. ft. lot is required for a semi-detached dwelling; a 6,000 sq. ft. lot is required for a duplex; a 2,000 sq. ft. lot is required for a townhome and a 20,000 sq. ft. lot is required for a multi-family structure. Applying these minimum lot standards, the 4.1-acre Phil Mar site could accommodate approximately 47 semi-detached residential units; 23 duplex units; 71 townhomes; and 7 multi-family structures¹. According to [A Systematic Review of Health Impact Assessments on Housing Decisions and Guidance for Future Practice](#), there are four key determinants of health related to housing:

1. **Housing Quality:** are the unit type, type and quality of construction, exposure to noise, adequate heating cooling and ventilation systems, interior design and layout of lighting, railings, windows, electrical service?
2. **Housing Affordability:** do the unit costs enable the potential residents to pay for other basic needs such as utilities, food, and medical care in addition to housing costs?
3. **Housing Community:** is the surrounding neighborhood free from segregation and concentrated poverty, in which residents have close and supporting relationships with one another?
4. **Housing Location:** do potential inhabitants have access to public transportation, parks and recreation, quality schools, good jobs, healthy foods, medical care?

¹ Unit yield figures assume approximately 20% loss of buildable area due to interior vehicular and pedestrian access ways, infrastructure, and irregular lot configuration.

D. HEALTH IMPACTS ASSOCIATED WITH OPEN SPACE/RECREATION USES

In addition to uses that are compatible with the existing development of the site or extending residential development patterns, the city's TOD zoning would allow for recreation and open space development of the Phil Mar site. If these types of uses are considered, there are several questions that should be answered to weigh potential health impacts including:

1. How can users of the Phil Mar site get maximum physical fitness benefits from the recreation and open space facilities that would be constructed?
2. How could recreation and open space facilities improve the mental health of the residents of the project area?
3. How can safety of the recreation and open space facilities (from crime, accidents, and pest/animal exposure) be maximized?
4. How can the recreation and open space facilities be designed to maximize community social connections and cohesion?
5. How can the recreation and open space facilities benefit business within the project area?
6. What are the economic impacts to the residents of the project area and the City of Camden from developing the Phil Mar site for recreation and open space use?

2. FRAMING THE PROJECT IMPACTS

During their construction phases, each of the project concepts described above – industrial/commercial; residential; open space/recreation – will generate noise, dust, traffic, and water quality impacts that may adversely affect the health and safety of the residents of Mt. Ephraim project area. **However**, prior to design of any use of the candidate catalyst or second-tier redevelopment sites, a detailed site evaluation would typically be performed to identify whether and to what extent environmental contamination may exist. Before construction could commence the developer would typically be required to prepare a detailed remedial action plan and remove any identified contamination. Site cleanup of contaminated properties, if such contamination exists, will alleviate potential threats to the health and welfare of the neighborhood.

During its operational phase, depending on the specific type and mix of industrial/commercial activity that might locate on the Phil-Mar site, chronic health conditions may be aggravated due to associated air or noise emissions that may increase rates of cardio-respiratory disease. The neighborhood is also likely to experience increased traffic congestion during peak commute periods. **However**, such development is also likely to result in neighborhood employment opportunities and positive tax revenue generation (subject to any incentives that might be offered), yielding considerable benefits for residents of the project area and the City of Camden.

Developing affordable housing on the Phil-Mar site will expand housing choice options, reducing stressors associated with poor housing quantity and quality (such as mortality; infectious disease; poor child development and school performance; lower self-rated health; increased stress, noise, and fires; poor mental health; developmental delays; heart disease; declines in social connection). **However**, in the long-term, such development would not result in expanding neighborhood employment opportunity.

Developing the Phil-Mar site for open space and recreation may increase physical activity and decrease rates of diabetes or heart disease. **However**, such development would not yield revenue generation opportunities for Camden that would occur through market-based development.

Answers to the questions listed in Section 1 above, will enable each of the development concepts to be evaluated and compared to one another in terms of their social, economic, and environmental impacts on the surrounding Mt. Ephraim project area and the City of Camden as a whole. The questions will define the project components (e.g. jobs, traffic, revenue, noise, and air pollution generation) and the responses will help to characterize the positive or negative health outcomes related to each concept. Each of the alternative conceptual development forms is likely to have varying impacts as they relate to the health of project area residents and the fiscal health of Camden. Weighing project concepts based on the foregoing questions will provide an objective method to determine the extent and type of benefits that will accrue to the city under each concept and help to establish project development priorities.

