Planning for an inclusive and resilient future in Eastwick

March 25, 2019

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The Philadelphia Redevelopment Authority

_INTERFACE STUDIO

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PHILADELPHIA
REDEVELOPMENT
AUTHORITY

March 25, 2019

This report marks the conclusion of a two-year endeavor that had two goals: 1) empower Eastwick residents through an inclusive process to shape the future of their community; and 2) provide a framework for responsible land use decisions to build a resilient neighborhood.

While inclusiveness and community empowerment should always be a priority for the public sector, in Eastwick it is especially so. In the 1950s and 1960s Eastwick was the site of America's largest "urban renewal" project that displaced thousands of people whose homes were condemned for a vision that was only partially constructed.

Resilience should always be a focus of contemporary planning, but in Eastwick especially so. Eastwick is one of the lowest lying parts of the city, naturally a marsh, and prone to flooding. For the better part of a century Eastwick has seen severe storms that wreaked havoc on the community.

The consultant team, led by Interface Studio, has done a remarkable job of guiding us all through a complex and thorough process that analyzed the potential for these 190+ acres of land. They looked at feasibility through three lenses: what the community aspires to, what the market will bear, and what is environmentally responsible. This process focused as much on informing and educating as it did on engaging and empowering.

The residents of Eastwick consistently impressed us with their commitment to their community's future—turning out en masse, time after time, and dedicating countless hours to this study. We are grateful for these passionate and dedicated neighbors—especially Eastwick's active community leadership.

After three large community meetings, three roundtables, and countless interviews and tours, it became clear that the Eastwick community was not unified in its vision. Many people wanted to see all of the public land dedicated for storm water management, while many others wanted to see the neighborhood substantially rebuilt.

The outcome of this study is a set of recommendations that leave more than half of the land open, while accommodating development in targeted areas where it can be built without worsening the flood risk. Some areas can be developed with relatively little additional work, while others will require substantial testing and additional study before we can responsibly move forward in recommending any redevelopment.

And so while this study is a major step forward, we still have a long way to go. Our promise to the community is that every step will continue to engage and empower the residents of Eastwick through an inclusive process. And every step will be made with a primary focus on neighborhood resilience.

Thank you again to all the residents who informed this plan, to the Steering Committee, to Interface Studio and the rest of the consultant team, and to all our partners. We have come a long way and we look forward to our continued partnership as we move forward on the next steps in this process.

Gregory Heller

Executive Director
Philadelphia Redevelopment Authority

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EXECUTIVE SUMMARY

The Eastwick neighborhood, in the far southwest of the City of Philadelphia, was the site of a major 1960s-era urban renewal project to build a "City within a City". To realize the plan, the Redevelopment Authority acquired almost 5,800 properties -- of which 2,500 had structures on them -- across 2,300 acres. Many of the properties contained occupied residential homes, requiring the use of eminent domain and relocation of over 8,000 residents.

Multiple phases of the original redevelopment plan were implemented over several decades, including construction of two schools, 4,200 new housing units, and the Penrose Plaza Shopping Center. However, the full vision of the redevelopment plan was never realized, and approximately 128 acres remained vacant for decades.

In 2012, the developer who owned the rights to the property proposed the construction of a 722-unit apartment complex on 35 acres behind existing single-family homes. Neighborhood residents, concerned that this development was too dense and would exacerbate flooding that occurs in the area, organized and protested the proposed development.

In response to the neighborhood concerns, the Philadelphia Redevelopment Authority (PRA) reached an agreement with the developer to buy out their interest and terminate the redevelopment agreement. PRA regained control of the remaining undeveloped land in the redevelopment area.

Around this same time, two other publicly owned large vacant properties in the neighborhood were slated for redevelopment. They were being sold by the School District of Philadelphia, and included the former Pepper Middle School and the former Communications Technology High School. The schools had been closed in 2013 due to deferred maintenance costs and declining enrollment. Their redevelopment was also controversial given their large size and location in the neighborhood. The City worked to include the School District's parcels in PRA's planning process.

The community lobbied to have neighborhood residents play an active role in planning the now publicly owned land in Lower Eastwick, and the Redevelopment Authority committed to ensure an inclusive process with significant public and stakeholder involvement.

This study is focused on the potential future uses for several sites in the Eastwick neighborhood of Philadelphia, totaling 185 acres, including:

- **(Site 1)** A 124.5-acre site roughly bounded by 84th Street, Lindbergh Boulevard, and Mario Lanza Boulevard, this parcel was formerly referred to as 'Parcel A';
- **(Site 2)** A 4.5-acre site[1] at the southwest corner of 84th Street and Lindbergh Boulevard; and
- **(Site 3)** A 58.6 acre site that includes multiple parcels, which for the purposes of this study were simplified into one 'site' including the following properties:
  - The former Communications Technology High School (George Wolf School), owned by the School District of Philadelphia,
  - The former Pepper Middle School site owned by the Philadelphia School District, and
  - Additional PRA-owned lands located along and generally bounded by Mario Lanza Boulevard, between 81st & 84th Streets.

This study was designed to take a broad look at the issues that impact the parcels, including issues of flooding, access, equity and social justice, environmental problems and market challenges. It was designed to bring a broad array of stakeholders into conversation with one another, so that they might understand both the issues and each other's perspectives.

This process was designed to:

> Include many perspectives, including residents, business owners, and outside experts

> Get ALL the history on the table

> Get ALL the problems on the table

> Analyze the problems and their effects on the sites and on the neighborhood

> Develop a vision and a list of recommend for the sites

For each site, this study addresses three major questions:

1. WHAT ARE THE COMMUNITY'S GOALS?

A robust public process reached 360 people, and included a neighborhood tour, two meetings with community leadership, three focused roundtable discussions, three large public meetings, and interviews with 42 individual stakeholders. Quickly in this process, it became clear that many residents are still harbouring resentment and distrust towards the City for their use of eminent domain during the Urban Renewal Plan, and never fully realizing that plan. In discussions about the future of the sites, residents lamented on the neighborhood not having enough resources, and would like to see some of the land put back to productive use. Above all, however, conversations about the future of Eastwick inevitably landed on flood risk and concerns about development exacerbating flood risk in the neighborhood.

The community's goals for Eastwick are that future development should:

> Honor Eastwick's rich and complex history

> Involve the community and respect its neighbors

> Cultivate a safe, stable, and healthy neighborhood

> Work to heal the environment (and not make any of the issues worse)

> Celebrate Eastwick's natural setting

> Provide sustainable access to opportunity and nurture our youth

> Build community ties and foster diversity

2. WHAT ARE THE ENVIRONMENTAL AND SITE CONSTRAINTS?

Each of the sites presents different opportunities and challenges when it comes to its suitability for new construction and its role in environmental stewardship. Their location at the base of 2 local watersheds makes them threatened by large flood events, and much of the area is within FEMA's Special Flood Hazard Area. The existing soils and vegetation are a legacy of the Urban Renewal Plan and are likely of poor quality, and potentially contaminated, and it is one of the few areas in the City to potentially be impacted by sea level rise. In addition, the sites' proximity the Philadelphia International Airport provide additional constraints on the properties. Despite these challenges, it is this study's findings, with the data we have today, that while costly and difficult, it is possible to do limited development on these sites. Additional studies are recommended to confirm these findings, and ensure that new development would not make any of the flooding issues in the neighborhood worse.

3. WHAT CAN THE MARKET SUPPORT?

The advisory firm Real Estate Strategies (RES) conducted a market study to identify realistic land uses that current market conditions can support at each of the sites. They found that the market could support townhouse or twin homeownership uses, professional services/medical offices, market rate garden apartments, affordable senior apartments, a hotel, warehouse/distribution and light manufacturing uses. They did not find support for a more significant retail development given its proximity to Penrose Plaza.

In considering the market analysis, environmental analysis, and the community's' desire for both more resources and alleviating environmental concerns, **is it possible to do responsible development in Eastwick?** The short answer is, yes, it may be feasible to build in some areas and accomplish the following:

> Adhere to a baseline: New development **should not make any of the flooding issues worse.**

> Preserve the opportunity to study flood mitigation in low lying areas.

> Utilize development to improve existing conditions where it's appropriate and possible.

All of the data collected and public input shaped the overall vision for the sites:

The Vision: A Village in the City

Eastwick has the soul of a village. People love its proximity to nature and its quiet, pastoral setting. But Eastwick lacks the organization of a village -- it has no Main Street, with a set of inviting shops that serve as a gathering places and crossroads. **Becoming a real village involves enhancing both of those parts: enhancing the connection to nature and developing a Main Street that brings together civic, commercial, and cultural life.** Becoming a "Village in the City" involves strengthening connections to citywide processes, services and organizations. Finally, becoming a "Village in the City" means solving the numerous disconnections -- within the neighborhood and between the neighborhood and the rest of the city -- that would make Eastwick easy to navigate, hospitable and charming.

In order to achieve a vision of Eastwick as a "Village in the City," providing a balance of responsible development and open space preservation, it is recommended to:

> Pursue opportunities to responsibly bring additional amenities, services and jobs to Eastwick.

> Limit new residential development within the 1% annual chance flood zone.

> Maintain existing flood storage capacity in the 1% annual chance flood zone.

> Utilize green building practices in all new development.

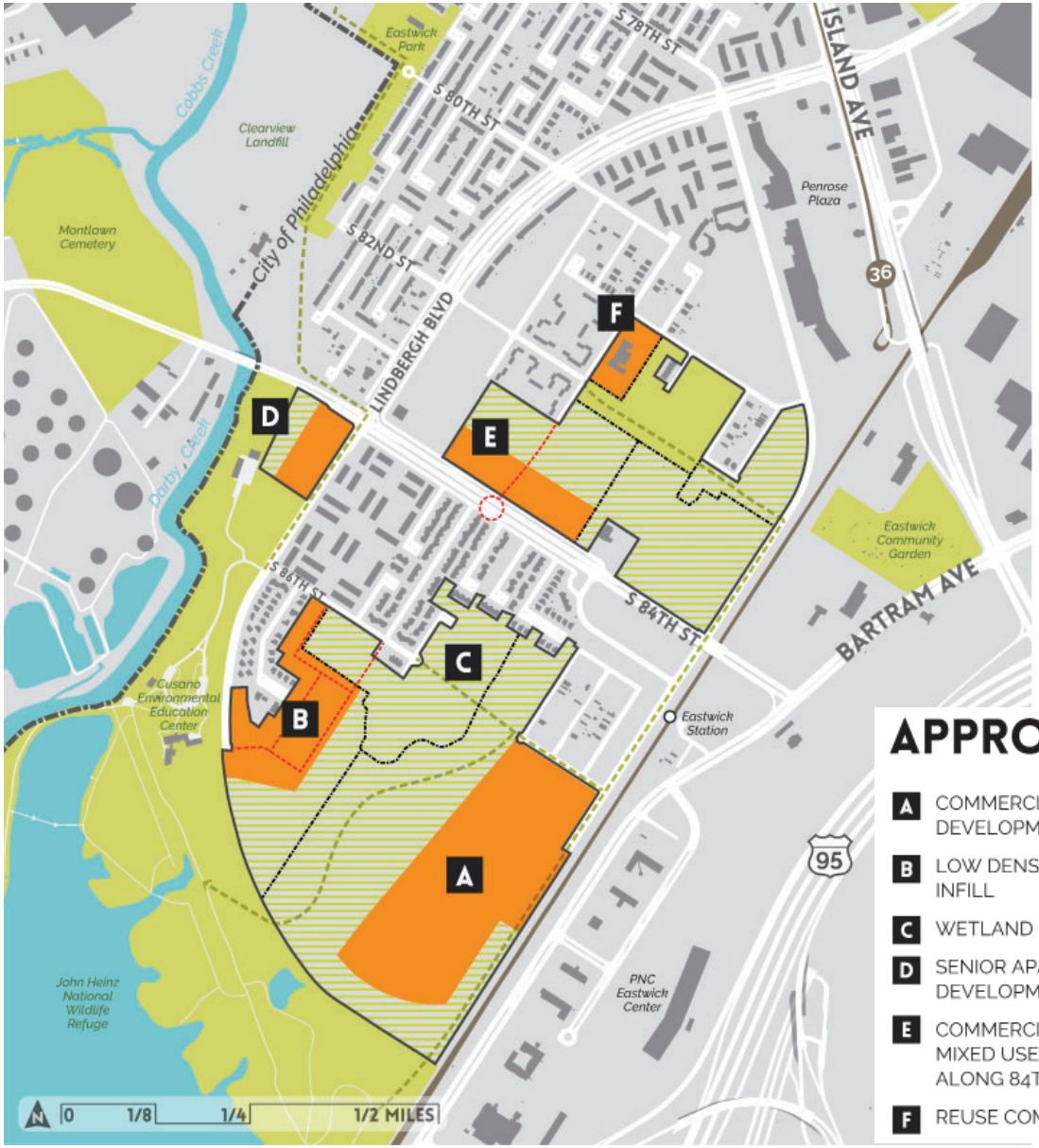
> Mitigate new impervious surfaces with green stormwater infrastructure.

> Develop forest cover of the predominate landscape type in landscape restoration areas and in areas used as passive landscapes on development pads.

> Implement all stormwater management for development sites above the base flood elevation.

Keeping with these principles, the general recommended development approach can be seen in the diagram to the right. While a majority of the sites are recommended to remain as open space, the general areas of potential development. based on their location in the neighborhood and floodplain, are shaded in orange. These orange areas do not represent building footprints, as this study did not get into specific site plans for each of the sites. Area A presents an opportunity for job creation in the neighborhood given its large size, proximity to transit, and buffering from heavily populated residential streets. Area B is provides an opportunity for infill residential development because it is outside of the 1% annual chance flood zone. Area C is recommended for open space to protect the wetlands that were found on the site. Area D is an opportunity for a low income senior housing development. Area E has the potential to provide the neighborhood with a "Main Street" development along 84th Street if an anchor tenant can be secured. This would improve connections across the neighborhood, provide a much needed neighborhood center, and help to calm traffic on 84th Street. Area F, the former Comm Tech School, is an opportunity to be repurposed as a community resource, uses proposed include a workforce/skills training center, institutional/educational reuse, and/or affordable housing units.

It is possible that the recommended follow up studies suggested as next steps will limit the opportunity for development on some, or all, of these sites. PRA should continue to collaborate with the City's Floodplain Management Office, the Philadelphia Water Department, and the Army Corps of Engineers to weigh development potential on the sites.



APPROACH

- A COMMERCIAL / INDUSTRIAL DEVELOPMENT
- B LOW DENSITY RESIDENTIAL INFILL
- C WETLAND PRESERVATION
- D SENIOR APARTMENT DEVELOPMENT
- E COMMERCIAL/OFFICE OR MIXED USE DEVELOPMENT ALONG 84TH
- F REUSE COMM. TECH

- PARCELS
- DEVELOPMENT POTENTIAL
- GREEN INFRASTRUCTURE
- OPEN SPACE
- RECONNECTED STREET NETWORK
- PROPOSED INTERSECTION
- PROPOSED TRAIL NETWORK

This study should be viewed as a research document, written to ensure that, moving forward, the City -- ***with*** the community -- can make thoughtful and informed decisions regarding public land development, disposal, or preservation.

The effort to revitalize Eastwick will be long and difficult. It is essential that the neighborhood think of this effort as a long-term project. Other similar neighborhoods have achieved great results because they have identified what's needed to create a healthy community and they have clearly articulated their goals in moving toward that vision. It is essential for residents to remind themselves **what they are FOR.** While resident action can tend to focus on issues, a focus on **alignment around shared values** allows groups to work in coalition rather than competition. We can realize our vision if we are programmatic and constantly ask ourselves, "How do we move towards our goal?"

It is possible to create a leafy, charming village in Eastwick. We already know it can be done because we can see the model of charming country lanes and pleasant gardens in the Eastwick Community Garden. What can be done on the small scale can be replicated on the larger scale. It takes time, elbow-grease, a vision, and a refusal to let past neglect shape the future.

Study Area

This feasibility study considers the potential uses and disposition of 3 large tracts of publicly owned vacant land totalling almost 190 acres in Eastwick, Philadelphia. Eastwick is located in Southwest Philadelphia, across I-95 from the Philadelphia International Airport, and just North of the John Heinz National Wildlife Refuge.

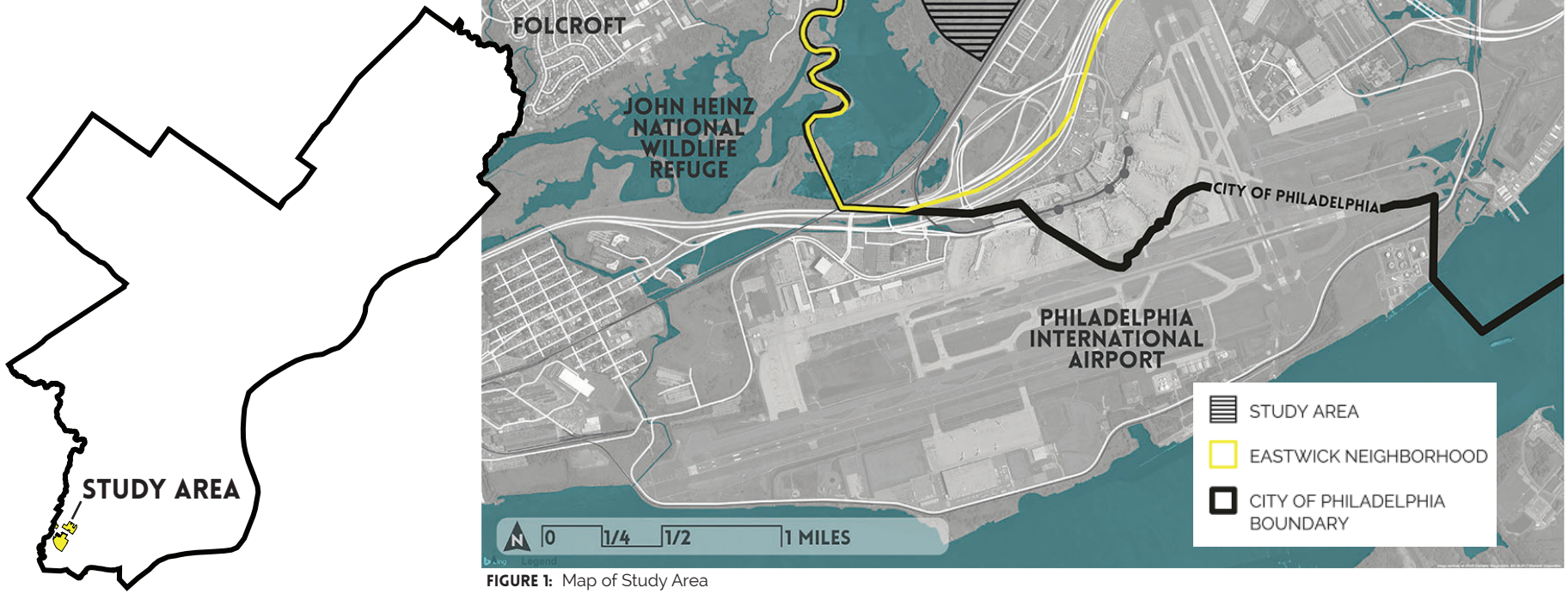


FIGURE 1: Map of Study Area

THE STUDY AND ITS ORIGINS

How did we get here?

In the early to mid-twentieth century, Eastwick was known as "The Meadows," a "knitted-in community" built among the marshlands. It was a sparsely populated, quiet, semi-rural area featuring small farms, trailers, and scattered housing developments. Unlike most of Philadelphia during the 1940s and 1950s, the area was racially integrated.

Below: S 88th St and Eastwick Ave, 1927

Top Right: Former Chelwynde Avenue East, view from 84th Street, 1940

Bottom Right: 2927 Island Avenue, near the corner of Island Ave and Lindbergh Blvd, 1929

Source: City of Philadelphia, Department of Records Archives

By the 1950s, city representatives believed the area was underutilized. They pointed to the low density, auto junkyards, burning garbage dumps, and open drainage canals that populated Eastwick to designate the area as "blighted."

"There was never another neighborhood like Eastwick. I mean we didn't lock our doors. It was like suburbs in the city. That's what Eastwick was like.

- Eastwick Resident

Aerial view of Lower Eastwick in 1959, Pre-urban renewal *Source: Aerial Photographs of the Delaware Valley, DVRPC*

In 1953, the City of Philadelphia's Planning Department released a preliminary *Redevelopment Area Plan for Eastwick*, and in 1957 the Redevelopment Authority finalized *the Eastwick Urban Renewal Plan*, making Eastwick the largest urban renewal area in the United States at the time. The *Eastwick Urban Renewal Plan* called for a $78 million redevelopment that would make Eastwick a "City within a City," complete with homes, schools, parks, and commercial and industrial areas. They believed the new Eastwick would allow Philadelphia to compete with suburban areas for both residents and jobs. Fully developed, the development would have provided new housing for 45,000 people, totaling 4,100 apartments, 670 detached and semi-detached houses, and 7,800 row houses.

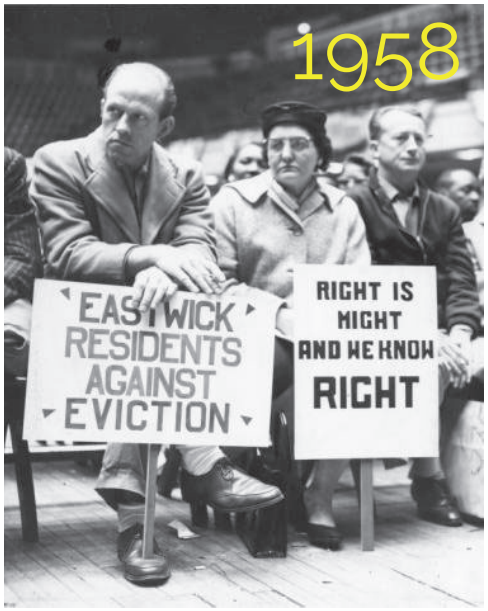
VISION FOR EASTWICK, 1953

Source: 1953 RDA Annual Report, Interface Studio LLC

- COMMERCIAL CENTERS
- SINGLE, SEMI DETACHED HOUSES + APARTMENTS
- ROW HOUSES
- PARKS & OPEN SPACE

By 1955, Eastwick residents had begun to organize in resistance to the plan. Many residents refused to allow real estate assessors to enter their homes, and one community group collected more than four thousand signatures on a petition that questioned the very premise of the urban renewal plan: Eastwick, they declared, was not a blighted area. The residents of Eastwick loved their semi-rural community as it was.

Despite years of opposition, the final Eastwick Urban Renewal Plan was released in 1957 and approved by City Council in 1958. The Philadelphia Inquirer reported that only "a score of residents attended" the final approval meeting, some of them weeping as the city council approved the plan. To realize the plan, the Redevelopment Authority acquired almost 5,800 properties -- of which 2,500 had structures on them -- across 2,300 acres. Many of the properties contained occupied residential buildings, requiring the use of eminent domain and relocation of over 8,000 residents. Properties that were spared from acquisition, now referred to as "Old Eastwick," were in relatively good condition, located in non-critical areas, or were not subject to flooding.



Top Left: "Eastwick residents protest against redevelopment plan" More than 1,500 people in the Convention Hall's ballroom for a hearing on the proposed $100,687,700 redevelopment project. Chester N. Hayes, director of the Rehousing and Relocation Bureau addresses the crowd. July 1957

Top Right: "Protesting Eastwick residents march on city hall" Owners of homes threatened by the Eastwick redevelopment project demonstrate in the City Hall courtyard. August 1957

Bottom Left: "Eastwick Residents Against Eviction" Eastwick residents holding signs at a hearing by City Council's committee on municipal development and zoning. March 1958

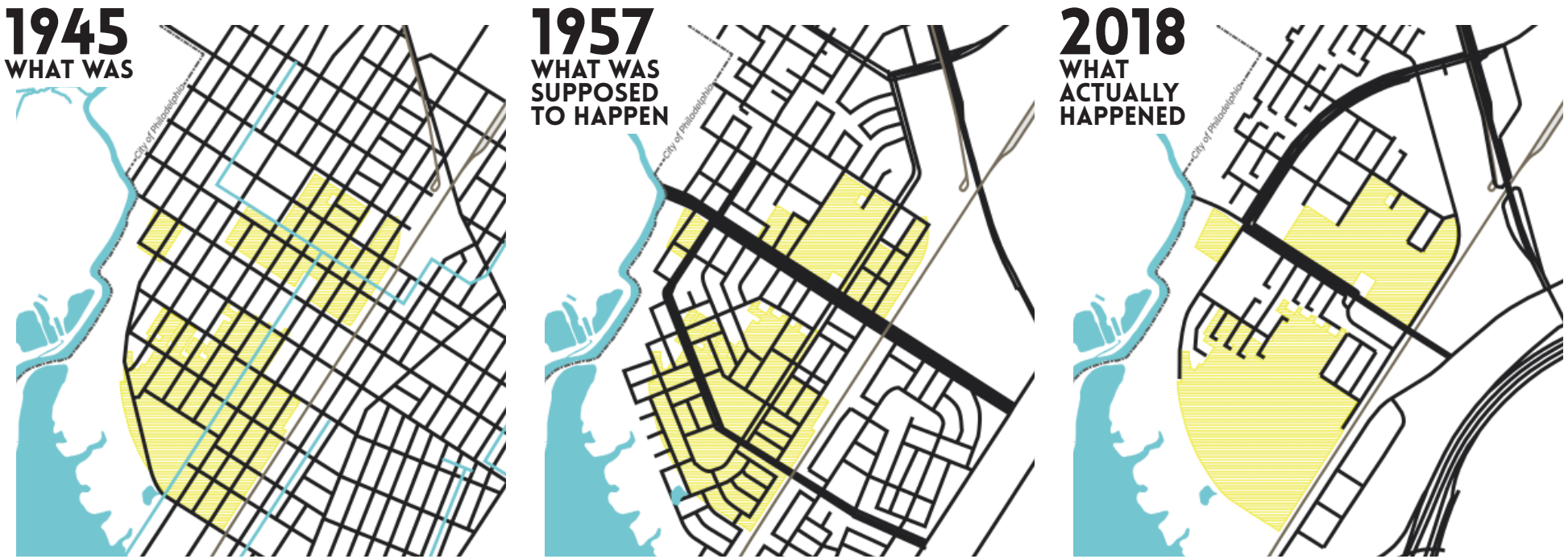
Bottom Right: "Council head gets earful of eastwick complaints" James H. J. Tate (left), president of City Council, tells residents of Eastwick that he will insist on the Redevelopment Authority carrying out a "humane policy" in its program for the area. December 1958

Source: Temple University Libraries, Special Collection Research Center, George D. McDowell Philadelphia Evening Bulletin Collection

View of the first section of Towne Gardens in the Eastwick section of Philadelphia, 1963 *Source: Temple University Libraries*

In 1960, the Redevelopment Authority signed a contract with the New Eastwick Corporation, later controlled by the Korman Company, to carry out the plan's development, and ground broke on the first phase of the project, called Town Gardens, in September of that year. In 1961, Eastwick's first new subdivision was completed, but the speed of redevelopment slowed due to numerous engineering and design challenges: low-lying marshy land needed to be made buildable, and the area featured extensive poor subsoil conditions. The slow progress towards redevelopment was finally halted after a mid-1970s environmental assessment found that there were significant adverse environmental conditions within the project area, including air pollution, noise pollution, and major potential for flooding.

A 1982 urban renewal plan review conducted by the City stated that, before the projected was halted, more than 4,200 new housing units were constructed, 2 new public schools had been built, and almost 20 miles of new streets with water mains and sewers were installed. Fifteen million cubic yards of fill had been brought in to make the land buildable. But Stage IV of the project, located on 128 acres in the southeastern section of the neighborhood, remained largely undeveloped.



Street Network overtime, traced from historic imagery. *Source: Interface Studio*

POPULATION
1940-2010

TOTAL COUNT WITHIN LOWER EASTWICK CENSUS TRACTS

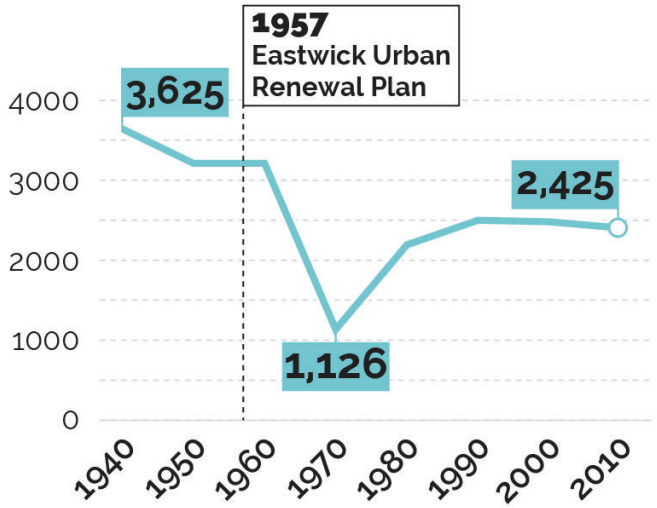


FIGURE 2: Population over time

Lower Eastwick Census Tracts included in this chart are tracts 56 and 54. A map of these can be found on page 65 of this document.

Source: US Census, via the Minnesota Population Center, National Historical Geographic Information System.

RACE
1940-2010

PERCENT OF TOTAL POPULATION WITHIN LOWER EASTWICK CENSUS TRACTS

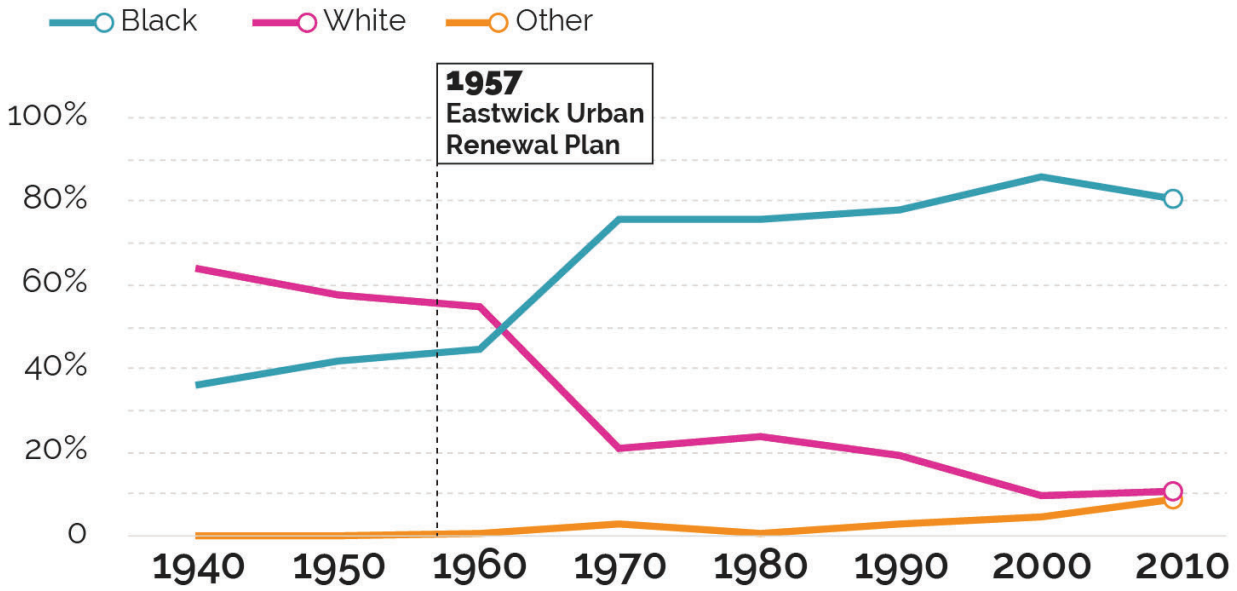


FIGURE 3: Racial breakdown over time

Lower Eastwick Census Tracts included in this chart are tracts 56 and 54. A map of these can be found on page 65 of this document.

Source: US Census, via the Minnesota Population Center, National Historical Geographic Information System.

Note: 1940 Census categorizes residents only as White or Other; in light of subsequent year's data, 1940 residents categorized as other are here presented as black

While the City's intentions of urban renewal may have been positive, the Eastwick project displaced thousands of people from their homes and disrupted an established, diverse community. The vision of a "City within a City" was never fully realized, and the scars that it left behind are still visible today.

"This city sold a bill of goods they never came through on. It led to many different issues that has not been rectified at all. Not one. And so it is my hope that the city will take a new, fresh look at what needs to be done, but never ignore how we got here in the first place.

- Eastwick Faith Leader

A New Plan For Eastwick's Vacant Land

One day in 2012, while resident Leonard Stewart was walking his dog, Princess, around the neighborhood, he saw surveyors on Site 1, known locally as "the 128." He could tell something was up. Further research revealed that the Korman Company planned to build a 722-unit multi-family apartment complex on the site before their development rights expired -- a project that would yet again change the character of Eastwick forever. Word spread, and hundreds of residents gathered at a public meeting to vote overwhelmingly against the development.

Though the original *Urban Renewal Plan* for the site called for largely single family residential construction, Korman's right to development were part of a previous agreement between them, the City, and the Redevelopment Authority. Being bound by this agreement, the Planning Commission voted 'yes' on the multi-family proposal. However, the project would still require approval for a zoning change by City Council. The first zoning meeting was set for two weeks following the Planning Commission's vote. The community got together and called in some experts. Many residents attended and testified.

> *"People were airing a host of stories of why they did not want this to move forward that go back decades. Some of it was about the flooding. Some of it was about Korman's negative history. Some of it was just about the fact that this was a complete surprise and people have not had a voice. There was also definitely a bunch of testimony from environmentalists that this was gonna have a negative impact on the refuge.*
>
> *- Eastwick Resident*

Councilman Kenyatta Johnson, who represents Eastwick, put the change of zoning bill on hold and called for subsequent hearings on flooding in the neighborhood. Through those hearings, it became clear that more research on flooding in Eastwick was needed. Throughout the process, Korman continued to hold its development rights on the parcel, they were set to expire in December 2015.

During this time, Eastwick Friends and Neighbors Coalition (EFNC) worked to gather information about what the community might want on the parcel. They found that many of the residents they surveyed favored conservation, while a minority prioritized economic development.

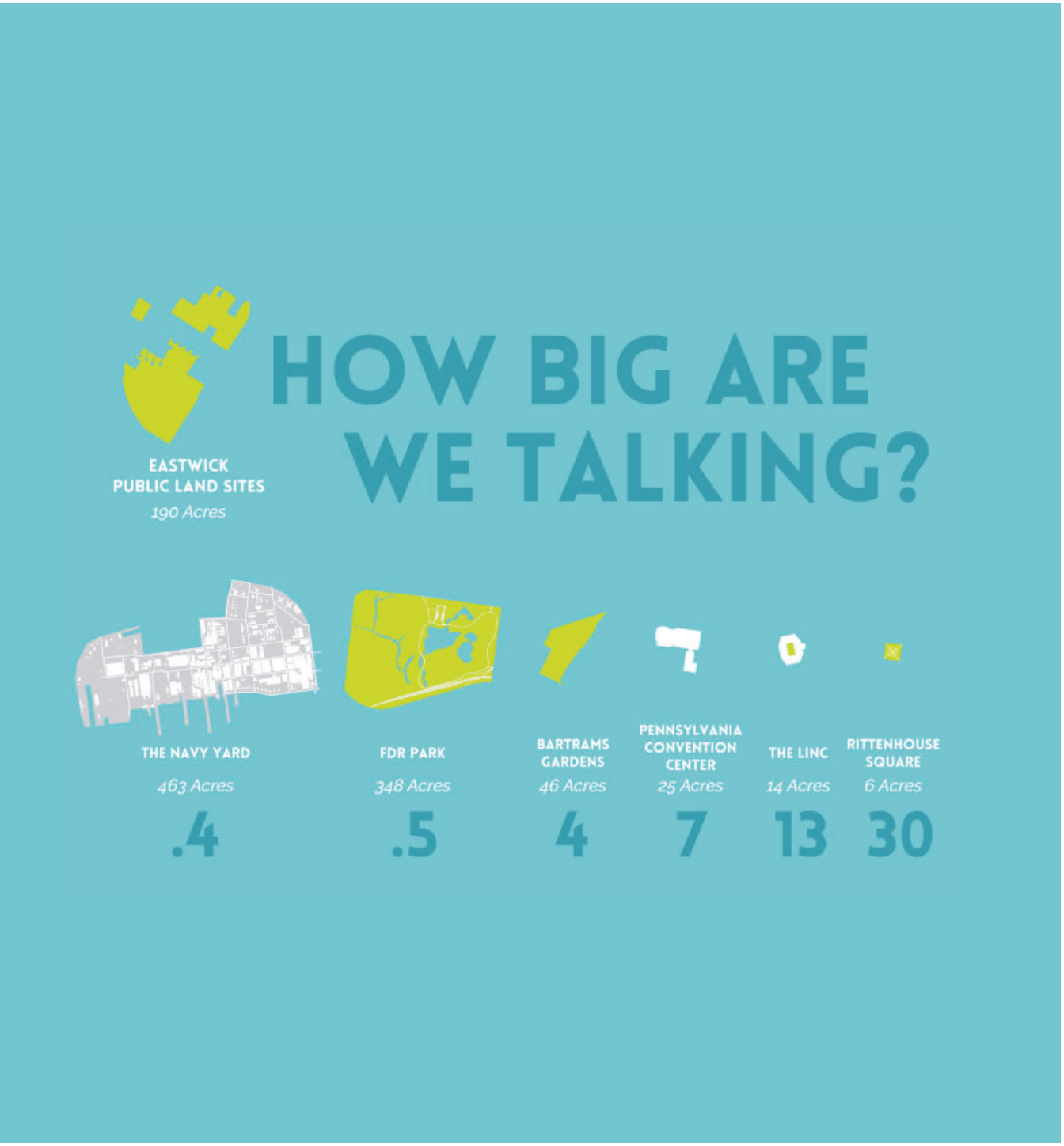
> *"There's a difficulty of finding where's that middle place. It's a lot of land. What things can work together or what does sustainable development look like? There have been a number of attempts to have that conversation. There have definitely been some fractures that specifically have occurred around that conversation."*
>
> *- Eastwick Resident*

Regardless of which camp they resided, anti- or pro- development, residents and experts alike staked out common ground on Korman's role in the neighborhood.

> *"I feel like we very effectively sent a message to Korman that they needed to step back… there was just not a place for them anymore.*
>
> *- Eastwick Resident*

Meanwhile, the Philadelphia Redevelopment Authority (PRA) and the City of Philadelphia were negotiating with Korman, and they ended up joining efforts to end Korman's development rights. In December of 2015, the City and PRA reached an agreement with the New Eastwick Corporation (NEC), which Korman controlled, to buy out their development rights in Eastwick. The agreement put the land back in PRA's control and allowed the City first right of refusal on the 128 acre site. The legislation accompanying the agreement stated that a planning process was necessary, and future development proposals would be subject to its findings. The City and PRA agreed to carry out this planning and feasibility study and engage the community to determine the best use for the property.

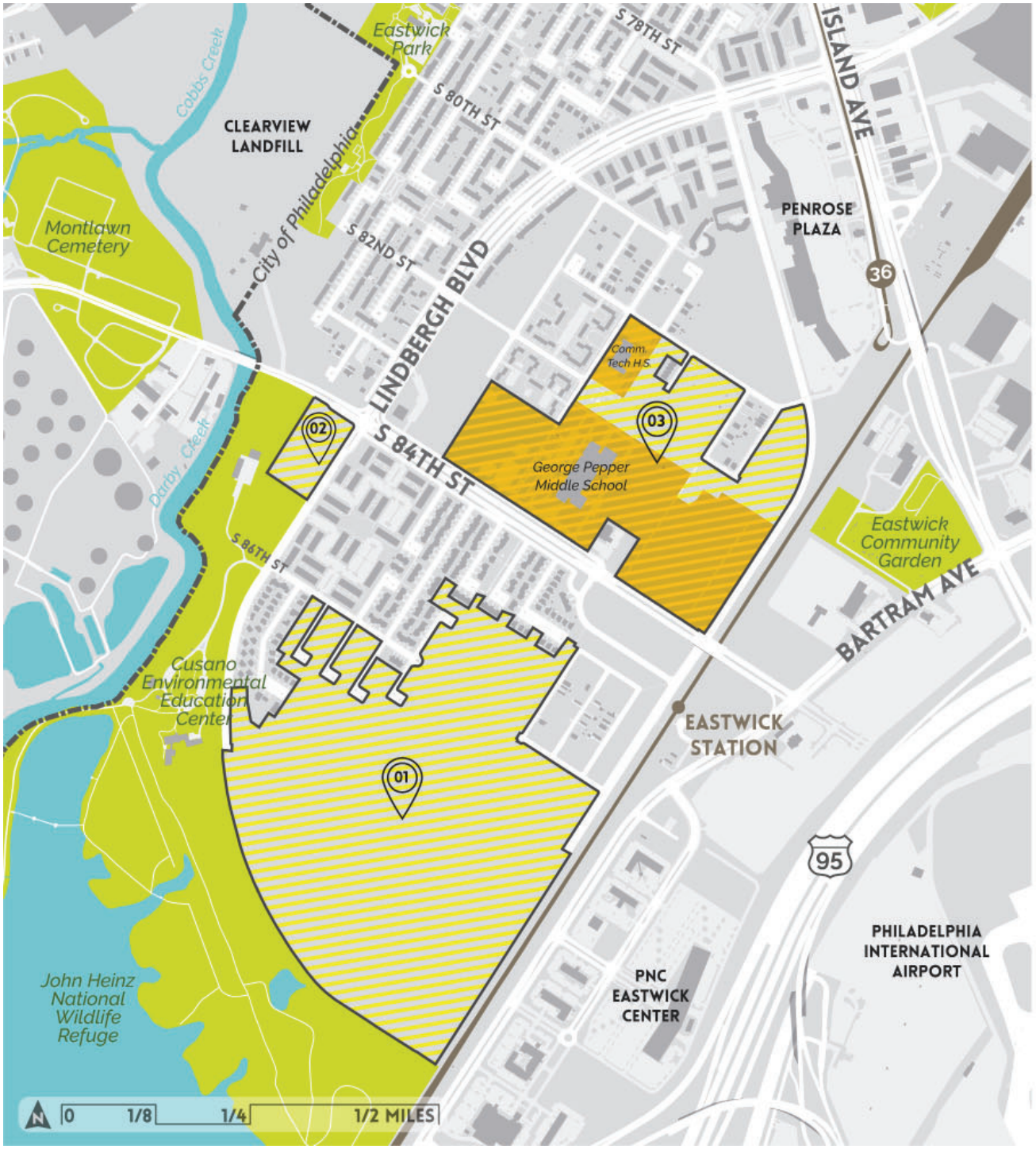
Around this same time, two other publicly owned large vacant properties in the neighborhood were slated for redevelopment. They were being sold by the School District of Philadelphia, and included the Pepper Middle School and the Communications Technology High School. The schools had been closed in 2013 due to deferred maintenance costs and declining enrollment. Their redevelopment was also controversial given their large size and location in the neighborhood. The City worked to include the School District's parcels in PRA's planning process.



In August 2016, a Request for Proposals (RFP) was issued for "Eastwick Public Land Planning Services" to lead a vision and feasibility study for "the 128" acre property and other publicly-owned vacant properties in Eastwick. The sites include:

- **(Site 1)** A 124.5-acre site[1] roughly bounded by 84th Street, Lindbergh Boulevard, and Mario Lanza Boulevard, this parcel was formerly referred to as 'Parcel A';
- **(Site 2)** A 4.5-acre site[1] at the southwest corner of 84th Street and Lindbergh Boulevard; and
- **(Site 3)** A 58.6 acre site that includes multiple parcels, which for the purposes of this study were simplified into one 'site' including the following properties:
  - The former Communications Technology High School (George Wolf School), owned by the School District of Philadelphia,
  - The former Pepper Middle School site owned by the Philadelphia School District, and
  - Additional PRA-owned lands located along and generally bounded by Mario Lanza Boulevard, between 81st & 84th Streets.

1 A land survey is needed to determine the exact acreage of each of these sites and their parcel boundaries. Resolution No.2015-149 states that Site 1 is 128.45 acres, and Site 2 is 5.65 acres. Multiple parcel datasets, including DOR and URLS, were referenced and a different acreage was found; Site 1 was determined to be 124.5 acres because it does not include the areas bounded by Crane Street, Mario Lanza Blvd, Eastwick Ave, and 85th Street -- though it is commonly referred to as the "128 acre site" by neighborhood residents, and Site 2 was determined to be 4.5 acres.



LOWER EASTWICK PUBLIC LAND STRATEGY

01 SITE 1

02 SITE 2

03 SITE 3

SCHOOL DISTRICT PROPERTY

PRA PROPERTY

PARKS & OPEN SPACE

CITY OF PHILADELPHIA BOUNDARY

FIGURE 4: Map of sites in the Study Area
Source: Interface Studio

WHAT IS THIS PLAN FOR?

This is a vision plan and land use feasibility. It is the first step in determining the future of large, publicly owned, vacant sites in Eastwick.

Overview

This vision plan and feasibility study is focused on potential future uses for several parcels of vacant land in the Eastwick neighborhood of Philadelphia, totaling 185 acres. This study was designed to take a broad look at the issues that impact the parcels, including issues of flooding, access, equity and social justice, environmental problems and market challenges. It was designed to bring a broad array of stakeholders into conversation with one another, so that they might understand both the issues and each other's perspectives.

Our process

This planning process was designed to

- Include many perspectives, including residents, business owners, and outside experts
- Get ALL the history on the table
- Get ALL the problems on the table
- Analyze the problems and their effects on the sites and on the neighborhood
- Develop a vision and a list of recommend for the sites

OUR TASK: FEASIBILITY STUDY

For each site, this study addresses three major questions:

1. WHAT ARE THE COMMUNITY'S GOALS?

A robust public process included a neighborhood tour, two meetings with community leadership, three focused roundtable discussions, three public meetings, and interviews with 42 individual stakeholders.

2. WHAT ARE THE ENVIRONMENTAL AND SITE CONSTRAINTS?

Each of the sites presents different opportunities and challenges when it comes to its suitability for new construction and its role in environmental stewardship.

3. WHAT CAN THE MARKET SUPPORT?

The advisory firm Real Estate Strategies (RES) conducted a market study to identify realistic land uses that current market conditions can support at each of the sites.

Answers to each of these questions shaped the overall vision for the sites and recommendations that address what is feasible on each. This study should be viewed as a research document, written to ensure that, moving forward, the City -- ***with*** the community -- can make thoughtful and informed decisions regarding public land development, disposal, or preservation.

It is important to also make clear what this study is **NOT** for.

This study is **NOT** for:

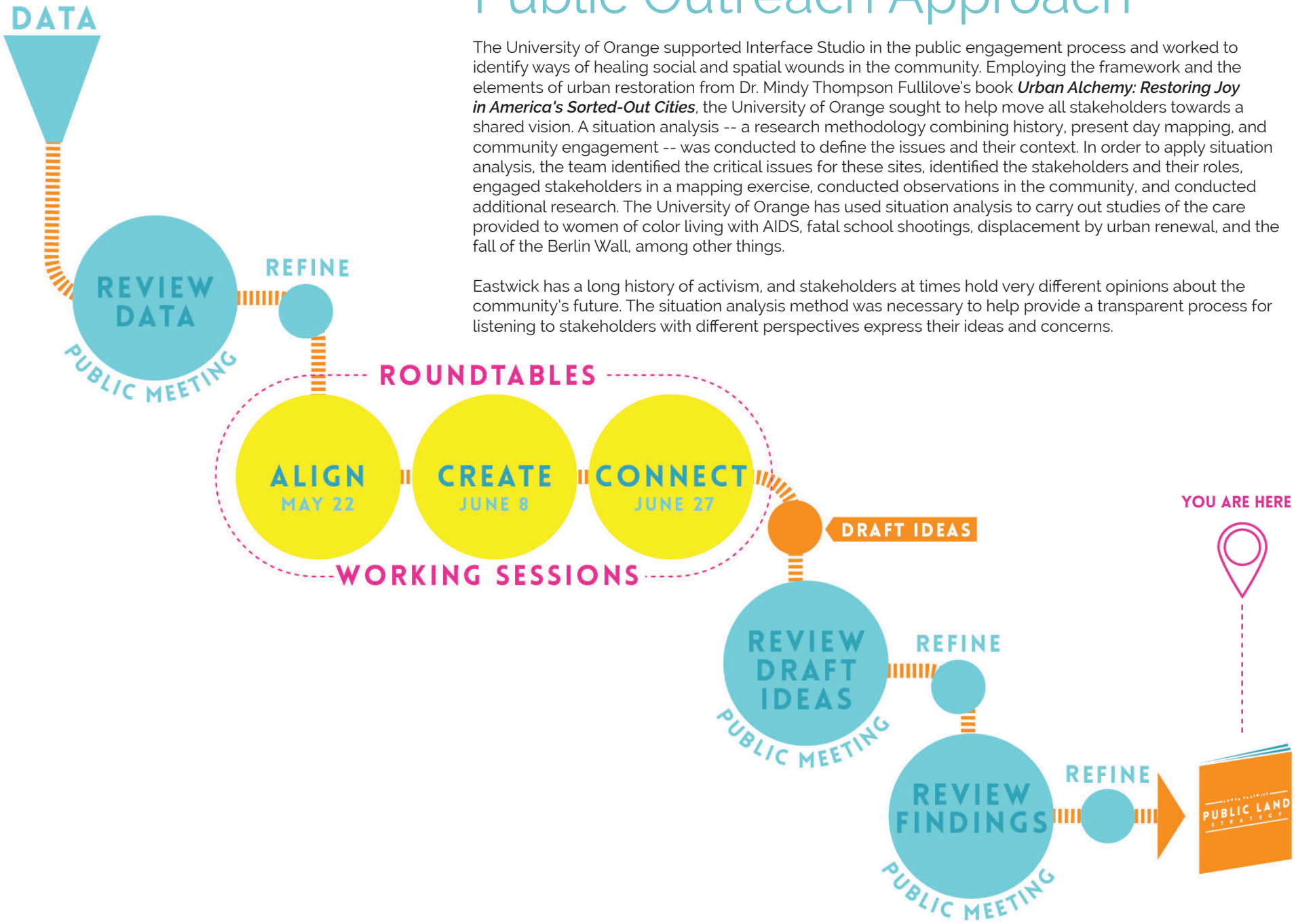
- Selecting future owners of the land
- Selecting developers
- Selecting particular development proposals
- Drawing site specific plans that may or may not get built
- Addressing neighborhood concerns outside of these parcels

WHAT ARE THE COMMUNITY'S GOALS?

Public Outreach Approach

The University of Orange supported Interface Studio in the public engagement process and worked to identify ways of healing social and spatial wounds in the community. Employing the framework and the elements of urban restoration from Dr. Mindy Thompson Fullilove's book ***Urban Alchemy: Restoring Joy in America's Sorted-Out Cities***, the University of Orange sought to help move all stakeholders towards a shared vision. A situation analysis -- a research methodology combining history, present day mapping, and community engagement -- was conducted to define the issues and their context. In order to apply situation analysis, the team identified the critical issues for these sites, identified the stakeholders and their roles, engaged stakeholders in a mapping exercise, conducted observations in the community, and conducted additional research. The University of Orange has used situation analysis to carry out studies of the care provided to women of color living with AIDS, fatal school shootings, displacement by urban renewal, and the fall of the Berlin Wall, among other things.

Eastwick has a long history of activism, and stakeholders at times hold very different opinions about the community's future. The situation analysis method was necessary to help provide a transparent process for listening to stakeholders with different perspectives express their ideas and concerns.



What We Did

Our process included a tour of the community, meetings with resident leadership, three roundtables, multiple public meetings and a lot of time talking one-on-one with residents and stakeholders.

NEIGHBORHOOD TOUR

At the very beginning of the project, the planning team, city officials, and stakeholders were taken on a neighborhood tour led by Eastwick community leaders.

COMMUNITY LEADERSHIP MEETINGS

The planning team hosted a meeting on March 23, 2017, at the St. Paul AME Church for resident leaders from the area. The meeting was attended by 20+ residents and representatives from neighborhood groups. Groups represented included the St. Paul AME Church, Eastwick Friends and Neighbors, Eastwick United, Eastwick CAG, the Eastwick Community Garden, and the Heinz Refuge. University of Orange explained their engagement strategy and asked the leaders to advise on the questions to be answered and the diverse stakeholders to be interviewed.

After a series of roundtables and public meetings, a second meeting with resident leaders was held on May 12, 2018, to review the plan's draft recommendations for each of the sites with neighborhood leadership before the final public meeting.

INTERVIEWS

42 Interviews were conducted with the following individuals by the planning team in order to ensure a wide range of perspectives as a part of the situation analysis:

Rob Armstrong, PPR

Josh Barbar, EPA

Jennifer Barr, SEPTA

Tyrone Beverly, community leader

Thomas Bonner, PECO

LaTrice Brooks, recent homeowner and parent of two teenagers

Leo Brundage, community leader, lifelong resident and gardener in the Eastwick Garden

Amy Laura Cahn, legal counsel for Eastwick Friends and Neighbors, member of Eastwick Community Garden

Martine Decamp, PCPC

Angie Dixon, OTIS

Elisa Ruse Esposito, PPR

Lynn Fisher, Philadelphia Office of Emergency Management

Bill Fox, Philadelphia School District

Lamar Gore, Heinz Wildlife Refuge

Joanne Graham, resident of Eastwick

Greg Heller, Philadelphia Redevelopment Authority

Marilyn V. Howarth, Toxicologist

Deborah Jefferson, historian for Eastwick Friends and Neighbors

Rojer Kern, Philadelphia Commerce Department

Maryanne Mahoney, Philadelphia International Airport and neighborhood resident

Betsy Mastaglio, DVRPC

Kate McNamara, PIDC

Jill Minnick, longtime resident and bike advocate

Al Moore, president of the Common Ground section of the Eastwick Community Garden and gardener in that site for 45 years

Robert Moore, Hydraulic Engineer, US Army Corps of Engineers

Carolyn Moseley, Eastwick United, author of the report From a Field of Weeds to a Vision of Hope

Michael Nairn, University of Pennsylvania researcher

Susan Patterson, PWD

Eileen San Pedro, lifelong resident and parent of a toddler

Annie Preston, gardener at the Eastwick Community Garden

Elizabeth Reid, longtime resident near landfill, part of a class action lawsuit in 1983

Nick Rogers, Clean Air Council

Ramona Rousseau-Reid, acting president of Eastwick Friends and Neighbors

Pastor Eric Simmons, First Baptist Church of Paschall

Pastor Smart, then pastor at the St. Paul AME Church which was celebrating 115 years in the community

Leonard Stewart, longtime resident and EFNC member

Pastor Darien Thomas, Walk in the Light Ministries

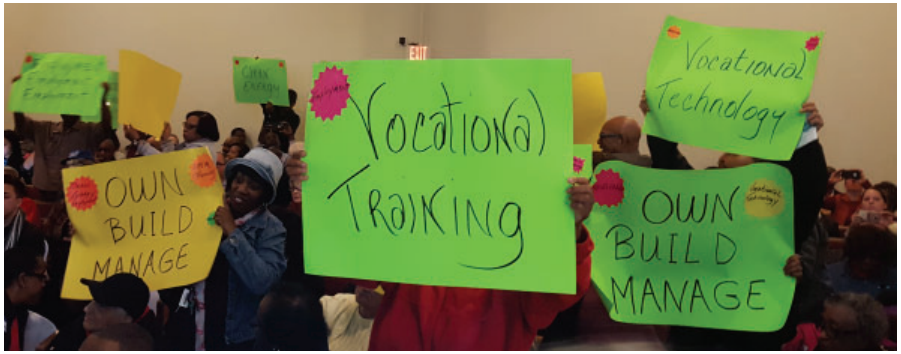
Jim Tyrell, Philadelphia International Airport

Terry Williams, longtime resident and former president of EFNC

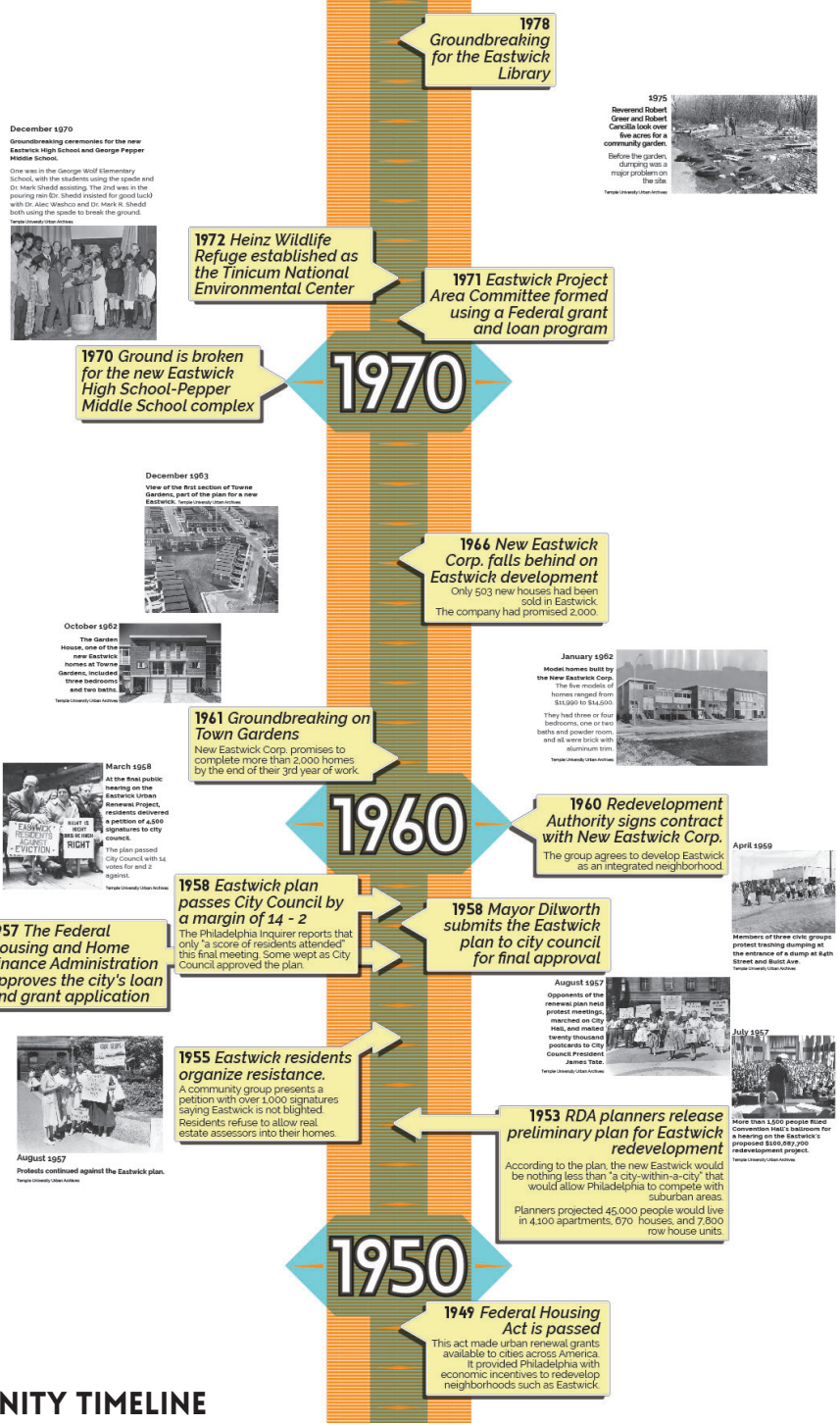
Sarah Wu, Philadelphia Office of Sustainability

PUBLIC MEETING ONE (APRIL, 25, 2017)

At this meeting, Interface Studio presented the available existing conditions and demographics data on the neighborhood. Attendees helped to create a timeline of events in Eastwick that included critical moments in policy, community action, and personal milestones. Leading up to the public meeting, our team heard residents' grief, frustration, and dissatisfaction with a history of outsiders coming to Eastwick and telling the neighborhood what it needed (the most significant example being the Urban Renewal plan of the 1950s). The timeline provided a space for residents to include significant moments of their lives and the life of the neighborhood in an accessible and visual way. University of Orange collaborated on the design of an "Elephant Wall" to highlight existing neighborhood resources and assets. Recognizing the work of local residents and neighborhood assets creates a foundation for sustainable resident action. 144 people signed in at this meeting of which 69% live in Eastwick. Many of the remaining attendees work in Eastwick.



Images from the first public meeting at St. Paul AME Church. Residents came armed with signage demanding their voices be heard in this process.



COMMUNITY TIMELINE

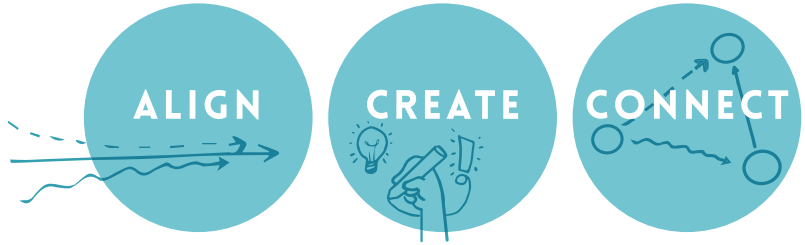
Acknowledging the complex history of the neighborhood played an important role in the process. A 20 foot community timeline was brought to each of the meetings, and residents were encouraged to add their memories with postcards.

ROUNDTABLES: ALIGN, CREATE, CONNECT

University of Orange used the themes of Align, Create, and Connect to design three roundtables. They envisioned these as a collaborative learning process engaging diverse stakeholders on key issues related to current and historical site conditions, as well as to personal experiences with the site. The history of Eastwick has led to some amount of division and contention between local community groups. The consultant team used the framework from Dr. Fullilove's book of "align, connect, and create' to frame the three roundtables and seek to build consensus and common ground within a divided community. In the end, 93 individuals participated in the 3 roundtables, 67% of them were Eastwick residents.

Roundtable 1 (May 22, 2017)

This roundtable focused on the theme "Align." The main goal of this roundtable was to create a list of shared principles that could be used to guide this process and future processes in the neighborhood. Participants explored key themes through activities designed to understand the neighborhood in the context of the city, help participants articulate their own values, and imagine how their values might be expressed in public space. The shared value list included areas of focus such as honoring history, respecting one another, building stronger community bonds, providing opportunities for neighborhood residents (especially young people), and more.



What we are FOR:

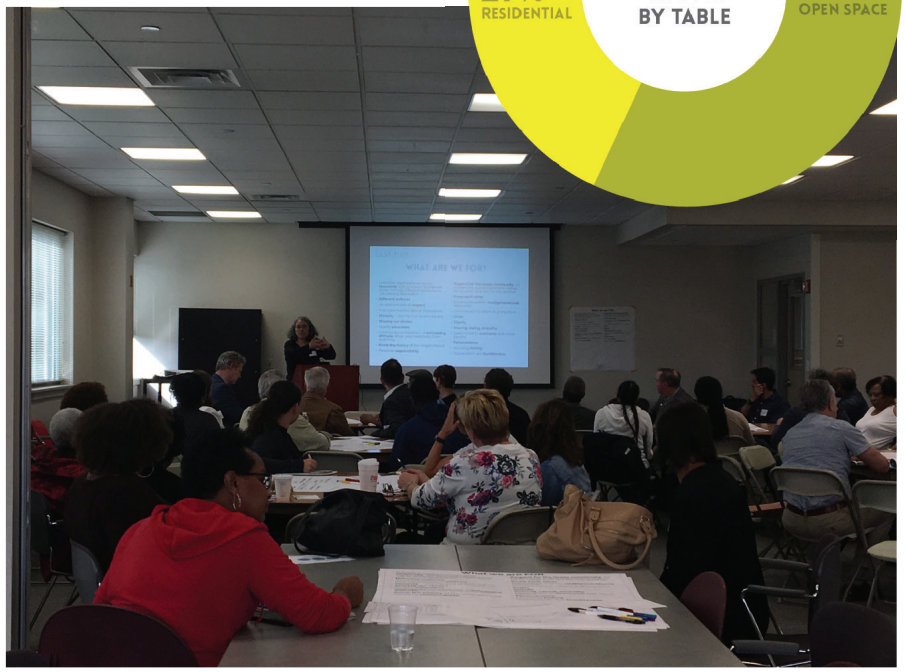
- A healthy neighborhood needs **resources**: Stable homes Businesses Banks Schools Effective police force Job training Recreation
- **Different cultures**
- An environment of **respect**
- Kids have healthy view of themselves
- **Honesty** – staying true to who we are
- **Sharing our stories**
- Quality **education**
- Community-mindedness: a **welcoming attitude**, know your neighbors, town watching
- **Know the history** of the neighborhood
- Personal **responsibility**
- **Respect for the larger community:** no matter race, culture, economic status; be an asset, look out for one another
- **Know each other**
- Community events, **multigenerational** fellowship
- Commitment to others & giving back
- **Order**
- **Dignity**
- **Sharing, caring, empathy**
- Determined to **overcome** and move beyond
- **Perseverance**
- Honoring **history**
- Appreciation and **humbleness**

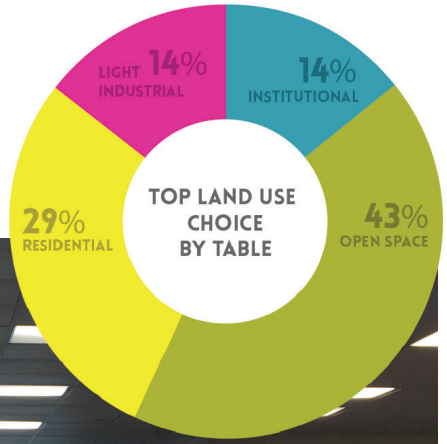
Master List of principles as recorded at the roundtable event

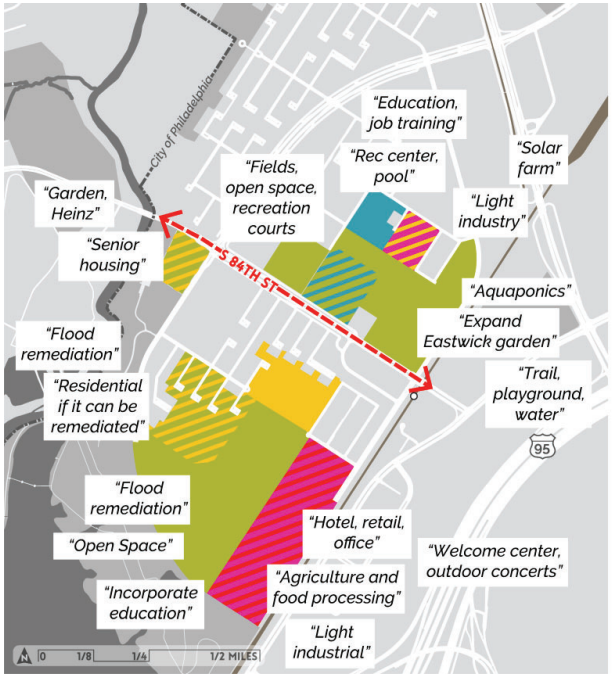
Roundtable 2 (June 8, 2017)
The second roundtable centered around the theme "Create." The goals of this roundtable were to share the team's research; develop a shared understanding of the urbanism of Eastwick in the past, present, and in possible futures; and to begin a list of questions for developers. Each member of the planning team presented a summary of their research to date. Participants identified neighborhood boundaries, answered "Planning to Stay" questions, and created a list of questions for developers. Participants completed a matrix worksheet, which discussed the positives and negatives of various types of development at each of the parcels under consideration. They identified three land uses they would like to see somewhere on the sites. Top uses included open space preservation, residential (including senior) development, light industrial for job creation, and institutional uses for education and job training.

Roundtable 3 (June 27, 2017)
The third and final roundtable addressed the theme "Connect." The goals were to review and refine accomplishments, review research presented thus far, and discuss possibilities for the sites. We reviewed the timeline, the previously completed "What we're FOR" activity, and the previously completed questions for developers. Participants drew possible developments on maps to show what types of projects they would like to see in different places on the site. Roundtable participants were open to a range of potential uses, with more than half of them applying four or more uses to each of their maps.

We celebrated the final roundtable with a delicious and beautiful cake donated by the local ShopRite.



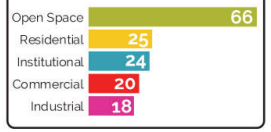




ROUNDTABLE 3 EXERCISE RESULTS

PARTICIPANTS WERE ASKED TO ASSIGN LAND USES TO SECTIONS OF EASTWICK'S PUBLIC LANDS

TOTAL TIMES PARTICIPANTS SELECTED EACH LAND USE



TOP CHOICES

FOR ALL OR PART OF EACH ZONE

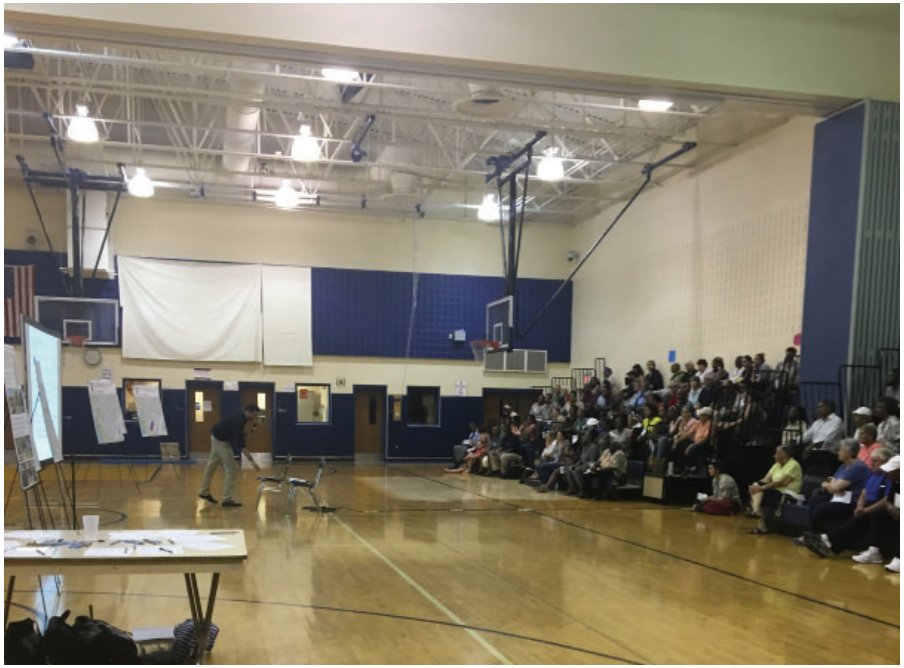
- RESIDENTIAL
- INDUSTRIAL
- COMMERCIAL
- INSTITUTIONAL
- OPEN SPACE

PARKS & OPEN SPACE

CITY OF PHILADELPHIA BOUNDARY

PUBLIC MEETING TWO (SEPTEMBER 27TH, 2017)

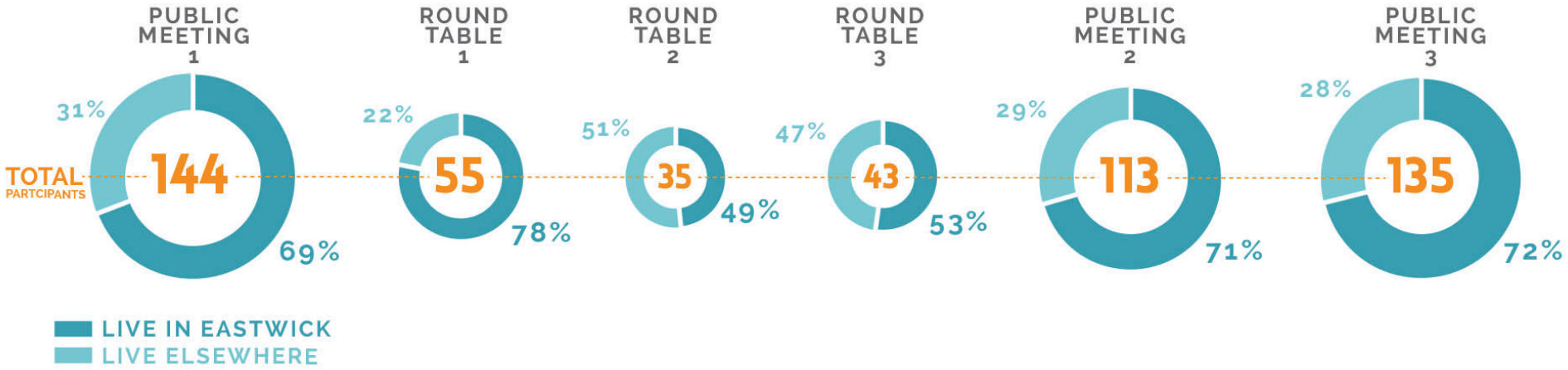
The second public meeting included a review of the team's understanding of how flooding occurs in the area and of what we learned during the roundtable discussions. Residents were then asked whether or not they agreed or disagreed with the top land use choices for the different zones from the final roundtable and to explain why they felt that way. The results were mixed: some participants were not receptive to the proposed land use types, citing flooding issues as the top reason to disagree with a potential land use. This was regardless of the activity framing, which directed participants to think about the proposed uses in addition to flood mitigation strategies. The results demonstrated both an underlying concern about flooding as well as support for development. However, it was clear from this meeting that more information was necessary to help address some questions posed by residents. For instance, "housing" as a potential use on a portion of Site 1 that is not in the floodplain raised questions about density, layout, and type. This meeting provided an opportunity to understand these perspectives, fine tune the ideas, and bring them back to the community later in the process. 113 people attended this meeting.



PUBLIC MEETING THREE (JULY 26TH, 2018)

The final public meeting was held at the Embassy Suites. 135 people signed in, 72% of whom were Eastwick residents. At this meeting, the team presented potential recommended land uses to the community. Residents were asked to fill out a survey at the end of the meeting. The survey was also posted online for those that wished to complete it later, along with the presentation from the meeting. The results were generally positive. 92% of residents that participated in the survey agreed that the recommendations address the hopes and other feelings identified in the planning process, and 74% of residents agreed that the recommendations addressed the desired land uses identified in the planning process.

After this final meeting, the public was invited to provide comments on the plan's recommendations for 90 days. During the public comment period PRA received 25 emails, three formal letters, and 22 handwritten forms soliciting public comment that were distributed by Eastwick Friends & Neighbors Coalition (EFNC), with 70% of public comment coming from community residents. During the public comment period, EFNC held an additional meeting in which neither the consultant team or the Redevelopment Authority were in attendance and following the meeting EFNC distributed the presentation from the meeting in an email blast. It is noteworthy that some of the strategies surrounding building in the floodplain that had been presented by the consultant team were misrepresented in that presentation. Many of the public comments received contained similar language relating to concerns about flooding and about the importance for ongoing citizen engagement in the process. These concerns are similar to major themes reflected by engaged citizens throughout the planning process. As stated earlier, it is this study's goal and PRA's commitment to ensure an inclusive process and to develop responsible land use solutions that do not increase the impact of flooding in Eastwick.



Over the course of the public engagement process, over 360 individual stakeholders came out to a public meeting or otherwise participated in this study.

What we learned

A LONG HISTORY OF TROUBLE

Wetlands and low lying areas like marshes are ecological transition zones between water and land, regulating water flow. This is the ground that the neighborhood stands on. Neighborhood developments over the years sought to "add value" to these transitional zones by filling them in and developing atop. Though this allowed for development, these transitional zones continued to be the site of contact between land and water, at the mercy of floods and shifting ground. The risk associated with proximity to water sources was codified into lower land value.

Marginalized groups likely to be pushed to wetlands and low-lying areas are the same groups subject to other kinds of neighborhood-based disadvantages. These include redlining, urban renewal, highway developmental, toxic dumping, and airport construction. Often, these areas' status as former wetlands are used to justify the implementation of these policies. Eastwick has suffered from all of these problems. Additionally, a special problem representing city neglect of the neighborhood troubles Eastwick: some of the streets are not represented on the city's 311 system; therefore, when people call to report problems such as illegal dumping, their area is not recognized by telephone operators.

Eastwick grew as a neighborhood partly because of inexpensive land and partly because of the growth of industry in the area, which offered decent employment to many unskilled people. Like other parts of Philadelphia, Eastwick suffered from deindustrialization, which eliminated those jobs. Employment slowly shifted into other sectors; and, as higher education became essential for better-paying jobs, many industrial jobs were replaced by low-paying retail jobs. Eastwick's loss of the Pepper School was a setback in creating a strong environment to support children's educational foundations and adults' lifelong learning.

Key Findings

The Weight of Neglect

Eastwick bears an extraordinary burden of neglect and abuse from the past. People that we interviewed told us about the long grief. As one interviewee noted,

> *People are saying, "I'm still hurt. I'm still hurt from what the redevelopment took my family through and how they disrupted my life. How they made my father have a heart attack because he was wondering how am I going to take care of my family? Or made my mother depressed for life after moving because we were forced to move in a house that's too small. You know, we had a house that was three times the size and we were forced to move in this house." People are still feeling that feeling.*

Others noted that they would not have moved to the neighborhood if they had fully understood what they were getting into. One said,

> *I didn't know about the rest of the story of the neighborhood. About how people were told to move out and in two or three years they'd come back and have a new neighborhood. I didn't know any of that. If I'd known that, I probably wouldn't have moved in.*
>
> *- Eastwick Resident*

People are forced to struggle with the many kinds of dysfunction that exist in the neighborhood. One told us,

> *I've been there a long time. And when I first bought my house, it seemed like it was going to be an up and coming neighborhood, with lots of services and lots of things you could walk to and it really didn't work out that way, at all. There was supposed to be a playground. There was supposed to be a swimming pool. There was supposed to be like corner stores somewhere. It was supposed to get built all the way to 96th Street. But of course, then we didn't know what we know now about the environmental stuff. And now, we have sinking streets and people are getting many thousands of dollars plumbing bills to reconnect their line from the water line and the sewer line in the center of the street. None of those services exist.*
>
> *- Eastwick Resident*

Feelings of neglect from, and distrust of, the City of Philadelphia because of the use of eminent domain, the urban renewal plan never being fully realized, and lack of transparency can be felt across the neighborhood.

> *So Eastwick's left high and dry. And all my years I've been working out here in this, this is what they do! The airport. And one of the biggest problems you're gonna hear is that Eastwick said "NO" to everything. But what are we saying 'YES' to?*
>
> *- Eastwick Resident*

Above all, Alleviate Flooding Concerns

There is a small number of residents in the community that do not believe flooding is an issue in Eastwick and would like to see all of the land developed to maximum potential, fulfilling the promises of the Urban Renewal Plan. They either were not around to witness the damage caused by Hurricane Floyd in 1999, think the threat has passed since the neighborhood hasn't flooded for such a long time, or blame the flooding on human interference - a release of the dams by more affluent upstream neighborhoods.[2]

For the most part, however, conversations about the future of Eastwick inevitably landed on flood risk and concerns in the neighborhood.

> *As an Eastwick resident, I am still uneasy about potential flooding with development behind my residence.*
>
> *- Eastwick Resident*

> *Need to keep the community alive (mitigate the flood risk first to make area safe).*
>
> *- Eastwick Resident*

For many, conversations about future uses of the land couldn't be had because they were so concerned about potential flood risk.

> *Flood mitigation only*
>
> *- Eastwick Resident*

> *No development, flood remediation and open space*
>
> *- Eastwick Resident*

> *Do not develop with buildings, do flood abatement work only*
>
> *- Eastwick Resident*

> *No new buildings, mitigate flooding*
>
> *- Eastwick Resident*

> *Flooding should be address before there is any development*
>
> *- Eastwick Resident*

> *My concern for Eastwick is no increase in flood, no net loss of flood storage, no change in flood elevations, no change in local flooding and no adverse impacts on adjoining communities including the John Heinz National Wildlife Refuge.*
>
> *- Eastwick Resident*

2 While some residents believe that the Springton Reservoir dam was relieved during Hurricane Floyd by upstream communities, this claim is demonstrably false. This dam is in a completely different watershed, and would have flooded areas downstream of it, it's not possible for it to have flooded Eastwick.

The Appetite for Economic Development

Residents also expressed longing for the community to provide the amenities that it once did -- local businesses, access to jobs, a community center, and more. They desire the ability to walk to amenities such as entertainment, retail, and recreation.

Any solution will have to include a plan for jobs in the neighborhood.

- Eastwick Resident

Increase value of property (homes), more services/ amenities- need things to make the community to live, work and play, Recreational/After school programming - education but without the school (although a school would be good)

- Eastwick Resident

People would like to purchase a house in the area, more housing would be great, and parks.

- Eastwick Resident

Development should benefit the community. Something that will bring jobs, industry that will provide work for the people that live there, and have them help rejuvenate the area. Eastwick Ave, we used to have churches, stores, family owned businesses, a thriving area of people that loved to be there.

- Eastwick Resident

We have no restaurant, no bakery, no place you can go to and say, 'I'm going to do this.

- Eastwick Resident

Vision for the potential of these sites, outside of flood mitigation, was broad and exciting.

Let's make Eastwick whole! We want Eastwick to become a template for the renovation/development of the entire city/country.

- Eastwick Resident

Facility to house arts, cultural and educational activities and produce revenue to sustain a trade school and certification programs.

- Eastwick Resident

The Good Hearts of Neighbors

In spite of the difficulties of living in the neighborhood, many people are devoted to the place and are willing to work hard to make it better. In the community meetings, as well as in the interviews, we heard about the pleasures of living in Eastwick and the hope that it could become even more friendly and connected. Nature is at everyone's doorstep. One interviewee noted,

At the first roundtable, as people shared what they were in favor of, a remarkable consensus emerged. People wanted a neighborhood in which neighbors knew each other and could depend on one another. They wanted a safe and welcoming space, one that would support the young and the old. They wanted to feel proud of where they lived, and they wanted the rest of Philadelphia to be proud of them, as well.

> *"I opened the door one Sunday getting ready to go to church. I said, "Oh my god, that's a fox." So I know why they say a fox prance. Like you know, Lady and the Tramp, the cartoon and the fox, she's always prancing? But that's exactly how the fox walks. That pretty tail, it's just perfect, sways side to side and the paws just prance. You see the deer out grazing in the grass, you see the mother and you see probably usually about three or four behind. Younger deer. You know, you like those images. I don't know. It's surreal. It does something to the spirit. That's what you see in the Eastwick.*
>
> *- Eastwick Resident*

Goals for future development in Eastwick

In the community's words, proposals for future development in Eastwick should:

- Honor Eastwick's rich and complex history
- Involve the community and respect its neighbors
- Cultivate a safe, stable, and healthy neighborhood
- Work to heal the environment (and not make any of the issues worse)
- Celebrate Eastwick's natural setting
- Provide sustainable access to opportunity and nurture our youth
- Build community ties and foster diversity

WHAT ARE THE SITE CONSTRAINTS?

A brief environmental history

Located in the Schuylkill River Watershed, Eastwick occupies a unique location in Philadelphia. In Eastwick, soil, water and sand from the tributaries of the Delaware River, Schuylkill River and Cobbs and Darby Creeks merge with water that is tidal. Prior to settlement, this led to the creation of an extensive freshwater tidal marsh known as the Tinicum Mash. The Tinicum marsh once covered over 5,700 acres and functioned as a series of back channels that allowed water to flow in various directions between the Schuylkill and the Cobbs and Darby Creeks. These marshes helped to protect the area from the impacts of heavy rains and coastal storm surges.

From the early 1600s onward, the marsh was diked and dammed to create land for grazing. The marshes were further altered in the late 19th century and in the early 20th century to create room for industry and new development. The changes to the land to make room for this activity disrupted the natural flow of water in the area and reduced the area's ability to handle flood waters.

Continued land use changes in the region and to the north of the City had broad ranging impacts on the rivers and creeks as sediment from farming and mining filled in portions of the river's backchannels. Beginning in 1920 and continuing into the 1970s, hydraulic fill from behind the Philadelphia Waterworks dam and from the channels of the Schuylkill and Delaware Rivers were used to fill the area around Hog Island to create the runway for the National Guard, which later became Philadelphia International Airport (PHL). Subsequently, the marsh area in Eastwick was largely drained and filled to create developable land. The fill used to create development opportunities was often a combination of silt, solid waste, sand gravel, and other fills including construction debris and incinerator ash. The sinking homes, often talked about in Eastwick, are a result of these practices which has caused the land to slowly subside.

Top: Image of the 85th Street Dump at 8501 Lindbergh Blvd in 1959 *Source: City of Philadelphia, Department of Records*

Bottom: Silt from the Schuylkill River being conveyed to Eastwick, 1954 *Source: Temple University Libraries, Special Collections Research Center*

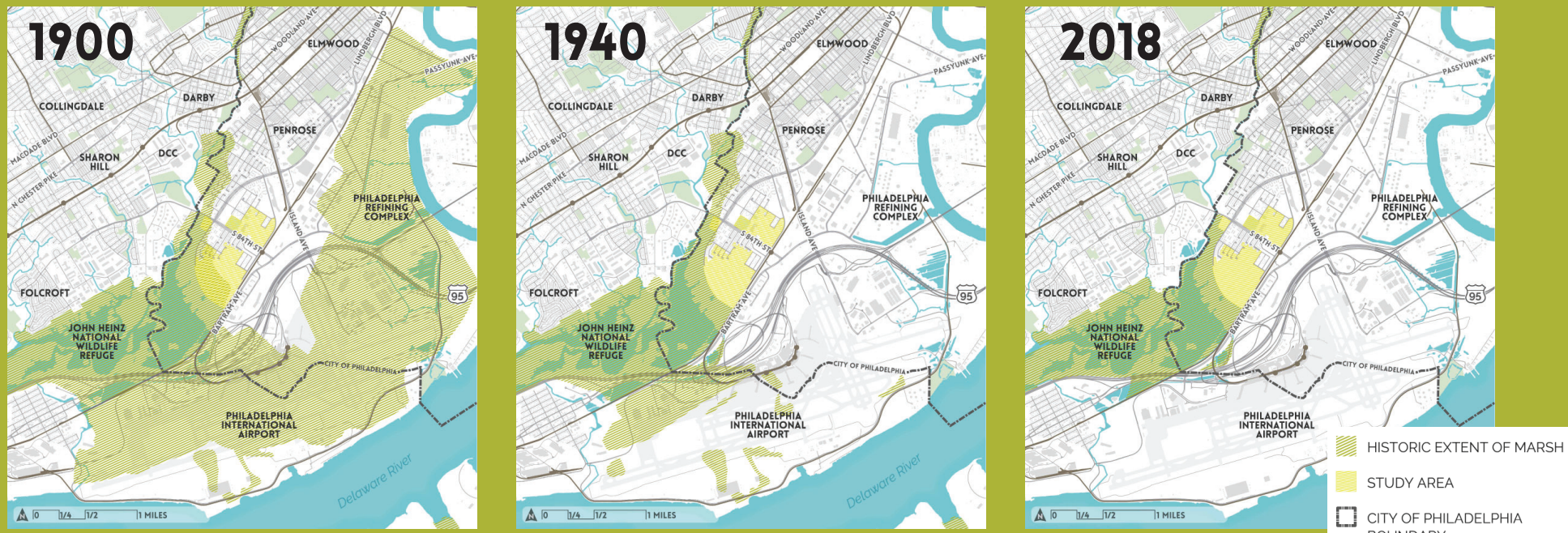


FIGURE 5: Map of Tinicum marshland extents over time.
Source: This data is on display at the John Heinz Wildlife Refuge based on maps from the USGS, and was featured in Root Shock by Dr. Fullilove. It was recreated by BLD for this study.

Previous to the addition of fill materials in Eastwick, sporadic and undocumented dump sites existed within the study area. Historical records documented two dump sites with the study area: the Clearview Landfill (closed in 2001) and the S. 85th Street dump, on what is now Lindbergh Ave (year closed unknown). Many of these activities predated the National Environmental Policy Act (NEPA) regulations.

The process of storing, moving, and placing fill in the area impacted the local habitat and reduced the overall capacity for the rivers and streams to absorb water during heavy rain events.

Drainage has always been a problem in Eastwick due to its location. The Darby and Cobbs Creek watersheds merge adjacent to Eastwick. When those systems are overwhelmed, water can spill into the Lower Schuylkill River Watershed. And when this occurs, floodwaters flow through Eastwick to Mingo Creek, eventually making its way out to the Schuylkill River.

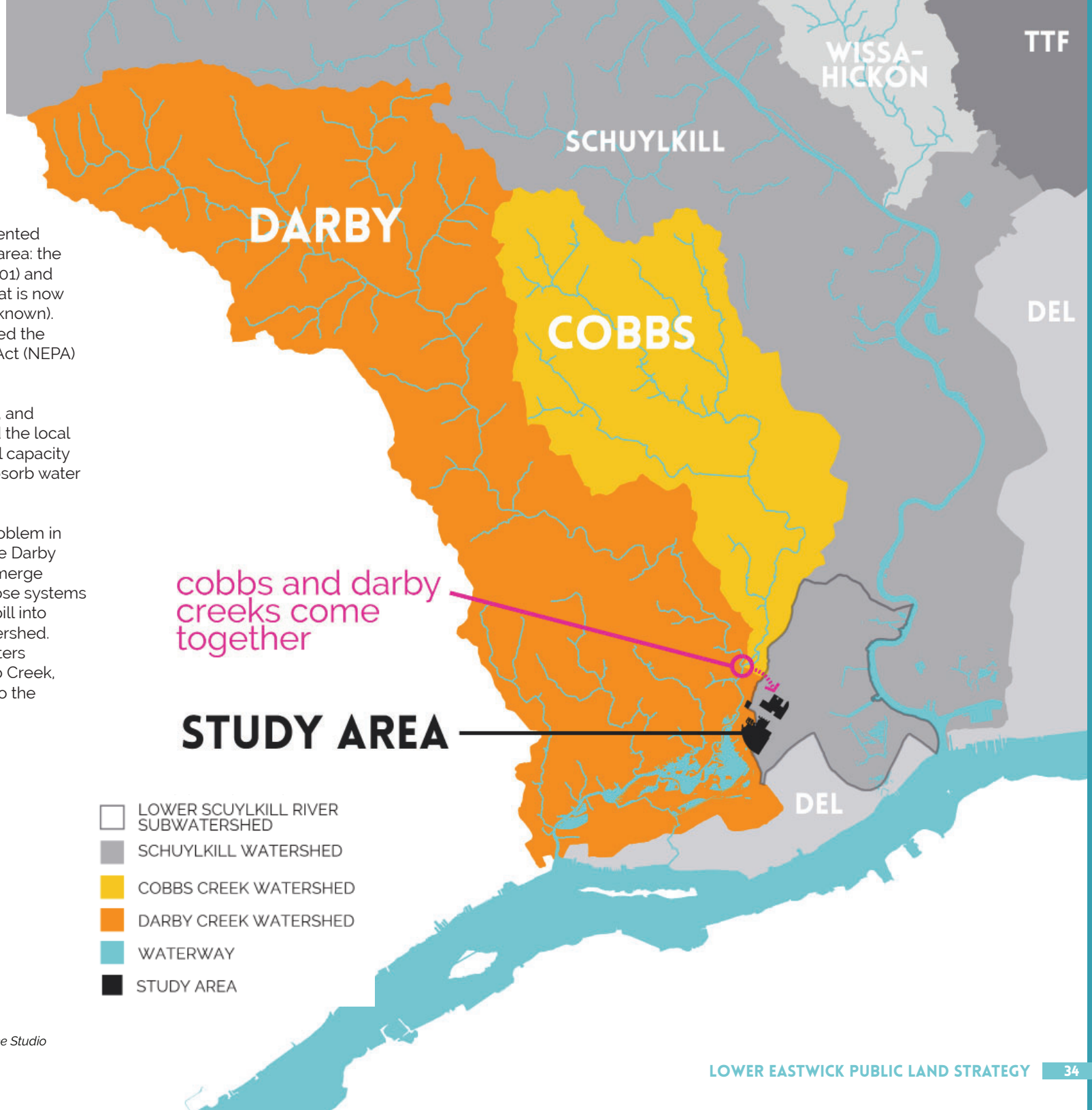


FIGURE 6: Watershed Context
Source: 2015 City of Philadelphia, Interface Studio

How does Flooding occur in Eastwick?

Throughout the planning process leading to this report, residents voiced concerns about flooding in the neighborhood time and time again. As a result, our team prioritized understanding how and why flooding occurs in the neighborhood. Over time, changes to the land in and around Eastwick have fundamentally changed the local ecology and how water moves in and out of the community.

History of Flooding in Eastwick

Eastwick has been prone to flooding since its first known occupation. The way in which the neighborhood floods has differed as the area has changed, and the intensity of the flooding has varied over time. As Eastwick grew from a rural community into an urban neighborhood, development in the neighborhood and upstream in the region has increased pressure on Eastwick's water system, often resulting in serious flooding. Recent events -- most notably Hurricane Floyd (1999), Tropical Storm Lee (2011), and Hurricane Irene (2011) -- have seriously damaged residential structures and city stormwater infrastructure located within Eastwick.

1929

Eastwick section partly inundated by bow creek

1930

After heavy rains, Eastwick residents were marooned. In this photo, Michael Cerwonka brings a boat to help Mrs. Elizabeth Beiunincer and her daughter, Betty, from their home at 2512 S. 80th St.

1933

The area was flooded when the Delaware and Schuylkill Rivers overflowed. Police and Red Cross workers visit homes to bring medical aid and prevent looting.

1933

Refugees from Eastwick flood, 200 women and children, driven from their homes in southwest Philadelphia by high water, who seek shelter in Wolfe Grammar School, 82nd and Lyons Avenue.

1934

Residents "start on a shopping tour" in the flooded Eastwick section.

1934

Rain, rain, go away and never come back' chant residents of Eastwick section

Historic Black & White Photos Source: Temple University Libraries, Special Collection Research Center

"1999, I left to go to a 2nd floor apt where it was safer and the water came to my chest when I walked outside.

- Eastwick Resident

"Hurricane Floyd, in 1999, was Eastwick's most devastating flood event in recent memory. Cobbs and Darby Creeks overflowed, inundating the area with four to five feet of water, requiring evacuation of about 1000 Eastwick residences.

- Eastwick Resident

1940

"News splash: it's Eastwick again" Heavy thunderstorms brings water to the 2ft level on Eastwick Ave at 83rd Street

1940

"Need you guess?--it's eastwick"

1999

Caesar Place & Chelwynde Ave during Hurricane Floyd, estimated to have caused $1m in damages to the Pepper School alone where the water was 9'- 12' feet deep.

2011

Heinz boardwalk during Hurricane Irene.

2012

Heinz floodwaters during Hurricane Sandy.

Hurricane Floyd Photo Source: Philadelphia Water Department

Hurricane Irene and Sandy Photo Source: EFNC presentation to the Watershed Congress, March 12 2016

The triple threat

Given that different parts of Eastwick are impacted differently from one storm event to another, it is important to understand the specific threats that have the potential to impact the community. Responsible redevelopment of the area must consider existing and future flooding conditions to prevent exacerbating the flood risk.

THREAT 1: RIVERINE FLOODING

Flooding from the rivers is caused by rain that falls upstream of Eastwick. Because the community is next to the Schuylkill River, Delaware River, Darby Creek and Cobbs Creek, Eastwick has an elevated risk for riverine flooding. The amount of flooding that occurs in Eastwick during a riverine flooding rain event is impacted by upstream development, including changes in land cover. Because the water that causes this flooding is from a large area, stretching well beyond the City of Philadelphia, there is little the City can do to solve the problem. Federal and State government agencies are most involved with addressing regional flooding.

The Darby and Cobbs Creeks are a primary form of riverine flooding. The far western edge of Eastwick is drained by the bordering Cobbs Creek and Darby Creek Watersheds, which flow south and west through the John Heinz National Wildlife Refuge and into the Delaware River. The Cobbs Creek watershed drains 21.9 square miles of Philadelphia and Delaware counties above its confluence with Darby Creek. Darby Creek drains an additional 38 square miles prior to emptying into the John Heinz National Wildlife Refuge.

During serious storms, regional flood water traveling down the Cobbs and Darby Creeks can encounter obstructions, such as the 84th Street and Hook Road Bridge, causing floodwaters to breach the banks of the Creeks near their meeting point. Upstream of where the Cobbs Creek and Darby Creek come together along the southeastern bank of Cobbs Creek near the Clearview Landfill, water overflows the stream bank during periods of heavy rain. How much water depends on the water surface elevation (WSEL) of Cobbs Creek at the time of flooding.

During riverine flood events on Cobbs Creek, flood waters head into the Mingo Creek watershed.

The scale of these flood events greatly exceed the design capacity of the Mingo Creek system, resulting in surface flooding in various portions of the Eastwick study area.

In addition, when the water is extremely high due to either riverine flooding from the Delaware or extreme flow from the Cobbs/Darby watersheds, there is a limited amount of water that can be drained from the Heinz's tidal marsh. While the impounded area of the Heinz would protect much of Site 1 from flooding, the backup would likely cause a breach near the Heinz entrance. There is also evidence that some flow would follow the rail bed east of Site 1, creating a flow path to Site 3, and flood risk for the surrounding low lying areas.

Another concern of riverine flooding is from the Schuylkill River. While Cobbs and Darby Creeks' combined watersheds encompass approximately 60 square miles, the Schuylkill River watershed covers 1,916 square miles, making it the largest tributary of the Delaware River. In an extreme weather event in which water from the Schuylkill breaches the area's existing flood infrastructure, the water would flow via low lying lands that were once a part of the area's marsh -- and possibly also via the old footprint of Mingo Creek -- to Site 3. This would likely have the greatest impact on areas adjacent to and north of the Pepper School.

Coastal Storm surges, as demonstrated by NOAA's "Sea, Lake, and Overland Surges from Hurricanes" (SLOSH) model, also present a significant challenge to Eastwick. Although storms rarely exceed Category 1 in Philadelphia, even a Category 1 storm would create significant flooding in Eastwick. Based on recent increases in the frequency and intensity of such storms, we believe that the risk for this type of flooding is likely to increase. This type of flooding occurs at catastrophic scale, with surges impacting Eastwick directly. Inflows to any of the neighborhood's low lying areas would impact those areas in ways similar to the impact of flooding at Site 3 and its surrounding areas.

Ongoing Army Corps Studies

The Philadelphia Water Department, requested an evaluation of the Eastwick neighborhood from the Army Corps of Engineers in 2011 to understand more about the flooding crisis there and potential solutions. The initial study, now known as the 'Phase 1' Study, was published in 2014. It evaluated the potential feasibility and constraints associated with constructing a levee to protect Eastwick from flooding associated with the Cobbs and Darby Creeks. It concluded that a levee along Cobbs Creek in Eastwick Park would "have the effect of protecting the Eastwick neighborhood residents from flooding up to and including the 1% annual chance exceedance." However, it concluded that the levee could potentially have significant consequences both upstream and downstream, and further study was needed before proceeding with design or construction.

The additional study, now referred to as 'Phase 2', is currently in the process of being approved by the Army Corps of Engineers. It is designed to recommend the most cost-effective solution to protect the residents of Eastwick from Cobbs Creek flooding with minimal impacts on neighboring communities. It is expected that this study will begin in the spring of 2019, and is estimated to take three years to complete. The follow-up work outlined by this study would help to collect data and craft approaches outside the traditional levee approach. The impacts of the Army Corps work will take years and residents are anxious to see improvements to these long-vacant properties. Thus, this study has identified specific future studies necessary to guide actions to responsibly improve the land in the coming years rather than depend solely on a long term solution driven by the Army Corps work.

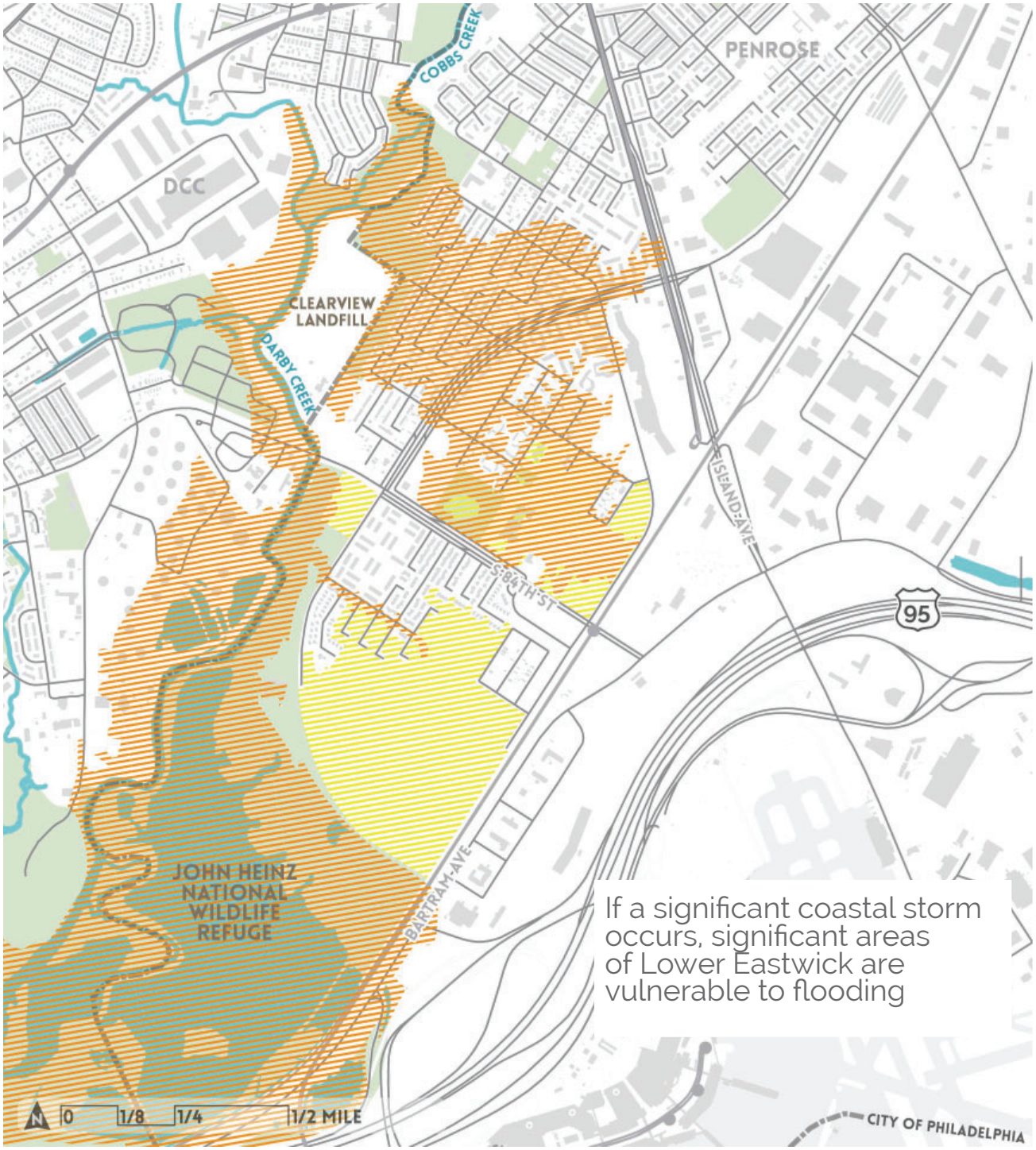


FIGURE 7: Map of the potential flood extents from a coastal storm surge for a FEMA 1% annual chance storm
Source: Traced from a map in Princeton Hydro's Lower Darby Creek Hydrologic and Hydraulic Analysis Report, March 2017.

THREAT 2: INFRASTRUCTURE

In contrast to regional riverine flooding, localized stormwater flooding can occur from underground infrastructure either being overwhelmed or undersized. In Eastwick's case, the threat is largely from the former. Before development, the land in Eastwick would act as a sponge and soak up rainwater. Today, development has resulted in areas covered with impervious surfaces - roof lines, concrete and asphalt - where water can no longer soak into the ground, but instead flows into a stormwater drainage system of underground sewer infrastructure.

This underground stormwater infrastructure was sized for many more impervious surfaces that were never built as part of the urban renewal plan. Generally speaking, this system's capacity is well equipped to handle typical rainfall amounts in the neighborhood. However, during heavy rain events, the sewer drainage system can become overwhelmed, causing water to back up in the neighborhood. As seen in Figure 10, the City has been experiencing an increase in the amount of rainfall and the intensity of storms over the past 15 years, and that trend is likely to continue.

Most of the stormwater that falls in Eastwick is channeled to Mingo Creek through underground sewer drainage on Site 3. Once it gets to Mingo Creek, it is pumped to the Schuylkill River through the Mingo Creek pump station house. Mingo Creek's catch basin has an effective capacity of approximately 100 million gallons. The Mingo Creek pump station houses six, 500-horsepower pumps, each capable of pumping 124 cubic feet per second (a 24-hour, 5-year storm event). These pumps can be overwhelmed during larger storm events resulting in flooding in the community. Even a few inches of rain over a short period of time can overwhelm our best attempts to manage stormwater runoff.

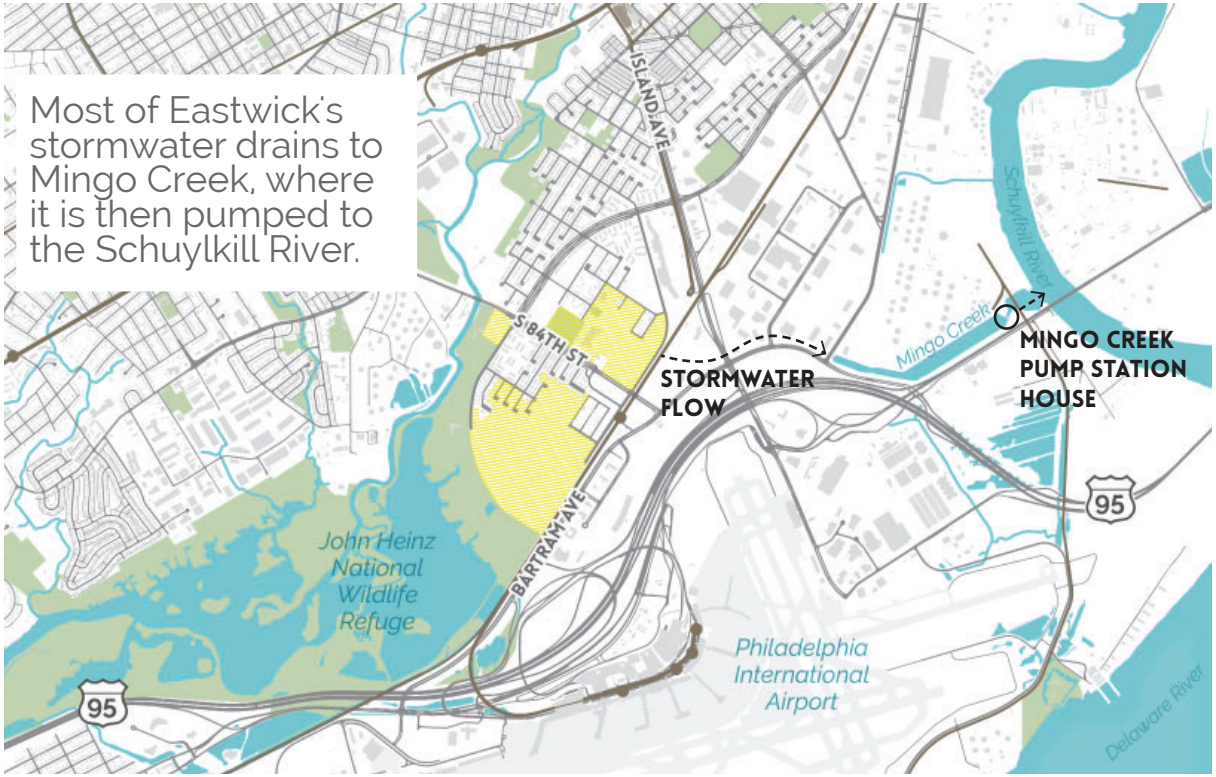


FIGURE 8: Diagram of how stormwater flows in Eastwick. If this system is overwhelmed, it can result in flooding.

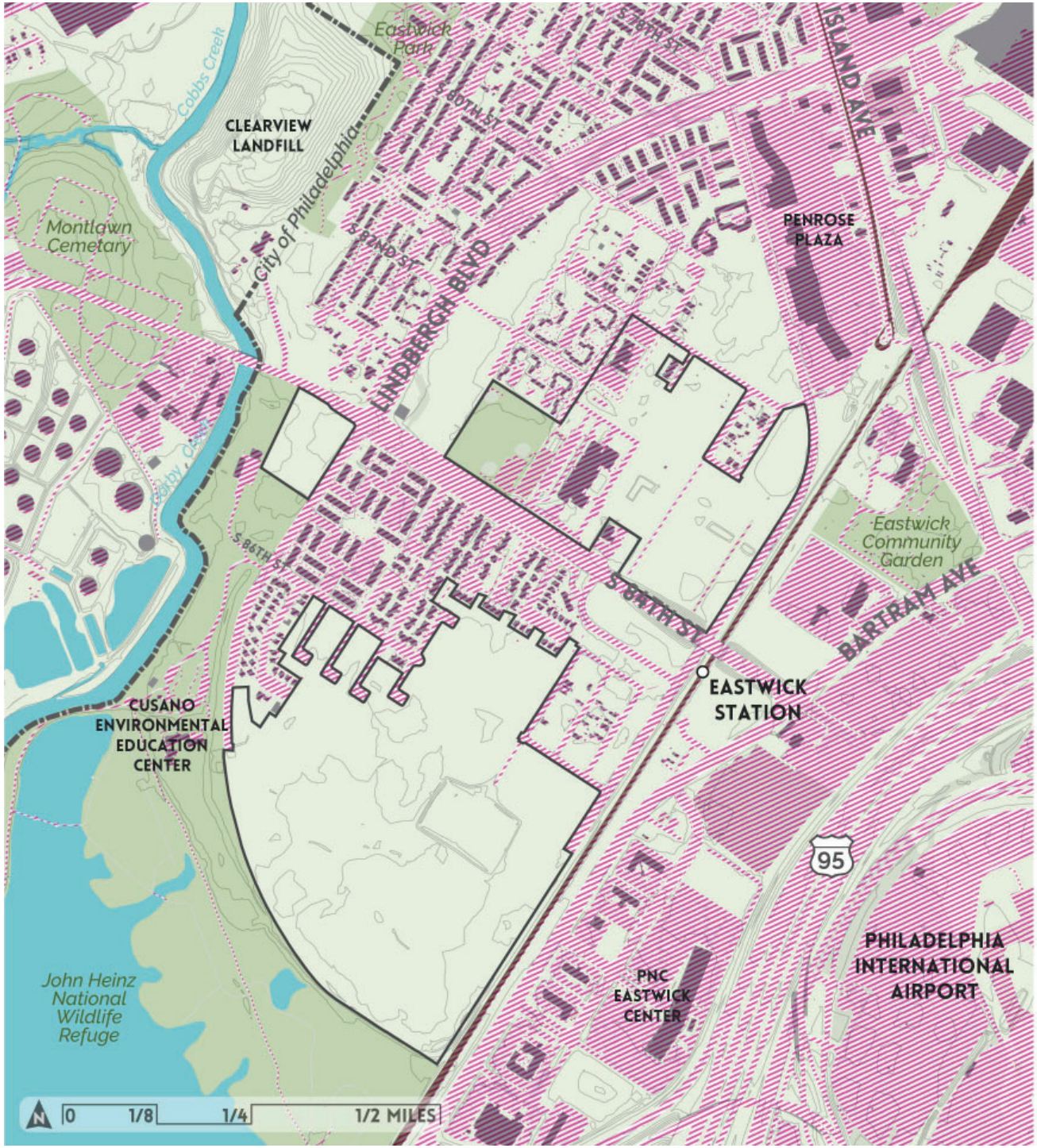
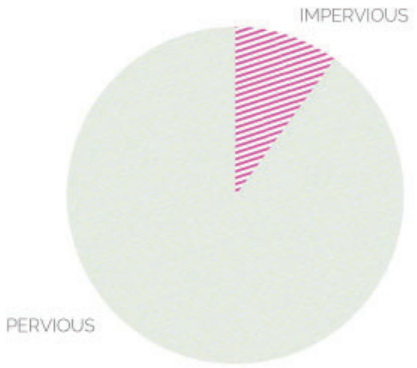


FIGURE 9: Map of impervious surfaces in Lower Eastwick



Less than 10% of the study area consists of impervious surfaces such as buildings, roads, and parking lots.

Plans for new development must consider ways of offsetting the impact of new construction that typically increases the extent of impervious areas.

IMPERVIOUS SURFACES

Source: City of Philadelphia, Bishop Land Design LLC

- IMPERVIOUS SURFACES
- UNDEFINED PERVIOUS AREAS
- OPEN SPACES
- STUDY AREA

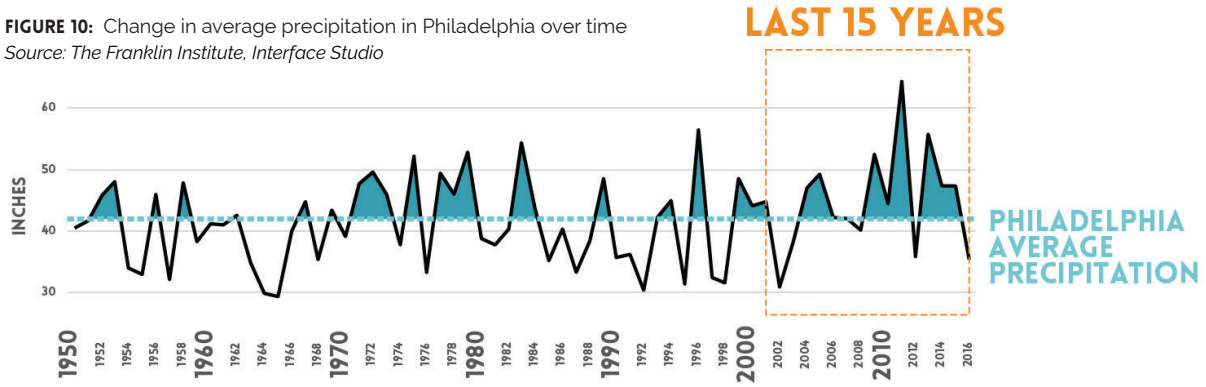
THREAT 3: CLIMATE CHANGE AND SEA LEVEL RISE

Eastwick is one of the few areas in the City of Philadelphia that is anticipated to be affected by sea level rise. The Office of Sustainability provided the consultant team with models illustrating sea level rise scenarios. Many variables determine when and how much water will rise in the area so the maps show a range of likely scenarios. Until recently, most scientific sources indicated that about 1 meter (or 3 feet) of sea level rise was likely by 2100, but a 2018 report from the United Nations' Intergovernmental Panel on Climate Change predicted seas rising 2 meters (or 6 feet), unless drastic changes are made.

It is important to clarify that sea level rise in Eastwick will not mean the sea water will flood Eastwick. Rather, in Eastwick, rising sea water will push up the groundwater below the neighborhood.

In addition, an overall increase in the frequency of severe storms results in a greater strain on existing infrastructure to handle stormwater. This also increases the potential for more surface flooding in the community as the existing pipes and pumps can be overwhelmed by heavy rain.

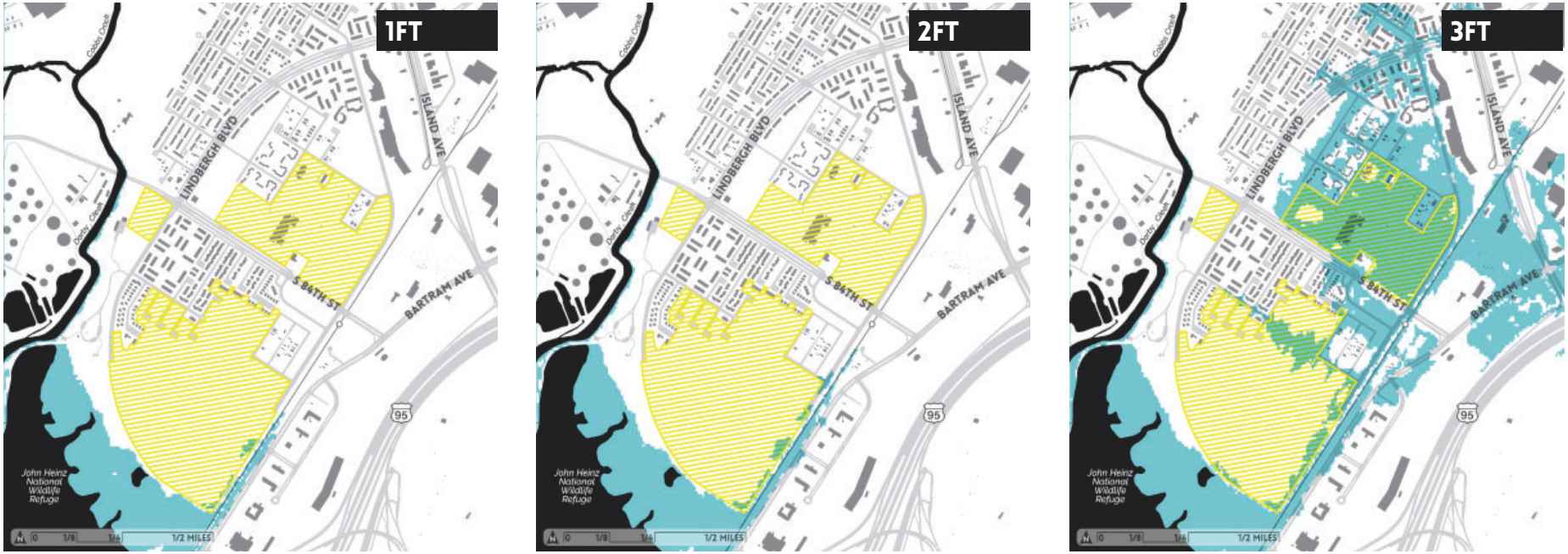
FIGURE 10: Change in average precipitation in Philadelphia over time
Source: The Franklin Institute, Interface Studio



Based upon these realities, plans for future development should seek to incorporate the likely impacts of rising seas and climate change.

Climate change can cause changes to weather norms, including severity of storms and frequency of rainfall events.

FIGURE 11: Sea level rise scenarios



Source: City of Philadelphia Office of Sustainability, Interface Studio

Sea level rise may have detrimental impacts to the aquifer, leading to consequences such as a worsening of our drinking water, high water tables and flooding, and intrusion of saltwater contaminants into streams and rivers.

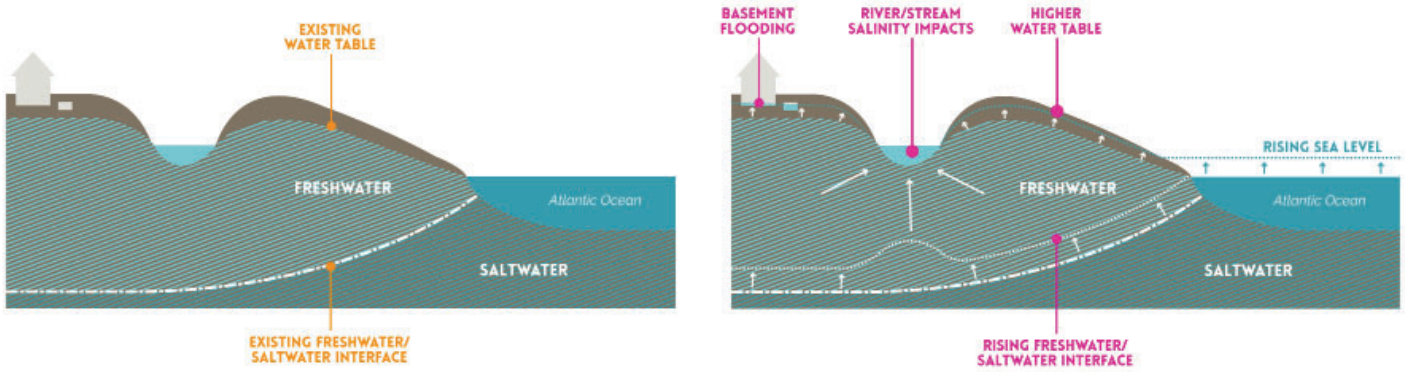
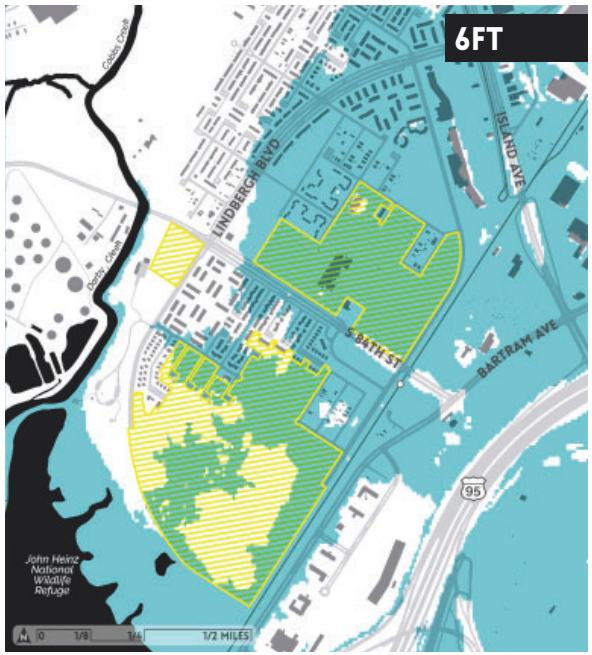


FIGURE 12: Sea level rise impacts to aquifers
Source: USGS, Bishop Land Design



Building in a Special Flood Hazard Area (SFHAs)

Figure 13 indicates the areas in Lower Eastwick that are located in a Special Flood Hazard Area, either 1 percent annual chance flood or the .2 percent annual chance flood zones. These areas are delineated in FEMA's Flood Insurance Rate Maps, and have a 1 in 100 chance or 1 in 500 chance, respectively, of flooding in any given year. These flood events are also referred to as a "100-year" or "500-year" floods. This document prefers not to use the "100-year" terminology because it can easily be misinterpreted to imply that 100-year events occur only once every 100 years, while in fact the zone has a 1 percent chance of occurring in any given year and can even occur multiple times in a single year, decade or century.

FORTHCOMING UPDATES TO FEMA MAPS

As part of the Army Corps' study, the Base Flood Elevation in Eastwick will be recalculated using current data. Based on other revisions that have been done in the area, it is anticipated that the Base Flood Elevation could be raised somewhere in the range of 2 feet, putting it at 12 feet overall. This revision would impact the approach that we have outlined in this report, which is based on the current 10 foot Base Flood Elevation.

It is unclear if the Flood Insurance Rate Maps will be updated directly after the study, but the maps would certainly change when FEMA performs its regular update, which is likely to occur within the next 10 years. Any development occurring after Flood Insurance Rate Map (FIRM) revisions would have to factor in the new Base Flood Elevation per the code outlined below.

BUILDING RESTRICTIONS

Restrictions are in place for building in the Special Flood Hazard Areas (SFHA). Within the SFHA there is significant variation in elevation, some areas are very low, at one or two feet above sea level, while others are closer to eight or nine feet. The area has a Base Flood Elevation (BFE) of ten feet. To comply with City regulations:

- New residential construction must be elevated up to, or above, the 18 inches above the BFE (including basement or cellar)
- New non-residential structures must be elevated up to, or above, 18 inches above the BFE (including basement or cellar) or be designed and constructed so that the space enclosed below the regulatory flood elevation:
  - Has structural components with the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
  - All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement. Additionally, all air ducts, air conditioning systems, utilities, large pipes, storage tanks, and other similar objects or components located below the regulatory flood elevation shall be raised to 18 inches above BFE and shall be securely anchored or affixed to prevent flotation.

This makes redevelopment of very lowlying areas challenging, as structures would potentially have to be elevated 10 feet to meet the requirements of development in the SFHA. While we understand these restrictions are very challenging, they do not entirely exclude the potential for development.

There are also land use restrictions in the SFHA. The following uses are prohibited within a Special Flood Hazard Area:

- Hospitals
- Group Living uses housing elderly or disabled persons or persons with limited mobility
- Detention or correctional facilities
- A new manufactured home park or manufactured home subdivision or manufactured home subdivision.

In addition, requirements for any development within the SFHA would include:

- Placement of Fill - Zoning Permit
- Fill for buildings - Building Permit (IBC- Chapter: 1804)
  - Geotechnical Report
  - Special Inspections
  - Hydrologic and Hydraulic Study
- All requirements for structures/Buildings (IBC 2018, ASCE 24)

And although not required, to meet best management practices, developers should submit a Letter of Map Change (LOMC) to FEMA. The process is as follows, which takes 6-9 months to be approved by FEMA:

- Conditional Letter of Map Change based on Fill (CLOMR-F) submitted to FEMA
- Fill placed with Zoning + Building Permit from the City
- Letter of Map Change (LOMR) submitted to FEMA - based on as built drawings of placed fill
- Results in Flood Insurance Rate Maps (FIRM) to change, with these benefits:
  - No mandatory required for insurance if mapped out of Special Flood Hazard Area (SFHA)
  - Maps would illustrate current flood risk conditions

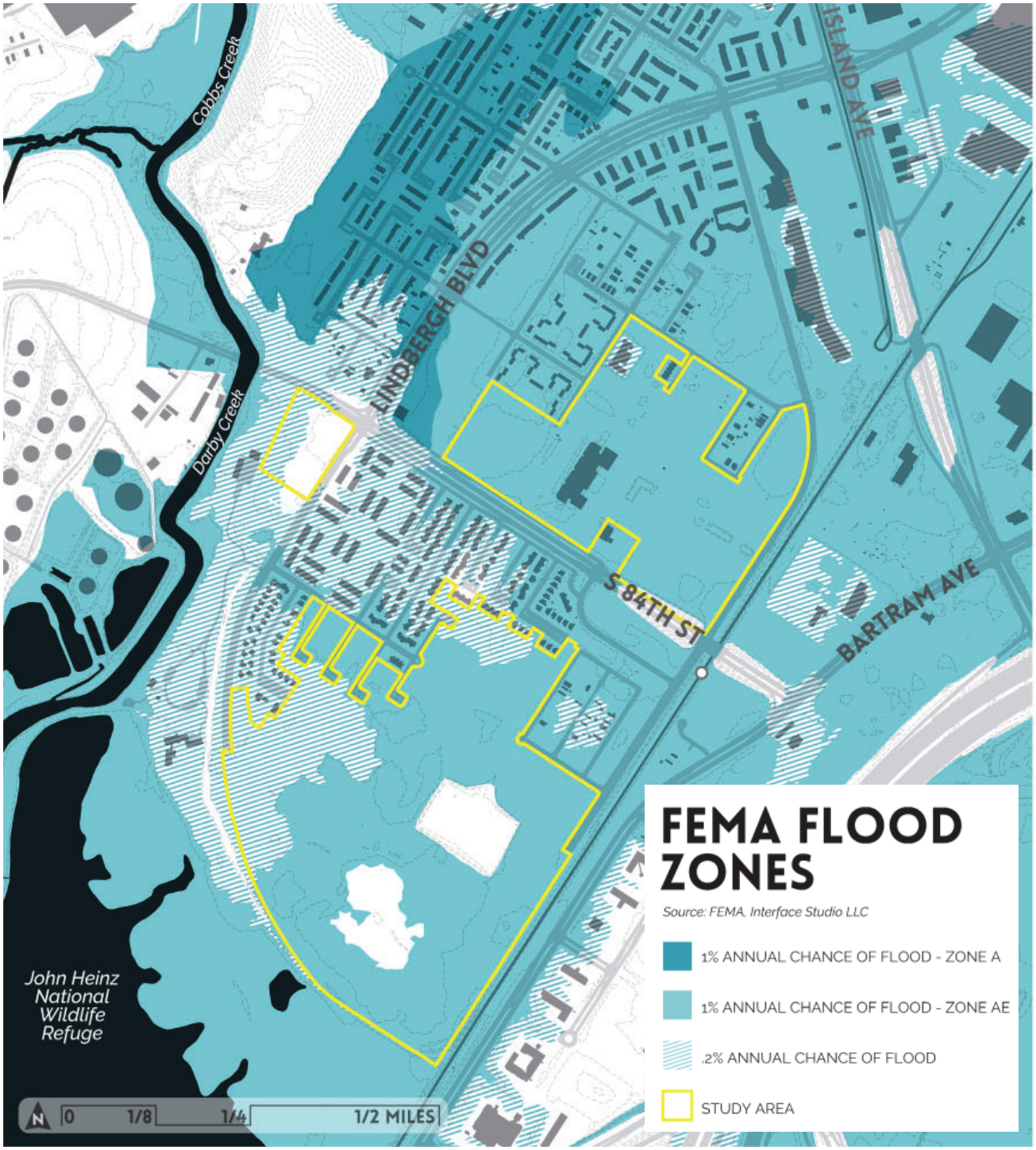


FIGURE 13: Map of FEMA flood zones in Lower Eastwick
Source: FEMA, Interface Studio

CONSTRUCTION COST PREMIUMS

As outlined above, development in the special flood hazard area requires a longer timeline and design challenges to make sure that the proposed development doesn't make any flooding worse than it already is. This translates to an added cost, making development in these areas much more expensive than typical development. For example, in industrial/commercial redevelopment of sites with similar floodplain/geotech issues elsewhere in Philadelphia, additional costs range from $5-10 per square foot for soil conditions and $20-40 per square foot for infrastructure. Average redevelopment costs hover around $250 per square foot; however this number can vary a lot based on the condition of the site and the development program. Further, getting financing in a special flood hazard area may become more difficult. Recent hurricanes may impact the market across the country and it is not known what will happen with flood insurance rates.

COMMUNITY RATING SYSTEM

The City of Philadelphia's Flood Risk Management Task Force has been evaluating the resources needed for the City's full participation in the Community Rating System (CRS) which encourages floodplain management activities that exceed the minimum National Flood Insurance Program (NFIP) standards. In the interim, the Task Force is finalizing a strategic plan that adopts the principles of CRS, which will give the City a head start implementing the program. Some benefits of the program include a potential reduction in flood insurance premiums for City residents and greater resiliency to flooding. Coordination with the Flood Risk Management Task Force, the Redevelopment Authority, and FEMA should be made to ensure new development on study area sites meets all the effective code and regulation requirements related to development in the special flood hazard area.

Wetlands

In June 2016, Patricia Ann Quigley, INC, completed a wetlands survey of Site 1. The study determined that wetlands within the site total approximately 1.8 acres (Figure 14). Wetlands within the site greatly impact future development. Philadelphia Zoning restrictions for construction on waterways require a 50 foot setback from the wetlands. For this study, we have established a 100 foot setback, which is a best management practice for removing pollutants like phosphorous and nitrogen from water before it enters the wetlands. In addition, a 100 foot setback will reduce the Total Suspended Solids (TSS) to 80% and help to remediate low levels of petroleum consistent with stormwater runoff from local roads.

Per PA CODE 105, additional restrictions may apply if these wetlands are found to be of "exceptional value." Some, if not all, of the wetlands identified in the wetlands survey are located within a half mile of Heinz Wildlife Refuge, which has been identified as habitat for the northern red-bellied turtle (*Pseudemys rubriventris*). If it is the case that these wetlands are found to be of exceptional value, protection must be designed specifically for the turtles, and assurances must be made so that development does not alter the hydrology in a way that the water supply to the wetland will be diminished in a significant way. The land owner, whether it is PRA or a future developer, would have to work through the details with state permitting agencies.

In either case (though more likely if the wetlands are not considered exceptional value and are under 1 acre), wetland mitigation could occur as part of an overall redevelopment, where smaller wetlands would be recreated within a cut area connected to the Heinz Wildlife Refuge. In all scenarios, we believe that further study is required prior to disposition of land.

It is likely that Site 3 (Pepper site), particularly its low-lying areas that are at or below sea level, contains wetlands as well, however, the parcel has not yet been surveyed. Site 3 should be surveyed for wetlands prior to any redevelopment.

Proximity to the National Wildlife Refuge

Actions within the study area may potentially impact the following Federally-listed Threatened and Endangered Species, Pennsylvania-listed threatened species, and critical/significant habitats:

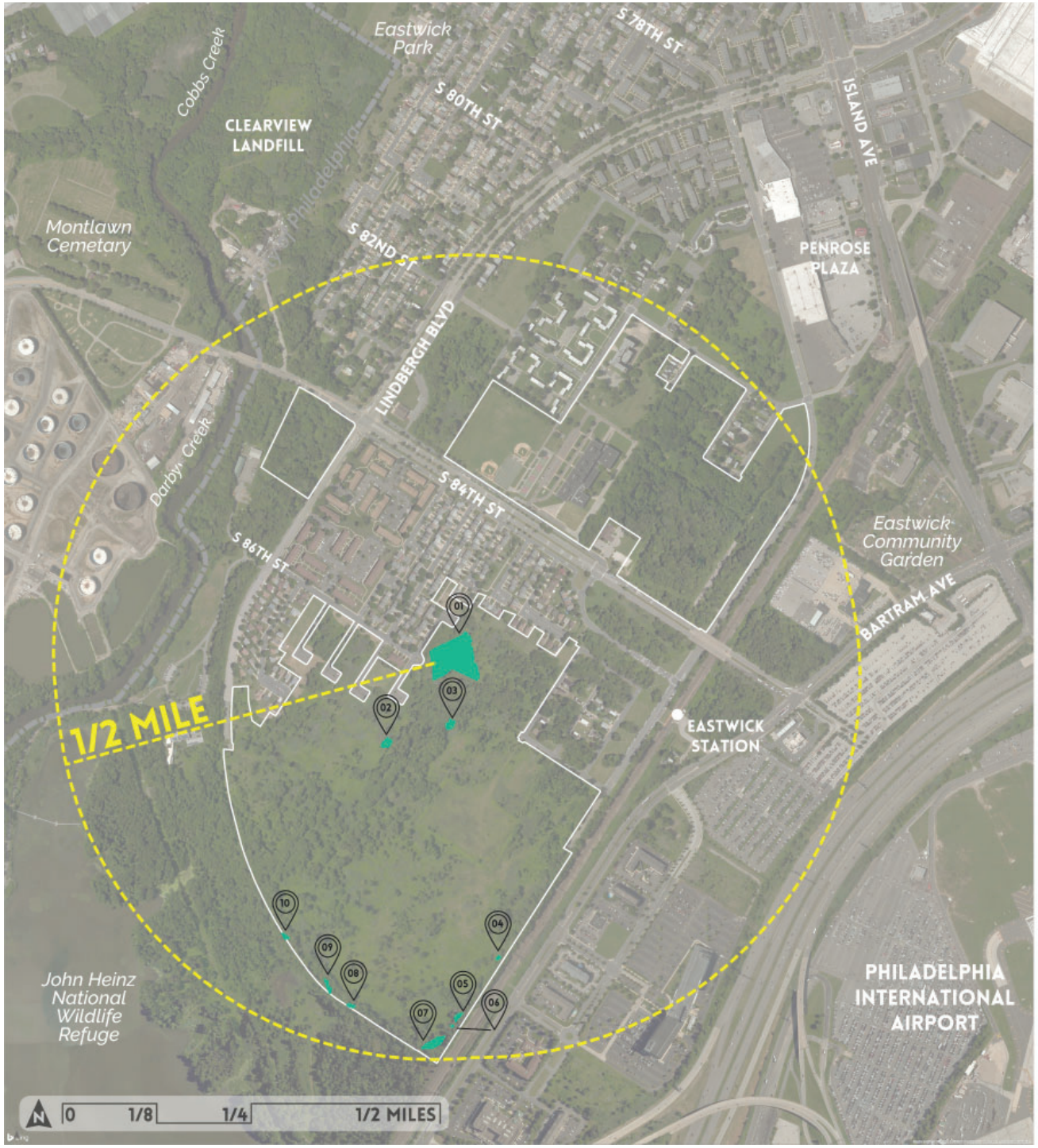
Red Knot Bird *(Calidris canutus rufa)*

> According to USFWS, no critical habitat has been designated for this species of bird.

> During the fall migration, the Red Knot typically spends time foraging and resting within and above the intertidal zone of beaches and marshes. It is likely the Red Knot would be found to the south in the John Heinz National Wildlife Refuge.

Red-bellied turtle *(Pseudemys rubriventris)*

> The northern red-bellied turtle, which is a Pennsylvania-listed threatened species, has been found throughout the Heinz. Its presence would have an impact the required buffers surrounding wetlands. Additional restrictions would apply if the turtles are found on the site or in the delineated wetlands.



WETLANDS

1/2 MILE BUFFER OF WETLAND 1

DELINEATED WETLANDS

Area of each wetland:

WETLAND 1 - 67,688 sf

WETLAND 2 - 2,677 sf

WETLAND 3 - 2,387 sf

WETLAND 4 - 308 sf

WETLAND 5 - 1,031 sf

WETLAND 6 - 76 sf

WETLAND 7 - 5,316 sf

WETLAND 8 - 642 sf

WETLAND 9 - 1,097 sf

WETLAND 10 - 691 sf

FIGURE 14: Known wetlands in the study area

Source: Wetland survey completed by Patricia Ann Quigley, INC in June of 2016, Illustrated by Interface Studio

FIGURE 15: Elevation Model of Lower Eastwick.

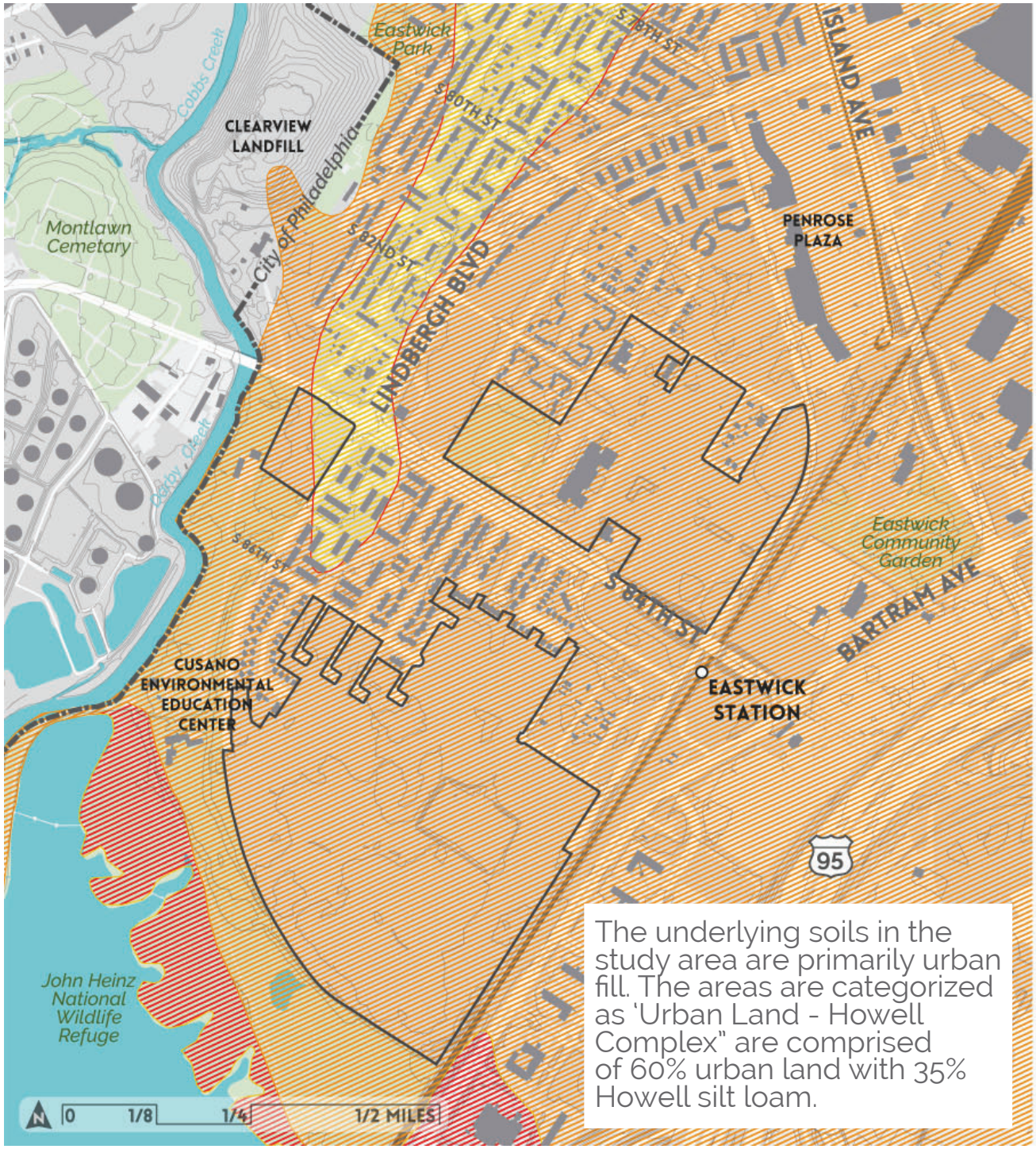


FIGURE 16: Map of soil types in the Study Area

Soils

Soil type findings throughout much of the study area are consistent with the narrative presented in the site history. Logs from the USACE Phase 1 report show a depth between 2 to 16 feet of urban fill, which includes brick, concrete and other construction debris and refuse. Fine silts are found in many locations. However, the borings from this report are limited and do not reflect the broad range of conditions that exist throughout the study area. We can predict, based on the amount of plant growth in many areas, that topsoil has been generated to a depth between one to three feet. In addition, we can anticipate that borings that do not reach resistance in the urban fill would likely show an organic layer consistent with the historic evidence of the Tinicum Marsh.

USDA SOIL TYPES

Source: USDA, Bishop Land Design LLC

- MARSH
- URBAN LAND
- URBAN LD. HOWELL COMPLEX
- STUDY AREA

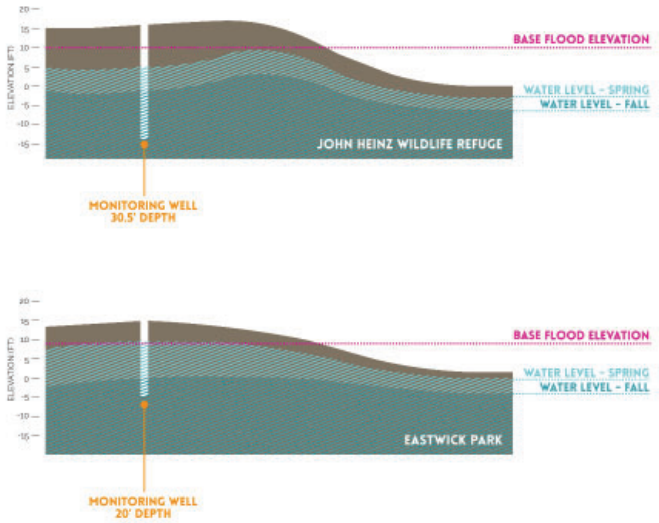


FIGURE 17: Diagram of water table fluctuations
Source: Bishop Land Design

The height of the water table fluctuates seasonally, with the highest levels in the spring and lowest in the fall.

The water table regularly rises near or above the base flood elevation, making the groundwater vulnerable to contamination from floods.

Groundwater

The depth of the groundwater is of concern for two reasons. First, as noted in the section on climate change, rising waters will also cause groundwater levels to rise, so areas that have a high groundwater table today could be under water in the future if sea levels continue to rise. Second, high groundwater levels impact the amount of soil that can be redistributed in different development scenarios. For instance, a development cannot cut the earth so deep that it exposes groundwater, or leaves only a limited amount of soil covering it. Best management practices for groundwater protection is 24" of cover, meaning there must be at least 2 feet between the groundwater table and the surface of the ground.

Based on previous research, the groundwater table just north of the Clearview Landfill was encountered at about 8 feet below the surface elevation of the ground at 12.67 feet. Similarly, groundwater was encountered 7 feet below the surface elevation of the ground at 10.84 feet. Testing south of the landfill produced mixed results. The boring locations for the BH-3 cluster are located close to the creek, which would likely have an elevated water table. BH3-A encountered groundwater at 6.5 feet below a 14.3 foot surface elevation of the ground, and BH-3D encountered groundwater at 7 feet below a 15.28 foot surface elevation of the ground. This data suggests that the groundwater table would be high throughout the study area, and some local environmental advocates have made assumptions that it is. However, based on interviews with the EPA, much of the area south of the Clearview site has a high groundwater table because of impounded water in the landfill. In other words, local conditions vary and assumptions cannot be made based upon the publicly-available data that currently exists.

In addition to the test borings near the landfill, there are several monitoring wells throughout the neighborhood to monitor groundwater elevations and subsurface conditions in relation to remediation work at the Clearview Landfill.

The wells nearest to Site 1 are WS-1A and WS-1-B. WS-1A had a seasonal high of 11.75 feet below the surface of the ground, recorded in March/April 2014 and WS1-B has its elevation recorded at 17.78 feet below the surface of the ground.

Groundwater levels on Site 2 are far below the surface of the ground. Given this information, development on this site has potential, though any developer would be responsible for protecting the groundwater condition.

The wells on Site 3 exhibit the tightest constraint between the surface of the ground and the groundwater table. During the 2014 seasonal high, WS3-A had a water table elevation of 8.3 feet from the surface of the ground. WS3-B had a water table elevation of 10.11' below the surface of the ground. WS3-C had a water table elevation of 9.4 feet below the surface of the ground. In looking at the topography of the site, we know that there are lower surface elevations of the ground on this site. To help determine the overall feasibility for the future of Site 3, including the areas proposed to remain undeveloped, it is recommended to test the groundwater levels in the low lying areas.

While these wells can provide a baseline for interpolation of groundwater levels across the sites in this study, it is strongly recommended that test borings be done to establish accurate groundwater elevations for Sites 1 and 3 in the study area.

GROUNDWATER LEVELS

Source: US Army Corps of Engineers, EPA, Bishop Land Design LLC

OPEN SPACES

STUDY AREA

TEST BORINGS

WELL SITE

FIGURE 18: Water table elevations

Vegetation

As much as 30 percent of the study is covered by trees that help to clean the air, clean the soil, reduce carbon, provide habitat, and cool the environment, thus reducing the urban heat island effect. Much of the current canopy is located on the neighborhood's undeveloped parcels. Despite the invasive qualities of some these plants, they are supplying ecological services for the benefit of the neighborhood residents. Vegetation on Sites 1, 2 and 3 varies based on its location, elevation, and the amount of disturbance or development that has occurred over the last century.

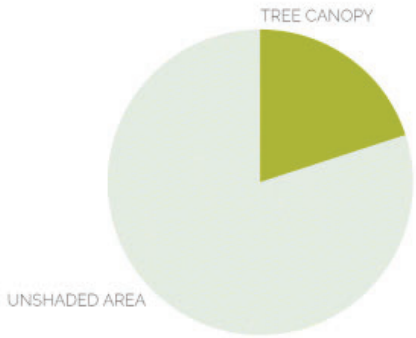
Site 1, is made up of various combinations of fill. Because of this fill, there is only a mix of soft woods such as box elder maple (Acer negundo), and a host of other invasive species, such as the Norway Maple (Acer platanoides), Tree of Heaven (Ailanthus altissima), and The Princess Tree (Paulownia tomentosa). Two species tend to predominate among non-woody vegetation: Phragmites (Phragmites australis) and Artemisia Mugwort (Artemisia vulgaris). Wetter and poor draining areas are occupied by the former and drier areas are occupied by the latter (See the map on the following page).

Site 2 is mostly a riparian forest. While it contains some invasive species, it is of much higher quality than the other sites and contains longer lived species like Elms (Ulmus americana) and American Plain Trees (Platanus occidentalis). This is due to the fact that this land is part of the naturally-formed levee next to Darby Creek. Due to the dense tree cover, very few of the other non-woody invasive species exist on this site.

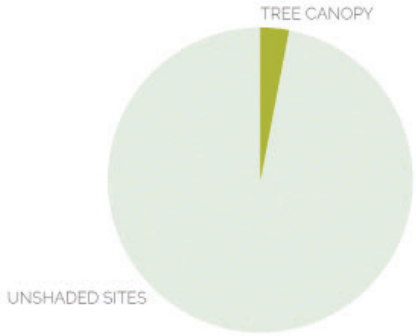
Site 3 is in part maintained as a recreational landscape and thus, in those areas, is occupied by grasses and few trees. The lower lying areas of the site to the east of the school are similar in character to the types of plants found on Site 1, but there is a higher density of trees. Based on the age of the forest on this site and reconnaissance to the low lying areas, we believe that there may be portions of this site that are wetlands and thus should be surveyed prior to development (Though this study is not proposing any development in those areas, due to their elevation below sea level).

Redevelopment of these sites is an opportunity to redesign the landscape for the benefit of the community and the local ecology. Currently, seedbeds of trees that would more typically be organized around wetlands and riparian forest do not exist on Sites 1 and 3 because the land was filled and/or built on with material lacking the necessary ingredients to support a healthy plant life. In addition, the softwood trees that do exist here are dying out due to age, and the development of a future generation of the current species is prevented by the invasive Phragmites. The current vegetation lacks the potential to support a healthier ecology or provide spaces that can be attractive and programmed for community members. There is also currently not the opportunity to design a landscape with species that are largely self-sufficient which reduces long term maintenance costs.

Redevelopment should encourage the establishment of species such as oaks, elms, and Atlantic Cedars. These species will help to create a more resilient, longer lived landscape that can function within a gradient of wet to dry conditions. New forest and wet forest landscapes are essential to help protect and enhance the neighborhood. And, consistent with Federal Aviation Administration studies on bird strikes on airplanes, this type of habitat hosts smaller and less dangerous birds (in terms of scale and impact on planes) than the open wetlands and maintained lawns that are more typically associated with development.



As much as 30% of the study area is shaded by existing trees that are concentrated at undeveloped sites.



If the sites were fully redeveloped, the existing canopy would likely need to be cleared, reducing the overall tree canopy for the community.

Planning for these parcels necessitates a proactive approach to maintaining and establishing the tree canopy and its value as a protective buffer and amenity.

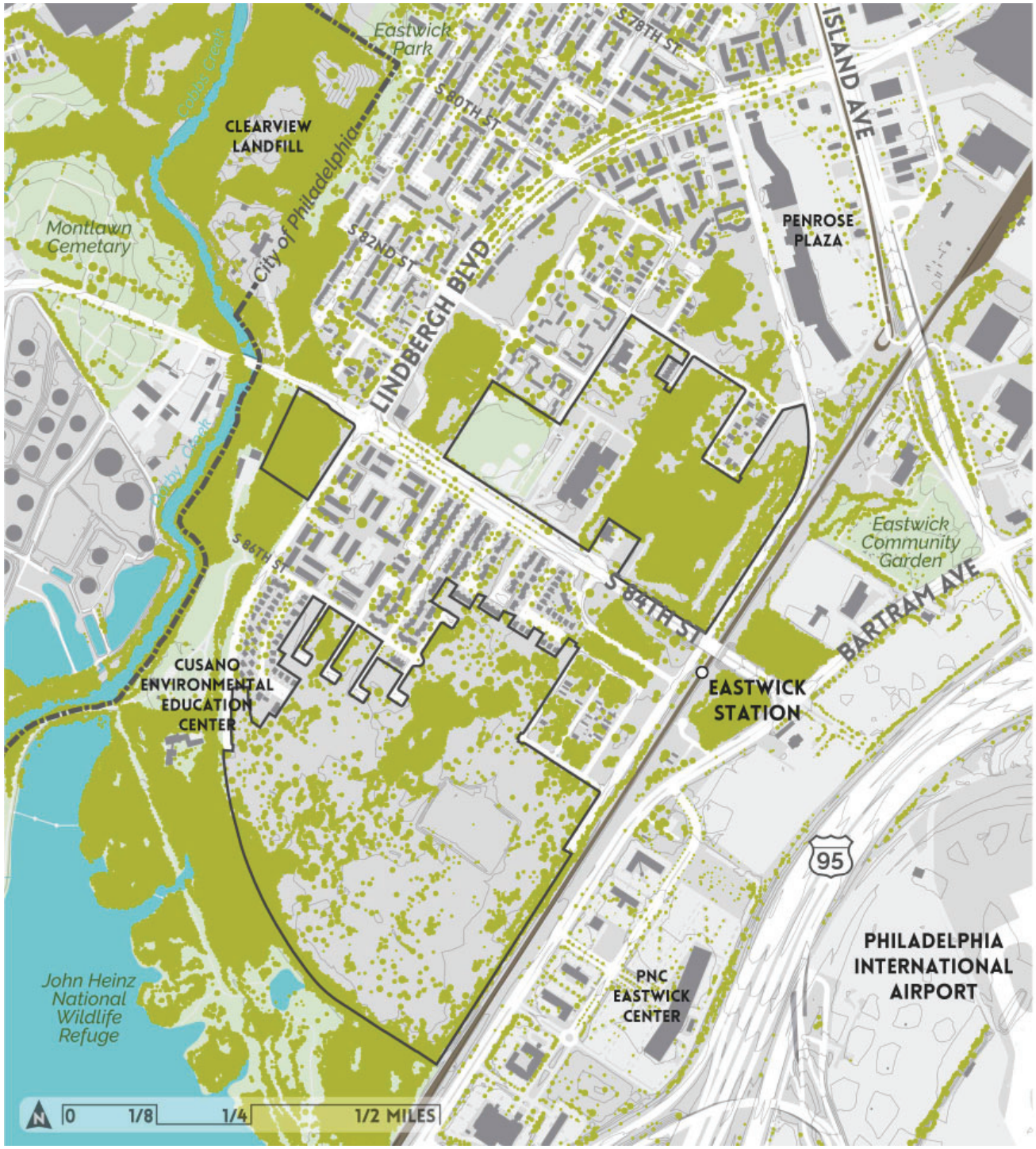


FIGURE 19: Map of existing tree canopy

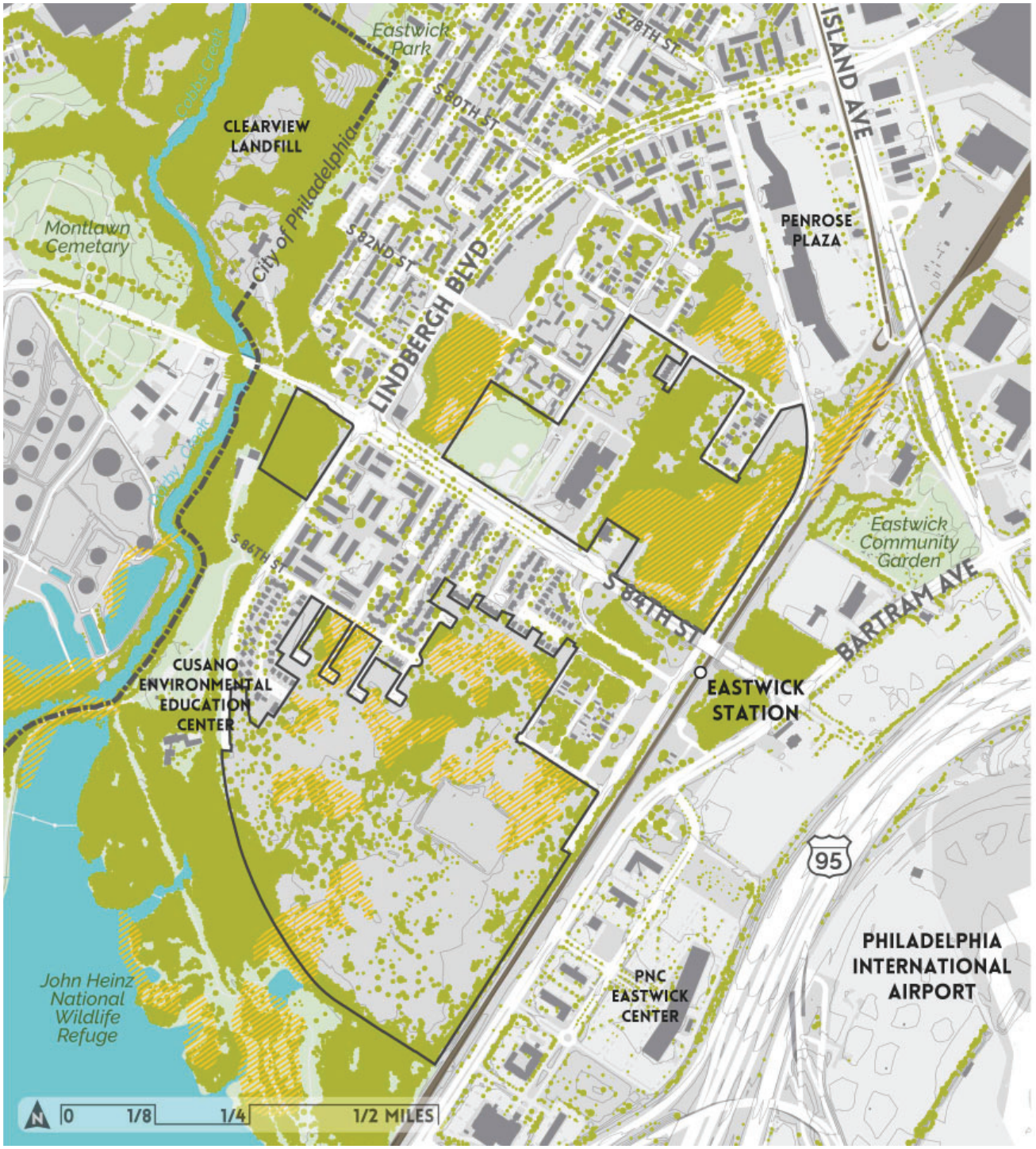


FIGURE 20: Map of invasive plant species

Based on site observations and aerial photography, the estimated extent of invasive species includes a substantial portion of the vegetated areas within the Lower Eastwick Study Area.

Phragmites are among the most aggressive invasive plants and tend to occupy wetland sites, crowding out native vegetation.

INVASIVE PLANT SPECIES

Source: Bishop Land Design LLC

- EXTENT OF PHRAGMITES
- TREE CANOPY
- OPEN SPACES
- STUDY AREA

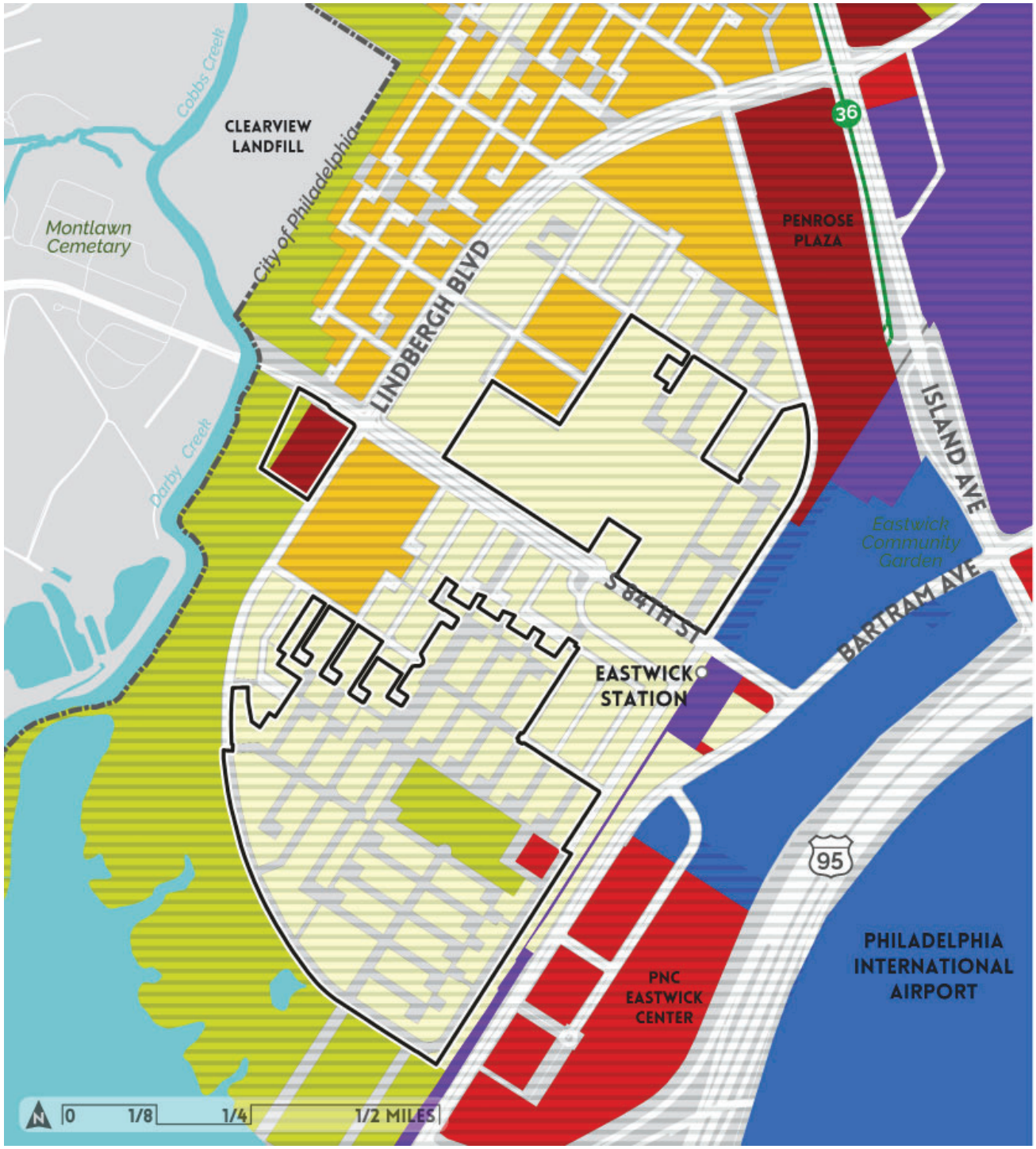


FIGURE 21: Map of existing tree canopy

Zoning

Existing zoning classifications for each of the sites are legacies of the urban renewal planning process. The majority of Sites 1 and 3 are currently classified as single family residential while Site 2 is classified as CA-2, 'neighborhood shopping center.' A remapping of the area should be done to encourage the reuse of these sites in accordance with this work.

- SINGLE FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- MIXED USE COMMERCIAL
- AUTO-ORIENTED COMMERCIAL
- INDUSTRIAL
- SPECIAL USE: AIRPORT
- PARK/OPEN SPACE
- AIRPORT HAZARD CONTROL OVERLAY DISTRICT
- STUDY AREA

Utilities and Infrastructure

Legacy stormwater and water infrastructure built for previously planned developments 40 years ago still exists on Site 1. Data from the PWD shows that some of this infrastructure, now covered by vacant land and wetlands, is used to convey water from active residential streets and down 86th Street towards the Eastwick train station. This infrastructure must be kept in mind when considering development of these sites.

The condition of the infrastructure that does not tie into current uses south of 86th Street is unknown.

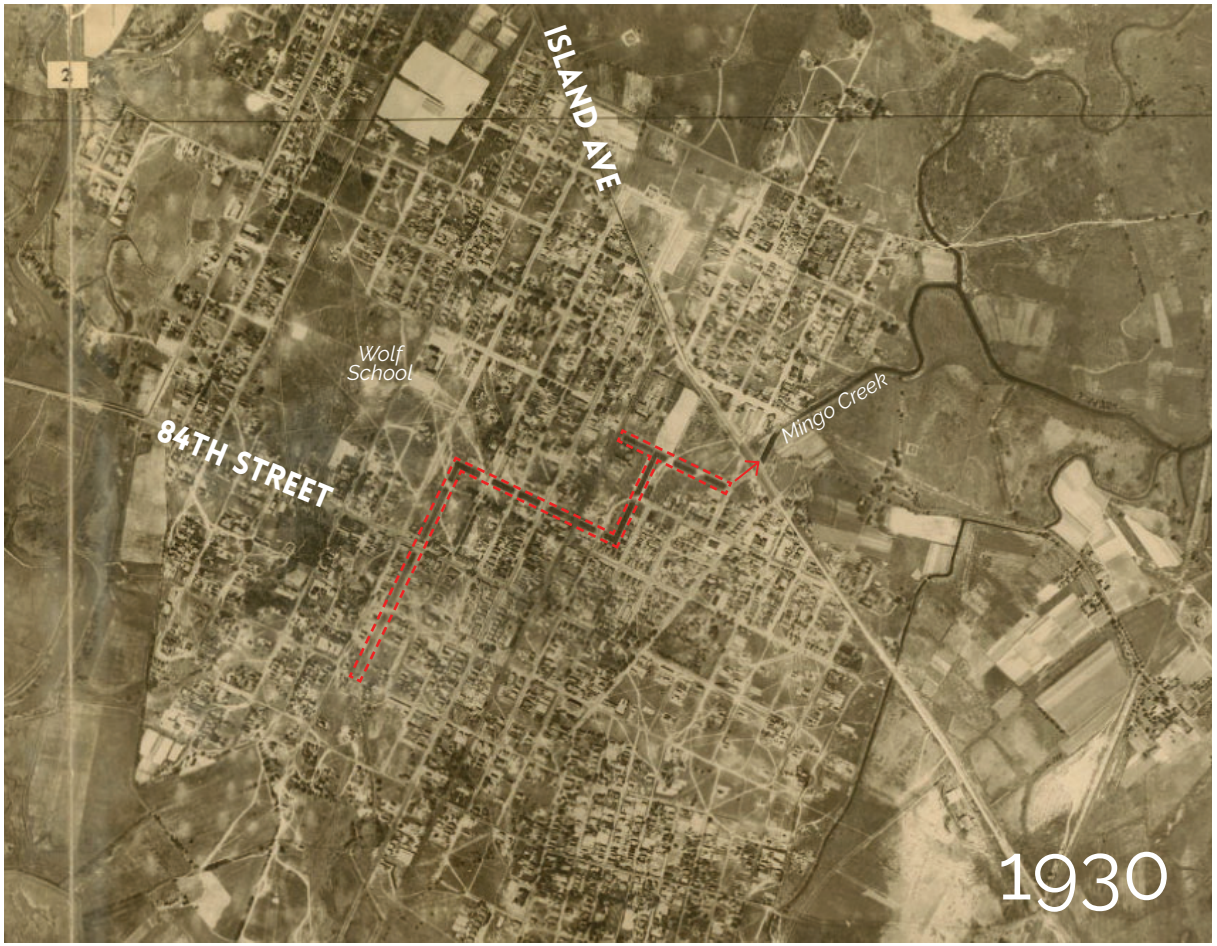
PWD staff has stated that inspection will be needed to assess the condition of the buried infrastructure and whether or not it can be repurposed.

Data received from PWD does not indicate where the stormwater inlets at the Pepper Middle School Site drain to. This underground drainage infrastructure is integral to the draining of floodwaters during flood events. Care should be taken when considering the redevelopment of this area, particularly in regards to disconnecting potentially vital infrastructure.

On Site 3, abandoned 40 to 60 feet wide channels, about 10 to 15 feet in depth, still remain. They are in the area bounded by Mario Lanza Boulevard, Lindbergh Boulevard, and 84th Street, closest to the corner of 8th Street and Mario Lanza. These channels were built as "drainage streets" in the 1920s, but plans to finish the system were later abandoned for various reasons. The channels' current conditions vary; some are full depth, while others have been filled by dumping.

Above: Images of abandoned channel infrastructure near 84th and Mario Lanza Boulevard, 2013

Source: Adam Levine, Historical Consultant for PWD



Aerial survey of Lower Eastwick in 1930, the historic drainage open channel that drained to Mingo Creek outlined in red.

Source: Map Collection, Free Library of Philadelphia

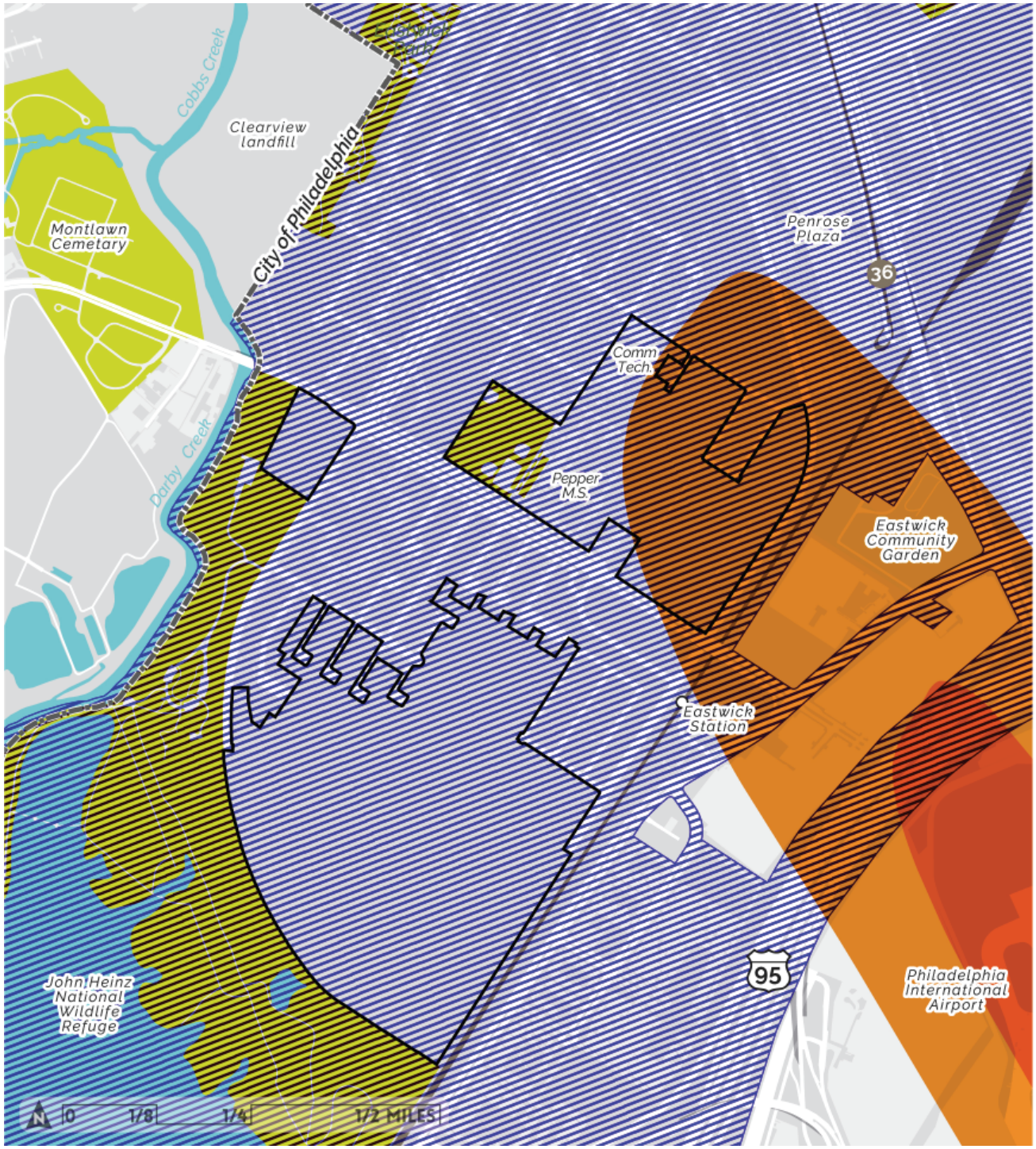
1926 Sewage Disposal Canal in Eastwick.
Source: City Archives of Philadelphia

STORMWATER INLETS

Source: City of Philadelphia, Bishop Land Design LLC

- STORMWATER INLET
- STORMWATER OUTFALL
- WATER MAINS
- STUDY AREA

FIGURE 22: Map of underground infrastructure, including stormwater inlets



AIRPORT REGULATIONS

AIRPORT HAZARD CONTROL OVERLAY DISTRICT

NO STRUCTURES OVER 200 FT ABOVE AIRPORT ELEVATION

PLUS ADDITIONAL RESTRICTIONS WITHIN TAKEOFF AND LANDING PATHS

- 65 dB SOUND ZONE
- 70 dB SOUND ZONE
- AIRPORT HAZARD CONTROL OVERLAY DISTRICT
- STUDY AREA
- PARKS & OPEN SPACE
- CITY OF PHILADELPHIA BOUNDARY

FIGURE 23: Map of PHL sound zones and the airport hazard control overlay district

Proximity to the Philadelphia International Airport

Given its close proximity to the airport, future land uses must not impede on airport activity. The entirety of the area is covered by the Airport Hazard Control Zoning District which is intended to preventing hazards to aircraft navigation. If development was to occur in the neighborhood, new structures cannot be taller than 200 feet above the airport's elevation. There are also additional restrictions within takeoff and landing paths. Sound from aircraft activity also impacts potential uses on Site 3. The area shown in orange in Figure 23 is within a 65 db Sound zone, and limit potential land uses on this part of the site, including residential development.

The possibility that changes in site uses could make aircraft bird strikes more likely is of great concern to the airport. Uses encouraging the growth of vegetation that attracts species dangerous to planes are to be avoided. For the FAA, the Philadelphia International Airport (PHL), the flying public, and airlines, safety is the overriding concern of all research concerning collisions between aircraft and birds. The FAA does not encourage the building of new wetlands that attract waterfowl, in particular Canada geese. This indicates that ponds and areas of open water, including open stormwater detention basins, are discouraged, but this does not preclude the development of other types of wetlands.

Summary of Key Findings

Environmental and site constraints present challenges to developing the sites, including:

- The main threat of catastrophic flooding comes from the overflowing of Cobbs Creek into Eastwick Park, which floods the area north of 80th Street often referred to as the Planet Streets. The water then makes its way to the lowest elevation in the neighborhood, which is Site 3 at the Pepper School. This site acts as a bowl, and waters drain from there to Mingo Creek, into the Schuylkill River Watershed. While the Army Corp study may offer a long term solution, hydrological studies that look at how water moves onto and within each of the sites will potentially allow for the redevelopment of Sites 1 & 3 in a shorter timeline.
- Additional challenges include managing stormwater. The existing pumps and infrastructure can be overwhelmed by heavy rains over a short period of time. With climate change, the frequency of these heavy rain events has increased. According to Philadelphia Water Department regulations, any new development would be responsible for managing the first inch of rainfall on site which could help to improve the local management of stormwater.
- Wetlands were identified on Site 1 as part of a previous survey, but a wetlands survey was not conducted on Site 3. It is likely, given the very low elevations that exist on Site 3, that the site does indeed contain wetlands.
- The current vegetation is characterized by a lack of plant diversity and invasive species. It will require significant investment to improve the landscape to better support the local ecology, help manage stormwater and to provide amenities and programming for the community.
- Further study is needed to determine the elevation of the groundwater table on the sites. A high water table can make installing and maintaining utilities costly, or otherwise prevent development by limiting the amount of earthwork that can be done to create development sites.
- Building on a special flood hazard area is expensive. The cost premium for developing sites with these challenges (i.e. low elevation, potential contamination, geotech) requires a land use that is able to absorb those penalties within the overall project budget.

WHAT CAN THE MARKET SUPPORT?

MARKET ANALYSIS

The following is a summary of the market study, which analyzed what potential there is to develop various land uses in Eastwick. The advisory firm Real Estate Strategies (RES) completed this analysis to help all parties involved understand the residential, commercial, and industrial real estate market conditions impacting the redevelopment potential of these Eastwick sites. To read the market analysis in its entirety please refer to Appendix 1.

Land Uses

The Eastwick sites can accommodate a range of land uses, including new residential, commercial/ retail, office, hotel, industrial, institutional, and open space. However, for each, there are limits to the type, scale, and quality that are currently feasible -- and there are trade-offs for each that will require careful consideration.

Residential Uses

The market study indicates that the study area offers the following advantages for residential development:

> Excellent access to multiple employment centers (University City, Center City, Airport, Eastwick Industrial Park, I95 corridor)

> Multiple transit options (regional rail service, trolley, and bus service)

> Open space/green environment

> Generally stable surrounding neighborhood

> Improving community retail options due to recent investment in Penrose Plaza

These disadvantages decrease the study area's suitability for new residential development:

> Most of study area is in a flood zone (risk for property damage, cost of flood insurance)

> Neighborhood schools have been closed, requiring children to travel farther to catchment area schools

> Neighborhood is surrounded by industrial uses, including two Superfund sites on its western edge

Demand for new residential development in the study area will be driven primarily by proximity to major employers, such as the Airport, its related logistics & distribution operations and accommodations. Growth in University City employment, particularly in the hospital complex near the University City regional rail station and in the nearby Pennovation campus, could also be a source of additional demand.

Based on the research outlined above, RES concludes that the market could support several residential products in the study area over a five-year time period, including:

> 50 to 75 new construction three-bedroom townhouses or twin units priced between $250,000 and $300,000. Given existing construction costs, producing units at this price point would be feasible only with modest land/site development costs and low labor costs

> 60 to 75 units of affordable senior rental housing (LIHTC) with rent subsidies

> 200 to 250 market-rate general occupancy apartments

There are other caveats that could impact the ultimate development of residential units in the study area:

> The catastrophic impact of Hurricane Harvey on the Texas Gulf Coast may affect the marketability of apartments and forsale homes located in flood zones through-out the United States. Although the housing units themselves may be constructed with enough freeboard to elevate living areas the statutorily required height above base flood elevation, prospective tenants, and homebuyers, may have a heightened awareness of the potential that flood waters could cut off ingress and egress to and from the neighborhood.

> Uncertainty surrounding the reauthorization and future rate structure of the Federal Flood Insurance Program could also tamp down demand from marketrate homebuyers until program revisions are finalized. The actual cost of flood insurance will impact the size of a mortgage for which households can be approved and, therefore, the maximum home sales price the household can afford.

> The Philadelphia Zoning Code may limit the ability to construct senior housing in a flood zone. Furthermore, although the Pennsylvania Housing Finance Agency (PHFA) will approve Low-Income Housing Tax Credit (LIHTC) housing in a .2% annual chance flood zone, the agency has for the past two years restricted approving loans for LIHTC allocations in a 1% annual chance flood zone. It is unclear how the agency evaluates the ingress/egress issue for sites that are above flood elevation, but are completely surrounded by Special Flood Hazard Areas. Developers may be able regrade a site to raise it out of the 1% annual chance flood zone, but then must obtain a Letter of Map Amendment (LOMA) from the Federal Emergency Management agency. All grading would need to be completed in advance of submission of a LIHTC application. Agency rules prohibit soil disturbance in a 1% annual chance flood zone as a result of a PHFA funded project. In addition, environmental regulations restrict obtaining federal funding for construction of residential structures in 1% annual chance flood zones.

Retail Uses

The study area offers the following advantages for retail uses:

> Relatively high traffic counts on S. 84th Street (25,490 AADT)

> S. 84th Street is the primary commuting route for Airport employees living in Delaware County

The study area offers the following disadvantages for retail uses:

> Low population density in the immediate area

> Limited visibility from I-95 (except for possible pylon visibility)

> The competing established commercial concentration on Island Avenue captures most neighborhood retail expenditure potential

> Higher sales tax rate charged in Philadelphia makes it difficult to attract suburban customers

The site characteristics and population density around the study area will not support the potential development of a new neighborhood shopping center in this location. It would be more feasible to develop supporting retail space in conjunction with other uses—such as offices or a hotel—that could also serve nearby residents. A gas station operator would likely be interested in this location because of the traffic count and the lack of facilities serving rental car customers, but such a use will likely face opposition from residents. A child care center or urgent care operation could succeed as stand-alone buildings or a component of a larger mixed-use development.

Industrial Uses

The study area offers the following advantages for industrial uses:

> Large sites

> Proximity to the Airport

> Highway access

> Access to labor pool

> Regional rail and other transit options

The study area offers the following disadvantages for industrial uses:

> Street access to largest sites is through residential areas

> More expensive to develop because of soil and floodplain issues.

> Elevated flood risk and cost of insurance as well as potential loss of productivity and/or goods and materials.

There are few large sites in Philadelphia appropriate for major warehouse/distribution users. The study area's size and proximity to I-95 and the Airport combine to make this a valuable location for a major industrial user. In other submarkets in the region, industrial space users are encountering labor shortages. The study area offers excellent access to an available industrial labor pool.

The extra site development costs associated with addressing flood zone conditions may raise rental costs above levels achievable for speculative space; however, large users with specific build-to-suit requirements may be able to absorb these site development cost premiums. Flex uses on smaller lots, particularly those outside of the floodplain that would not require extraordinary site work, would also have market support.

Office

The study area offers the following advantages for office uses:

> Highway access
> Regional rail access
> Proximity to the Airport
> Access to a three-state labor pool
> Large development sites

The study area offers the following disadvantages for office uses:

> No amenities within walking distance
> Some tenants will not lease in a flood zone
> Tax differential between Philadelphia and Delaware County
> No incentive overlay in study area

On balance, the study area is at a competitive disadvantage for office development compared to either the Navy Yard or the office complexes adjacent to the Airport in Tinicum Township. Because of the Keystone Opportunity Zone (KOZ) designation, the Navy Yard offers developers, office tenant businesses, and employees a significant reduction in tax liability. Similarly, businesses in Delaware County pay lower business taxes than their peers in Philadelphia (outside of KOZs), and their employees who are not City residents have a lower wage/earned income tax bill. The presence of the Eastwick regional rail station providing access for workers and a direct linkage to the Airport and Center City is an asset; although the now multi-tenant PNC operations center building also offers this transit option.

Hotel

The study area offers the following advantages for hotel uses:

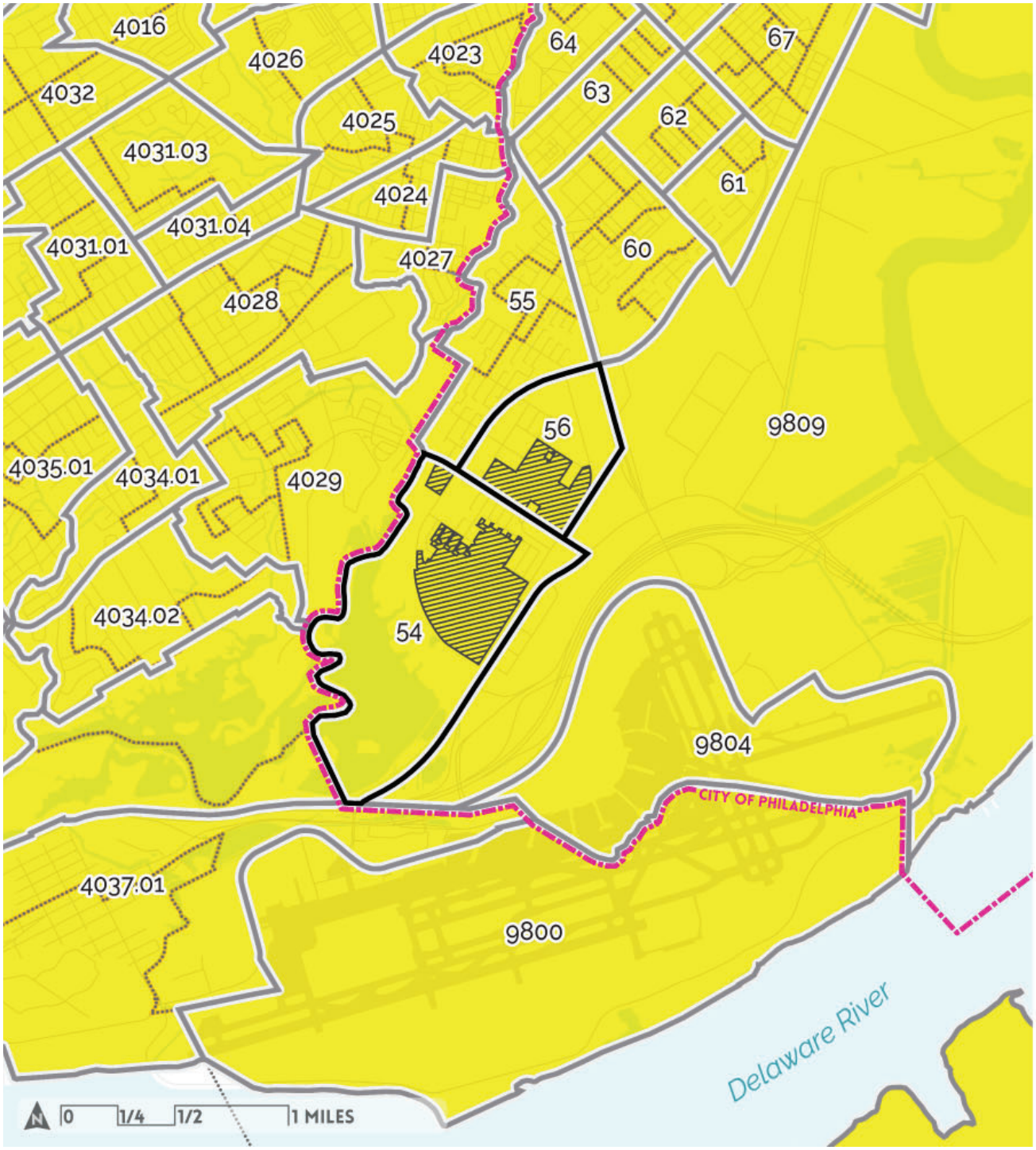
> Good proximity to the Airport and I-95
> Regional rail service to Airport and Center City
> Transit connection makes it easier to accommodate Center City overflow
> If hotel is adjacent to the regional rail station, management may not have to run a shuttle, and guests will not have to rent a car or incur taxi costs to reach their hotel
> Possible pylon visibility from I-95
> Proximity to and accessibility for work force
> High submarket occupancy rate

The study area offers the following disadvantages for hotel uses:

> Distance from Airport terminals and separation from other hotels ("off the Bartram Avenue strip")
> Many brands are already in market and would not want to compete with their existing properties

Despite the presence of a wide range of name brand hotels in the Airport market, it would be reasonable to market a site in the study area for hotel development. The challenge in siting a lodging property will be to take advantage of the Eastwick regional rail station, while still preserving visibility and accessibility from S. 84th Street and Bartram Avenue. A typical airport hotel averages 150 rooms and generally requires 2.0 to 2.5 acres for the building and parking. Hotel developers are typically sophisticated about adapting building designs to address floodplain issues.

An adjacent restaurant would be an amenity for both a hotel in the study area as well as the existing limited-service Airport hotels along Bartram Avenue. Management of these hotels noted the lack of food service options in the surrounding area. A restaurant would require frontage on S. 84th Street.



Census Tract 56 has recently been designated as a Qualified Opportunity Zone (QOZ) under the provisions of the federal Tax Cuts and Jobs Act of 2017. This new program provides tax incentives to individuals and entities making long-term investments in Qualified Opportunity Funds. The funds in turn invest in businesses and real estate development projects within QOZs. This new program could attract lower-cost capital to implementation projects in this part of Lower Eastwick.

BOUNDARIES

2010 CENSUS TRACTS AND BLOCK GROUPS

Source: U.S. Census Bureau

- STUDY AREA
- LOWER EASTWICK CENSUS TRACTS
- XX CENSUS TRACTS
- CENSUS BLOCK GROUPS
- CITY OF PHILADELPHIA BOUNDARY

Key Findings

The goal of this analysis was to identify land use types with potential market support in the study area. This context will provide background for public input on the suitability of specific uses. This preliminary analysis of development potential has found possible market support for the following land uses in the study area over the next 5 years:

- Warehouse/distribution and light manufacturing uses (large single user and/or smaller flex spaces (5,000 to 20,000 SF)
- Office Hotel (+/ 150 rooms) or Office with ground floor commercial space
- Affordable senior apartments (60 to 75 units)
- Market-rate garden apartments (200 to 250 units)
- Townhouse or twin home-ownership units (50 to 75 units priced below $300,000)
- Possible support for a smaller commercial use, such as professional service/medical offices, daycare center, or an urgent care facility

There is not market support for a more significant retail development outside of Penrose Plaza, unless it is tied to a mixed use or office development in the study area.

Interviews and background research suggest that the uses most likely to absorb the cost of the study area's environmental issues would be a large build-to-suit warehouse/distribution operation, the a larger office complex or the development of an Airport hotel. Demand for marketrate residential uses is pricesensitive, and development feasibility may be minimal at achievable price levels.

SITING CONSIDERATIONS

Office uses would be best sited along S. 84th Street, where any ground floor accessory retail would also have to be located in order to serve both employees and neighborhood residents.

A hotel could be located on S. 84th Street, but a location near the regional rail station would be preferred as long as a pylon can be seen from I-95 and street level directional signs can be provided.

Residential development would be most marketable if it were integrated into the residential fabric of Site 1 near the Heinz Refuge, as long as it is well buffered from any nonresidential uses that are developed elsewhere on this large site. Potential homeownership sites should be located outside of 1% chance flood zones to eliminate costly flood insurance premiums. Site 2 would be appropriate for a senior LIHTC apartment development, which would benefit from SEPTA bus service. Garden apartments could be developed within walking distance of transit and should be screened from any industrial uses, if the community were to support them.

OTHER USES

In addition to the broad land use categories discussed in earlier sections of this report, PRA has received inquiries from specific users interested in establishing facilities in the study area. These include:

- Regional Multi-Sport Facility
- Velodrome
- Solar Farm
- Social Service/Charter School (school reuse)
- Wildlife Rehabilitation Center

THE VISION

Eastwick has the soul of a village. People love its proximity to nature and its quiet, pastoral setting. But Eastwick lacks the organization of a village -- it has no Main Street, with a set of inviting shops that serve as a gathering places and crossroads. **Becoming a real village involves enhancing both of those parts: enhancing the connection to nature and developing a Main Street that brings together civic, commercial, and cultural life.** Becoming a "Village in the City" involves strengthening connections to citywide processes, services and organizations. Finally, becoming a "Village in the City" means solving the numerous disconnections -- within the neighborhood and between the neighborhood and the rest of the city -- that would make Eastwick easy to navigate, hospitable and charming.

POTENTIAL LAND USES TO ACHIEVE THE VISION

General Approach

In Eastwick, the environment is a "double edged sword," characterized as both a comforting setting and a threat. We are seeking an urbanism specific to Eastwick - in conversation with, rather than fighting against the environmental factors that have shaped the neighborhood. In an age of heightened and increasingly unexpected environmental events, it is necessary to engage with the environment as a complex system -- an ecology that encompasses all of the neighborhood's systems: social, infrastructural, educational, environmental, and more. Learning about the reach, impact, and cause of environmental factors is a gateway to a more responsive relationship with the local and regional ecology. Residents' desire for more amenities, educational opportunities, vocational training, and remediation of impacts like pollution and flooding can be addressed holistically through an emphasis on ecological knowledge.

In considering the market analysis, environmental analysis, and the community's' desire for both more resources and alleviating environmental concerns, **is it possible to do responsible development in Eastwick?** The short answer is, yes, it may be feasible to build in some areas and accomplish the following:

> Adhere to a baseline: New development **should not make any of the flooding issues worse.**

> Preserve the opportunity to study flood mitigation in low lying areas.

> Utilize development to improve existing conditions where it's appropriate and possible.

HOW CAN THIS BE ACCOMPLISHED?

In order to achieve a vision of Eastwick as a "Village in the City," one that balances open space and responsible development, it is recommended to:

> Pursue development opportunities to responsibly bring additional amenities, services and jobs to Eastwick.

> Limit new residential development within the 1% annual chance flood zone.

> Maintain existing flood storage capacity in the 1% annual chance flood zone.

> Utilize green building practices in all new development.

> Mitigate proposed impervious surfaces with green stormwater infrastructure.

> Develop forest cover as the predominate landscape type in landscape restoration areas and in areas used as open space on development sites.

> Implement all stormwater management for development sites above the base flood elevation.

Keeping with these principles, the general development approach can be seen in Figure 24.

CAVEATS

The following recommendations are based upon the **best available data** accessible to the planning team at the time of the study. Data used to assess development potential include:

> Eastwick Stream Modeling and Technical Evaluation, US Army Corps of Engineers, North Atlantic Division, December 2104.

> Groundwater levels for the sites were extrapolated from data received by the USACE and EPA, whom have monitoring wells closer to the Clearview Landfill.

> The Lower Darby Creek Hydrologic and Hydraulic Report, Prepared for Keystone Conservation Trust by Princeton Hydro, LLC, March 2017.

> A boundary survey was provided by the PRA for Site 1, but parcel boundary locations and ownership for Sites 2 and 3 were approximated using the City's various GIS parcel files.

> Topography from Philadelphia's 2015 LiDAR point cloud data. At the time of capture, ground conditions were leaf off, snow free, and water was at normal levels. This data appears accurate, but the elevations in this dataset vary from those in the City's GIS topography file.

> A wetlands delineation survey was provided by PRA for Site 1, July 2016.

Additional studies could limit the development potential of these sites. For instance, some maintain that the water table is too high to enable the types of development envisioned here. As there is no data to currently confirm this assertion, this study casts a wide net in considering what is feasible under the principles established during this process.

In addition, relatively little is known about the specific ways in which water moves across and/or onto the sites (and which areas within each site) during rain events. Hydrologic studies are strongly recommended to test the recommendations outlined in this study, but those studies would analyze outside flooding events contributing to issues impacting sites 1-3. The phase 2 study by the Army Corps of Engineers will focus on the issues related to a possible levee and the overtopping of the Cobbs and Darby Creeks, but this work will take time.

APPROACH

- **A** COMMERCIAL / INDUSTRIAL DEVELOPMENT
- **B** LOW DENSITY RESIDENTIAL INFILL
- **C** WETLAND PRESERVATION
- **D** SENIOR APARTMENT DEVELOPMENT
- **E** COMMERCIAL/OFFICE OR MIXED USE DEVELOPMENT ALONG 84TH
- **F** REUSE COMM. TECH
- PARCELS
- DEVELOPMENT POTENTIAL
- GREEN INFRASTRUCTURE
- OPEN SPACE
- RECONNECTED STREET NETWORK
- PROPOSED INTERSECTION
- PROPOSED TRAIL NETWORK

FIGURE 24: General approach to development
Source: Interface Studio

Site 1:

Existing Conditions Summary

- Approximately 88 acres of the site are in the .1% annual chance flood zone and are not suitable for new residential development.
- 23 acres are in the .2% annual chance flood zone and may be suitable for residential development; though forthcoming updates to FEMA's Flood Insurance Rate Map (FIRM) should be considered before development occurs.
- 1.8 acres of wetlands were observed on this site and are in need of protection. These wetlands need to be evaluated for critical species, and if those are found they will trigger additional development restrictions on the site.
- Flood models (See Figure 7) show that flooding can occur on this site by means of the Heinz Refuge entrance, flowing east down 86th Street to the wetlands. This is consistent with residents' complaints about flooding during past events and the existence of the wetlands in that location.
- Underground Infrastructure (sewer and water) from previous development plans still exists on the site and likely cannot be buried. This infrastructure needs to be considered in future development plans.
- Groundwater testing needs to be completed in order to confirm the depth of the groundwater in the area. If the groundwater is found to be higher than anticipated, it will have an effect on how much cut and fill can be accommodated on the site.
- The market study indicates that low density residential development is feasible closer to the Heinz.

It is this study's finding that both open space and new development are possible on Site 1, though both approaches would be difficult and costly if constructed properly by green development standards. However, the necessary additional environmental analysis with respect to the water table and site hydrology must support this finding in order to move forward. It should be noted that the current vegetation and landscape also requires significant investment in order to be productive for any measure of flood and stormwater management. The invasive species have severely impacted the site to the degree that leaving it in its current state is not a healthy option for the community. The future of Site 1 is an environmental challenge but also an economic one.

Market Analysis Summary

Demand for new residential units in the study area are driven primarily by proximity to major employers such as the Airport and related logistics and distribution operations and accommodations. 50 to 75 new construction three-bedroom townhouses or twin units priced between $250,000 and $300,000 have market support here. Given existing construction costs, producing units at this price point would be feasible only with non-union labor and modest land/site development costs.

Residential development would be most marketable if it were integrated into the residential fabric of Site 1 near the Heinz Refuge, as long as it is well buffered from any nonresidential uses that are developed elsewhere on this large site. Potential homeownership sites should be located outside of 1% annual chance flood zones to eliminate costly flood insurance premiums.

There are few large sites in Philadelphia appropriate for major warehouse/distribution users. The study area's size and proximity to I-95 and the Airport combine to make this a valuable location for a major industrial user, which would bring much needed jobs to the neighborhood.

Community Input Summary

Paramount to any plans for this site, many residents are very fearful that development will exacerbate flooding conditions in Eastwick. If the land were to remain undeveloped, several open space uses -- including flood mitigation, incorporating the land into the Heinz Wildlife Refuge, utilizing the land for agricultural uses (including agricultural tourism), solar energy generation, and recreational uses -- were mentioned as desirable. Open Space uses should also be accessible to the public, incorporating trails and recreational amenities.

Many residents were also open to development around the edges of the site in order to complete some of the abandoned street infrastructure, as long as this action does not negatively impact local flooding. If development were to occur on this site, residents need to fully understand its potential impact and the ways that the proposed development will help to mitigate the issue. Closer to the Heinz, some suggested lower density housing akin to what exists today. The advantage of this approach is that it would help to address the illegal dumping that occurs on the unfinished streets, which remains a challenge for neighbors. On the east side of the site, residents expressed an interest in jobs-producing uses like a hotel, office, or light industrial use like what they have seen in the Navy Yard. While hotel or light industrial seem to be viable options, the market study indicates very limited potential for office use in this location.

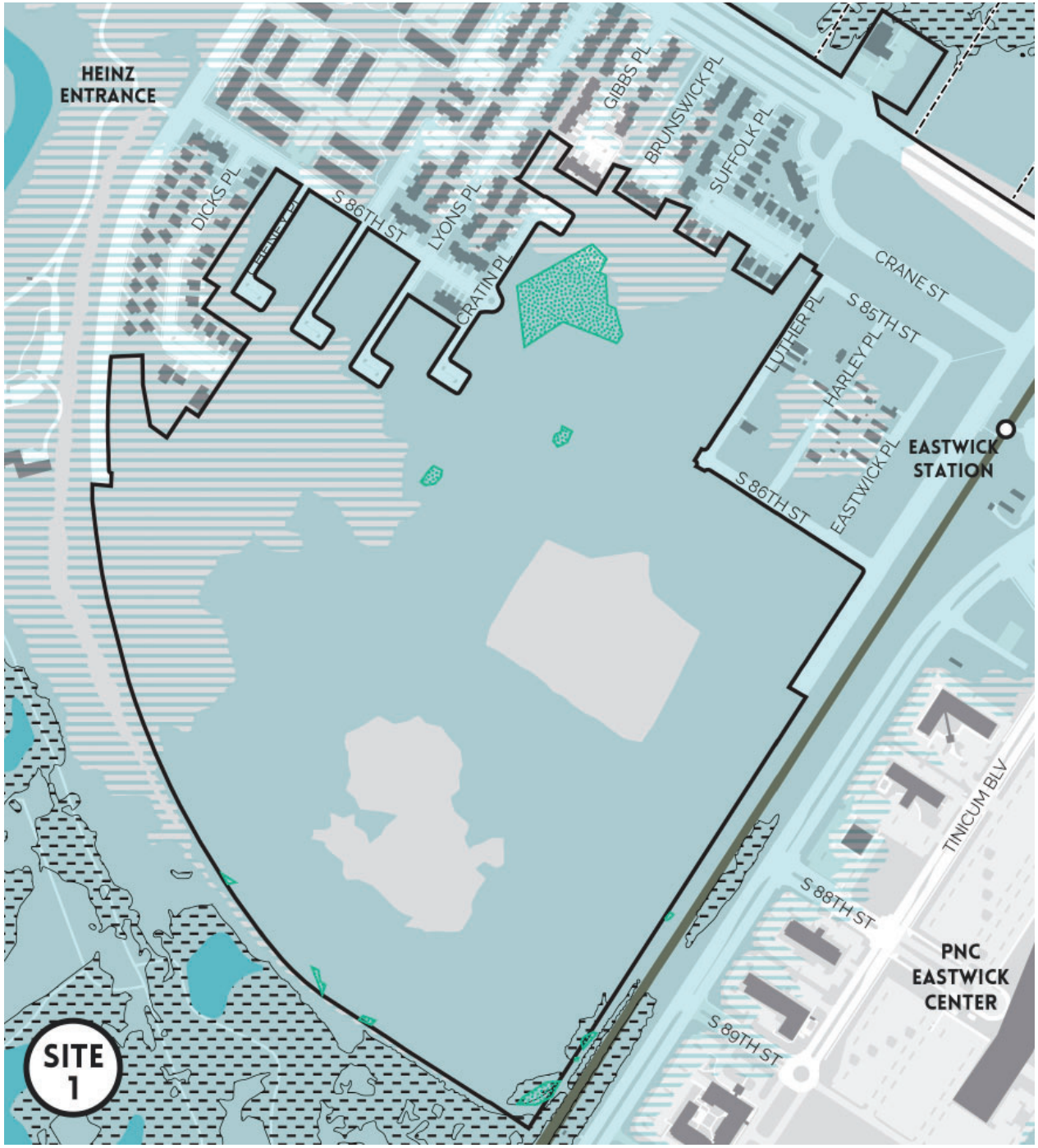


FIGURE 25: Site 1 Existing Conditions
Source: Interface Studio

Potential Land Uses

> Open Space, particularly buffering the wetlands and in low lying areas.

> Low-impact light industrial development along the rail to create jobs for nearby residents.

> Lower density residential infill on the higher elevation portion of the land in the .2% annual chance flood zone.[3] Potentially 74 to 150 unit twin houses, as guided by the market analysis.

Design Approach and Considerations

This site is one of the largest remaining continuous tracks of land in the neighborhood. Further study is needed to understand how water moves within Site 1 and whether or not using this land as a forested wetland would in fact prevent at-risk areas of the neighborhood from flooding in the future -- particularly given that the main flooding threat comes from the overflowing of Cobbs Creek at Eastwick Park, and the Army Corps of Engineers will be starting their Phase 2 study looking into these issues in the Spring. Current environmental and site analysis does not preclude development opportunities for realizing economic development on the site and should not be ruled out until further studies are completed.

Future disposition of this parcel should take into account the existing site constraints, proposed uses, and neighboring context. In this case, the wetlands found on the site are to be preserved and buffered, accounting for the unorthodox parcel boundaries shown in Figure 26, which equate to splitting the site into three sub-parcels.

The images on this page are concept only - actual development proposal depends on selected developer

> **Sub Parcel A**

This smaller area is where a light industrial or other job creating use, including agricultural uses, is compatible. Care should be taken to buffer neighboring residents from uses other than residential ones and to make sure any proposed development enhances, not reduces, their quality of life. The remainder of this parcel should be improved as open space.

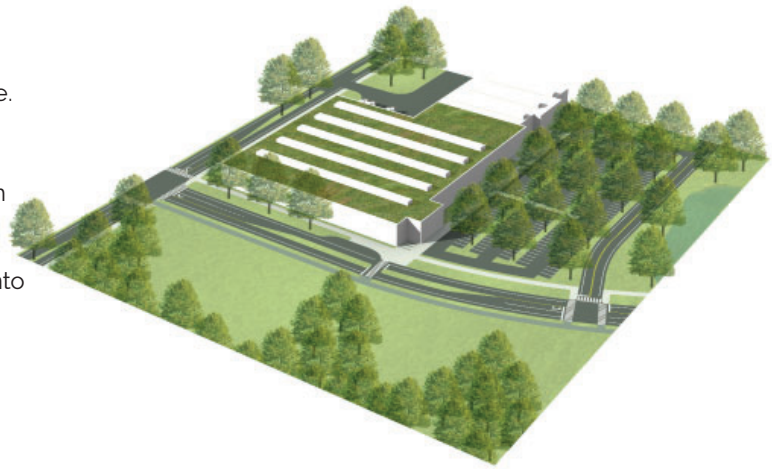
> **Sub Parcel B**

This parcel is largely outside of the 1% annual chance flood zone and therefore provides the only opportunity for residential infill housing on the site.

> **Sub Parcel C**

This sub parcel contains the existing wetlands, a 100 foot protective buffer around them, and the area on the south side of 86th street that is most at risk in the flood modeling (Figure 7) and in 1% annual chance flood zone. It is recommend that this land remain open space.

The subdivision and disposition of the land does not preclude access to whatever land is to remain open space in the future. The open space, which should include a trail network connecting the Eastwick Station to the Heinz, will be integrated into development proposals and can be done so with public/private partnerships.



3 During the course of this process, it was mentioned that a remapping of the Special Flood Hazard Area would be completed soon.

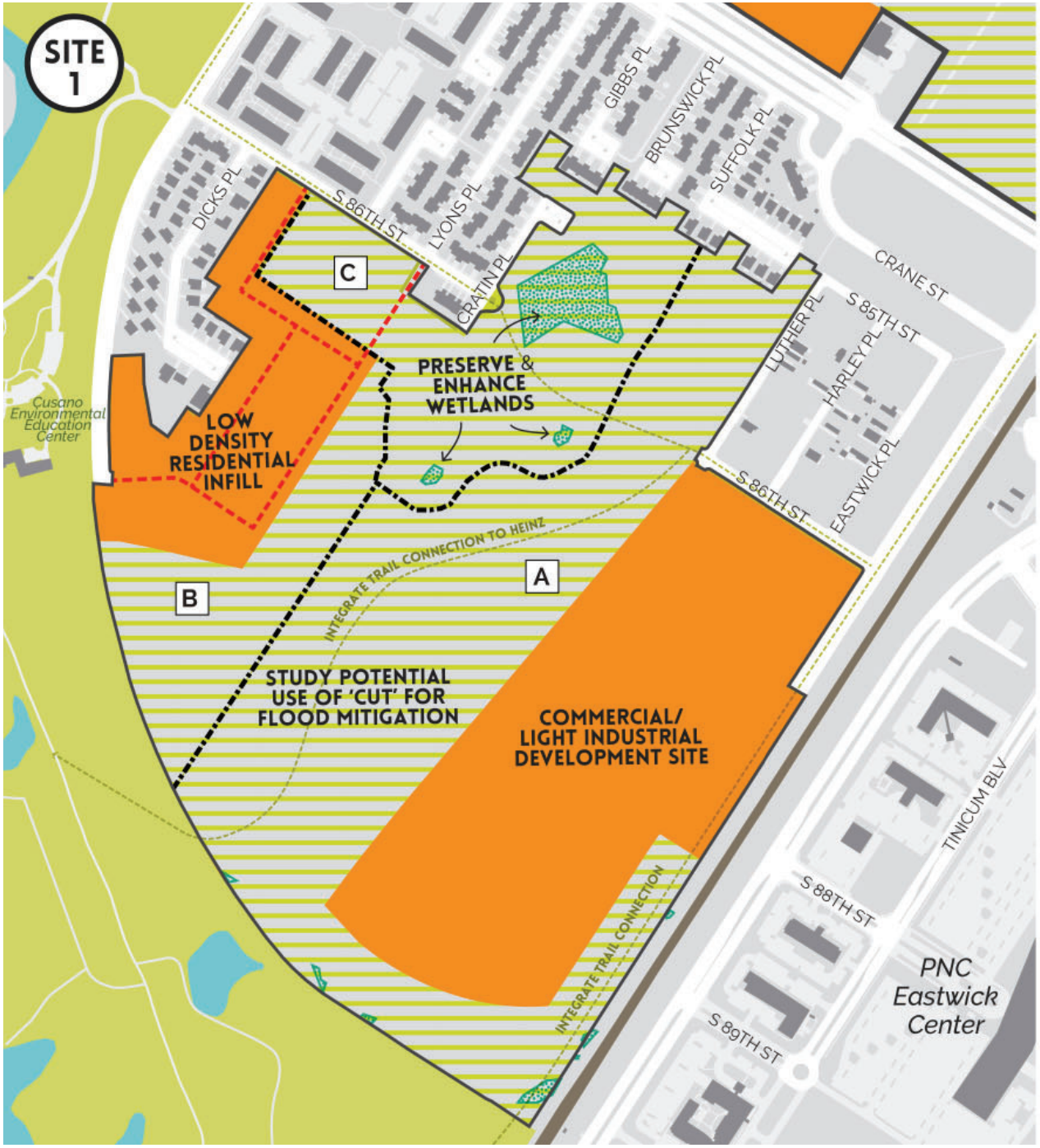


FIGURE 26: Site 1 Development Approach
Source: Interface Studio

Determining the Development Potential

In order to test the potential for development on this site, Bishop Land Design went through a design exercise to see how much land could be developed on the site if one was to build to the regulatory flood elevation and retain the existing flood storage capacity on the site. Figure 27 shows this potential, based on balancing the potential cut and fill in the floodplain. It is important to note that the scale of any potential flood conveyance mechanism can not be understood without further study, but the initial framework aims to leave a placeholder for the potential conveyance of flood waters from Site 3 to Site 1 and then to the Heinz, while stormwater and some volume of floodwater could be stored in the low lying areas on Site 3 and conveyed to Mingo Creek and its pump station. As noted previously, we cannot size this system or understand its effectiveness without further studies, including modeling of the proposed conditions and modeling of various hydrological events on the proposed topography.

In terms of the delineation of space on each parcel, the orange coloring on this map does not represent a particular building footprint, or imply 100% impervious coverage. Instead, it represents the area of land that could be raised out of the Special Flood Hazard Area while maintaining the same amount of flood storage capacity that exists today. The green interior areas could serve as flood storage opportunities; they would not be used as stormwater management for the proposed development, which would have to occur within the orange areas themselves. It is unlikely that the land would be developed exactly in this fashion. This drawing should be viewed as a diagram representing the development footprint if it were to be maximized. As drawn, 49 acres (40%) of the site have the potential to support development, while 75 acres (60%) would remain open space. In reality, because the orange areas would need to accommodate stormwater management facilities, a much higher percentage of the land would be dedicated open space.

It is important to clarify that this drawing does not suggest simply 'filling-in the floodplain'. That approach would be detrimental to Eastwick's residents. This study and its recommendations have never suggested such a measure. Figure 27 depicts the opportunity for development given the reality that one must build to 18 inches above the base flood elevation. The calculations for this strategy were done utilizing the premise that if one were to "fill" to the base flood elevation (as required per code) -- and if the flood storage capacity is to remain -- whatever fill is used must be balanced with "cut" from the same site. The only exception is if the soil is found to be contaminated, in which case clean fill would need to be brought in to replace the contaminated soil -- but, even in this instance, the net storage would remain the same.

Development scenarios do not and should not preclude the use of this land for flood mitigation should the opportunity and funding arise. Flood protection should take precedence over development if development will take away the potential to solve the flooding issues for the neighborhood. For instance, alternative designs to a levee could include the creation of a conveyance system to move water from the main channel of Darby Creek near the confluence of Darby and Cobbs Creeks toward the Mingo Creek and Site 1 and use these spaces to potentially expand the community's ability to handle flood waters. Additional modelling is needed to understand if this idea can help to mitigate flooding for Eastwick. To be eligible for federal funds, such options would need to be an alternative presented in the USACE study although it is our understanding that the study for is solely related to the construction of a levee and not on any alternative conveyance strategy.

Although the drawings illustrate potential development, it is possible to improve the entire site as open space. This too would require significant investment to address soil conditions, replace the landscape and vegetation, and integrate community programming and amenities. Without development and/or private investment, this scenario would be extremely difficult to achieve economically, and it does not address residents' desire to bring more amenities and jobs to the community. Previous conceptual proposals for open space improvements in this location included new flood barriers, levees, and walls along neighborhood streets like 84th Street. These mitigation tactics raise design challenges that need to be addressed in a transparent process with community members.

Moving forward, detailed environmental analysis relating to the site's hydrology, water table, wetland classification and soils are necessary to help refine the current feasibility for development.

How will this approach benefit the community?

This approach -- developing the higher elevations on the edges of the site and leaving the remaining 60% for open space -- presents a balanced approach to development and open space that would support residents' calls for both economic development and open space, leverage development to connect fractured streets, and integrate a trail network with the opportunity to connect Eastwick Station with the Heinz Refuge. It would also aid in residents' calls for addressing illegal dumping by activating vacant land and providing more "eyes on the street."

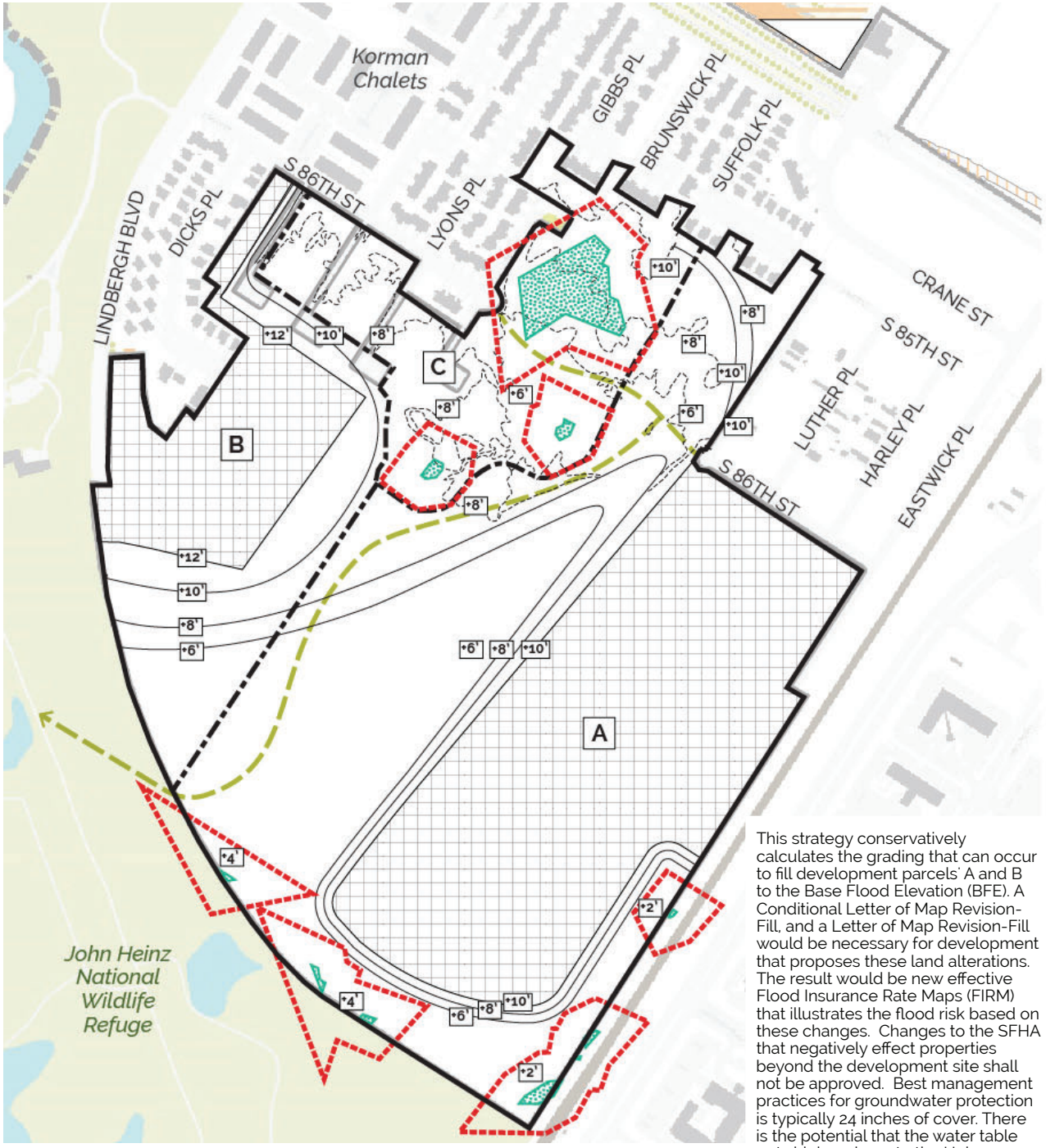


FIGURE 27: Site 1 Development Potential Study
Source: Bishop Land Design

This strategy conservatively calculates the grading that can occur to fill development parcels' A and B to the Base Flood Elevation (BFE). A Conditional Letter of Map Revision-Fill, and a Letter of Map Revision-Fill would be necessary for development that proposes these land alterations. The result would be new effective Flood Insurance Rate Maps (FIRM) that illustrates the flood risk based on these changes. Changes to the SFHA that negatively effect properties beyond the development site shall not be approved. Best management practices for groundwater protection is typically 24 inches of cover. There is the potential that the water table gets higher closer to the Heinz Refuge. See additional studies on groundwater testing recommended on page 89.

CUT & FILL PARCEL STRATEGY

Recommended approach for how a developer could build.

- EXISTING PROPERTY LINE
- PROPOSED PARCEL LINES
- EXISTING CONTOURS
- PROPOSED 2' CONTOURS
- EXISTING WETLAND
- 100' SETBACK FROM WETLAND
- POTENTIAL TRAIL CONNECTION
- POTENTIAL FILL AREA FOR DEVELOPMENT*

**Assumes a base flood elevation of +10.0 ft. As per the zoning code new development must be built above this base flood elevation.*

BLD recommends a topography survey to confirm elevations and to ensure proper existing elevations are maintained to prevent increased risk of flooding

Elevation Source: PASDA Philadelphia LiDAR 2015. At the time of capture ground conditions were leaf-off, snow free, and water was at normal levels. This dataset utilizes a datum of NAVD 88.

FEMA FIRM's are in NGVD 29, the datum shift from NAVD 88 to NGVD 29 is +/- 1 foot.

Site 2: The corner of 84th and Lindbergh

Existing Conditions Summary

- Of the three sites, this site has the highest elevations. Unlike the other sites, it is completely outside of the 1% annual chance flood zone; though some of the site is in the .2% annual chance flood zone. Given this higher elevation, the site is eligible for uses that are not allowed on other sites.
- This site currently acts as protection from the Cobbs Creek floodway.
- This site needs to be studied for bearing capacities and contamination, as it may contain fill materials from the former 85th Street dump site (See page 33).
- Though it has not been surveyed, local environmentalists say the site has high quality upland forest species. From an ecological standpoint, any development should look to reduce its impact on the forest community; though no regulation (except those related to stormwater and land use) would prohibit development.
- The Cobbs Creek Trail will soon be completed beside this parcel, connecting Eastwick Park with the Heinz Wildlife Refuge along Lindbergh Boulevard. The trail is a valuable asset for new development, and care must be taken to ensure future uses do not impact the trail in a significant way.

Community Input Summary

Advocates for the Refuge would like to see this parcel "serve as a gateway to the Heinz." Some residents also expressed the need for more senior housing throughout the process. As this site is located outside of the floodplain, it is also the primary opportunity in the study area for senior housing. However, the 84th Street and Lindbergh intersection is very busy, and residents expressed concern that development on this corner will increase traffic and disrupt the forthcoming Cobbs Creek Trail. This concern may be warranted if a gas station or drive-thru commercial use is developed on the site (uses that the residents are not in favor of), but if senior housing on the site is properly designed, these concerns can easily be addressed. Others felt that this site might be too isolated for seniors, as it is not adjacent to other uses. From a market perspective, most senior developments include a shuttle; though, more importantly, this site's adjacency to the Heinz could be considered a significant amenity for seniors. The details of any potential design will be important to ensure residents that the development will not harm the Heinz or compromise the forthcoming Cobbs Creek Trail.

Market Analysis Summary

Eastwick has a slightly higher percentage of the population aged 65 and older than the City overall. Site 2 would be appropriate placement for a 60 to 75 unit senior LIHTC apartment development with rent subsidies, as the Pennsylvania Housing Finance Agency (PHFA) will approve LIHTC housing in a .2% chance annual flood zone (but not in 1% annual chance flood zone). This type of use would benefit from Eastwick's natural setting, SEPTA bus service and proximity to the Heinz Refuge.

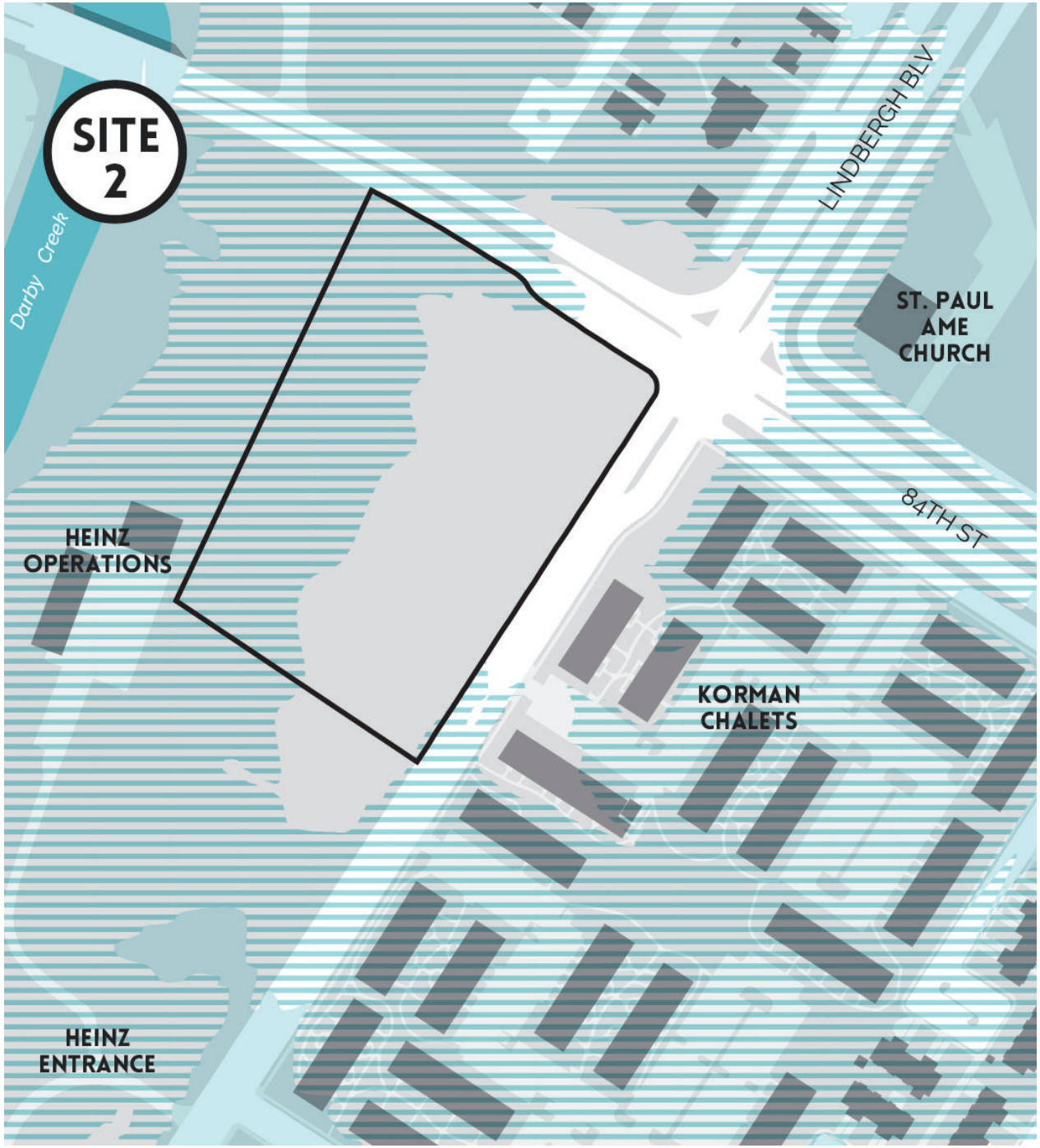
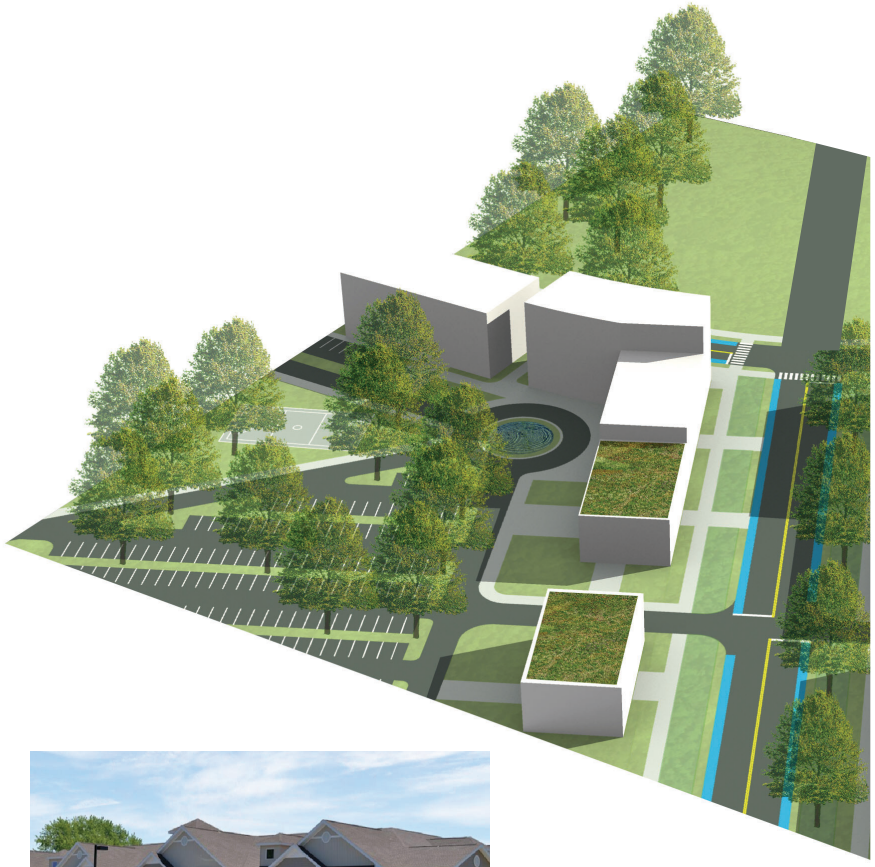


FIGURE 28: Site 2 Existing Conditions
Source: Interface Studio



The images on this page are concept only - actual development proposal depends on selected developer

Potential Land Uses

> Open Space

> Affordable senior housing totaling 60-120 units with open space

Design Approach and Considerations

If the site is to remain open space, it would be best positioned as a gateway to the Heinz Refuge, and an entity willing to maintain it as open space would need to purchase it. If PRA decides to pursue development here, disturbance of the site should be limited as much as possible. Urban design best practices should be used to create a walkable environment. Parking should be placed in the back of the site, a single curb cut should intersect with the forthcoming Cobbs Creek trail alignment, and the building footprint should activate the street corner. If developed, the remainder of the site should be maintained as open space by the developer.

Community Benefits

Developing this site would provide an affordable housing option for seniors within walking distance of the Wildlife Refuge, activate an underutilized street frontage, and incentivize improvements to the 84th and Lindbergh intersection to make it more walkable.

FIGURE 29: Site 2 Development Approach
Source: Interface Studio

Site 3: The Former Pepper and Comm Tech Schools and adjacent vacant lands

Existing Conditions Summary

This site contains the following two former schools, which both closed in June 2013 and are still owned by the School District of Philadelphia:

- The former **Pepper Middle School** was built in 1971. The structure is very large, with a gross building area of 200,000 square feet, excluding a partially finished basement area. The School District quoted a renovation cost of $19,000,000 ($95 per square foot) at the time it was decommissioned. That price was calculated to rehab the structure for the same use at the time the school was closed. It should be considered a minimum -- it would cost[4] at least $19 million to rehab the school. In our experience, projects similar in scope easily run $250 per square foot, which would bring the rehabilitation cost closer to $50,000,000. As far as the condition of the school is concerned, according to an appraisal completed on behalf of the School District, "The property is in a state of serious disrepair. While built in 1971, the property's effective age is much older, and, in our opinion, it is at the end of its economic life. There is evidence in the roof leaks, leaking sprinkler pipes, buckled hardwood floors. Theft of copper, plumbing by vandals."[5] The building is also rumored to have asbestos; though it has not been confirmed.
- The former **Communications Technology High School** (previously known as the George Wolf School) was built in 1926. In 1988, it was placed on the National Register of Historic Places. The school has a gross building area of 66,937 square feet. Its estimated deferred maintenance cost is $600,000, though it could cost as much as $17,000,000 to renovate the school. Overall, it is thought to be in much better shape than the Pepper School. The School District appraisal states: "Despite being vacant for a number of years, the property is in relatively good condition. There is evidence of roof leaks, bad windows, plumbing fixtures and more."[5]
- The Pepper Middle School is located within the Special Flood Hazard Area. Comm. Tech was built up to a higher elevation in the 1920s, but its basement is of concern. A topography survey is needed to determine the level of risk and whether or not it must comply with SFHA regulations. Future development along the 84th Street frontage presents a design challenge as it lies within the SFHA, it will likely require a Letter of Map Revision (LOMR) from FEMA.
- At the second public meeting, the planning team nicknamed this site the "Pepper Bowl." This is because the area contains some of the lowest elevations in all of Eastwick, including areas that are at or below sea level. In a significant flooding event, such as that which occurred during Hurricane Floyd, floodwaters overflow the banks of Cobbs Creek into Eastwick Park, run through the Planet Streets, and make their way to the "Pepper Bowl." Currently the Pepper School sits in the middle of the bowl, which makes the structure susceptible to flood damage - during Hurricane Floyd the structure suffered from $1 million in damage - and limits the bowl's overall flood storage capacity. If new development is to be built inside of the bowl, floodwaters will have nowhere else to go but into the surrounding neighborhood.

Pepper Middle School

Communications Technology High School (previously known as the George Wolf School)

- Some of these sites likely contains wetland areas but they have not been surveyed.
- A portion of these sites are affected by the Airport's 65 db sound zone (See Figure 23 on page 57).

4 Estimate provided by The Philadelphia School District Facilities Department

5 Independent appraisal completed on behalf of the School District of Philadelphia in May of 2015. Based on a 2013 inspection.

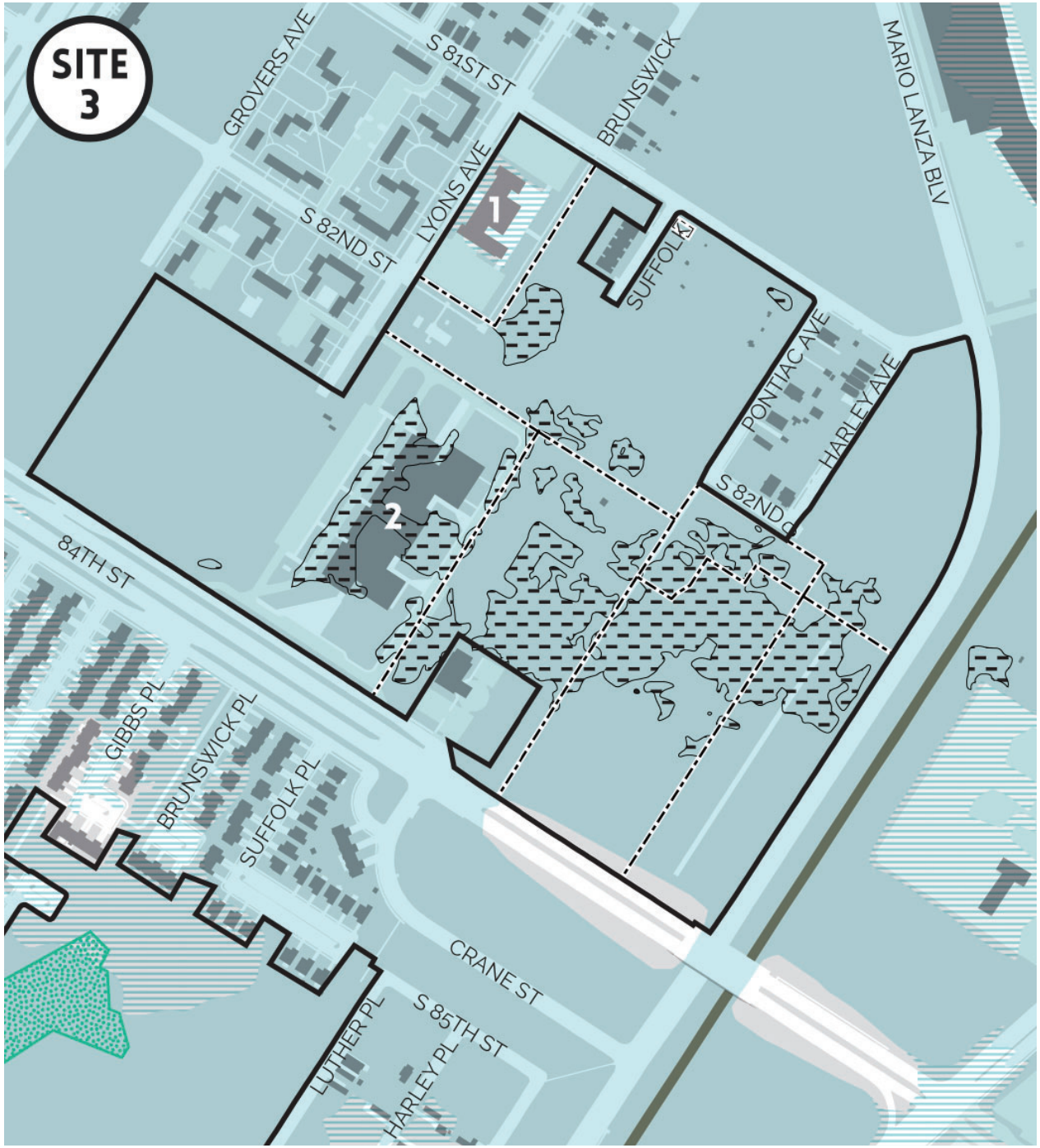


FIGURE 30: Site 3 Existing Conditions
Source: Interface Studio

Market Analysis Summary

Despite low population density in the immediate area and competition from the neighboring commercial activity on Island Avenue, the relatively high traffic count on S. 84th Street may be attractive to a gas station or convenience store operator would likely be interested in this location because of the traffic count and the lack of facilities serving rental car customers, but would likely be opposed by neighboring residents.

Supporting retail space developed in conjunction with other uses—such as offices or a hotel—would be more feasible and could also serve nearby residents. A child care or urgent care center would be operations that could work as stand-alone buildings or a component of a larger mixed-use development.

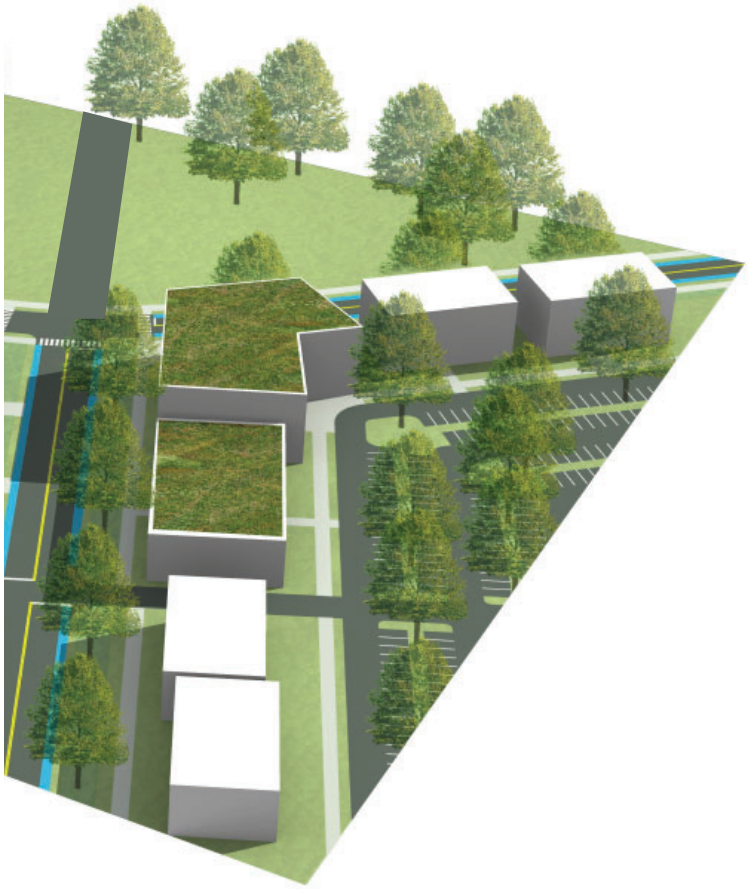
Office uses would be best sited along S. 84th Street, where any ground floor accessory retail would also have to be located in order to serve both employees and neighborhood residents.

A hotel could be located on S. 84th Street, but a location near the regional rail station would be preferred as long as a pylon can be seen from I-95 and street level directional signs can be provided.

Community Input Summary

The community mourns the loss of these schools as a resource for the neighborhood - both as a central gathering place and an educational resource. Residents expressed interest in reusing the structures for a new educational and community resource, to provide a much needed community meeting space. The community often reminded the planning team that the athletic playing fields, once associated with Pepper Middle School and now maintained by Philadelphia Parks and Recreation, are an important asset to the community and should be incorporated into future development scenarios. Many residents complained that the site suffers from some of the worst dumping in the City.

There were very different opinions on the future of this site. Some want to see a significant amount of development to achieve the promises, made many decades ago, for more services. Others feel that the site should not be developed at all - either because development might increase traffic on 84th Street or because it could limit the capacity of the site to hold floodwater.



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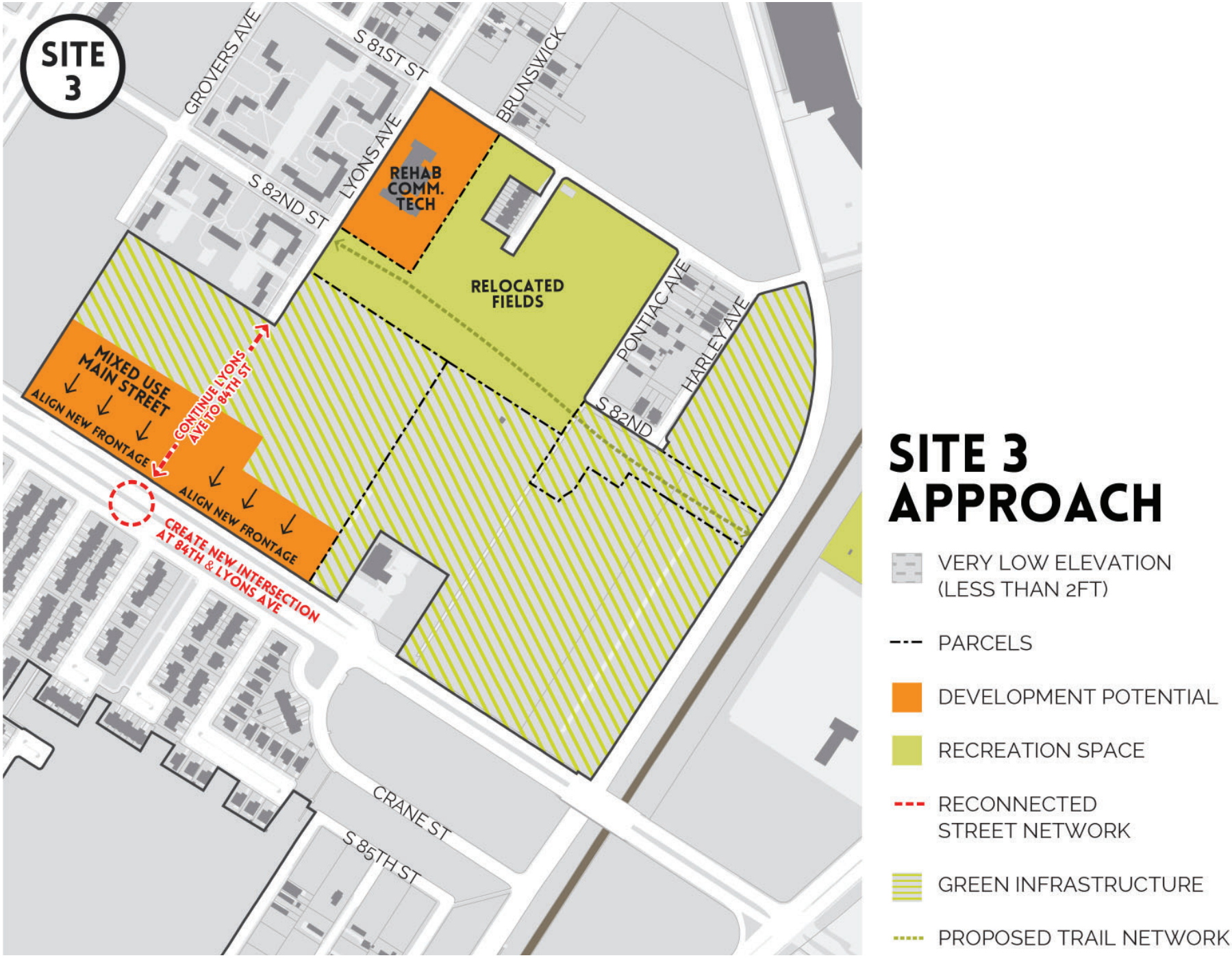


FIGURE 31: Site 3 Development Approach
Source: Interface Studio

Potential Land Uses

- Along 84th Street: this site has the potential for office and small business development, which would activate Eastwick along a corridor that currently divides the community.
  - Commercial/Office with ground floor retail
  - Hotel with ground floor amenities
- Comm Tech School Reuse
  - Community centered institutional or educational reuse
  - Housing, including affordable and/or senior units
  - Workforce/skills training for youth and adults
- Along Mario Lanza Blvd
  - Open Space

Design Approach and Considerations

This study recommends the demolition of the Pepper School, given its state of disrepair, the cost to maintain it, and its location in one of the lowest areas of the floodplain.

Overall, Site 2 is centrally located in the community and has the potential to act as a community hub and Main Street along its edges, avoiding the center of the site with the lowest elevations. In order to better connect residents who live south of 84th Street with this site, Lyons Ave - which currently dead ends at the Pepper School fields travelling south - should be reconnected to 84th Street. The grade change presents a design challenge, but this task is manageable with the right design and construction approach. This new intersection with 84th Street should be designed to improve pedestrian access and slow down traffic in the area.

Additionally, the current 44 ft. service road running parallel to 84th Street is repetitive and underutilized. Only two other properties are "serviced" by this road. With the cooperation of adjacent property owners and the City, the service road could be eliminated. This will provide better access to 84th Street from the site and help to reduce 84th Street's overall width, which encourages speeding and unsafe conditions for pedestrians. See Figure 32.

The former Comm Tech School should be reused. A site survey should be conducted to see if any portion of the structure lies in the Special Flood Hazard Area. If so, redevelopment should explore moving mechanicals and equipment out of basement level to reduce flood risks. Future use should incorporate a community meeting space, as one is lacking in the neighborhood. As a mix of housing, community meeting space, and specialized services - as proposed by community members - Comm Tech could become the valuable community resource long sought after by Eastwick residents. To further reinforce this idea, there is an opportunity to relocate the recreation fields (currently located along 84th Street) to a location adjacent to the Comm Tech site, which would create one major community hub and center. This relocation depends upon the assumption that the lands surrounding Comm Tech do not contain wetlands. If wetlands are found, they may impact this opportunity as currently proposed.

With the relocation of the fields, the 84th Street frontage remains an opportunity to act as a neighborhood Main Street, offering small neighborhood serving retail (such as a coffee shop, diner, or daycare) paired with an anchor office or hotel development to support it. This development should be placed as close to 84th Street as possible - potentially utilizing the land currently occupied by the service road, as mentioned above. Overall, the site concept is two-fold: (1) remove the structures and impervious surfaces that sit in the middle of the site that are most impacted by water, and (2) create a smaller development opportunity than what currently exists to activate 84th Street. As described in meetings with residents, this proposal widens the lip at the edge of the site and creates more space for flood storage capacity in the center. The existing grades are a design challenge, as the elevation rises towards 84th Street; but this grade change does not preclude development. If a new building lines 84th street, it is likely that parking can be tucked underneath the structure, working with the site grade.

Because of the low elevations at the center of the site and the likelihood that much of the area will remain undeveloped, the City should work with the community to utilize the proposed open space for both infiltration and recreational uses. Future redesign of the open space should include a trail that would connect 82nd Street to Mario Lanza Boulevard and should consider the site for flood mitigation opportunities.

The proposed disposition strategy for these parcels takes into account the existing ownership - whether it be PRA or the School District - as well as site constraints and proposed uses, while maximizing parcel area. The proposed parcel boundaries are shown in Figure 38 and equate to splitting the parcels into six sub parcels.

The response from community members to this proposal was generally positive. Most expressed a support for reusing Comm Tech and integrating the fields into a larger community hub. Many also support extending Lyons Ave to 84th Street, which, we learned, was exactly how the area was originally designed. The idea that development could occur along 84th Street is more controversial. Some are very much in favor of this idea, while others are against the strategy, fearing that it will exacerbate

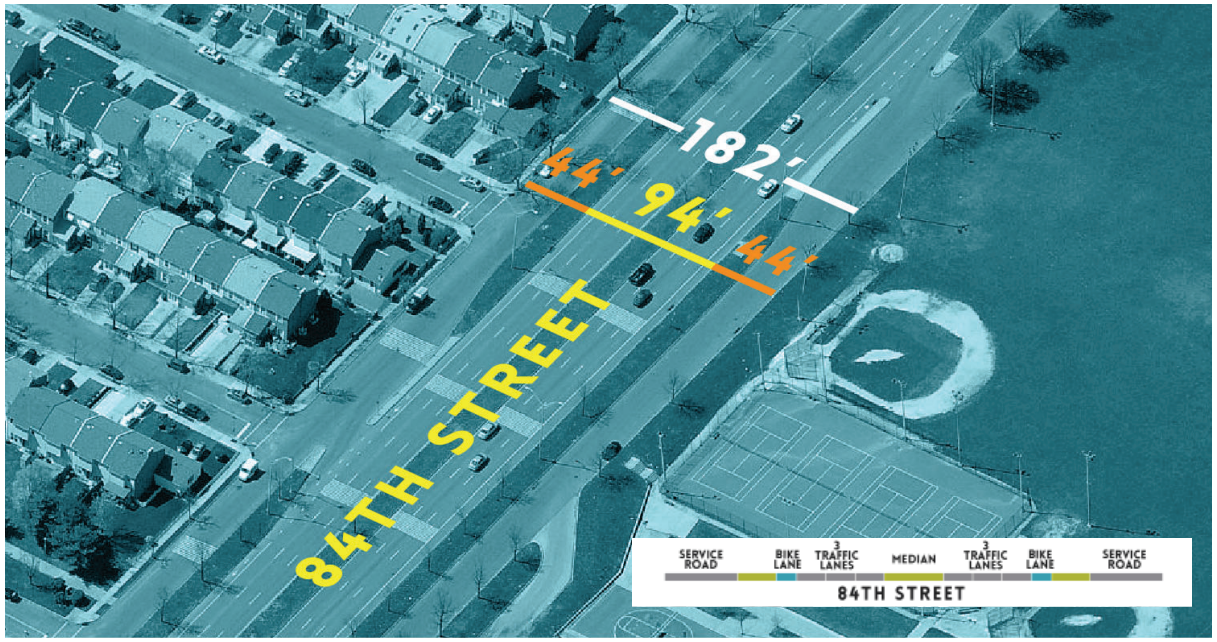


FIGURE 32: 84th Street diagram
Source: Interface Studio

Phasing

Due to the complexity of developing on this site, the series of maps on this page illustrate how this site can fulfill its vision:

> Demolish Pepper, Rehab Comm Tech, and relocate the athletic fields to create a true community hub

> Continue Lyons Ave to 84th Street

> Develop along the 84th Street frontage while continuing to study the potential for flood mitigation in the adjacent open space

Community Benefits

Reconfiguring of this site as proposed would provide a much needed community hub for Eastwick, bringing together civic, commercial, and cultural life in one location. It would connect sub-neighborhoods and help to bridge the neighborhood divide by activating 84th Street.

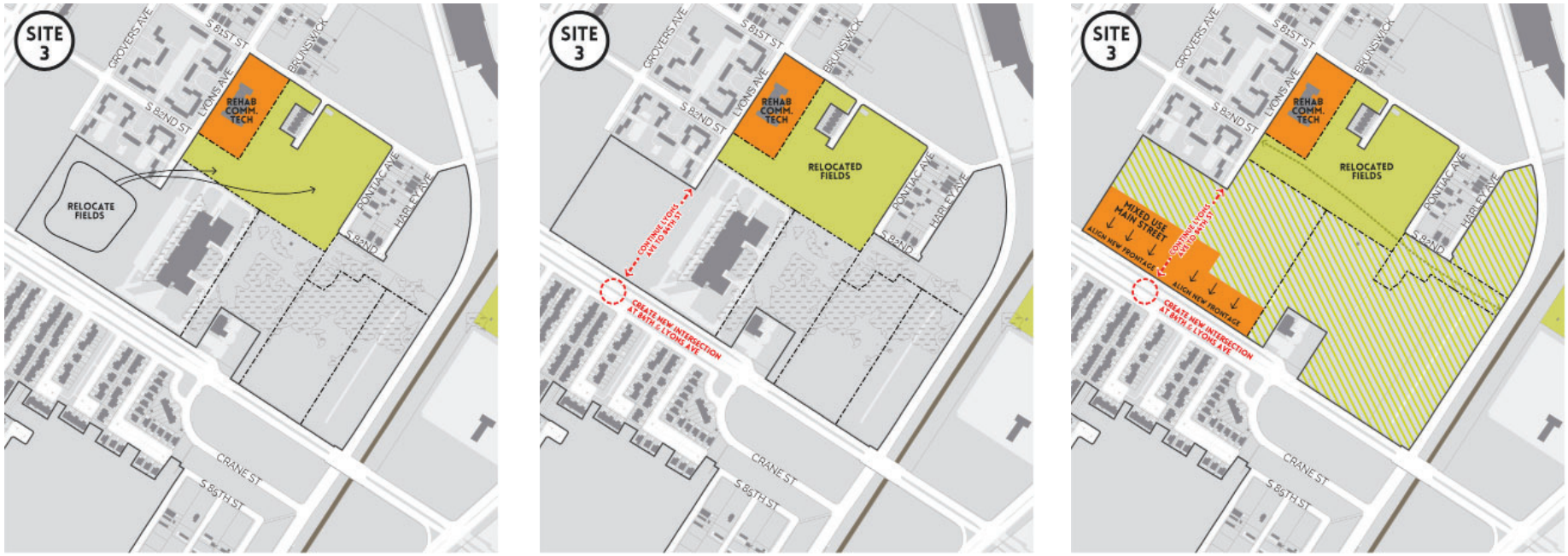


FIGURE 33: Potential phasing of Site 3
Source: Interface Studio

NEXT STEPS

Additional Studies

As an immediate next step it is necessary to conduct further studies, tests, and due diligence in order to confirm the development potential of these sites and their potential impact. These include:

> **Site Survey**

Surveyed elevations of the site, including regulatory delineations, are critical to understanding the development potential for each of the sites.

> **Geotechnical Borings for ground water and subsurface characterization**

Between six and nine borings are recommended; though it may be helpful to have more rather than less. A majority of these should occur on Site 1, in order to determine approaches on modeling.

> **Wetland Delineation**

Wetlands are thought to exist on Site 3, given its low elevations. This needs to be confirmed in order to properly assess the site's potential for either flood mitigation or future development.

> **Wetland Study**

A study of all wetlands that exist on the sites is necessary to determine if they are Exceptional Value (EV), which would impact the development strategy.

> **Modeling to determine floodwater conveyance**

There are two major modeling tasks that need to be completed in successive order. The first set of models is intended to understand if we can help to resolve the issues of flooding in Eastwick with the development of a strategy for conveyance of flood water through Eastwick in any number of ways.

Upon that determination, we can pursue the second set of models, which will test the development footprints outlined in this study. Modeling is an iterative process; thus, it is critical that the previous phases provide us with enough confidence to proceed successfully. It's impossible to forecast the number of iterations it will take, but generally between two and four iterations are sufficient - though more could be necessary.

This study focused on the narrow issue of potential land uses for three sites - albeit large sites - in Eastwick. It is recommended that the community continue to plan for the future of their neighborhood to address some of the issues facing Eastwick that are outside of this study's scope, including:

> **Specific Community Planning around Water Systems:**

With the community, continue developing concepts surrounding floodwater conveyance, starting from the landscapes described in this study. This should give the community a better grasp of what the landscape outside of the development footprint will do for them and how it might work.

> **An Eastwick Neighborhood Plan**

Throughout the planning process, residents identified many quality of life issues, including illegal dumping, disconnected streets, and the need for social services and programming. Many of these needs are not fully addressed in this study's recommendations. Thus, the larger set of issues that affect the neighborhood will remain. The City of Philadelphia and the residents of Eastwick need to plan further in order to develop solutions that will alleviate local problems and help the neighborhood realize its potential. Therefore, a comprehensive neighborhood plan is recommended so that the vision of a healthy "Village in the City" can be realized.

It is recommended that the Redevelopment Authority share the findings of these studies with the City's floodplain manager and the Philadelphia Water Department, and consult their experts when drafting future Request for Proposals.

Summary of potential land uses and next steps

SITE	POTENTIAL USE OR USES	ADDITIONAL RECOMMENDED STUDIES
1	Subparcel A: Low-impact light Industrial development along the rail. Subparcel B: Lower density residential infill on the higher elevation Subparcel C: Open Space, particularly buffering the wetlands and in low lying areas.	Site Survey Geotechnical Borings for ground water and subsurface characterization Wetland Study Modeling to determine floodwater conveyance
2	Open Space Affordable senior housing totaling 60-120 units with open space	Site Survey
3	Along 84th Street: Commercial/Office with ground floor retail Hotel with ground floor amenities Along Mario Lanza Blvd: Open Space	Site Survey Geotechnical Borings for ground water and subsurface characterization Wetland Delineation Wetland Study Modeling to determine floodwater conveyance
	Comm Tech School Reuse: Community centered institutional or educational reuse Housing, including affordable and/or senior units	Site Survey

RFP Process and Land Disposal

The purpose of this study was to provide a framework for making decisions about the future of publicly held land in Eastwick. This study was not carried out to select a particular developer, development, or land owner. Pending the findings of the additional studies recommended in this report, it is recommended that actions to dispose of any publicly owned parcels in Eastwick should continue to involve the community, and decisions should be made through an open, public process.

The following steps are the Redevelopment Authority's typical steps for disposing of publicly held land. Parts where the public can provide input are highlighted below:

> RFP Posted with evaluation criteria and scoring sheet attached
> Pre-bid meeting **(Open to public)**
> List of all interested parties posted publicly on PRA's website
> Multi-agency review committee scores proposals and makes preliminary selection
> Proposal posted on PRA's website for public comment period
> Developer due diligence, including working with community-based organizations
> PRA review and approval of plans, budgets, and financing
> Execution of Redevelopment Agreement by developer
> Presentation to Planning Commission for approval **(Open to public)**
> Presentation to PRA Board for developer selection **(Open to public)**
> City Council Resolution hearings for approval **(Open to public)**
> Execution of Redevelopment Agreement by PRA
> Settlement and transfer of title to developer
> Pre-construction conference
> Construction period
> Review of completed development to determine compliance with Redevelopment Agreement
> Issuance of Certificate of Completion

Questions for developers

In order to ensure the community fully understands the future development proposals presented to them, residents created a list of questions during the roundtable discussions for potential developers to answer. These questions should be included and answered by potential developers as part of the RFP submission process in order to arm residents with the knowledge they need to evaluate the proposals effectively:

GENERALLY:

> Why do you want to locate in Eastwick?

> What do you know about Eastwick?

> How many acres do you need? How big is your footprint?

> How much space do you need?

> Where do you want it to land in Eastwick?

> What is your timeline?

COMMUNITY BENEFITS:

> How will this development enhance our neighborhood?

> How is what you want to develop going to interact with Eastwick and its residents?

> Explain in detail how your proposed project will enhance my property value and my quality of life.

> What is your social commitment to this community? How will you ensure that community amenities are a component of the development?

> Will you provide resources for seniors?

> What is the community impact, socially, economically, and ecologically? How does it address the needs and deficiencies in the neighborhood?

> How might your development affect noise in the neighborhood? *We love how quiet it is.*

> If residential, will it be homeowner or renter?

PROVIDING OPPORTUNITY:

> Will you provide jobs?

> Will the jobs created be recruited from our community? How?

> Will you provide training and certification opportunities?

ENVIRONMENTAL IMPACT:

> Eastwick has very real environmental challenges. How will your project help to ameliorate them?

> How will your project impact local flooding?

> Will you provide open space? Will everyone have access?

> What will you do to add/improve safe healthy recreational activities for families in Eastwick? How?

> How do you mitigate the environmental impact of your development?

> How would development control for flooding?

> How will you manage the stormwater?

> How might your development be able to address dumping?

> How will your project incorporate climate change resiliency?

CONNECTIVITY:

> What will you do to reduce barriers in our community?

> How will your project impact the community connectivity, such as traffic volume and flow and pedestrian access?

> Does it have enough parking?

> How might your development slow traffic?

> How might your development stop drag racing?

The Long Road Ahead

This study's community engagement was designed to inform the planning process and help the neighborhood develop a long-term vision for neighborhood restoration. The planning process was instituted in order to determine what to do with vacant land that the City is ready to dispose of. Although it was focused on three sites, the planning process used a wide lens to examine all of the issues in the neighborhood.

It is clear that no particular land use on the study area's three parcels will solve the breadth of issues that face Eastwick's residents. The problems of flooding, the Clearview landfill remediation, the nearby sinking homes, the sense of physical disconnection, the highway-like streets that go through this residential area, and the lack of a central Main Street are problems that require significant cooperation, coordination, and trust to overcome. As one interviewee put it:

"This community has some major issues that need major attention, and so it is my hope that this city will do something that they did not do before, and that is put their residents first. Nothing since the Urban Renewal plan that has been put in place has been for the community. There's no other section in the city that has no schools.

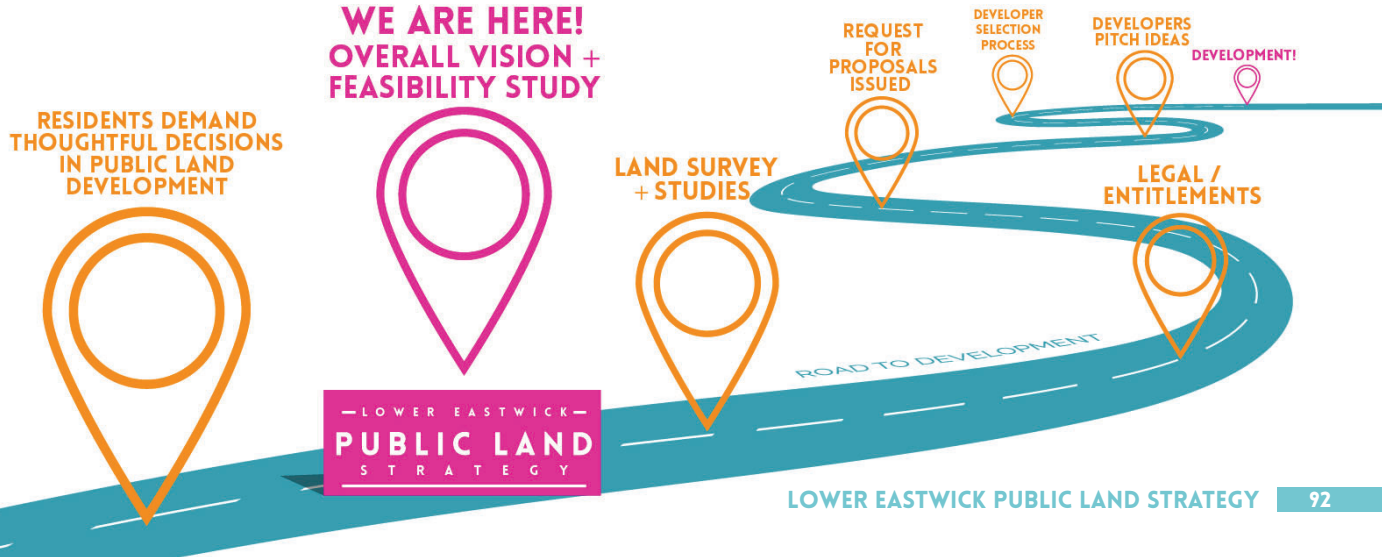
- Eastwick Resident

The effort to revitalize Eastwick - after so many decades of neglect and abuse -- will be long and difficult. It is essential that the neighborhood think of this effort as a long-term project. Other neglected neighborhoods have achieved great results because they have identified what's needed to create a healthy community and they have clearly articulated their goals in moving toward that vision. It is essential for residents to remind themselves **what they are FOR.** While resident action can tend to focus on issues, a focus on **alignment around shared values** allows groups to work in coalition rather than competition. We can realize our vision if we are programmatic and constantly ask ourselves, "How do we move towards our goal?"

As part of the long process, it is a worthwhile step to honor the loss that residents felt when parts of the neighborhood were destroyed during Urban Renewal. This is also a way to honor the rich neighborhood life that many people told us about.

"If they could see that people are doing something, you could bring closure. That's why I suggest a tree with possibly bricks around it and the name of the person that used to live out in the area. A memorial to that person and I'm envisioning a park area. A recreation area where other people are just welcome to come sit and meditate, welcome to come play games, bring their families. They may not get a chance to live in a house out there, but they can tell their children what it's like. Because they can sit there and they can see the robins fly by.

- Eastwick Resident



Keys for the Future

ECOLOGICAL KNOWLEDGE

Moving forward, the community should continue to educate themselves on the ecology of Eastwick. Eastwick has two striking examples of groups of people coming together to learn about and engage with the local and regional ecology. The CAG (Community Advisory Group), which coalesced around a desire to understand the overlapping effects of the Clearview Landfill, is a prime example of various stakeholders learning collaboratively about various dimensions of the neighborhood ecology and toxicology.

"There was a very intentional process of bringing people around the table. It's a more representative group than any of the other convenings, in the sense that it brings people from the different catchment areas and it includes some kind of not-usual suspects, and it's also heavily focused on the people who were most effective here, but it still brings together different leadership.

- Eastwick Resident

The second example is the Eastwick and Victory Community Gardens, where there are gardeners who have tended the same land for nearly five decades. Plots are large enough to feed a family. People grow a variety of crops from around the world and share this regional knowledge with one another. Each plot is connected to the water source. Over time gardeners have built up their plots with sheds and other handmade structures. The plots are connected to each other and the street by a series of collectively maintained walking pathways. It is notable that long-term gardeners - individuals with a deep and lengthy understanding of soil composition and ecological process - cultivate large crops within the Eastwick neighborhood boundary. A gardener who has had a plot for just three years described the quality of the soil:

"When I came in three years ago, this was really fertile soil. That's very rare to find in the city, because most places people are advising building raised beds and bringing in soil and all the additional cost of that. To be in a place where all that work has already been put in, it's really a luxury.

- Eastwick Resident

The environmental issues that face Eastwick are complex, and it is key that residents continue to learn, share and collaborate.

NEIGHBORHOOD ACTIVISTS AND FRIENDS FROM ALL CORNERS

Eastwick has many active organizations working to achieve a safe, prosperous future for the neighborhood. The efforts of passionate residents have attracted allies from the greater region, including lawyers, scientists in many disciplines, academics, urban planners, ecologists, and more. These coalitions have learned together about current conditions and best practice strategies. The deep commitment of neighborhood leaders and their far-reaching systems of support are illustrated in this statement:

"When you love your community and you love your neighbors and you want to see growth and you want to stay there. I might not live to see all the things that need to be done to make Eastwick an enriching, thriving community. Most of the people who I rub elbows with who are community activists in our community and in our organization will probably not live to see that either, but we are darn sure gonna make a difference and we stand united, and we will continue to move forward and represent the community and the quality of life that is due - that it's entitled to and should have.

- Eastwick Resident

Residents should continue to educate and empower themselves, knowing that PRA has committed to not allow development if it will worsen flooding conditions. They should continue to work together towards the vision of an Eastwick that is both resilient and thriving.

IT IS POSSIBLE

to create a leafy, charming village in Eastwick. We already know it can be done because we can see the model of charming country lanes and pleasant gardens in the Eastwick Community Garden. What can be done on the small scale can be replicated on the larger scale. It takes time, elbow-grease, a vision, and a refusal to let past neglect shape the future.