



PHILADELPHIA NAVY YARD PLAN

2022 UPDATE

JUNE 2022

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2022 UPDATE

JUNE 2022

**JAMES
CORNER
FIELD
OPERATIONS**

**NAVY
YARD**
PHILADELPHIA


Driving growth to every corner of Philadelphia



PREPARED FOR:

PIDC
Ensemble Real Estate Investments
Mosaic Development Partners
www.navyyard.org

PREPARED BY:

James Corner Field Operations

with
DIGSAU
Urbane Development
MDesigns
Toole Design
Pennon
Sherwood Design Engineers
David Mason Associates
Rodriguez
Re:Vision
THA Consulting
HERA Laboratory Planners
Dharam
Amber Art
(photo credits on page 123)

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ACKNOWLEDGEMENTS

PHILADELPHIA NAVY YARD PLAN UPDATE 2022

Mayor James Kenney, City of Philadelphia
Councilmember Kenyatta Johnson, City of Philadelphia – District 2
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Philadelphia Industrial Development Corporation, Master Developer
and Sponsor
Ensemble/Mosaic Navy Yard LLC, Co-Sponsor

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Pennoni Associates, Engineering
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THA Consulting, Parking Consultant
Re:Vision, LEED Neighborhood Planning
Amber Art, Arts-Based Engagement

ACKNOWLEDGEMENTS

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Contributing survey respondents, including Navy Yard employees and visitors, as well as constituents throughout the city.

(acknowledgements continued)

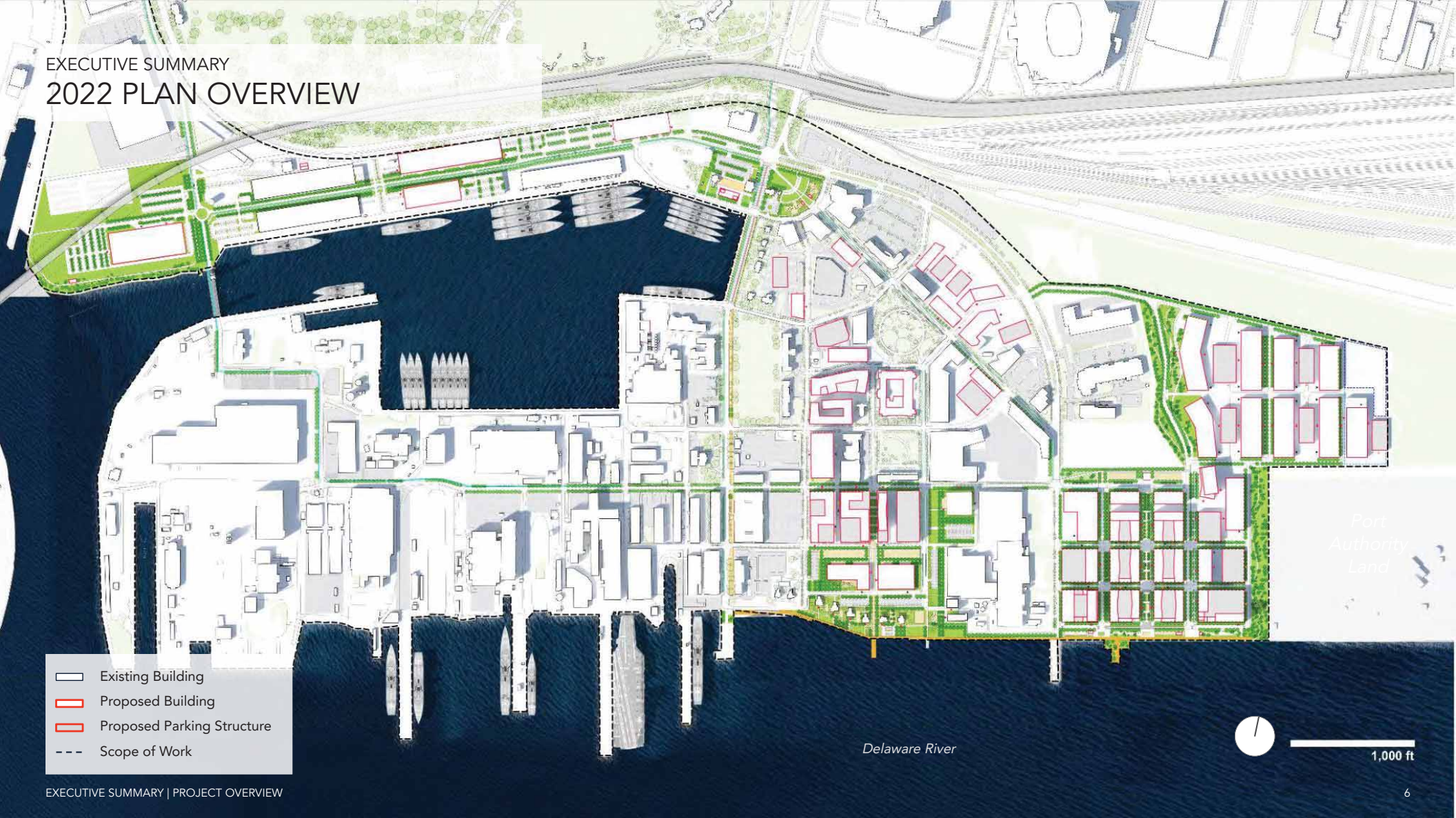
Focus group participants, including:

- Adaptimmune Therapeutics
- AECOM
- African-American Chamber of Commerce of Pennsylvania, New Jersey, and Delaware
- Allied Universal
- Asian American Chamber of Commerce of Greater Philadelphia
- Axalta Coating Systems
- Ben Franklin Technology Partners
- BFW Group
- CBRE
- CEO Council for Growth
- Chapel of the Four Chaplains
- City of Philadelphia Department of Commerce
- City of Philadelphia Department of Planning and Development
- City of Philadelphia Office of Economic Opportunity
- City of Philadelphia Office of Emergency Management
- City of Philadelphia Office of Sustainability
- City of Philadelphia Office of Transportation, Infrastructure, and Sustainability
- City of Philadelphia Parks and Recreation
- Comcast Corporation
- Coriell Life Sciences
- Courtyard by Marriott Philadelphia South at the Navy Yard
- Delaware River Waterfront Corporation
- Econsult Solutions, Inc.
- Fairmount Park Conservancy
- FS Investments
- Greater Philadelphia Hispanic Chamber of Commerce
- Half Mad Honey
- Iovance Biotherapeutics
- Live! Casino and Hotel Philadelphia
- Navy Yard Design Review Advisory Committee

(Focus group participants continued)

- Norfolk Southern Corporation
- Packer Park Civic Association
- PECO
- Pennsylvania Department of Transportation
- Pennsylvania Historical and Museum Commission, State Historic Preservation Office
- Philadelphia City Planning Commission
- Philadelphia Eagles
- Philadelphia Gas Works
- Philadelphia Phillies
- Philadelphia Ship Repair
- Philadelphia Water Department
- Philadelphia Works
- PhilaPort (The Port of Philadelphia)
- Philly Shipyard, Inc.
- PIPV Capital
- Rhoads Industries
- Southeastern Pennsylvania Transportation Authority
- Sports Complex Special Services District
- Team Clean
- The Chamber of Commerce for Greater Philadelphia
- Thomas Jefferson University
- U.S. Navy
- Unique Industries
- University City Science Center
- University of Pennsylvania Weitzman School of Design, Department of City Planning
- URBN
- Veterans Stadium Neighbors Civic Association
- Vincera Institute
- WuXi Advanced Therapies

2022 PLAN OVERVIEW

- 
- Existing Building
 - Proposed Building
 - Proposed Parking Structure
 - Scope of Work

Delaware River

Port
Authority
Land

1,000 ft

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Since the 1,200-acre site was acquired from the federal government in 2000, the Philadelphia Industrial Development Corporation (PIDC), Philadelphia's public-private economic development corporation, has successfully led the planning, development, and operation of the Philadelphia Navy Yard (the Navy Yard) on behalf of the Philadelphia Authority for Industrial Development (PAID) and the City of Philadelphia (the City). POLITICO has called the Navy Yard "the coolest shipyard in America" and many industry observers, including the Urban Land Institute, have recognized the community as a leading model for repurposing military and industrial assets for a diversified modern economy.

Building On Success

Home to reimagined shipbuilding facilities as well as new high-performance and energy-efficient construction, the Navy Yard has a variety of flexible buildings with different heights, vintages, and floorplates, powered by an innovative and nationally-recognized private utility and oriented around iconic parks, Complete Streets, and a waterfront greenway. Today, the Navy Yard is an expanding community of 15,000 employees and 150 employers who occupy 8 million square feet of facilities across a mix of property types, including office, retail, educational, industrial, and R&D.

Building upon the 20 years of economic development success coupled with the recent ability to develop residential in key areas of the site, the Navy Yard presents an opportunity to think big. With over 8.9 million square feet of new building and adaptive reuse, nearly 1 million square feet of improved public realm, and approximately \$5.9 billion of investment anticipated over the course of the next 20 years, the the 2022 Plan update (the 2022 Plan or the Plan) envisions the Navy Yard as the best of what a mixed-use campus can be.

A Comprehensive Mixed-Use Plan

With the implementation of the 2022 Plan, the Navy Yard (TNY) will realize a responsive and visionary urban development that supports equitable and inclusive economic growth and emphasizes a resilient and cohesive public realm. The 2022 Plan supports the mission of PIDC to spur investment and support business growth in Philadelphia. The Plan focuses on creating best-in-class spaces for the burgeoning life sciences economy, enhanced connectivity for the thriving industrial district, and a new community to live, work, make, and play that also empowers local minority- and women-owned enterprises. The Navy Yard of the future will be a place that further promotes creativity and innovation and reflects the cultural vitality of the region.

In addition to new jobs and businesses, the Plan will bring private residents for the first time since the site was acquired in 2000, supporting its transition into a 24/7 mixed-use, mixed-income neighborhood. This "15-minute city" will feature new, sustainable infrastructure, multimodal transportation, "street-facing" uses on the ground floor of buildings, and essential neighborhood services and amenities.

The Navy Yard is rich in open space and continuous waterfront. The 2022 Plan leverages these assets to clarify a sense of place and shape an environment that supports health and well-being. By integrating adaptive building reuse with new construction and amplifying the site's natural features alongside new technology, the Navy Yard will be simultaneously authentic and forward-thinking, welcoming, and innovative.

Within the site, significant areas of focus are enhanced entrances at Broad Street and 26th Street, densification and new public realm sciences manufacturing in the Greenway District, a climate-resilient mixed-use Waterfront District, and, throughout the campus, an expanded street grid with multimodal hubs to support bike, bus rapid transit (BRT), and autonomous vehicle (AV) shuttle services. This Plan builds on the Navy Yard's historical legacy and its more recent commercial and industrial transformation.

Unprecedented Equitable Development

Perhaps as significant as the Navy Yard's physical transformation is the Plan's overall emphasis on equity, resilience, and health. This emphasis began in the planning process, incorporating direct engagement and feedback with Philadelphians in adjacent communities and those working at the Navy Yard. The planning process for the 2022 Plan also featured an unprecedented inclusion of minority and women owned businesses as consultants and contractors. Planned development will deliver economic empowerment as a means of financing proposed projects, dedicated retail for minority- and women-owned businesses, housing at affordable rates, and workforce training to connect Philadelphians with existing and new jobs at the Navy Yard. Together, these strategies underpin a holistic approach to equity and foreshadow a future at the Navy Yard that is as diverse, creative, and resilient as the people of this city.

Sponsored by PIDC and the partnership of Ensemble Real Estate Investments and Mosaic Development Partners (Ensemble/Mosaic), the Plan has evolved over the course of 12 months from Spring 2021 to Spring 2022. This report acts as a "living document" that summarizes the key aspirations and themes of the transformation to continue.

SUMMARY

PHILADELPHIA NAVY YARD PLAN

-
- The map illustrates the Philadelphia Navy Yard development, situated along the Delaware River. It features a grid-like layout of buildings and streets, with various colors indicating different land use zones. Numbered circles (1-6) and red circular icons with a double arrow indicate specific districts and multimodal hubs. The map also shows the Delaware River to the south and the Port Authority Land to the east.
- Industrial/Flex
 - Life Science
 - Office/Lab
 - Residential
 - Retail
 - Amenity
 - Hospitality
 - Parking
 - ① Gateway District
 - ② Shipyard District
 - ③ Corporate Center
 - ④ Historic Core
 - ⑤ Greenway District
 - ⑥ Waterfront District
 - ↻ Multimodal Hub

Delaware River

Port
Authority
Land



1,000 ft

EXECUTIVE SUMMARY

NAVY YARD EVOLUTION

The Navy Yard has an incredible history which leaves an impactful footprint on the site today. Originally a wilderness island at the confluence of Philadelphia's two defining rivers, "League Island" was reshaped between 1868 and 1996 as a base of U.S. Navy operations. This legacy has left an eclectic mix of industrial and residential structures, many of which are designated historic landmarks. Now occupying a smaller physical footprint, the U.S. Navy still maintains an active presence, with a growing civilian workforce on site today.

In 2000, PAID acquired the Navy Yard on behalf of the City of Philadelphia, with the goal of transforming it into a vibrant, diverse business campus. On behalf of the City, PIDC leverages public-private partnerships to manage and coordinate development, business attraction, operations, construction, and maintenance of extensive infrastructure. As a result, today the Navy Yard boasts 15,000 employees and 150 employers who occupy 7.5 million square feet across a mix of property types including office, industrial/manufacturing, and research and development – and the campus is still growing.

In recent years, the Navy Yard has played a distinct role in the growth of Philadelphia's ecosystem of life science innovation. The campus represents a strategic location on the northeast corridor, in close proximity to Philadelphia International Airport and major interstates, where companies bring together the research infrastructure, human capital, and innovation developed in Philadelphia's world-class institutions. As the Navy Yard has evolved, sustainability has taken a growing focus, with a number of LEED-certified buildings and public realm improvements that capitalize on and preserve the site's robust inventory of open green spaces.

One of the most successful redevelopments of a former military base, a key factor in the Navy Yard's more recent success was a nearly 20-year partnership with Liberty Property Trust and Synterra Partners (Liberty/Synterra), who, in partnership with PIDC, jointly developed the Navy Yard's original Plan in 2004 with Robert A.M. Stern Architects. In 2013, the same parties delivered a Plan Update, which guided the development of approximately 800,000 square feet of commercial office and R&D space in the Navy Yard's Corporate Center. Over the

duration of this partnership, Liberty/Synterra developed 1.5 million total square feet at the Navy Yard. At the same time, PIDC continued to support the thriving shipyard and industrial district, a strong source of diverse, family-sustaining jobs, and also employed partnerships, financial and technical assistance, and other economic development tools to further support tenant attraction and job growth at the Navy Yard.

In 2019 Liberty/Synterra exited the commercial real estate market and the U.S. Navy agreed to allow private residential development on select sites within the Navy Yard for the first time. In response, PIDC launched a public competitive selection process and identified Ensemble/Mosaic as a new development partner. Ensemble/Mosaic bring significant development expertise, and a fundamental commitment to equity and the vitality of the Navy Yard. They emphasize a "live, make, play" approach to the Navy Yard's future and a deep commitment to its authenticity as a vibrant Philadelphia neighborhood.

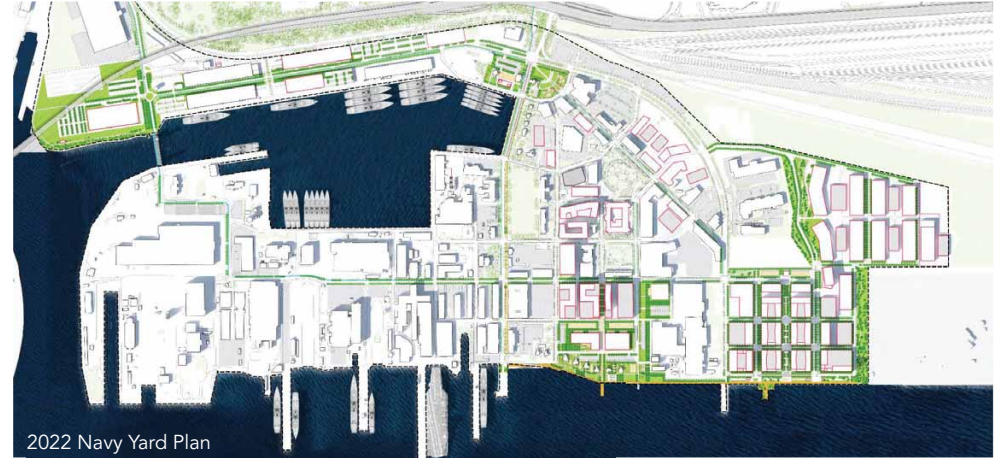


NAVY YARD EVOLUTION



2013 Navy Yard Plan

The 2022 Plan leverages and expands on the Navy Yard's successes while recognizing certain shortcomings and challenges, and adapting to current market forces. In the Historic Core and Corporate Center, where a significant amount of development has already occurred, the Plan proposes modifications to each. In areas where little new development has occurred, the Plan Update reimagines these districts taking into account the physical and geographical opportunities. As a result, the Gateway District will become a place of welcoming but also an opportunity for flexible light manufacturing and R&D uses. On the eastern portion of the site, the Plan replaces the Mustin Park District with the Greenway District, a forward-thinking life science and advanced manufacturing district, and the Waterfront District, a dense and vibrant mixed-use district.



2022 Navy Yard Plan

Overall the 2022 Plan features the following highlights and key differences from the 2013 Plan:

- Emphasis on equity, welcome, and inclusion in the physical design and mix of uses, accessibility of employment, and housing opportunities, as well as in the planning process;
- Renewed focus on life science and advanced manufacturing uses in the Greenway District;
- Reimagination of the Gateway District, and the waterfront in the Historic Core and Waterfront District;
- Higher densities across all uses, with amplification of residential development to ensure a critical mass of residential population;
- A vibrant, robust, and inclusive retail and makerspace program to provide critical amenities to the workers and residents;
- Reorientation of streets and emphasis on a more connected urban street grid;

- Thoughtful introduction and planning for public realm spaces, with the goal of ensuring adequate utilization and activation;
- Reduction of surface parking through more emphasis on structured parking, to maximize development and open space and minimize car-dominated streetscapes;
- Anticipation of sea-level rise and proactive site planning and building design in response;
- Feasible short- and medium-term mass transit solutions to improve accessibility from throughout the region;
- Progressive transportation and mobility goals that capitalize on technological advances to support a long-term vision for multimodal access, as a fundamental determinant of future buildout potential.

LAND OWNERSHIP

Land ownership and lease obligations at the Navy Yard have shaped the Plan. Particular areas of focus and opportunity include Ensemble/Mosaic's newly controlled parcels, including 12 acres in the Historic Core and 97 acres in the eastern end of the Navy Yard. In addition, the Plan includes densification and development of Ensemble-controlled parcels within the Corporate Center.

For parcels controlled by PIDC, the Plan reimagines the Broad Street entrance, the 26th Street entrance and the development of parcels at Girard Point and along League Island Boulevard West. The Plan also provides a tremendous opportunity to develop two PIDC-controlled parcels near the waterfront in the Historic Core. In addition to these parcels, the Plan anticipates improvements to the public realm including enhanced street networks throughout the site and connecting the west and east sides; waterfront promenade improvements along the Delaware River; and future-proofing the campus' buildings and infrastructure for greater resiliency.



OPPORTUNITIES & CHALLENGES

Waterfront: The Navy Yard's extraordinary public waterfront is one of Philadelphia's best kept secrets. Its promenade and vistas, cool breezes, and massive ships are tremendous assets. The presence of the waterfront can and should be amplified to better define the place and leverage the uniqueness of the site as an attraction for future development. In stakeholder surveys, 36% ranked the expansive waterfront and open space as the Navy Yard's best attributes.

Jobs & Equitable Economic Growth: Future development will build on the Navy Yard's success as a center of jobs and economic growth, in industries representing a range of skilled, high-quality jobs. Continued support of these established employers can be simultaneous with simultaneous with high-quality workforce training to support inclusive opportunities for all Philadelphians. Innovative approaches can capitalize on emerging forms of employment, particularly in the life sciences sector, as well as creative strategies that enable minority- and women-owned and small businesses.

Open Spaces: The Navy Yard's site is expansive and spacious, defined by publicly accessible open spaces, but some areas are presently underutilized. The Navy Yard's distinct environment presents an opportunity for recreation and nature in the city, integrated seamlessly with places to live, work, and play.

Residential Development: Without offsetting the global trend of rapid urbanization, recent events like the COVID-19 pandemic have increased the appeal of residential communities offering more open space. The Navy Yard provides the best of both urban and suburban environments, and new residents will animate and activate the Navy Yard as a 24/7 neighborhood, establishing a constituency for new amenities that will benefit tenants and visitors alike. Equitable residential development will help to fulfill market demand by providing a range of housing types across all demographics.

Access & Connection: Once an island, the means of accessing the Navy Yard continue to be limited, lending to a perception that it is a remote location within the City of Philadelphia. Car-dominated entrances minimize the attractiveness of alternate modes like biking and walking, and public transportation is inadequate for the site's future population increase. Almost one-third of stakeholders identified inadequate city connections as the top challenge for future development at the Navy Yard.

Resilience & Flooding: Situated within portions of the FEMA floodplain, the Navy Yard will be vulnerable to flooding with the impacts of sea level rise due to climate change. While only limited localized flooding has occurred on the site over the last 25 years, 15% of stakeholders identified risk of flooding as a significant challenge for the Navy Yard.



EXECUTIVE SUMMARY
THE NAVY YARD TODAY



EXECUTIVE SUMMARY
THE 2022 VISION



EXECUTIVE SUMMARY

FUTURE DEVELOPMENT SUMMARY

As established in the 2004 and 2013 Plans, the Navy Yard is composed of a number of districts each with their own identity, character, and programmatic emphasis. With new density and use anticipated by this Plan, each district continues to evolve and grow:

Gateway District: This district is a place of welcoming, both at the primary entry for most Navy Yard users and visitors along Broad Street, with open views to the Reserve Basin and many historic elements, as well as at the secondary entry point along 26th Street through League Island Boulevard, which provides substantial opportunities for industrial and life science facilities.

Corporate Center: Flanking the Gateway is the Corporate Center, already home to numerous Class A office buildings and world-class public spaces. This district is further densified with additional office and lab buildings supported by shared parking facilities.

Shipyards District: The fully built-out west end of the Navy Yard features marine and industrial uses with a significant number of employees in quality jobs. This Plan includes transportation upgrades and other infrastructure improvement for the Shipyards District, but no new development.

Historic Core: The Historic Core contains the Navy Yard's most historically significant existing buildings. Building upon the past successes of the adaptive reuse in this district, the Historic Core provides future adaptive reuse and new development that will forge strong connections to the water and accommodate a mix of residential, retail, makerspaces, and office uses.

Greenway District: A new flexible eastern extension providing a verdant home to a number of light manufacturing and life science uses organized around resilient and sustainable public spaces offering recreational activity.

Waterfront District: A new dense, mixed-use neighborhood oriented toward and along the Delaware River, shaped around green streetscapes, functional infrastructure that creates a unique sense of place.

| District | Office/R&D/ Manufacturing | Multifamily Residential ² | Hospitality | Retail | Structured Parking | Surface Parking |
|--------------------------------|------------------------------|---|---------------------------|------------|--------------------|-----------------|
| Gateway District | 530,000 SF | | | | | 1,180 Spaces |
| Corporate Center | 712,000 SF | | | | 2,350 Spaces | |
| Historic Core | 600,000 SF | 2,067,000 SF (2,011 Units) | 240,000 SF (230 Units) | 135,000 SF | 2,210 Spaces | 220 Spaces |
| Greenway District ¹ | 1,170,000 SF | | | | 2,340 Spaces | |
| Waterfront District | 1,280,000 SF | 1,890,000 SF (1,890 Units) | 200,000 SF (250 Units) | 100,000 SF | 4,475 Spaces | |
| TOTAL | 4,292,000 SF | 3,957,000 SF (3,901 Units) | 440,000 SF (480 Units) | 235,000 SF | 11,375 Spaces | 1,400 Spaces |

| Open Space Type | Area |
|-------------------|--------------|
| Promenade | 110,000 SF |
| Open Green Space | 255,000 SF |
| Pedestrian Street | 90,000 SF |
| Hardscape | 185,000 SF |
| Planted Area | 920,000 SF |
| Canal | 20,000 SF |
| Swale | 105,000 SF |
| Total | 1,685,000 SF |

1. Totals do not include potential development in the 7.5 acres designated for potential transmission substation
2. Unit totals are approximate

EQUITY FRAMEWORKS

GUIDING PRINCIPLES

Equity permeates all aspects of the 2022 Plan and is understood in terms of:

- procedural equity: transparent and collaborative planning and development processes;
- transgenerational equity: wealth generation through jobs, entrepreneurship, and community investment;
- distributional equity: sustainable, inclusive, and accessible infrastructure and housing; and
- structural equity: residential neighborhoods that offer access to quality-wage careers, and accessible retail amenities and public space.

In terms of the physical plan and the strategies to support its implementation, the following elements of this Plan are understood to be fundamental to the equity of the Navy Yard:

- housing equity: a range of housing options that are affordable to people earning the range of incomes demonstrated across Navy Yard businesses;
- transportation equity: affordable, accessible, and convenient transportation options that enable residents, employees, and visitors to access the site; and
- job training equity: continued support and growth of workforce development programs that connect talented Philadelphia residents to permanent employment with Navy Yard employers.



Inclusive & Welcoming



Connected & Multimodal



Vibrant & Active



Equitable Growth & Quality Jobs



Innovative & Resilient

GUIDING PRINCIPLES

Five guiding principles directly shape the Plan's organizing Equity Frameworks:

- **Inclusive & Welcoming:** Leveraging a dynamic new mix of spaces, uses, and amenities to create an inclusive and welcoming sense of place from the Navy Yard's entrances to its publicly-accessible waterfront, award-winning parks, and a thoughtful new network of active, passive, and programmable public spaces. Inclusive opportunities for all Philadelphians are supported by expanded transit and mobility, quality job creation, and successful workforce training and apprenticeship programs, coupled with versatile spaces for all sizes and types of businesses. This principle amplifies the Navy Yard's sense of place by leveraging its best physical assets and promoting health and well-being for all Philadelphians.
- **Connected & Multimodal:** Improving multimodal access to and within the site will strengthen the Navy Yard's accessibility, foster inclusion, and deepen connections to Philadelphia's neighborhoods and the City as a whole. Expanding transit, car share, bicycle, and pedestrian options will drive sustainability and reinforce the Navy Yard as a place that is open to all Philadelphians.
- **Equitable Growth & Quality Jobs:** PIDC is deeply committed to its economic development mission of driving growth to all corners of Philadelphia, in an equitable and inclusive manner. Building on the Navy Yard's incredibly diverse business base with new R&D, manufacturing, and flexible workspaces for all types and sizes of businesses will attract exciting new businesses and support inclusive and equitable employment opportunities for all Philadelphians, with a built-in training and apprenticeship pipeline.
- **Vibrant & Active:** Densified overall development, new mixed-use districts with inclusive residential and ground-plane retail, and a continued focus on diverse, quality jobs will create an opportunity for employees and residents to establish an animated and inviting place to live, work, and play.
- **Innovative & Resilient:** An integrated network of green stormwater features, smart infrastructure, advanced building technologies, and energy innovation provide a flexible and responsive framework for addressing climate change and sea level rise. Sustainable, inclusive, and accessible infrastructure and open spaces enhance the quality of life for Philadelphia residents and future-proof the Navy Yard for years to come.

GUIDING PRINCIPLES
INCLUSIVE & WELCOMING



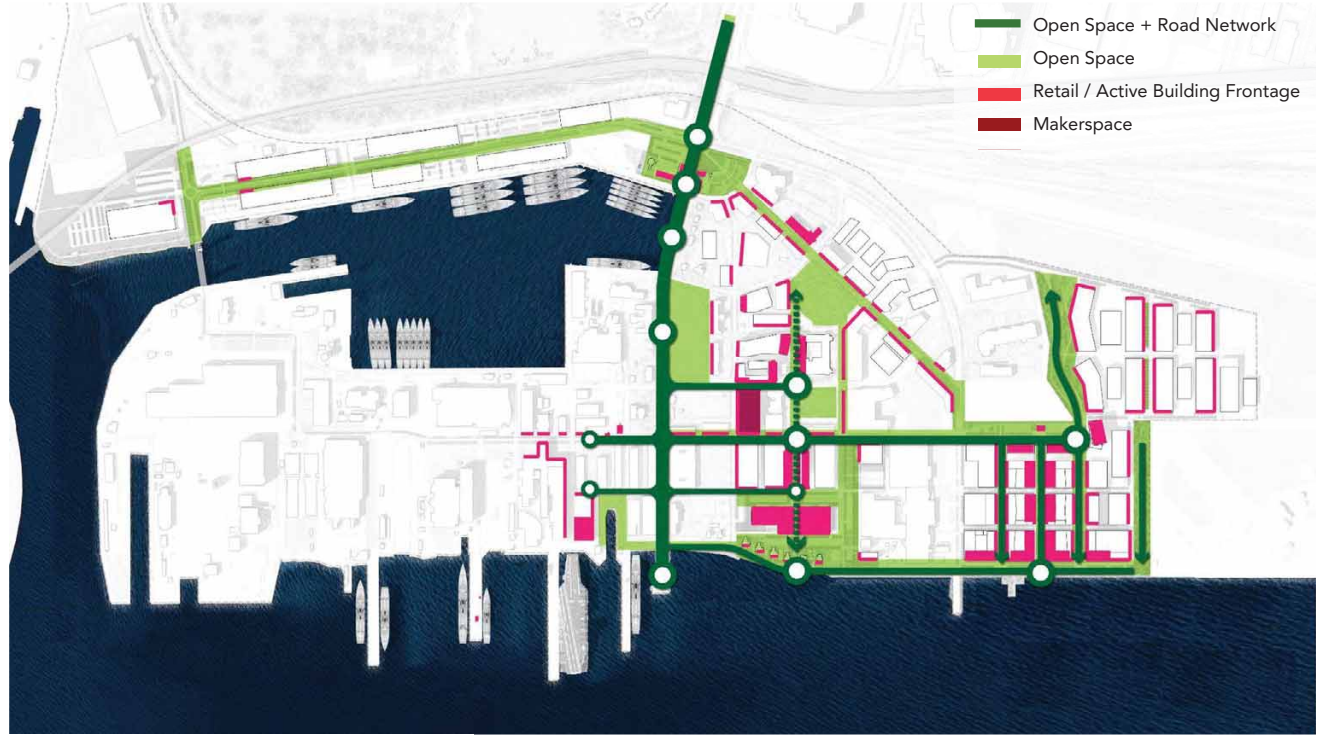
GUIDING PRINCIPLES

INCLUSIVE & WELCOMING

A framework of activity and connections forms the basis of creating a real neighborhood; passageways and open space extend eastward into the Waterfront District with an urban fabric that enables inclusive entrepreneurship and accommodates change. Public-facing building frontages, retail, maker spaces, and other essential services are located along this expanded network and concentrated at key nodes, integrating expanded opportunities for wealth generation, and providing amenities for those that work and live in the Navy Yard. Expanded transit and mobility options make the Navy Yard more accessible from origin points throughout the city and via a range of affordable and comfortable transportation methods including bike and pedestrian access. Publicly accessible outdoor spaces and public art further invite visitors to spaces that draw inspiration from the Navy Yard's history and industrial heritage and its unique brand of playfulness and urban wilderness.



Building 543, Urban Outfitters at the Navy Yard



Spaces throughout the site are publicly accessible

GUIDING PRINCIPLES
CONNECTED & MULTIMODAL



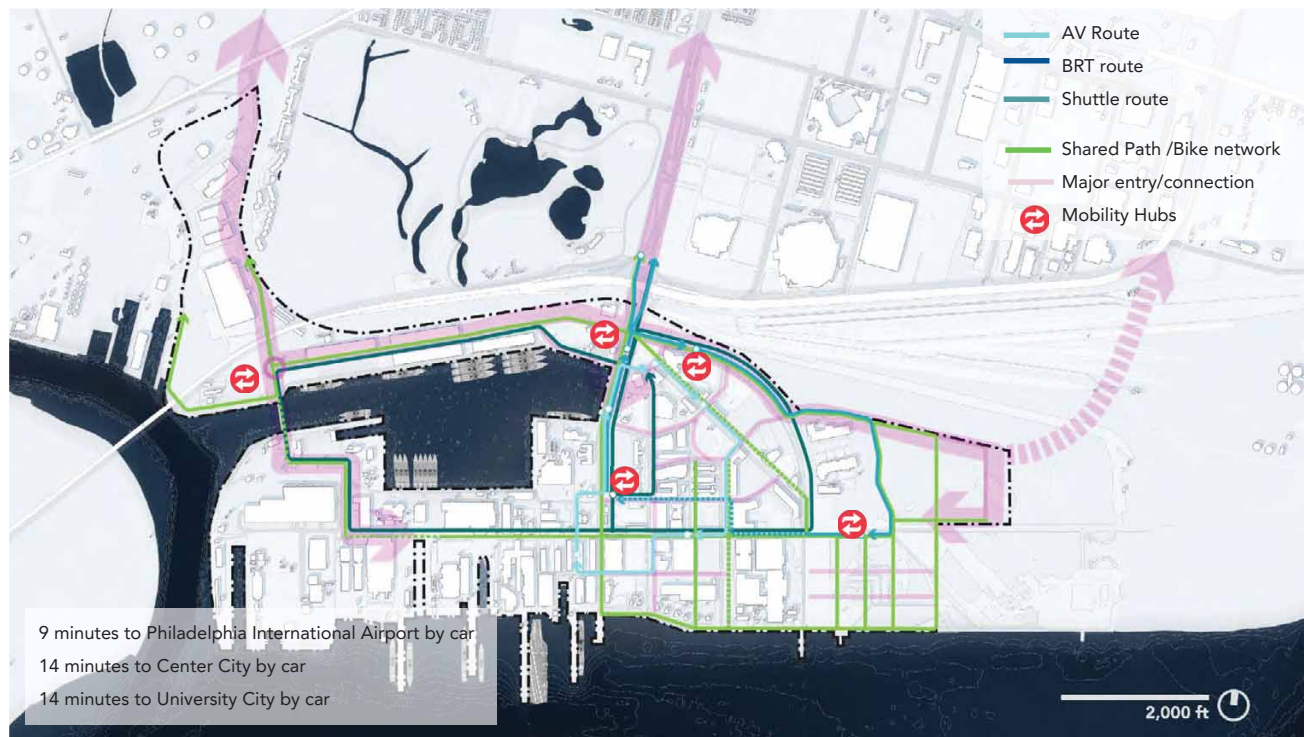
GUIDING PRINCIPLES

CONNECTED & MULTIMODAL

The Plan develops a strong framework for expanding and diversifying Navy Yard accessibility to and from the larger City, as well as creating a smart and integrated system of internal circulation to minimize congestion, maximize efficiency, and foster safety and sustainability for pedestrians, bicyclists, drivers, transit vehicles, trucks, and specialty supply chain vehicles. Expanded transit options will connect historically disconnected and disadvantaged communities with quality employment opportunities, training, and apprenticeship programs. The Plan holistically approaches circulation, proposing physical networks like multimodal roads, transit, and trails, as well as views and reduction of mental barriers with new visual cues and connections, and improved entrances, street hierarchies, and identities. The Plan envisions the Navy Yard as a functioning part of the fabric of the City with emphasis on external connections to the City, as well as internal connections to stitch together the entire site. It also addresses the synchronized logistics of drop-off, delivery, and shipping as well as a comprehensive approach to parking.



Opportunities for key bicycle + shared path connections from the Navy Yard to Center City



A robust multimodal network connects to and within the Navy Yard

GUIDING PRINCIPLES
EQUITABLE GROWTH
& QUALITY JOBS

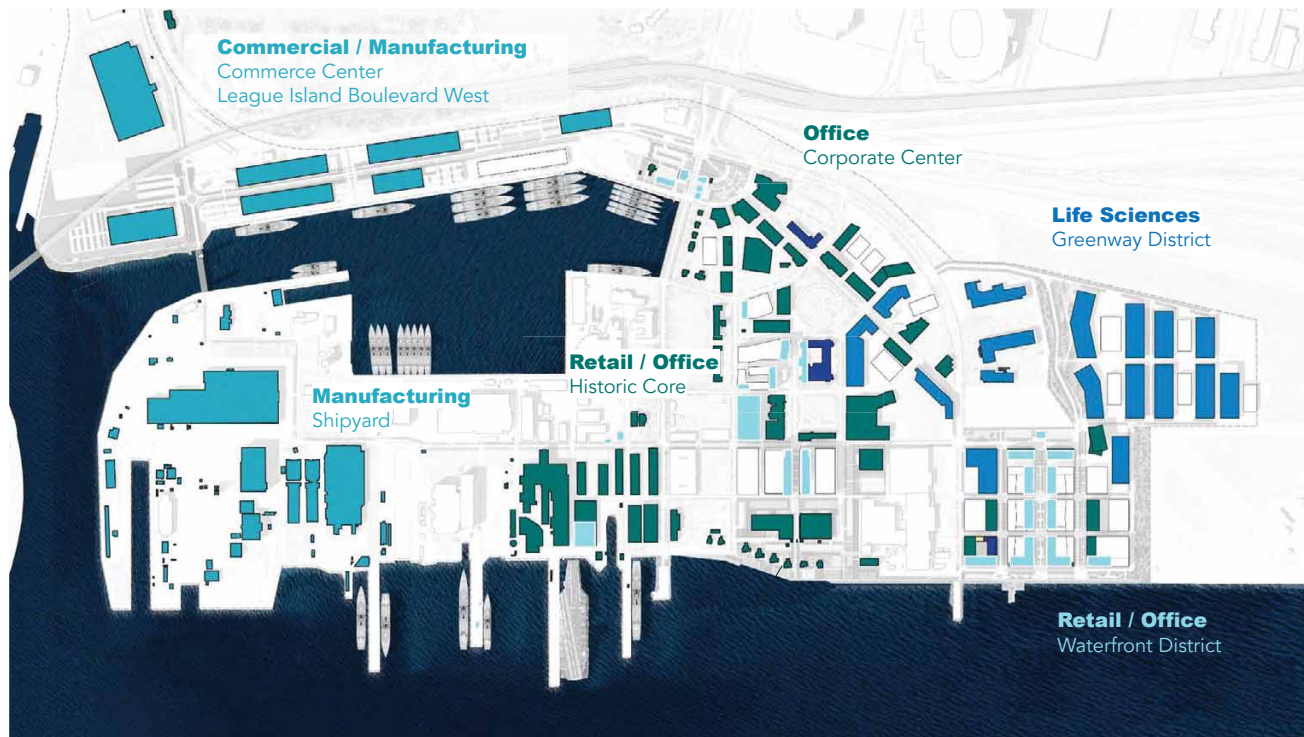


GUIDING PRINCIPLES

EQUITABLE GROWTH & QUALITY JOBS

Throughout its history and into its future, the Navy Yard is, first and foremost, a place for innovation, manufacturing, and quality jobs. This Plan sets forth an ambitious vision to build upon this strong foundation, with a continued focus on diverse and high-growth business sectors, including cell and gene therapies, next-generation shipbuilding, and advanced manufacturing. Connecting Philadelphians, particularly those in historically disadvantaged communities, to these quality job opportunities through parallel growth of the Navy Yard's workforce development and apprenticeship programs is a critical piece of the Plan's equitable growth strategy. The Plan preserves and expands the Navy Yard's commitment to flexible and affordable spaces for entrepreneurs, startups, Fortune 500 companies, major production facilities, and everything in between.

The extension of the life sciences cluster into a dedicated new district known as the Greenway District further cements the Navy Yard as a key piece of the regional life sciences ecosystem. Robust commitments for minority- and women-owned businesses in the design, construction, investment, operations, and retail tenancing take a holistic approach to how real estate can provide meaningful and sustained opportunities in an equitable manner. The physical plan prioritizes improved workplace access and an efficient supply chain. The network strategies in this Plan Update, including transportation planning for increased access, are integral to ensuring that future business growth and job creation at the Navy Yard are equitable and inclusive.



A network of diverse job centers spans throughout the Navy Yard campus

GUIDING PRINCIPLES
VIBRANT & ACTIVE



GUIDING PRINCIPLES

VIBRANT & ACTIVE

Significant new development and densification of the Navy Yard provide for new businesses, jobs, and residents. Buildings have been optimized and shaped to accommodate mixed-use, mixed-income multifamily residential; office and research space; and life science labs and manufacturing, in a mix of new construction and adaptively re-used structures, embracing the Navy Yard's historic legacy and authentic character. Residents will bring a new 24/7 population and help support concentrations of street-level retail and makerspace, connected to the streetscape along corridors, and new amenities, including greater food and beverage options. Curated programming in public spaces will provide key amenities and activity to create a vibrant place for work and play. Importantly, amid this development, the public realm is preserved and renewed, forging a cohesive environment that is deeply rooted in the natural space that abounds at the Navy Yard.

1.5M sf
Life Science
Manufacturing

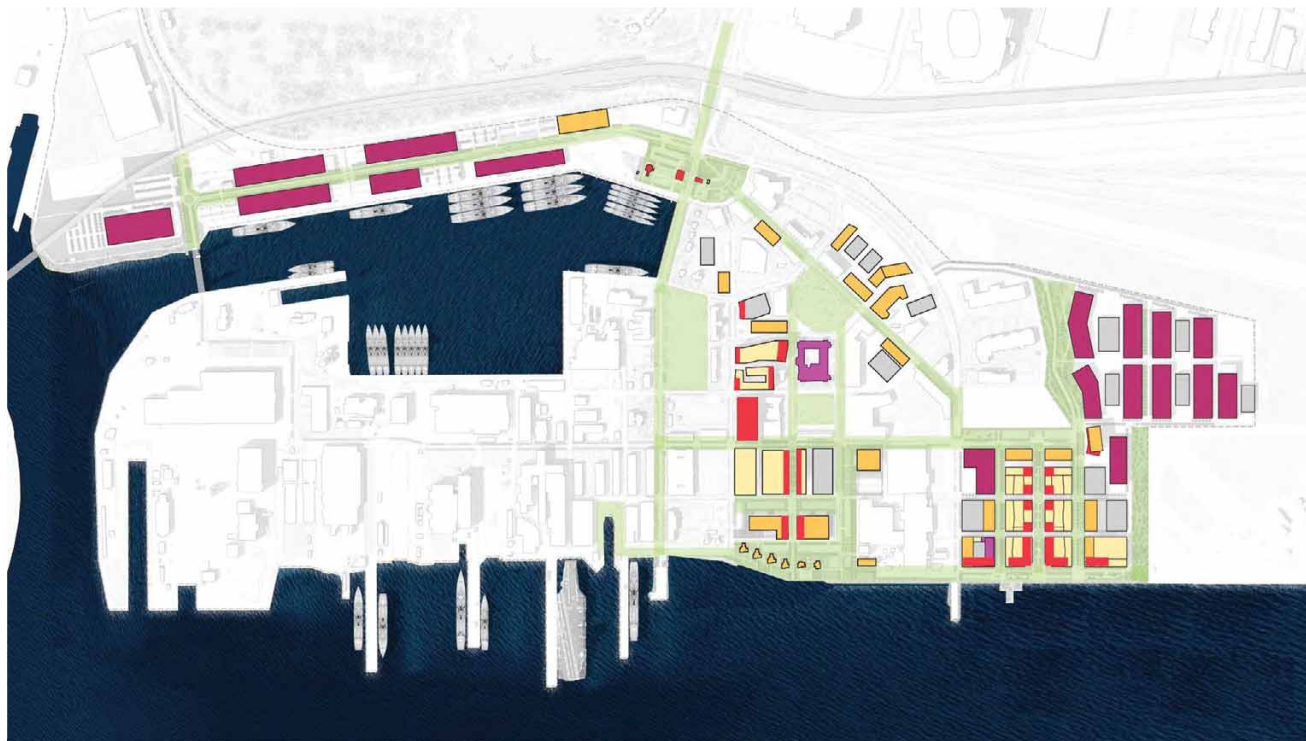
4K units
New Residences

235,000 SF
Retail +
Makerspace

2.8M SF
Office + Lab

1.6M sf
New /renewed
Public Realm

440,000 SF
Hospitality



New development densifies and diversifies uses while preserving and activating open space

GUIDING PRINCIPLES
INNOVATIVE & RESILIENT



GUIDING PRINCIPLES

INNOVATIVE & RESILIENT

The Plan is shaped around sustainable, inclusive, and accessible infrastructure and open spaces that enhance the quality of life for Philadelphia residents. Forward-thinking design that acknowledges future climate challenges will help to future-proof key areas of the Navy Yard against sea-level rise and make the overall development more resilient. The Plan continues a successful strategy of raised site elevations for new development, and green streetscapes integrating stormwater infrastructure, creating a new public realm experience unique within the City of Philadelphia. Elevated and relocated roadway infrastructure and a continuing commitment to energy innovation round out this campus-wide strategy. A continued commitment to high levels of LEED certification for new buildings coupled with LEED Neighborhood certification will further the Navy Yard as Philadelphia's most sustainable and healthy neighborhood.



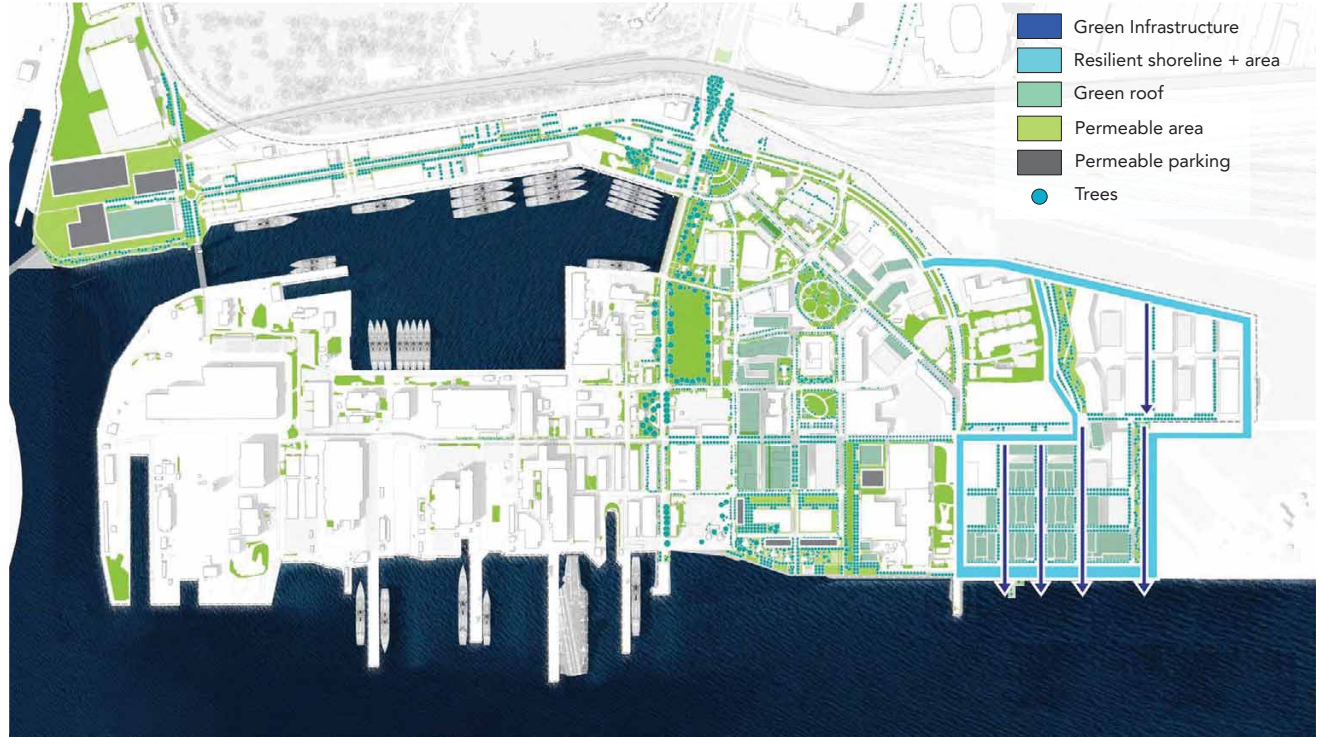
Detention areas +
green roofs



Swales



Canals

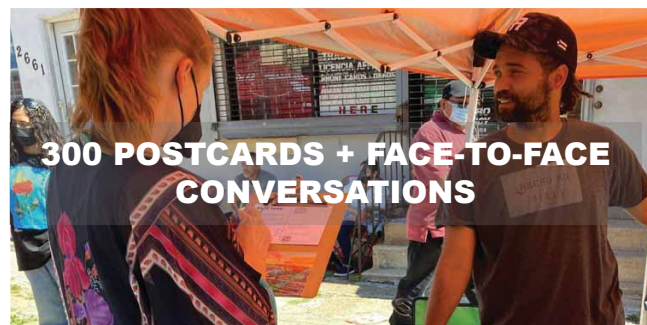


A storm and floodwater strategy is integrated throughout the site, providing long-term resilient solutions for climate adaptation

EQUITY FRAMEWORKS

COMMUNITY ENGAGEMENT

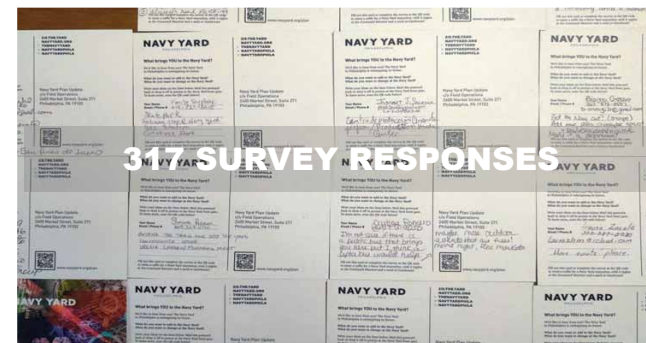
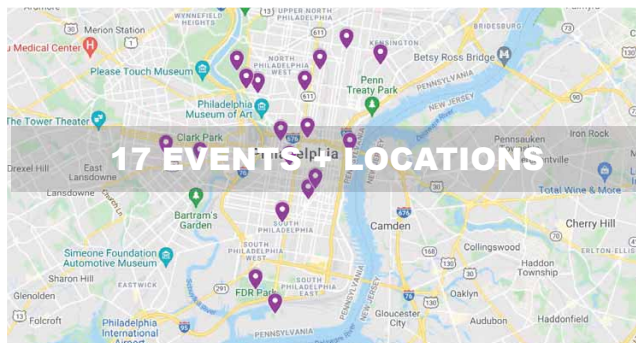
A compelling vision for the Navy Yard would not be possible without the creativity and expertise of its community. For this reason, engagement has been central to determining design priorities for the 2022 Plan and has been multi-layered, iterative, and wide ranging, engaging more community members than any prior Navy Yard Plan. In addition, outreach extended beyond the Navy Yard campus to include



Philadelphians and other constituents who may or may not already visit the Navy Yard. Engagement was conducted in three primary ways: 1) virtual, interactive meetings with eight technical advisory groups, 2) one-on-one interviews with key stakeholders, and 3) face-to-face engagement at events throughout the city and at the Navy Yard.



A total of 170 Philadelphians from the Navy Yard, the business community, governmental agencies, and local institutions composed the technical advisory groups. In addition, feedback was collected from 300 individuals via postcards and surveys at events throughout the city and at the Navy Yard. Together these groups and individuals provided critical input on vision, values, and the ultimate Plan.



NAVY YARD DISTRICTS

NAVY YARD DISTRICTS

As established in the 2004 and 2013 Plans, the Navy Yard is composed of a number of districts each with their own identity, character and programmatic emphasis. With new density and uses anticipated by this Plan, district names and boundaries have been expanded and adjusted, and new districts created in areas where development has not yet commenced. For this 2022 Plan, updated Navy Yard Districts are as follows:

Gateway District: This district is a place of welcoming, both at the primary entry for most Navy Yard users and visitors along Broad Street, with open views to the Reserve Basin and many historic elements, as well as at the secondary entry point along 26th Street through League Island Boulevard, which provides substantial industrial and life science facilities.

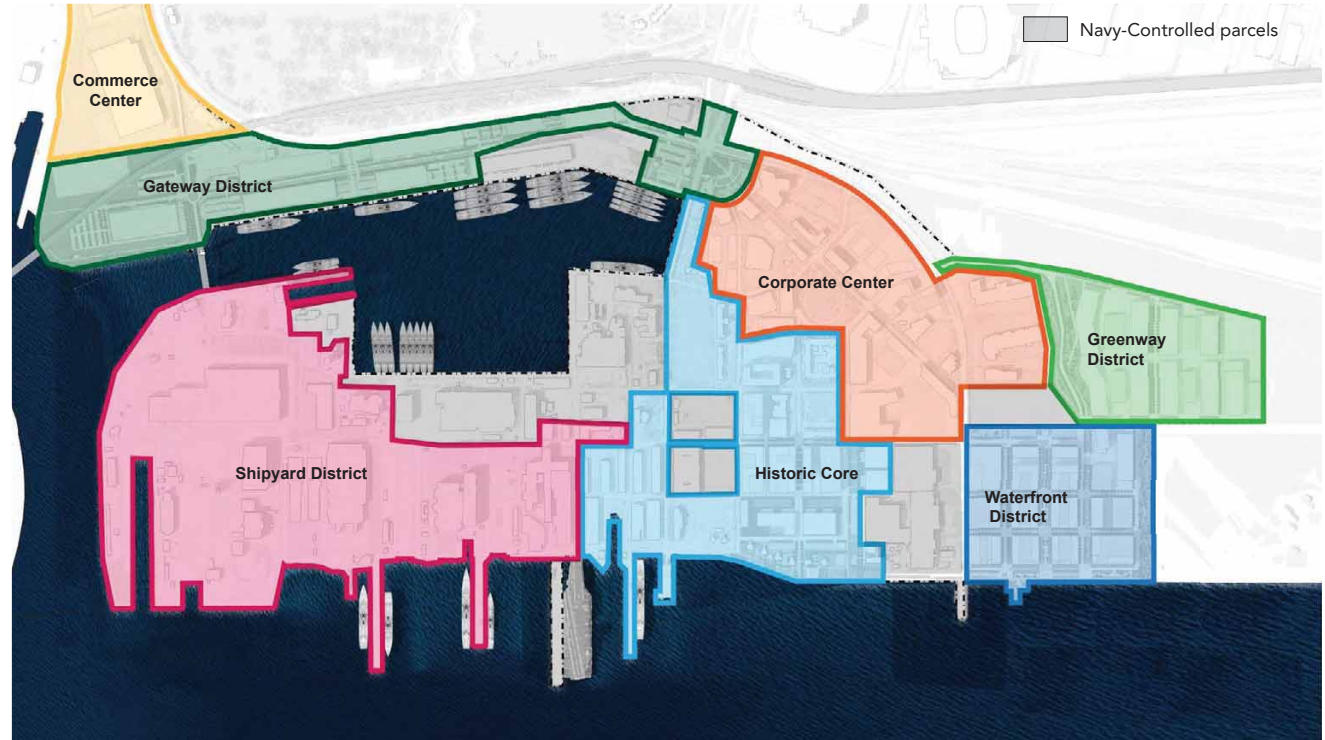
Corporate Center: Flanking the Gateway is the Corporate Center, already home to numerous class A office buildings and world-class public spaces, this district is further densified with additional office and lab buildings supported by shared parking facilities.

Shipyards District: The fully built-out west end of the Navy Yard features marine and industrial uses with a significant number of employees in quality jobs. This Plan includes transportation upgrades and other infrastructure improvements that benefit the Shipyards District.

Historic Core: The Historic Core contains the Navy Yard's most historically significant existing buildings. Building upon the past successes of the adaptive reuse in this district, the Historic Core provides future adaptive reuse and new development that will forge strong connections to the water and accommodate a mix of residential, retail, makerspaces, and office uses.

Greenway District: A new flexible eastern extension providing a verdant home to a number of light manufacturing and life science uses organized around resilient and sustainable public spaces offering recreational activity.

Waterfront District: A new dense, mixed-use neighborhood oriented toward and along the Delaware River, shaped around green streetscapes, functional infrastructure that creates a unique sense of place.



NAVY YARD DISTRICTS
GATEWAY DISTRICT



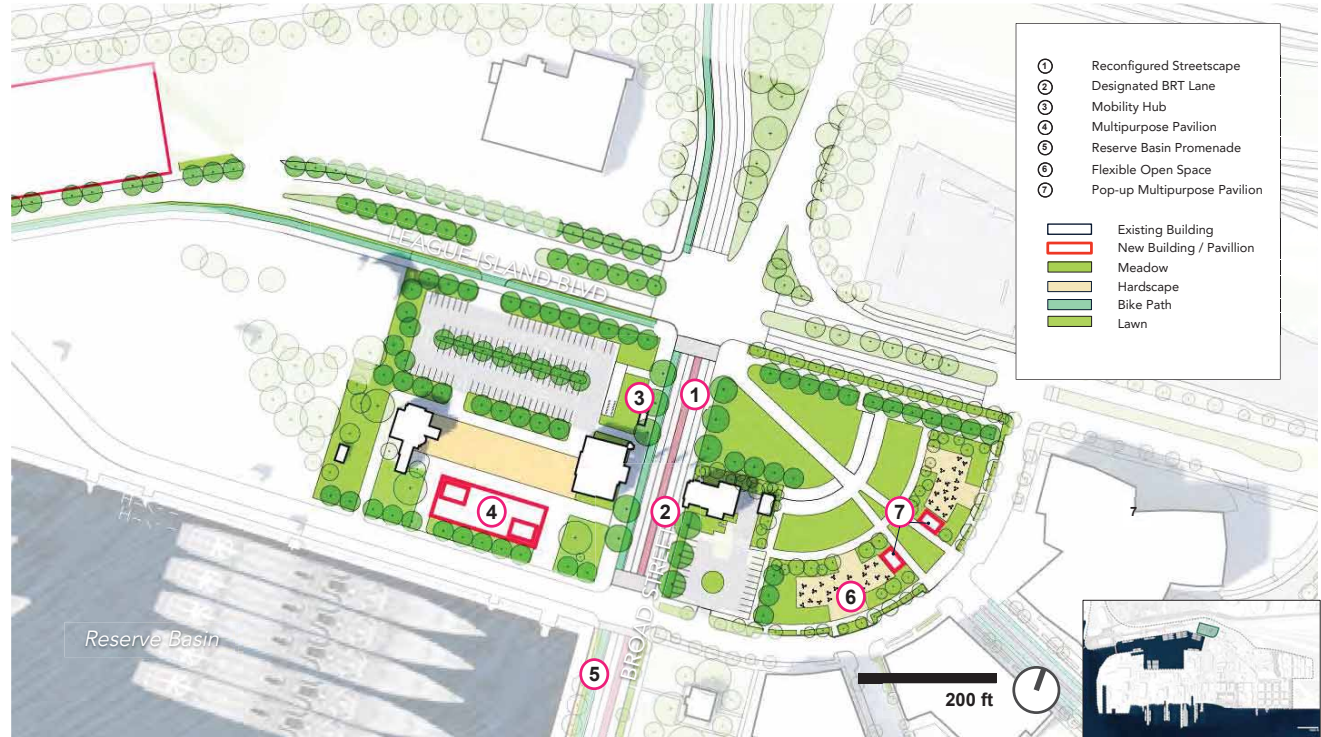
GATEWAY DISTRICT BROAD STREET

The Broad Street entrance, flanked by historic Navy buildings to the west and Crescent Park and the modern corporate development to the east, features the iconic mix of old and new architecture plus generous open space that characterizes the Navy Yard and is cherished by its users.

Thoughtful re-design and activation of the Navy Yard's entrances are intended to draw visitors in and immediately communicate a welcoming and inclusive environment. Improvements to the Gateway District will also advance the Plan's goals of connectivity, expanded multimodal access, and vibrancy, with pop-up retail opportunities.

Entrances in the Gateway District are re-designed to streamline vehicular traffic, provide safe and attractive multimodal amenities, and promote a sense of welcome, orientation, and arrival. While the width of existing roads is maintained, traffic lanes are made more efficient to accommodate new dedicated and protected bike and Bus Rapid Transit (BRT) lanes.

The historic gatehouses on Broad Street (Buildings 500 and 501) remain prominent structures, defining the symmetry of the entrance, but the gate is relocated to a wide sidewalk that leads visitors to an enhanced Reserve Basin Promenade. The western edge of the entrance is further defined by activation of Building 501 and Quarters A. Presently underutilized open spaces north of the Reserve Basin and within Crescent Park will host curated, pop-up experiences that animate and transform the area, responding to public stakeholder feedback seeking inviting spaces at the Broad Street entrance.



GATEWAY DISTRICT

BROAD STREET ENTRANCE

In their existing locations, the security booth and gate present real and perceived barriers to Navy Yard visitors. Removing the security booth and relocating the gate to the sidewalk will communicate a welcoming and inclusive spirit, without compromising the efficiency of campus security, which is already located east of the main gate. These adjustments will enable Broad Street to provide a streamlined path of travel into the Navy Yard, complete with aligned and dedicated cycle paths and an enhanced waterfront edge. A multimodal hub will welcome people south of League Island Boulevard and include bus and shuttle stops, e-charging stations, parking, bike sharing and storage, and a small kiosk for grab and go conveniences.



Existing

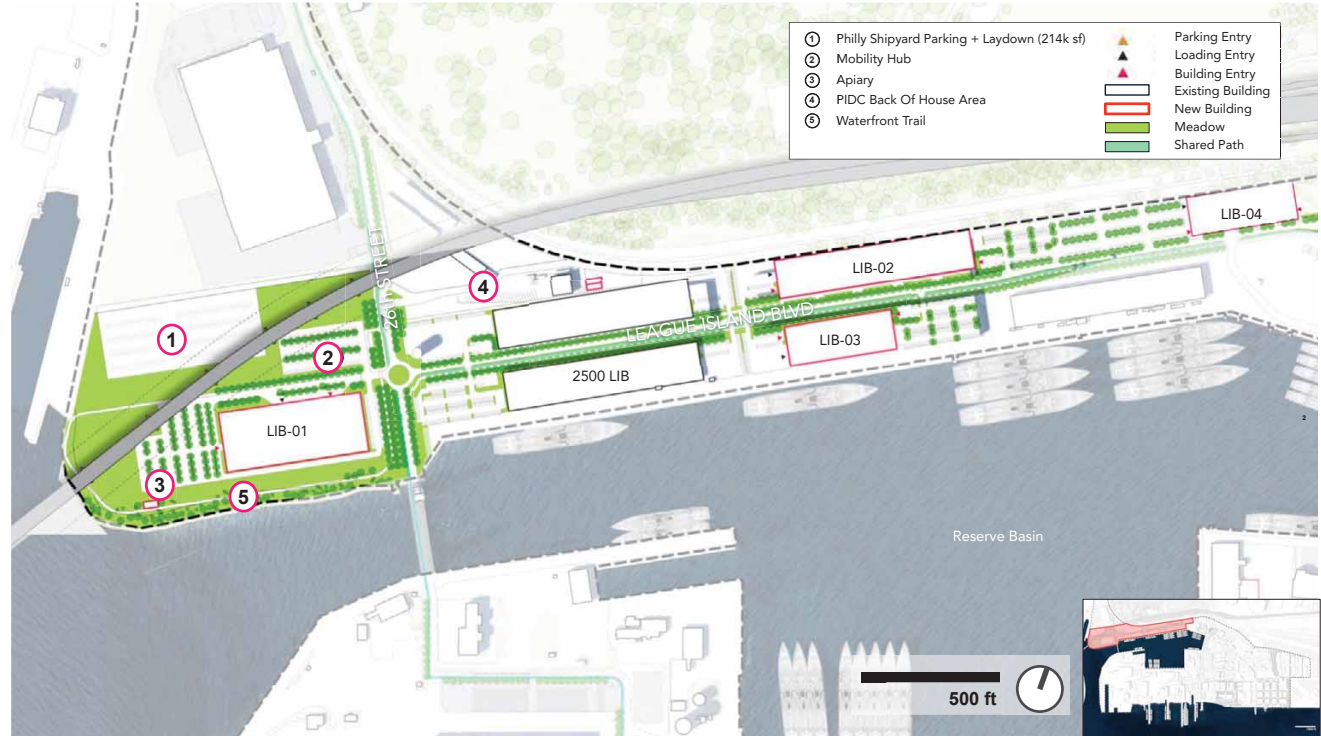


Proposed

GATEWAY DISTRICT 26th STREET

The western portion of the Gateway District features improvements to the Navy Yard's 26th Street entrance, which currently serves the Commerce Center, Shipyard District, and Navy facilities, and has potential to manage additional vehicular traffic as new development comes online and volume increases. These upgrades include a new roundabout and adjacent multimodal hub, new development at Girard Point, and five new or rehabilitated flex industrial buildings along League Island Boulevard that support job creation and innovation.

26th Street serves as a secondary access point for passenger vehicles and as the main entrance for truck traffic destined for the Shipyard District, which is defined by a major private shipyard, large-scale industrial employers, and U.S. Navy facilities that are economically and strategically critical to the City and the nation. These companies offer family-sustaining skilled jobs for local residents, and employ a diverse workforce that is reflective of the City. Wrapping around the edge of Girard Point, a waterfront buffer is maintained. Within this green space is a bike trail that might ultimately connect to regional bike networks along the Schuylkill River.

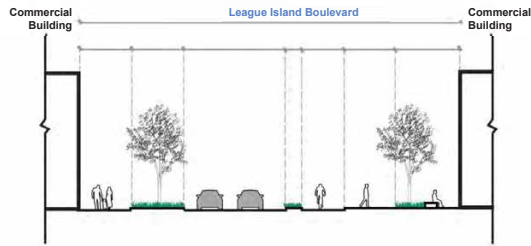


GATEWAY DISTRICT

26th STREET ENTRANCE

26th Street is improved to broadcast itself as a significant and viable entry to the site, unburdening Broad Street. Lights, landscaping, improved signage, and a multimodal path elevate 26th Street into an active and inviting way of accessing the Navy Yard.

At the intersection of 26th Street and League Island Boulevard, a new roundabout easily accommodates existing traffic volumes, including large trucks, with the ability to scale for future volumes without adding lanes. The roundabout also improves pedestrian and bike safety to augment multimodal access. A district mobility hub at 26th Street will alleviate parking demands within the constrained Shipyard District, offering opportunities to transition to internal circulation routes and reduce single-passenger vehicle traffic within the Navy Yard.



Proposed League Island Boulevard Section



Existing intersection @ 26th Street + League Island Boulevard



Proposed intersection improvements @ 26th Street + League Island Boulevard



Existing 26th Street



Proposed improvements along 26th Street

GATEWAY DISTRICT GIRARD POINT

Located at the west end of the Gateway District, between the Corporate Center and the Shipyard District, Girard Point is a natural extension of the western industrial campus and new commercial development along League Island Boulevard. The location also bolsters multimodal access and will provide new public recreational green space for users on the west end of the Navy Yard.

The plan for development of Girard Point works within a series of site constraints, including existing rights-of-way, geotechnical considerations, and preservation of outdoor space for nearby industrial users, to create a new, large-floorplate development opportunity that benefits from strong highway and airport access.

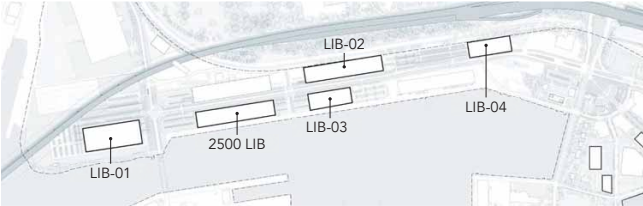
The expansive open space is converted to productive uses like the creation of a mobility hub, and also for recreational uses such as a new public trail that capitalizes on the verdant, waterfront views. The mobility hub at the intersection of 26th Street and League Island Boulevard West will leverage this entrance's proximity to highways, provide much needed parking for the Navy Yard's west end, and offer transitions to multimodal internal circulators to connect the western edge into the broader campus.

Pervious green space is maximized to accommodate stormwater needs and preserve the natural character of this area. The on-site operating apiary is a unique business that introduces important pollinators and provides learning opportunities; a secluded, designated space preserves this asset and enables optimal operations.



GATEWAY DISTRICT

DEVELOPMENT SUMMARY



| Building | Height | R&D/Manufacturing | Surface Parking |
|---------------------------|--------------|-------------------|-------------------------|
| 2500 League Island Blvd | Single Story | 130,000 SF | 260 Spaces |
| LIB-01 Flex/Manufacturing | Single Story | 150,000 SF | 420 Spaces ¹ |
| LIB-02 Flex/Manufacturing | Single Story | 90,000 SF | 180 Spaces |
| LIB-03 Flex/Manufacturing | Single Story | 80,000 SF | 160 Spaces |
| LIB-04 Flex/Manufacturing | Single Story | 80,000 SF | 160 Spaces |
| TOTAL | | 530,000 SF | 1,180 Spaces |

| Open Space Type | Area |
|------------------|------------|
| Waterfront Trail | 60,000 SF |
| Planted Area | 500,000 SF |
| TOTAL | 560,000 SF |

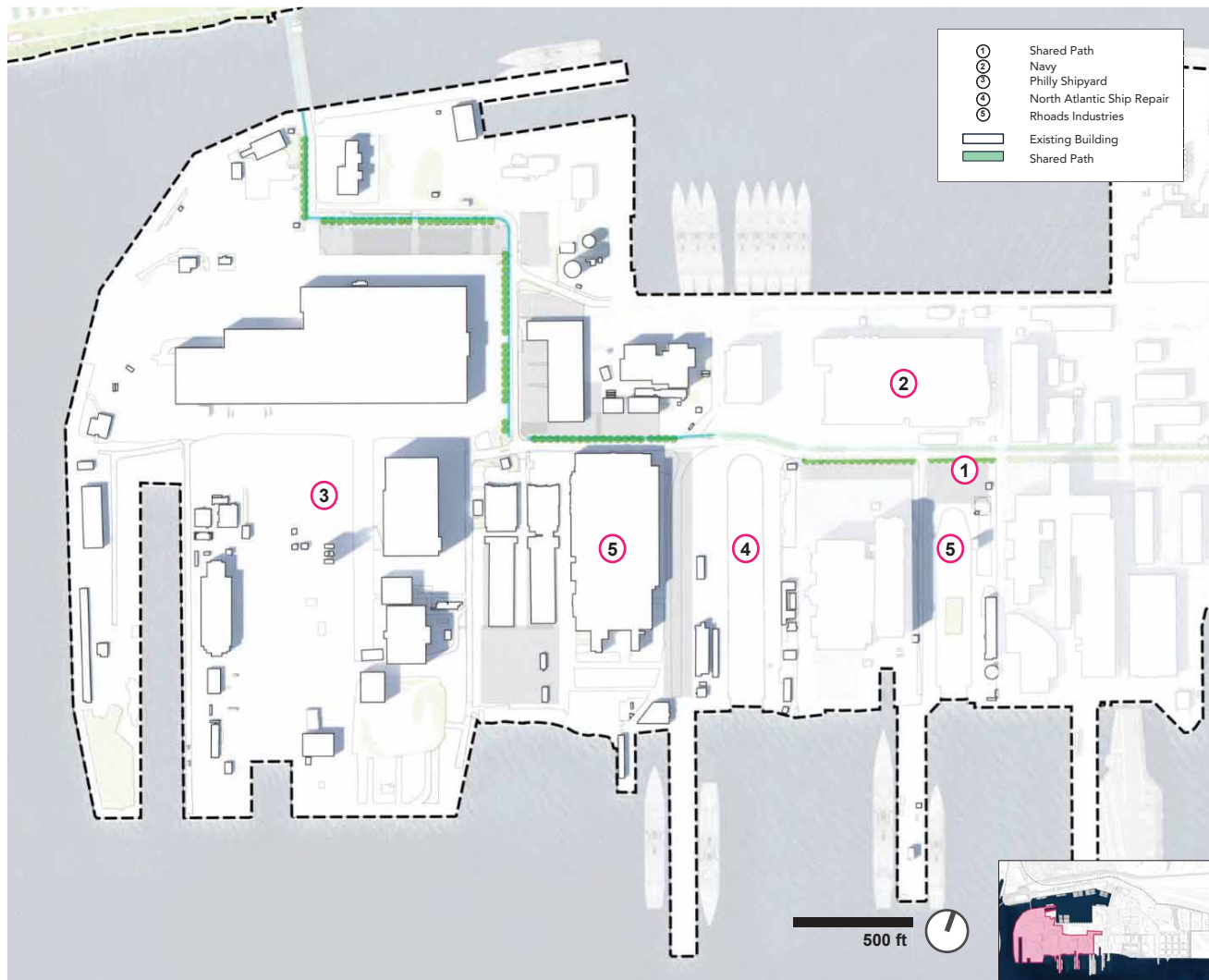
1. LIB-01 surface parking includes parking spaces for a district mobility hub

NAVY YARD DISTRICTS

SHIPYARD DISTRICT

The Navy Yard's west end is defined by the Shipyard District, a dense, productive site filled by the shipbuilding industry and other heavy industrial users. Existing tenants in this district, including the U.S. Navy, Rhoads Industries, North Atlantic Ship Repair, and Aker Philadelphia Shipyard, among others, contribute thousands of jobs to the region, and employ a diverse, highly-skilled workforce that reflects the City. PIDC's workforce development program has successfully collaborated with many businesses in the Shipyard District to connect unemployed and under-employed Philadelphians with family-sustaining jobs and skilled apprenticeship programs.

Given the extent of existing development and production in this district, improvements for the 2022 Plan focus on infrastructure upgrades to piers, drydocks, and supporting infrastructure to support the continued expansion of these businesses. The west end's connectivity to the rest of the Navy Yard is augmented by improved entry and mobility enhancements along 26th Street, as well as the introduction of a shared path for bikes and pedestrians, providing more access options for employees.



SHIPYARD DISTRICT OVERVIEW

The Plan recommends exploration of local, state, and federal investment, in tandem with ongoing investments by the Navy Yard companies themselves, to support improvements to facilitate the continued growth and diversification of the shipbuilding and ship repair industries, as well as industrial manufacturing and fabrication, in the Shipyard District. These include:

- Structural repairs and system upgrades to major maritime assets, including Pier 2, Pier 5, Pier 6A, and Dry Dock 2;
- Replacement and relocation of heavy industrial equipment to improve operational efficiency and capacity;
- Upgrades to electrical infrastructure to ensure reliability, and expanded capacity in response to anticipated additional power needs associated with future growth;
- Additional lighting to improve facility navigation, security, and safety.

Transportation network improvements, discussed in greater detail in Chapter 4, will support the Shipyard District by creating safer and more comfortable multimodal access to and from the district. In response to existing parking supply constraints in the Shipyard District, the mobility hub at 26th Street in the Gateway District will offer additional parking and the opportunity to transition to internal circulators serving the campus.

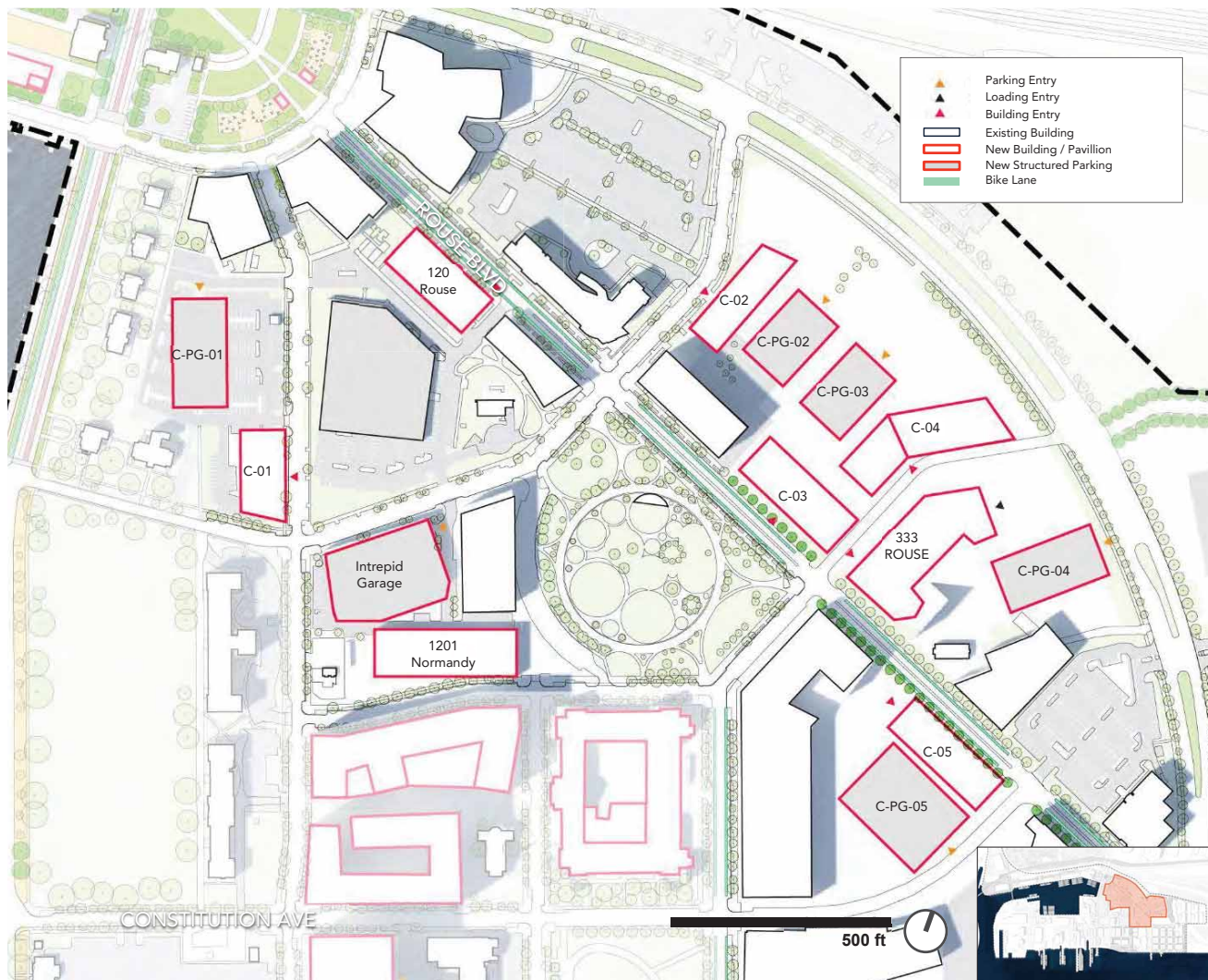


NAVY YARD DISTRICTS

CORPORATE CENTER

The framework for the Corporate Center was established in the 2004 and 2013 earlier Plans. Following those Plans, the Corporate Center has emerged as a thriving and dynamic hub of new office development, housing approximately 3,500 employees in industries such as financial services, defense, life sciences, business services, and healthcare as well as the Courtyard Marriott, the Navy Yard's first hotel. Representing one of the largest collections of LEED certified buildings (10 total) including the country's first developer-owned LEED Platinum building and the first double LEED Platinum building (LEED-CS Platinum and LEED-CI Platinum) in the Commonwealth of Pennsylvania, the Corporate Center has set the standard for sustainable development at the Navy Yard. The successful public realm and parks coupled with modern, progressive, and sustainable building design have made the Corporate Center one of the most desirable office submarkets in Philadelphia. The 2022 Plan Update builds upon the success of the Corporate Center, densifying the district with continued buildout along Rouse Boulevard and 13th Street.

Densification of the Corporate Center is facilitated through two remaining undeveloped sites along Rouse Boulevard coupled with the transition from a surface-dominated parking approach to concentrated parking within several new structured parking garages and utilizing portions of the surface parking lots as future development sites. The development plan for this district includes several low to mid-rise buildings for office and lab users as either single-tenant or multi-tenant buildings. A continued focus on the pedestrian experience with key nodes or retail along the Central Green Park and Increased increased multimodal transit options knit the Corporate Center into the Navy Yard's other districts and the City at large.



CORPORATE CENTER OVERVIEW

The Corporate Center is already home to significant office and life science addresses in addition to the active and vibrant Central Green (an exceptionally designed 4.5-acre park) and other open spaces, making for a thriving and dynamic work environment. This area is easy to access from the Broad Street entry and increased multimodal options knit the Corporate Center into the Navy Yard's other districts and the city at large.

Through taking advantage of the surface parking lots as additional development sites and creating shared parking facilities in parking structures, the Corporate Center will further accommodate companies looking for a work environment that blends the best of urban and suburban feels in the middle of all the Navy Yard has to offer.

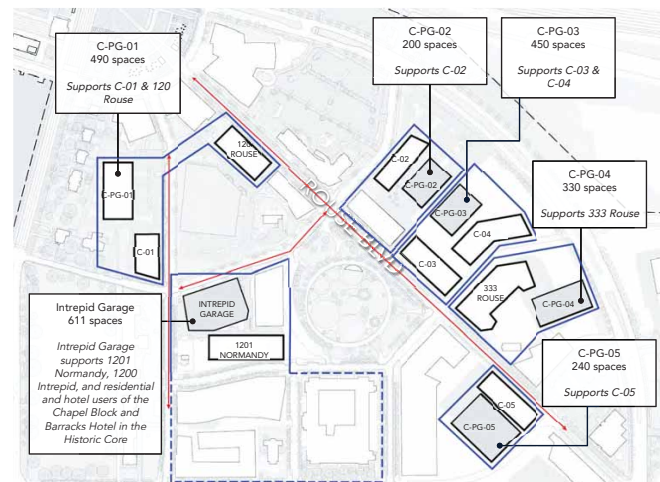


201 Rouse Boulevard and Central Green



BUILDING MASSING

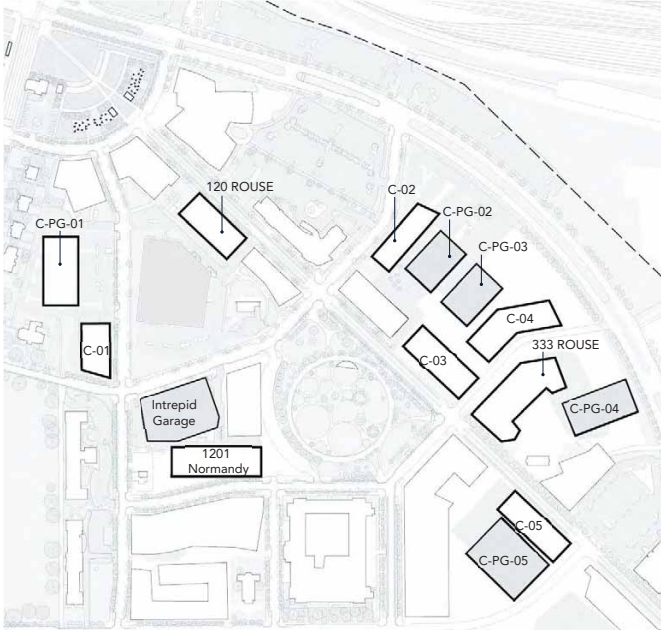
- Life Science
- Retail
- Commercial
- Parking Garage



PARKING AND CIRCULATION

- Vehicular
- Shared Parking Cluster

CORPORATE CENTER DEVELOPMENT SUMMARY



| Building | Height | Office/R&D | Structured Parking |
|------------------------------|-----------|-------------------|---------------------|
| 120 Rouse | 2 Stories | 40,000 SF | - |
| 333 Rouse | 2 Stories | 110,000 SF | - |
| 1201 Normandy | 4 Stories | 137,000 SF | - |
| C-01 Office | 4 Stories | 70,000 SF | - |
| C-02 Office | 4 Stories | 80,000 SF | - |
| C-03 Office | 4 Stories | 100,000 SF | - |
| C-04 Office | 4 Stories | 80,000 SF | - |
| C-05 Office | 4 Stories | 95,000 SF | - |
| Intrepid Garage ¹ | - | - | 670 Spaces |
| C-PG-01 Parking Garage | 4 Stories | - | 490 Spaces |
| C-PG-02 Parking Garage | 3 Stories | - | 200 Spaces |
| C-PG-03 Parking Garage | 5 Stories | - | 450 Spaces |
| C-PG-04 Parking Garage | 4 Stories | - | 300 Spaces |
| C-PG-05 Parking Garage | 2 Stories | - | 240 Spaces |
| TOTAL | | 712,000 SF | 2,350 Spaces |

1. The Intrepid Garage serves 1201 Normandy as well as residential and hotel users of the Chapel Block projects and Barracks Hotel in the Historic Core.

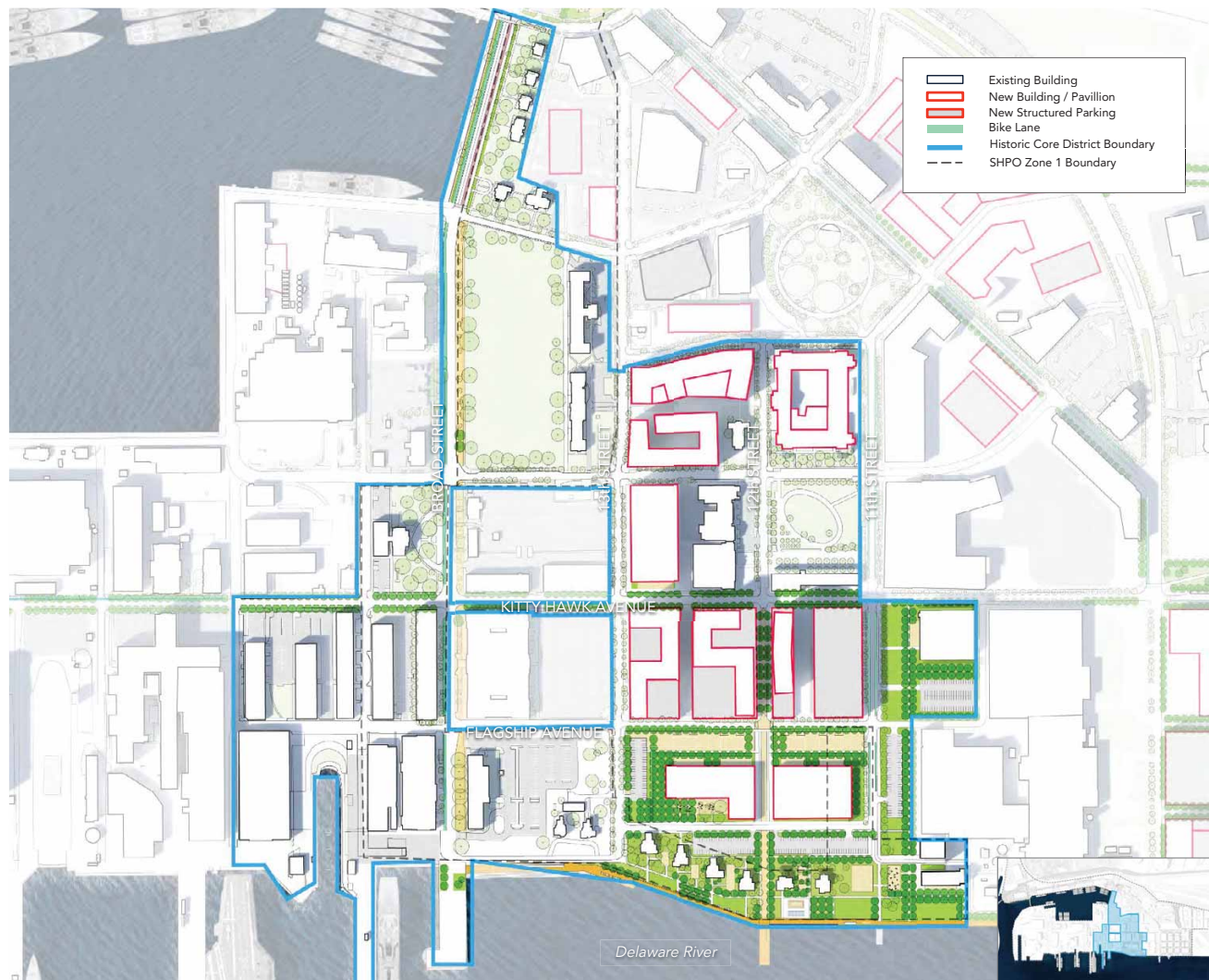
NAVY YARD DISTRICTS
HISTORIC CORE



HISTORIC CORE DISTRICT BOUNDARY

The Historic Core encompasses approximately 105 acres, defined by ample green space and historic buildings, with select parcels available for development or adaptive reuse. From its northern boundaries along Intrepid Avenue and Normandy Place to its southern boundary at the Delaware River, the Historic Core offers a breadth of atmospheres along a compelling course to the waterfront.

While many Navy Yard districts sit within the Philadelphia Naval Shipyard Historic District on the National Register of Historic Places, much of the Historic Core is further protected under the Zone 1 designation per the Pennsylvania State Historic Preservation Office (SHPO). This is reflected in the extent of spectacular adaptive reuse projects already in the district, and informs the thoughtful preservation of additional assets considered in the 2022 Plan.



HISTORIC CORE

HISTORIC CORE TODAY

Most structures in the Historic Core have been creatively rehabilitated to a high standard and are presently occupied, lending to the unique character of this district and the Navy Yard as a whole. Tenants in these buildings represent a diverse range of industries, including fashion, financial services, defense subcontractors, and a variety of small businesses.

The U.S. Navy still has a significant presence in several buildings throughout the Historic Core. At the same time, significant investment by Urban Outfitters, Inc. (URBN), a Philadelphia-based business that has grown into a globally influential apparel and lifestyle company, has transformed large former Navy buildings into iconic workspaces and public amenity assets for its corporate headquarters. In addition, the historically designated Marine Officers' Quarters along the Reserve Basin and the Officers' Quarters on the Delaware River waterfront house multiple diverse small businesses in affordable office space.

These historic structures are occupied by diverse users with a backdrop of 100+ year old trees, while inactive Navy ships in the surrounding water provide for a truly unique environment not replicated anywhere. The Historic Core is a large part of the Navy Yard's "brand" today and will continue to be in the future.



HISTORIC CORE DISTRICT OVERVIEW

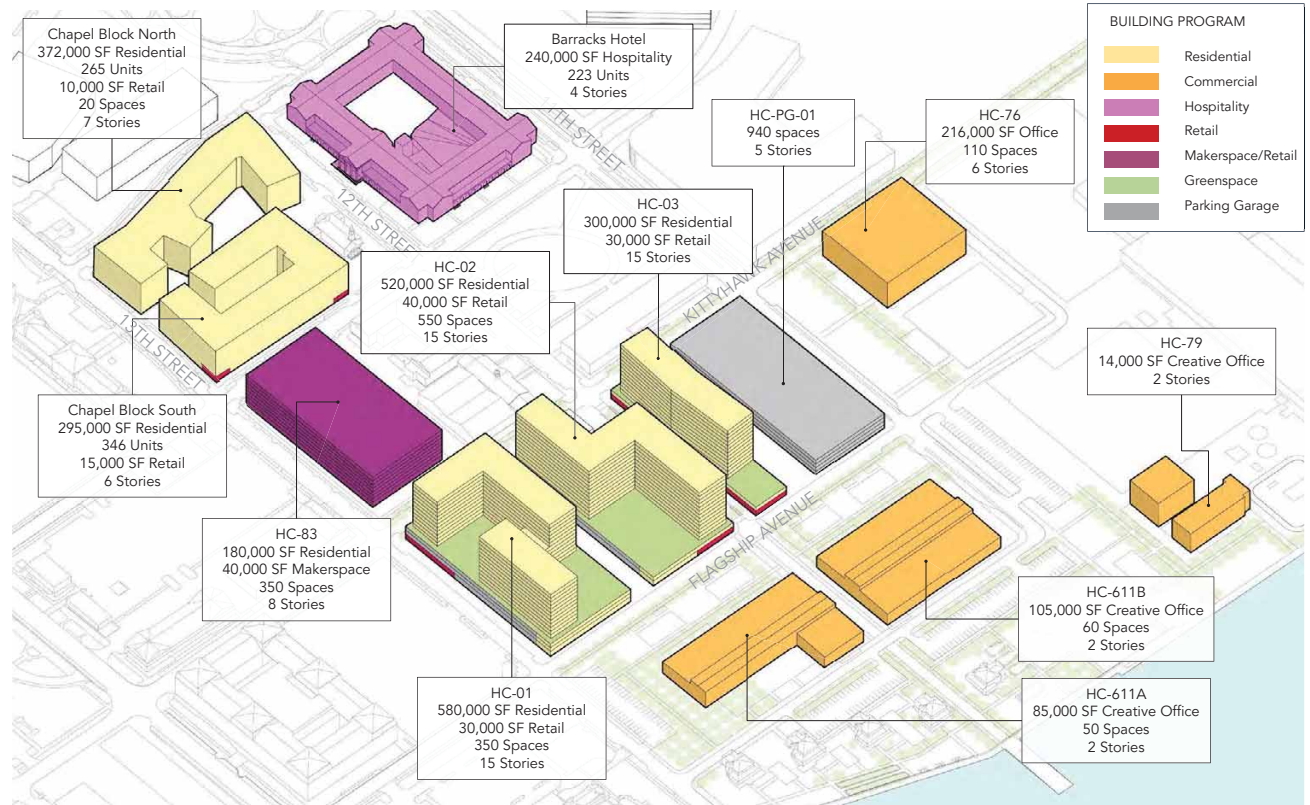
The vision for the Historic Core is shaped around new development and activated adaptive reuse, an expanded mix of uses including the first residential buildings since the Navy decommissioned the site, a new connection along 12th Street and a restored street grid, and an improved waterfront. The initial phase of new development in the Chapel Block at the north edge of the Historic Core will introduce mixed-income residential with ground-floor retail, and transform the historic Barracks building into a full-service hotel. Building 83 is renovated to host creative office and makerspace, while Building 611 is creatively preserved by cleaving the structure to accommodate the 12th Street connection and deliver flexible office, co-working, production, and retail spaces for Philadelphia entrepreneurs and companies.

Climate change and sea level rise are already periodically impacting Admiral Peary Way, located immediately adjacent to the Delaware River. This one-way road currently links small parking areas for small businesses in the charming Officers' Quarters buildings, as well as provides a secondary east-west connector function. Relocating Admiral Peary Way and the small parking areas further inland, behind the Officers' Quarters buildings, will ensure safe public travel and uninterrupted access for businesses, while facilitating the expansion of pervious greenspace to absorb stormwater runoff, extreme cloudburst conditions, and storm-related, periodic high-tide flooding. It will renew the waterfront with new gardens, bosques, passive recreation areas, plazas, and programmable open space. New development will aspire to the highest possible LEED certifications and incorporate advanced building materials and energy technologies such as green roofs, direct-to-grid connections, and solar panels wherever possible.

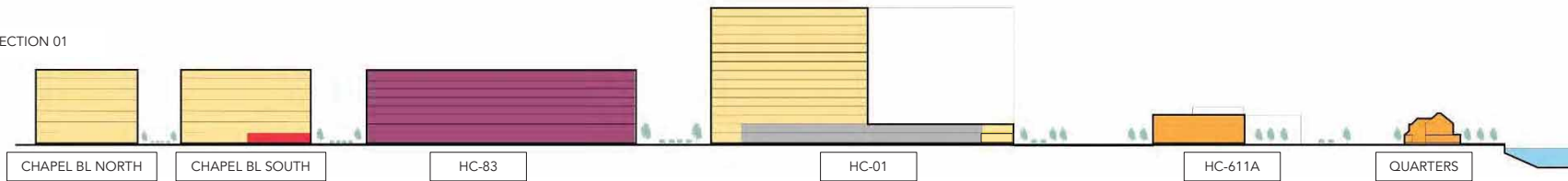


HISTORIC CORE MASSING

New mixed-use construction along 12th Street built to the sidewalk fills the blocks between Kitty Hawk and Flagship Avenue. Building heights for new construction are within the FAA flight path regulations, and thoughtful building interior design mitigates disruption to users. Preserved buildings (Building 83, Building 611) retain their relatively lower heights. Additional adaptive reuse opportunities exist at Building 79 and should be further studied for Buildings 75, 76, and 752, while ensuring adequate parking and service in the district. Selective demolition of vacant, deteriorated structures will transform currently underutilized parcels into economically viable and productive new spaces.



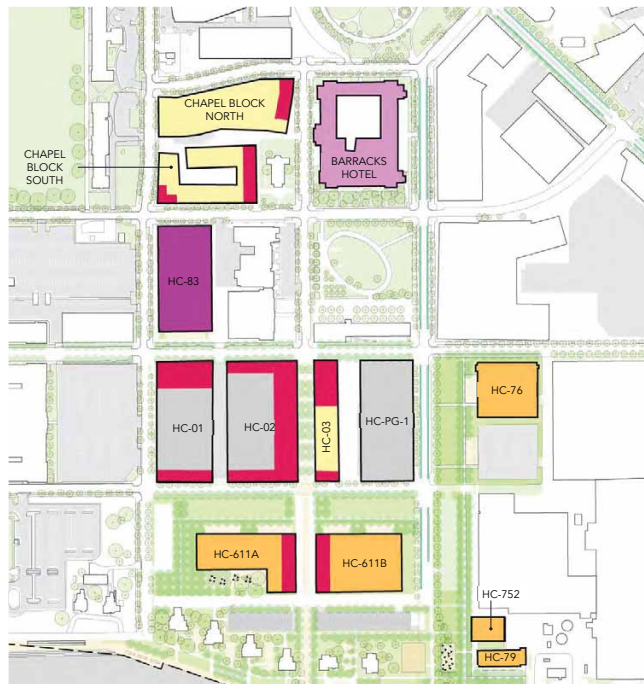
SECTION 01



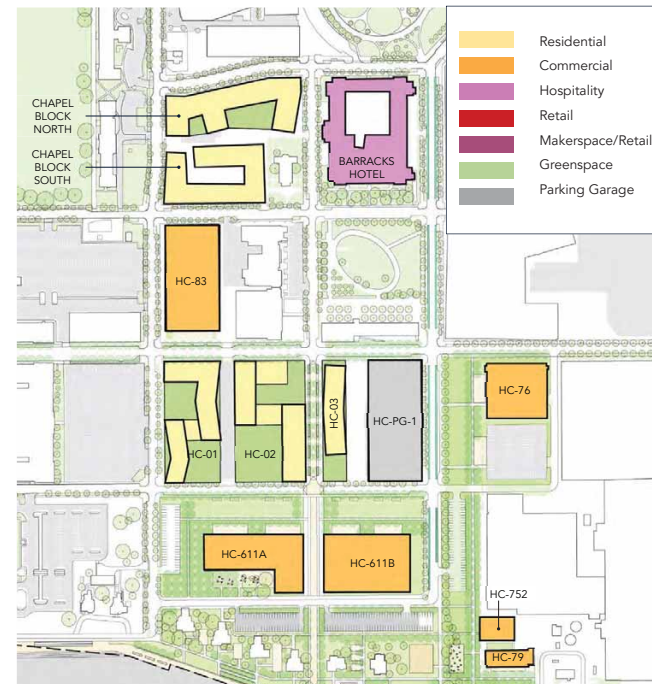
HISTORIC CORE PROGRAM

The Historic Core encapsulates the diverse mixed-use environment the Navy Yard of the future will offer. The first phases of private residences, at the Chapel Block and in new development south of Kitty Hawk Avenue, will create a 24/7 population, which will in turn support additional retail and other amenities available to all Navy Yard employees, residents, and visitors. Affordable small business spaces are preserved and expanded through new development, and unique, exciting artisan makerspace and retail activates the district with a diverse new set of businesses and visitors.

All new and redeveloped space will be designed and programmed consistent with the Plan's goals of creating inclusive and welcoming spaces and equitable business growth opportunities. Residential developed by Ensemble/Mosaic will include their commitment to offering 15% of units at affordable rents, and 25% of retail space developed by Ensemble/Mosaic will be made available for lease to local minority- and women-owned companies.



GROUND FLOOR BUILDING PROGRAM



UPPER FLOOR BUILDING PROGRAM

HISTORIC CORE SYSTEMS

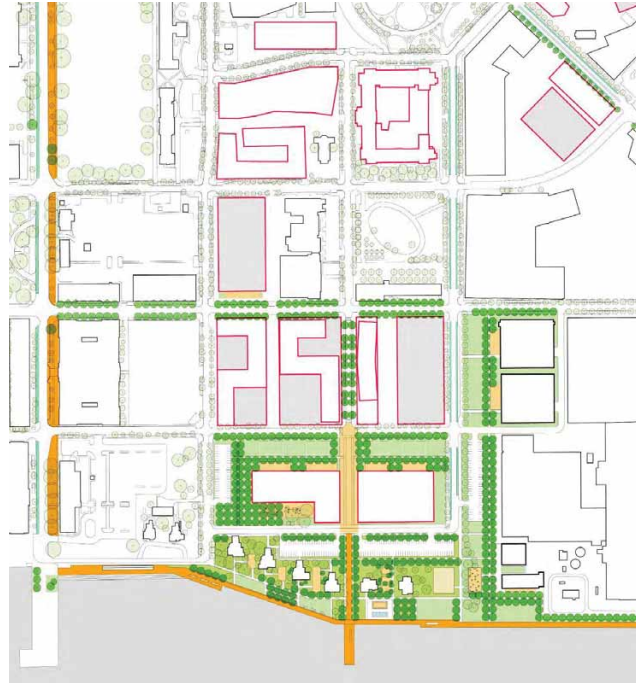
Open Spaces

New and expanded open spaces in the Historic Core are generally more passive and natural in character, but offer significant flexibility for free, open use by individuals and families, as well as multipurpose programming. Public art, a keystone of the Navy Yard's existing brand, can be introduced in these spaces to create a vibrant, attractive space. Temporary or mobile activations, such as food trucks (another Navy Yard asset) and cultural programming and events, can also draw people deeper into the Navy Yard towards the waterfront, and offer ways to connect small, local, minority- and women-owned businesses with opportunities at the Navy Yard. These key connections to the waterfront lead to a reimagined promenade along the Delaware River offering opportunities for recreation, relaxation, and unique programming opportunities.

Parking + Circulation

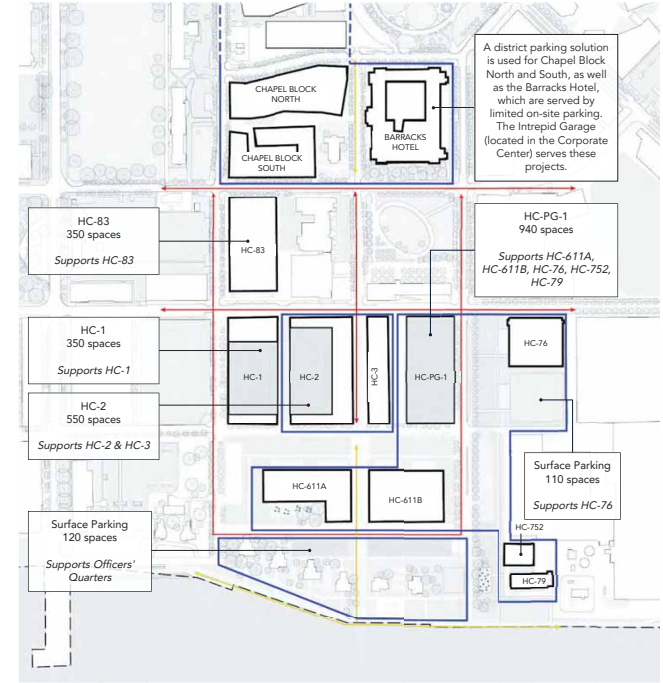
The Historic Core plan introduces pedestrian-only pathways along the waterfront and portions of 12th Street, to create a more accessible pedestrian experience and pull critical vehicular access paths off of the waterfront. Pedestrian paths and surface parking use pervious paving materials and other sustainable methods to further protect against flooding.

Parking for proposed residential buildings in the Historic Core is provided on-site or on neighboring sites by above-grade parking podiums, with parking for each Ensemble/Mosaic project accommodated either fully within its respective parcel boundary or in close proximity in a shared parking structure. Public parking for the retail and office program close to the waterfront on PIDC-controlled parcels is provided by a parking structure located on 11th Street between Kitty Hawk Ave and Flagship Ave.



OPEN SPACES

- Promenade
- Pedestrian Street / Hardscape Surface
- Open Green Space
- Planted Green Space
- Flexible Gravel Parking Surface



PARKING + CIRCULATION

- Vehicular
- Pedestrian
- Shared Parking Cluster

HISTORIC CORE

12TH STREET CONNECTION: CHAPEL BLOCK

The 12th Street corridor begins at the southern boundary of Central Green park at Normandy Place with the creation of Chapel Plaza, an intimate, hardscaped public plaza surrounded by ground floor restaurants and retail. Chapel Plaza is anchored by the formerly years-long vacant Naval receiving station, transformed into a reimagined hotel property; newly developed lab space on the north side of the plaza; and the historic Chapel occupied by the Four Chaplains Memorial Foundation and League Island Park to the south of the plaza.

Currently, 12th Street's visual appeal, functional contribution to the street grid, and connection to the waterfront are compromised by its abrupt termination at Kitty Hawk, where it leaves travelers facing down the outsize façade of a long-vacant warehouse that stands between them and the river. The Plan transforms 12th Street into a strategic, highly functional, and multimodal north-south corridor that is welcoming, authentic, and connects travelers directly to a visible waterfront. The following pages further describe the sequence of spaces along the new 12th Street Connection.

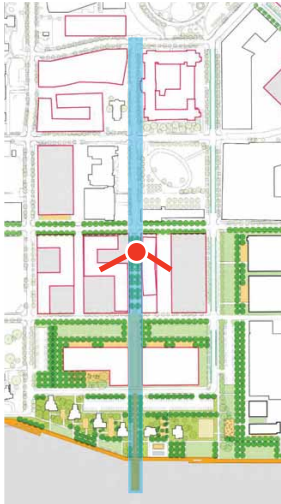


The northern segment of 12th Street is flanked by diverse uses around a public plaza.

HISTORIC CORE

12TH STREET CONNECTION: FLAGSHIP BLOCK

After passing south past League Island Park lined with a combination of historic adaptive reuse buildings and newly constructed buildings, the 12th Street Connection is continued past its existing terminus at Kitty Hawk Avenue. Demolition of Building 624, a large multi-story industrial building with limited adaptive reuse possibilities, and new development on either side of 12th Street between Constitution Avenue and Normandy Avenue allows for the critical connection of 12th Street to the waterfront. The history of Building 624 will be preserved and creatively presented to the public in the new Flagship Block. The Flagship Block provides for the creation of a special streetscape with welcoming street furniture, and ground floor retail that accommodates vehicles while focusing on the pedestrian experience. At the intersection of Flagship and 12th Street, vehicles are then directed, with clear signage to minimize confusion and congestion, towards either 11th Street or 13th Street, leaving the remainder of 12th Street pedestrian-only. Clear views south to the waterfront are enabled by a cleaved Building 611.

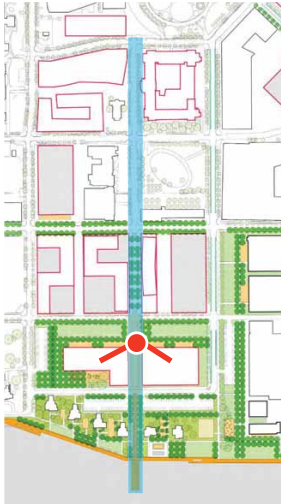


The extension of 12th Street south of Kitty Hawk is an active, shared street.

HISTORIC CORE

12TH STREET CONNECTION: 611 BLOCK

Building 611 is creatively preserved by cleaving the structure, facilitating the continuation of the street grid through the bisected structure. The two new buildings offer more viable footprints for redevelopment into creative office space for small to large businesses and other unique, public-facing commercial uses including a streetside market and café, makerspace, event space, and eclectic retail that showcases local artisans and businesses. Routing vehicle traffic along Flagship Avenue and away from the 611 Block creates a central, vibrant, and flexible pedestrian-only plaza along 12th Street that will engage the Navy Yard and the waterfront. Retention of the steel superstructure over the plaza provides an authentic nod to history, while pedestrian-scale furnishings, twinkle lights, and ground floor activation attract new users to this restored space. This pedestrian-only space is multifunctional: providing an informal gathering space day-to-day, and a programmable or special event space on occasion.



Building 611 opens to allow 12th Street to continue through as an active frontage area for dynamic workplaces.

HISTORIC CORE

12TH STREET CONNECTION: PROMENADE

The space between Building 611 and the Officers' Quarters is a space of movement. Consistent material treatment across the 12th Street connection unites the various spaces and uses. Streetscape design, including decorative lighting and functional, inviting furniture, will continue in consistent style along the promenade, in order to complete the pedestrian experience along the full extent of the new 12th Street connection and foster pedestrian use and activation. The former parking areas previously located along the waterfront are consolidated north of the Officers' Quarters to enhance resiliency and support a more lively waterfront space with a clear and programmable vista. The addition of pervious green space and native plantings will create a distinct sense of place along the waterfront while also improving capacity for water and carbon absorption.



12th Street opens up past Building 611 to a programmable, sun-filled pathway.

HISTORIC CORE

12TH STREET CONNECTION: WATERFRONT

A series of inviting outdoor spaces foster social interaction while increasing ecological functions in these areas. The waterfront recreation trail is expanded and punctuated with modern, attractive features and furniture to provide places for rest and connection. The Officers' Quarters are preserved as affordable spaces for small businesses and nonprofits. Relocation of Admiral Peary Way and the small parking lots that serve the Officers' Quarters buildings facilitates a significant expansion of greenspace, which augments the space and plays an important role in managing stormwater and periodic river encroachment. Native perennial plantings that feature diverse colors, textures of foliage, flowers, create visual interest; limited habitat to attract desirable pollinators can animate the spaces.



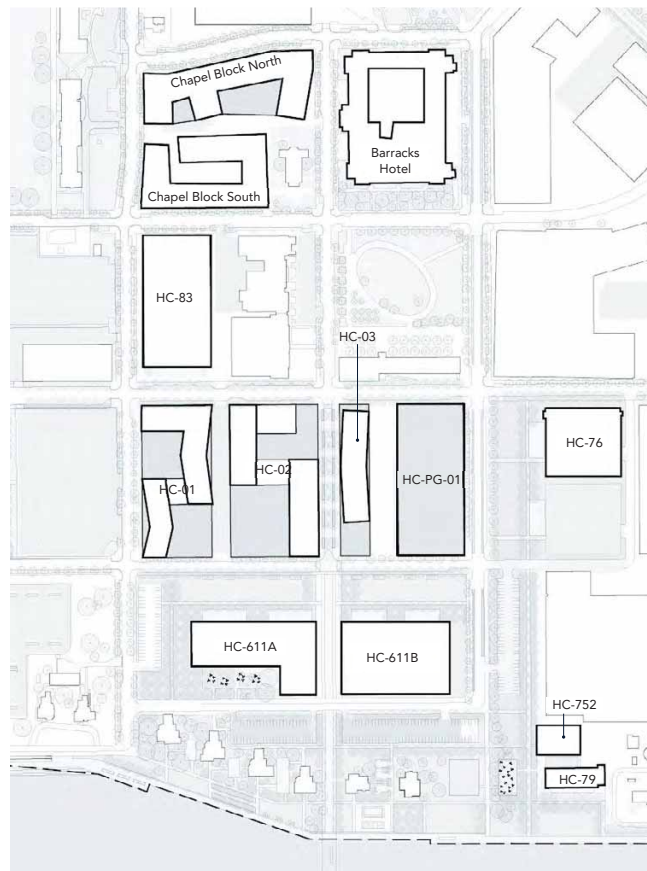
The Delaware River waterfront in the Historic Core offers new passive green space.

HISTORIC CORE

DELAWARE PROMENADE



HISTORIC CORE DEVELOPMENT SUMMARY



| Building | Height | Office/R&D | Multifamily Residential | Hospitality | Retail/Makerspace | Parking |
|---------------------------------------|-------------------------|-------------------|-----------------------------------|-------------------------------|-------------------|-------------------------|
| Chapel Block North ¹ | 7 Stories | - | 372,000 SF (265 Units) | - | 10,000 SF | 20 Spaces |
| Chapel Block South ¹ | 6 Stories | - | 295,000 SF (346 Units) | - | 15,000 SF | - |
| Barracks Hotel ¹ | 4 Stories | - | - | 240,000 SF (223 Units) | - | - |
| HC-01 Residential Mixed-Use | 15 Stories ² | - | 580,000 SF (580 Units) | - | 30,000 SF | 350 Spaces |
| HC-02 Residential Mixed-Use | 15 Stories ² | - | 520,000 SF (520 Units) | - | 30,000 SF | 550 Spaces |
| HC-03 Residential Mixed-Use | 15 Stories ² | - | 300,000 SF (300 Units) | - | 10,000 SF | - |
| HC-76 Office | 6 Stories | 216,000 SF | - | - | - | 110 Spaces ³ |
| HC-79 Office/Creative | 2 Stories | 14,000 SF | - | - | - | - |
| HC-83 Creative Mixed-Use ⁴ | 8 Stories | 180,000 SF | - | - | 40,000 SF | 350 Spaces |
| HC-611A Office/Creative | 2 Stories | 85,000 SF | - | - | - | 50 Spaces ³ |
| HC-611B Office/Creative | 2 Stories | 105,000 SF | - | - | - | 60 Spaces ³ |
| HC-PG-01 Structured Parking | 5 Stories | - | - | - | - | 940 Spaces |
| TOTAL | | 600,000 SF | 2,067,000 SF (2,011 Units) | 240,000 SF (223 Units) | 135,000 SF | 2,430 Spaces |

| Open Space Type | Area |
|-------------------|-------------------|
| Promenade | 70,000 SF |
| Open Green Space | 175,000 SF |
| Pedestrian Street | 40,000 SF |
| Hardscape | 25,000 SF |
| Planted Area | 20,000 SF |
| TOTAL | 330,000 SF |

1. A district parking solution is used for Chapel Block North and South, as well as the Barracks Hotel, which are served by limited on-site parking. The 1200 Intrepid parking garage located in the Corporate Center serves these projects.
2. Buildings heights in this district shall not exceed 177' above grade level due to FAA clearance regulations.
3. Limited on-site surface parking is provided for HC-611A, HC-611B, and HC-76. Additional parking for these projects is provided by HC-PG-01.
4. Building 83 will include a unique building program of ground floor retail/makerspace and upper floors of creative office, live/work space, gallery/event space, and/or artist space with associated support/back of house/storage space all supported by parking inside the building

NAVY YARD DISTRICTS
GREENWAY DISTRICT



GREENWAY DISTRICT

DISTRICT OVERVIEW

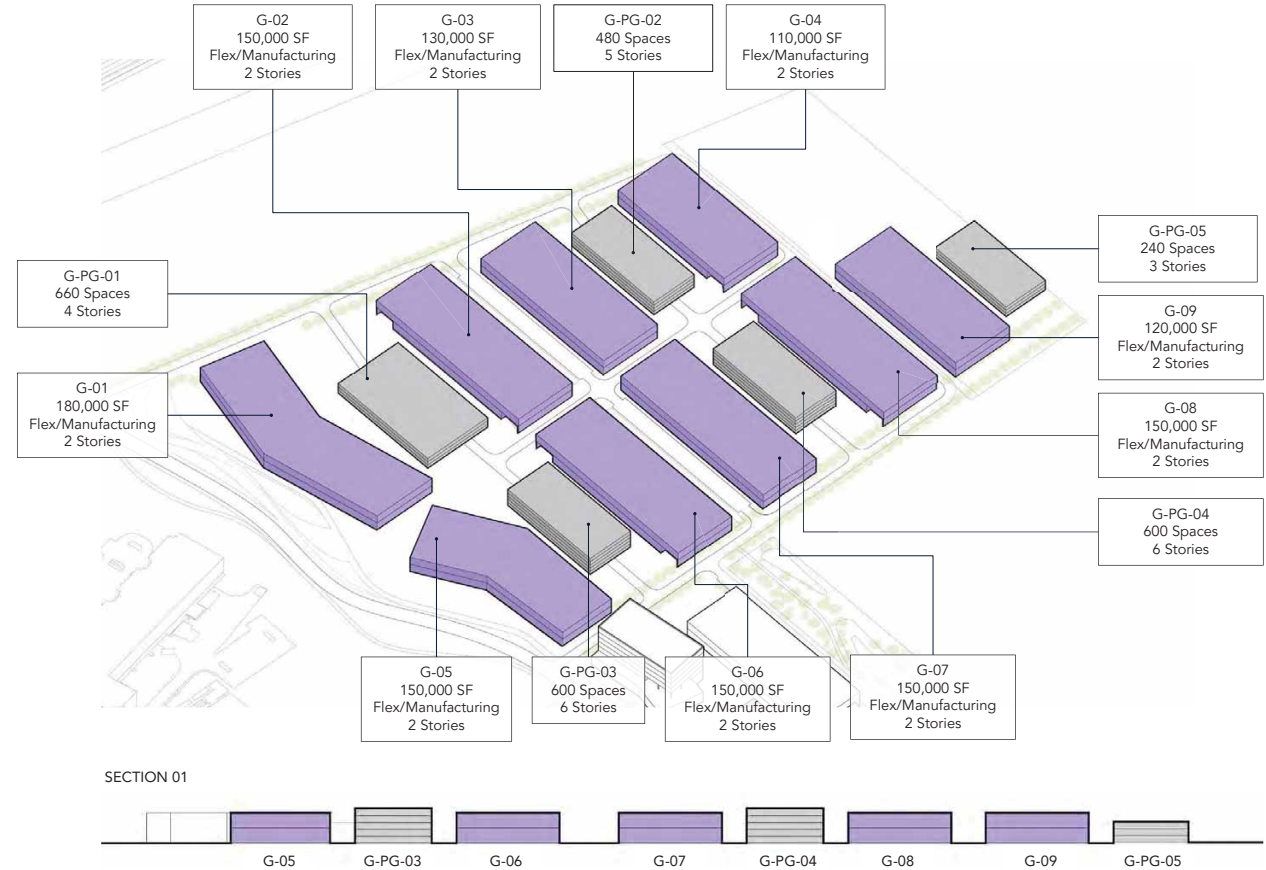
The Greenway District provides an unparalleled opportunity in Philadelphia for large-footprint commercial development attractive to life science and advanced manufacturing users near University City's cutting-edge research institutions and critical transportation assets including the Philadelphia International Airport, 30th Street Station, I-95, I-76, and SEPTA's regional transit system. The Greenway District encompasses over 50 acres planned to support Philadelphia's rapidly growing life sciences sector, with large floorplate, one to three story building opportunities suitable for a flexible array of uses including life sciences, R&D, commercialization, and advanced manufacturing. These uses represent the creation of significant quality jobs, and the Navy Yard Skills Initiative is actively developing a training curriculum with advanced life sciences employers to connect Philadelphians across the city with these opportunities.

As a large undeveloped site, the Greenway District offers unique abilities to advance resiliency and sustainability while providing for maximum flexibility desired in the marketplace. A generous and green open road organizes the district, providing a welcome to users entering the east end of the Navy Yard. The public realm serves critical infrastructure needs for the new development while preserving the environment of publicly-accessible open space that defines the Navy Yard. On the easternmost end, parcels are designated for power generation options that will be necessary to support the future development.





GREENWAY DISTRICT MASSING

The Plan capitalizes on the open space to efficiently create a district of large floorplate, lower-profile buildings. Development density is maximized by concentrating parking in structures, and organizing loading and servicing to visually shield these elements from the public realm and minimize conflicts between vehicles and pedestrians. Higher floor-to-ceiling heights in buildings results in buildings and garages that are equal in height, ensuring visual coherency within the district. The longer building facades oriented along the north-south street grid will be purposely articulated to provide an interesting streetscape. The parking structures are oriented such that the longer facades will be hidden from the public realm and the shorter facades pulled back from the east-west streets to offer relief from the streetscapes.



GREENWAY DISTRICT PROGRAM

The Greenway District is envisioned as a maximally-productive district for life sciences manufacturing, conveniently connected to existing amenities in the Historic Core and the Waterfront District, creating a highly desirable environment for attracting and retaining employees. The planning of the district provides for the maximum flexibility required by life science and advanced manufacturing companies in a unique campus setting. The program presented in this Plan has been designed to reflect a likely scenario of development density, with attention paid to preserving opportunities for flexible realignment to accommodate smaller, larger, or different layouts than shown here in single-tenant or multi-tenant configurations. The newly developed buildings provide opportunities for efficient, flexible floorplates and cutting-edge innovations in sustainable building targeting the highest level of LEED and other certifications with a focus on energy efficiency, resiliency, and health and wellness.

-  Life Science + Advanced Manufacturing
-  Parking Garage



GREENWAY DISTRICT SYSTEMS

Open Spaces

The north-south streets in the Greenway District are broad, green environments; they are meant to convey a sense of arrival as well as improve pedestrian comfort, reduce the heat island effect, and add abundant natural scenery as a complement to the built environment. Green infrastructure in the form of landscaped swales are a visible component of these streets. The creation of a recreational trail along the greenway street will connect to a park space and mobility hub to the south where runners and bikers can continue their journey through the Waterfront District and along the Delaware River to the Historic Core, while the swale street provides a more leisurely journey through the naturally landscaped Wilderness Buffer to the waterfront. Overall the Plan is visually prioritized by moving vehicle parking and loading off of the primary streets, into the interior blocks between buildings.

Parking + Circulation

Vehicular circulation throughout the district has been carefully planned to accommodate vehicular and truck traffic traveling to, from, and through the district. A perimeter circulation road will handle the heavy vehicular, transit, and truck traffic providing access to building loading areas. The greenway street is designed to provide for vehicular traffic to the western buildings as well as through traffic destined for the Waterfront District. The mid-district swale street provides for a less utilized north-street which offers an alternate option for vehicles arriving and departing during peak hours.

The parking solution is designed to meet needs of anticipated users based on current conditions in accessibility and trends in mode share relevant to the Navy Yard. However, meaningful advances in transit access and utilization, as well as non-vehicular modes, could reduce the amount of space dedicated to structured parking.



OPEN SPACES

- Greenway Street
- 7.5 acres for transmission substation
- 4 acres for distributed substation
- Wilderness Buffer
- Swale Street



PARKING + CIRCULATION

- Vehicular
- Greenway Street
- Swale Street
- Shared Parking Cluster

GREENWAY DISTRICT DEVELOPMENT SUMMARY



| Building | Height | R&D/Manufacturing | Structured Parking |
|---------------------------------|-----------|---------------------|---------------------|
| G-01 Life Science Manufacturing | 2 Stories | 180,000 SF | - |
| G-02 Life Science Manufacturing | 2 Stories | 150,000 SF | - |
| G-03 Life Science Manufacturing | 2 Stories | 130,000 SF | - |
| G-04 Life Science Manufacturing | 2 Stories | 110,000 SF | - |
| G-05 Life Science Manufacturing | 2 Stories | 150,000 SF | - |
| G-06 Life Science Manufacturing | 2 Stories | 150,000 SF | - |
| G-07 Life Science Manufacturing | 2 Stories | 150,000 SF | - |
| G-08 Life Science Manufacturing | 2 Stories | 150,000 SF | - |
| G-PG-01 Parking Garage | 4 Stories | - | 660 Spaces |
| G-PG-02 Parking Garage | 5 Stories | - | 480 Spaces |
| G-PG-03 Parking Garage | 6 Stories | - | 600 Spaces |
| G-PG-04 Parking Garage | 6 Stories | - | 600 Spaces |
| SUBTOTAL | | 1,170,000 SF | 2,340 Spaces |

| | | | |
|---------------------------------|-----------|---------------------|---------------------|
| G-09 Life Science Manufacturing | 2 Stories | 120,000 SF | - |
| G-PG-05 Parking Garage | 3 Stories | - | 240 Spaces |
| TOTAL¹ | | 1,290,000 SF | 2,580 Spaces |

| Open Space Type | Area |
|-----------------|-------------------|
| Swale | 60,000 SF |
| Hardscape | 80,000 SF |
| Planted Area | 200,000 SF |
| TOTAL | 340,000 SF |

1. The Plan considers two future options for additional power infrastructure: a transmission substation, requiring approximately 7.5 acres, and a distributed energy solution, requiring approximately 4 acres. If the distributed energy option is selected, the remaining land area (3.5 acres) is available and suitable for additional development for advanced manufacturing with associated parking facility.

NAVY YARD DISTRICTS
WATERFRONT DISTRICT



WATERFRONT DISTRICT DISTRICT OVERVIEW

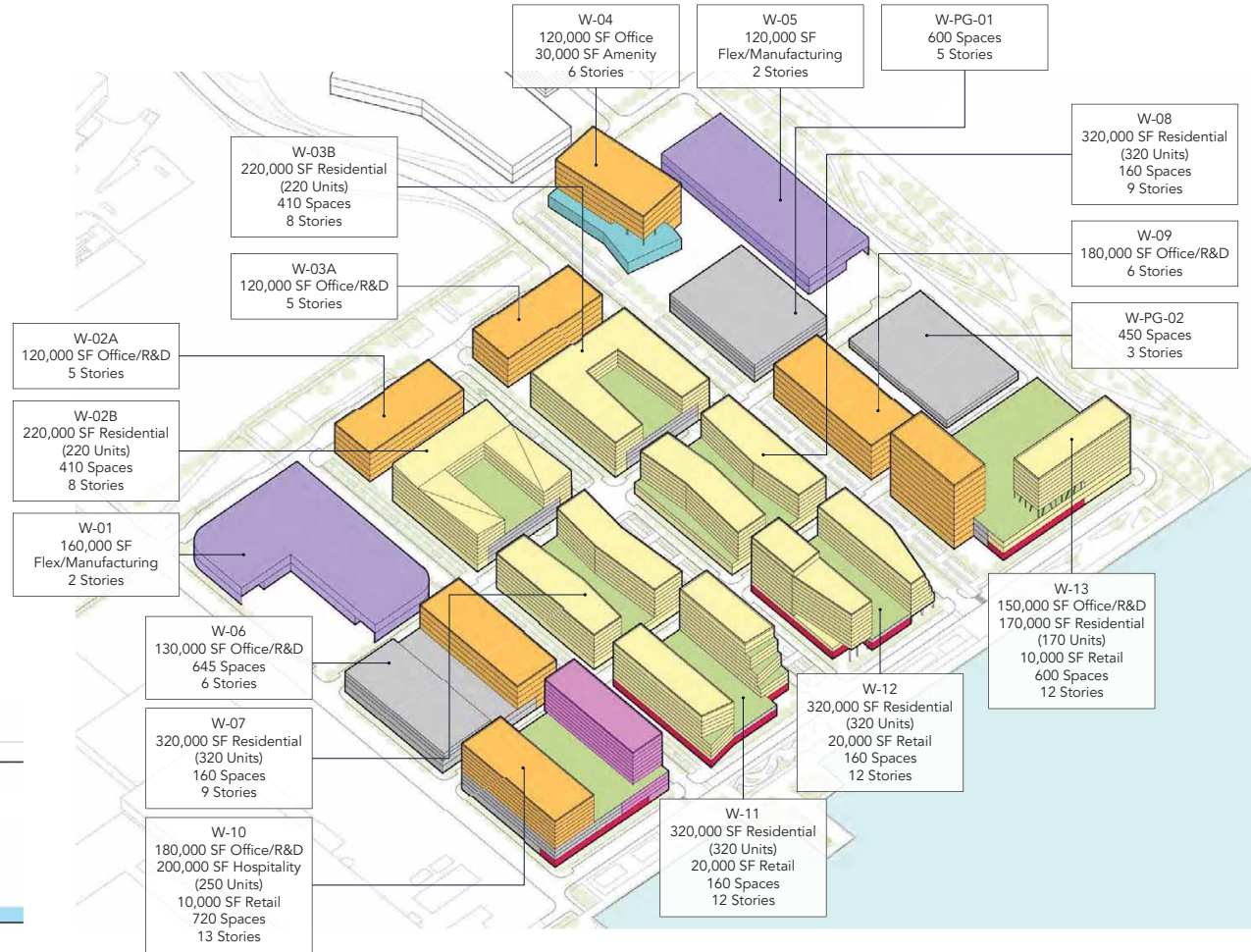
The Navy Yard's expanded public waterfront, attractive new commercial spaces, integrated mixed-income residential, and 24/7 lifestyle amenities all converge in the new Waterfront District. The Waterfront District overlays a traditional street grid which provides for connection to the Corporate Center and Historic Districts to the west and the Greenway District to the north. The north-south street grid provides signature canals, generous green infrastructure, and an innovative, world-class design creating a truly unique environment that terminates at the waterfront. Mixed-use buildings fill the blocks, with thriving ground-floor restaurants and diverse retail featuring minority- and women-owned businesses populating the central and waterfront streets and commercial, residential and hospitality corridors flanking the east and west. A resilient, multi-level public waterfront showcases spectacular views and creates active, passive, and programmable spaces, while buffering inland development from sea level rise and flooding.



WATERFRONT DISTRICT MASSING

The Waterfront District constitutes a high-density, urban-scale environment that cohesively unites the diversity of uses and building typologies found throughout the Navy Yard. Advanced manufacturing facilities located on the northern and eastern edges of the district are envisioned as lower height structures, creating a sense of visual architectural connection to the surrounding districts while building typologies shift and massing increases in the middle of the district and closer to the waterfront.

To further develop the urban environment, buildings hold the edge of the street on the internal, north-south streets within the district. The southern-facing frontages employ setbacks and other creative massing techniques for greater architectural interest, particularly along the activated waterfront promenade.



WATERFRONT DISTRICT PROGRAM

The ground-floor program in the Waterfront District features a notable density of retail and restaurant space, concentrated along the waterfront and central street to capitalize on anticipated foot traffic. The vibrancy of the retail and restaurant cluster will be driven in part by the intentional inclusion of diverse businesses, featuring local, minority- and women-owned enterprises. It will also be thoughtfully curated to include community-serving retail at a variety of price points, to support the mixed-income residential program. The ground-floor program reflects capacity for additional retail frontage depending on supportable square footage. The range of supportable retail square footage is discussed in detail in Chapter 7. Ground floors of the other streets in the Waterfront District are primarily functional, offering ingress to the commercial and residential uses on the upper floors.

The program on the upper floors contains a mix of residential, commercial, and hospitality uses. The mixed-income residential projects create the core of the district and maximize views of the waterfront and green spaces within the district. The outer blocks hold advanced manufacturing and other commercial uses, buffering the Waterfront District from surrounding uses.



GROUND FLOOR PROGRAM

- | | |
|---|---|
| Residential | Amenity |
| Commercial | Greenspace |
| Hospitality | Life Science |
| Retail | Parking Garage |
| Potential Retail | |



TYPICAL UPPER FLOOR PROGRAM

WATERFRONT DISTRICT SYSTEMS

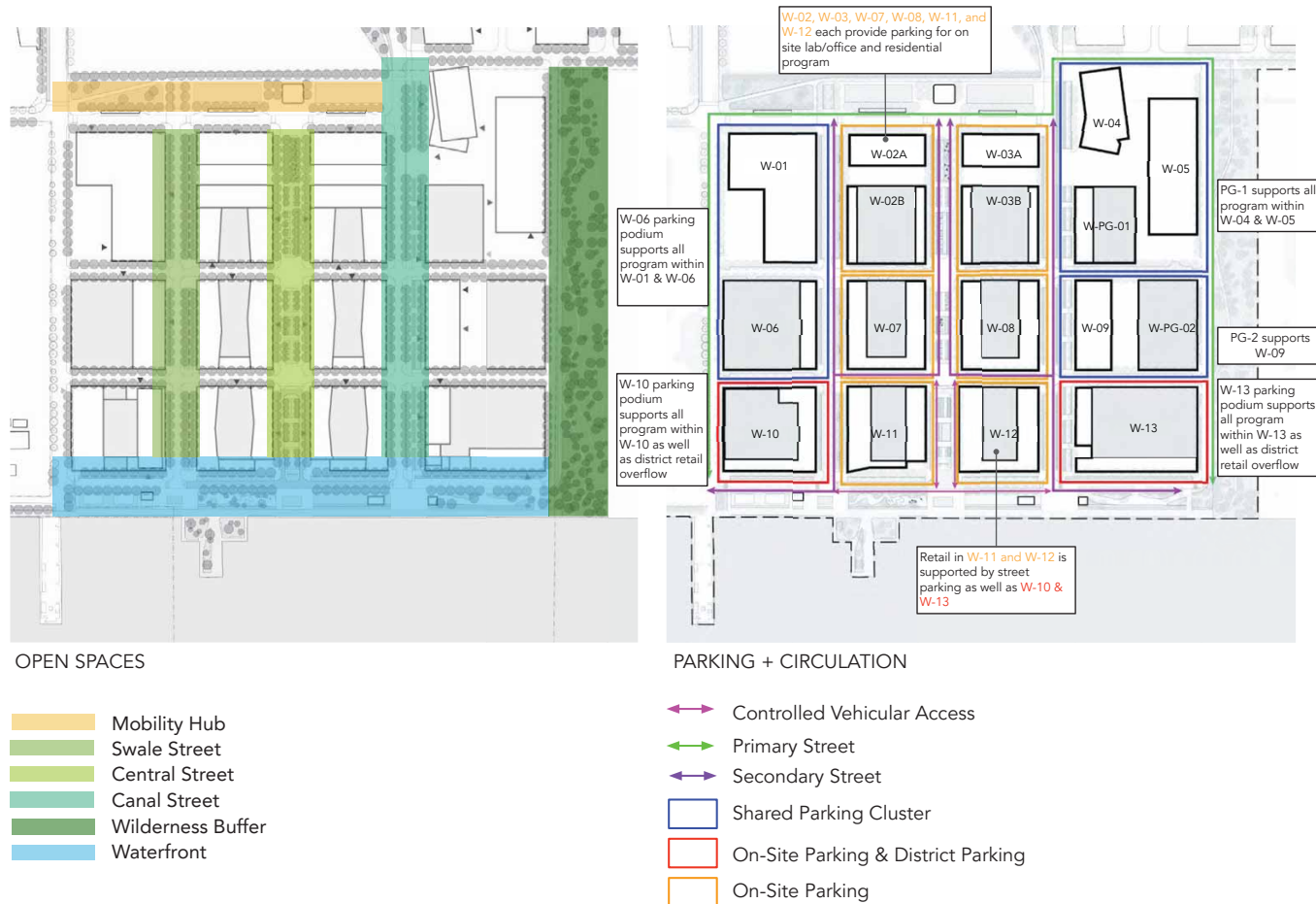
Open Spaces

The Waterfront District features six primary open space types: the Mobility Hub, the Swale Street, the Central Street, the Canal Street, the Waterfront, and the Wilderness Buffer. Each one of these spaces is a unique form of urban open space with critical sustainable infrastructure; together they create a truly unique and new form of urban living and working along the waterfront in Philadelphia and in America.

Parking + Circulation

Multimodal accessibility and streamlined circulation are prioritized in the Waterfront District, with bike lanes on all roadways, generous sidewalks, and ample structured parking. A strategically located mobility hub on Kitty Hawk Avenue, the district's northern edge, enables workers, residents, and visitors to easily connect with Navy Yard shuttles, bike share, and other modes to reach other areas of the campus without using their personal vehicles. This mobility hub is envisioned as an architecturally attractive, sustainably designed, and inviting public space to encourage gathering and utilization. The perimeter primary street provides for heavier vehicular and truck traffic for commercial buildings with access to loading. The interior, secondary streets provide for vehicular traffic and access to parking structures.

Residential and lab/office buildings in the Waterfront District each provide on-site parking within a parking podium. Parking structures PG-1, PG-2, and W-06 each provide parking within their individual clusters as indicated. Anchor buildings W-10 and W-13 at each end of the Waterfront District's southern edge provide parking for the on-site programs as well as additional spaces to support district retail.



WATERFRONT DISTRICT SWALE STREET

The Swale Street is the westernmost, internal north-south street within the Waterfront District. Residential uses are aligned on the east side of the street, along with a streetside amenity space and a 15'-wide landscaped swale, which offers an attractive and highly functional buffer between vehicles and active and passive pedestrian spaces. The swale acts as a stormwater management and water quality feature, collecting, detaining, and filtering water before it is discharged. On the west edge of the street, which contains office/lab space in the north end and retail and hospitality frontage in the southern blocks, sidewalks are protected from on-street parking and travel lanes are protected by a 6'-wide landscaped segment. Planting choices like Tulip Poplars, with their fast replacement rate and significant capacity for carbon sequestration due to their large size and long lifespans, further the sustainability of these streetscapes.



WATERFRONT DISTRICT CENTRAL STREET

The Central Street is the public outdoor living space of the Waterfront District; a place where people come to socialize, shop, linger over meals, and enjoy the outdoors. Two swales frame the central amenity strip with one-way traffic on either side. The amenity strip provides a landscaped edge that also manages stormwater and improves water quality. This space differs from the other “movement” spaces of the campus, taking on an urban and natural character to meet the needs of a dense neighborhood and providing inviting outdoor space that fosters social interaction. Their design invites people to linger, socialize, and relax, with benches, tables, bike racks, and distinctive street furniture to make the spaces more welcoming. A generous tree canopy and space-defining landscaping along the buildings will offset heat island effects, absorb carbon, and provide a natural environment and degree of privacy surrounding buildings, while contributing significantly to sustainability and resiliency with manageable requirements.



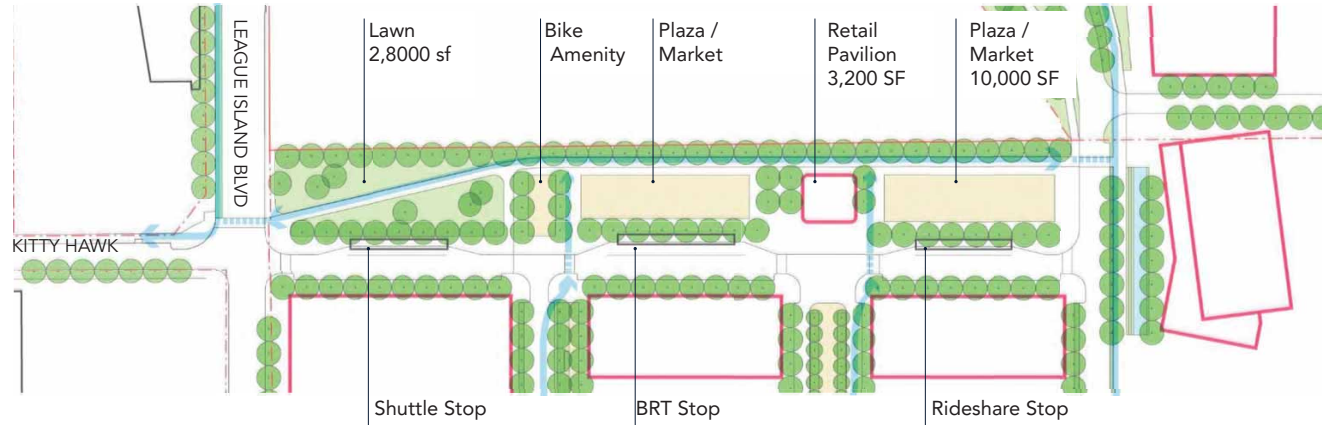
WATERFRONT DISTRICT CANAL STREET

An open water channel is the defining characteristic of this street, continuing the green character of the streets in the Waterfront District. Unprecedented in Philadelphia and in fact throughout North America, this street differentiates the otherwise common urban-scale environment of the Waterfront District into a distinct and attractive experience. Here the canal provides a visual terminus to Kitty Hawk Avenue; a major gesture that connects the Greenway district and this area in the Waterfront District to the Delaware River and explicitly celebrates responsible riverside development and living. The canal takes on stormwater in inclement weather, conveying detaining water to the river via a weir while providing a visibly stunning buffer between the residential uses to the west of the street and the commercial uses to the east. It is permanently wet, with makeup water from stored cisterns of potable sources.



WATERFRONT DISTRICT MOBILITY HUB @ KITTY HAWK

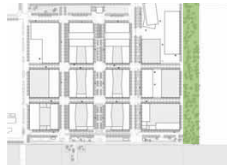
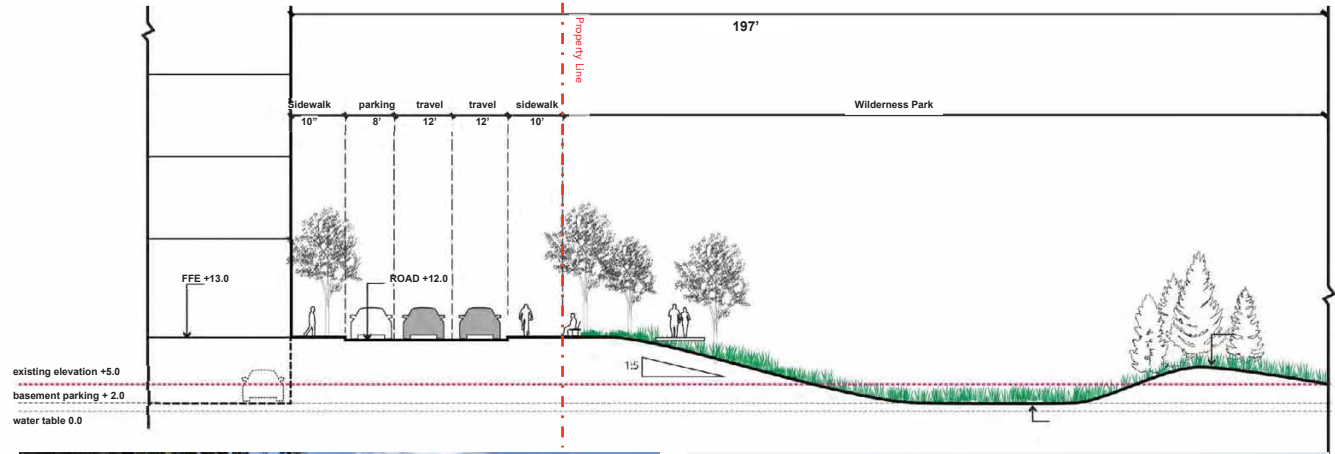
The Mobility Hub along Kitty Hawk takes advantage of space between the alignment of Kitty Hawk and a northern Navy-owned property. Here, there is a major opportunity to deliver easy, user-friendly alternative transportation options to workers, residents, and visitors who otherwise would rely on single-occupancy vehicles. The hub is envisioned as a fun, attractive, and user-friendly space to connect with transit, bike share, and other modes to get quickly and easily to other areas of the Navy Yard. Great coffee, fun programming, and unique pop-ups can augment the experience and make it a much-preferred option to using a personal vehicle. This is an obvious location for connecting: where different travel options – walking, biking, transit, and shared mobility – come together, right at the nexus of the Greenway and Waterfront Districts.



WATERFRONT DISTRICT WILDERNESS BUFFER

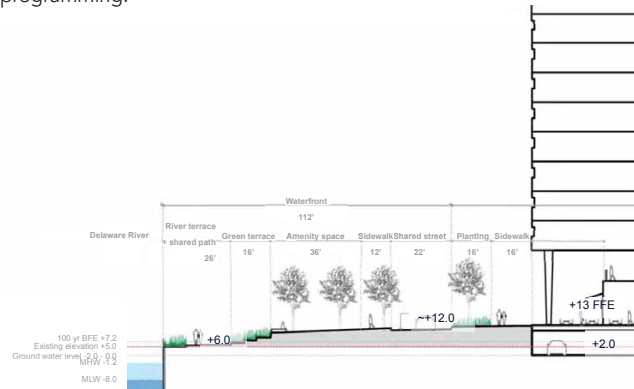
Like many of the public spaces at the Navy Yard, the Wilderness Buffer on the eastern edge of the Waterfront District is multi-functional. In addition to providing stormwater conveyance from the Greenway District to the Delaware River in a native landscaped environment, this area serves as a part of the Navy Yard's shared path and bike network providing for a more remote and more natural place for employees, residents, and visitors to explore, exercise, and escape.

The geometry of the Wilderness Buffer is specific in order to provide stormwater functions, with a consistent depth and invert set at -2.0. This space is not only green infrastructure, but can be co-opted as a passive recreation space, with paths, trails, planting, and open lawn areas. Consideration is given to avoid the creation of habitat for undesirable species.



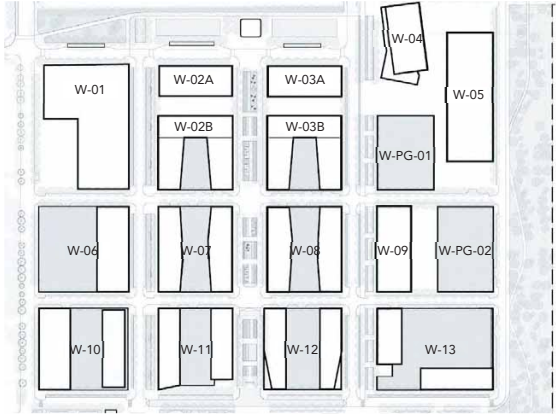
WATERFRONT DISTRICT WATERFRONT

The waterfront is a major amenity space for the Navy Yard, marrying passive and active recreation with ecological function. It provides the vertical transition from the existing height of the bulkhead up to the new resilient elevations of the roads and buildings in the Waterfront District, using ramps, slopes, planted terraces, seating, and steps to maximize accessibility. The vertical transition and accompanying setback from the river's edge protects the extensive new construction and investment, while creating spaces that are intentionally designed to take on water during storm or flood events. While the waterfront is designed with resiliency as a principal function, it also provides a stunning and unique opportunity for passive recreation and vibrant programming.



The Delaware River waterfront in the Waterfront District is an active, shared path surrounded by landscaping.

WATERFRONT DISTRICT DEVELOPMENT SUMMARY



| Open Space Type | Area |
|-------------------|-------------------|
| Promenade | 40,000 SF |
| Open Green Space | 80,000 SF |
| Pedestrian Street | 50,000 SF |
| Hardscape | 80,000 SF |
| Planted Area | 200,000 SF |
| Swale | 45,000 SF |
| Canal | 20,000 SF |
| TOTAL | 515,000 SF |

| Building | Height | Office/R&D/ Manufacturing | Multifamily Residential ² | Hospitality | Retail | Parking |
|----------------------------|-------------------------|------------------------------|--------------------------------------|-------------------------------|-------------------|---------------------|
| W-01 Flex/Manufacturing | 2 Stories | 160,000 SF | - | - | - | - |
| W-02A Office/R&D | 5 Stories | 120,000 SF | - | - | - | - |
| W-02B Residential | 8 Stories | - | 220,000 SF (220 Units) | - | - | 410 Spaces |
| W-03A Office/R&D | 5 Stories | 120,000 SF | - | - | - | - |
| W-03B Residential | 8 Stories | - | 220,000 SF (220 Units) | - | - | 410 Spaces |
| W-04 Amenity/Office | 6 Stories | 120,000 SF | - | - | 30,000 SF | - |
| W-05 Flex/Manufacturing | 2 Stories | 120,000 SF | - | - | - | - |
| W-06 Office/R&D | 6 Stories | 130,000 SF | - | - | - | 645 Spaces |
| W-07 Residential | 9 Stories | - | 320,000 SF (320 Units) | - | - | 160 Spaces |
| W-08 Residential | 9 Stories | - | 320,000 SF (320 Units) | - | - | 160 Spaces |
| W-09 Office/R&D | 6 Stories | 180,000 SF | - | - | - | - |
| W-10 Mixed Use | 13 Stories ¹ | 180,000 SF | - | 200,000 SF (250 Units) | 10,000 SF | 720 Spaces |
| W-11 Residential Mixed Use | 12 Stories ¹ | - | 320,000 SF (320 Units) | - | 20,000 SF | 160 Spaces |
| W-12 Residential Mixed Use | 12 Stories ¹ | - | 320,000 SF (320 Units) | - | 20,000 SF | 160 Spaces |
| W-13 Mixed Use | 12 Stories ¹ | 150,000 SF | 170,000 SF (170 Units) | - | 10,000 SF | 600 Spaces |
| W-PG-01 Parking Garage | 5 Stories | - | - | - | 10,000 SF | 600 Spaces |
| W-PG-02 Parking Garage | 3 Stories | - | - | - | - | 450 Spaces |
| TOTAL | | 1,280,000 SF | 1,890,000 SF (1,890 Units) | 200,000 SF (250 Units) | 100,000 SF | 4,475 Spaces |

- Buildings heights in this district shall not exceed 250' above grade level due to FAA clearance regulations Any proposed construction that is more than 200' above grade level requires FAA notification.
- Unit counts are approximate

SUMMARY

PHILADELPHIA NAVY YARD PLAN

- ① Gateway District
- ② Corporate Center
- ③ Historic Core
- ④ Waterfront Promenade
- ⑤ Greenway District
- ⑥ Waterfront District
- Scope of Work

Delaware River

Port
Authority
Land

1,000 ft

SUMMARY
THE 2022 VISION



CIRCULATION & ACCESS

CIRCULATION & ACCESS

Accessible transit and transportation connections are critical to achieving a truly equitable and inclusive Navy Yard community. In stakeholder and public engagement, improved public transit was consistently reported as a top desired transformation that would make the Navy Yard more user-friendly and attractive. Currently, a significant majority of Navy Yard workers commute via single-occupancy vehicles, due to gaps in existing public transit services. This disparity impacts the viability of employment at the Navy Yard for many Philadelphians, particularly if they don't own a car or cannot afford the cost of daily commuting by personal vehicle.

SEPTA's Broad Street Subway Line terminates approximately one mile north of the Navy Yard's main gate, leaving a significant and challenging gap. To close it, PIDC operates the Navy Yard Transit shuttle service to bring workers and visitors to and from the subway station on a continuous loop, as well as a separate shuttle route that provides express service between the Navy Yard and one of Center City's regional rail stations. This popular service makes transit a convenient option for those in East Center City or communities on the Broad Street Subway Line, but more expansive transit connectivity is needed to make Navy Yard jobs a viable opportunity for residents of many Philadelphia neighborhoods, particularly historically disadvantaged communities.



League Island Park at 11th Street

An equally important goal of transportation and mobility at the Navy Yard is to provide safe and comfortable multimodal access, reduce barriers for people of all ages and abilities, and better connect the campus to the larger City. The two existing access points to the Navy Yard already handle a large volume of vehicle traffic at peak times, and Broad Street in particular will be excessively burdened by additional traffic from future development. Furthermore, much of this development will occur on the east end which is not currently served by a direct access point. Expanded access and multimodal transportation will help to unlock the full build out and density potential of the Navy Yard, while also contributing to higher quality of life, a smaller campus carbon footprint, and a high-quality public realm. Driving and parking at the Navy Yard will always be part of how people access the site; however, as it becomes denser and more mixed-use and as live/work/play activities become more prominent and ingrained, it will be increasingly valuable for the Navy Yard to be accessible using a variety of alternatives. Planning and designing for multimodal transportation options will promote equitable outcomes at the Navy Yard and will also play an important role in attracting and retaining employees, employers, residents, and visitors.



Existing intersection of Broad Street and League Island Boulevard

Car ownership amongst people choosing to live and work at the Navy Yard is expected to decrease over time especially for younger employees and residents, and car sharing and other shared mobility services make this choice increasingly viable. Multimodal options will provide opportunities for health and exercise, while also enabling Navy Yard residents and visitors to reduce their carbon footprints, improve sustainability, and make meaningful choices in response to climate change.

This Plan outlines key objectives for multimodal transportation at the Navy Yard, including the following:

- Provide safe and equitable multimodal access to jobs, housing, and amenities.
- Facilitate affordable access to public transit, shuttles, and shared mobility services (e.g., bike share, Uber/Lyft, mobility hub services, etc.).
- Ensure the Navy Yard is accessible for people with disabilities.
- Enhance access for communities that have been historically marginalized and underserved.
- Advance environmentally sustainable transportation alternatives available for traveling to and within the Navy Yard.



Existing sidewalk on League Island Boulevard

CHALLENGES & OPPORTUNITIES

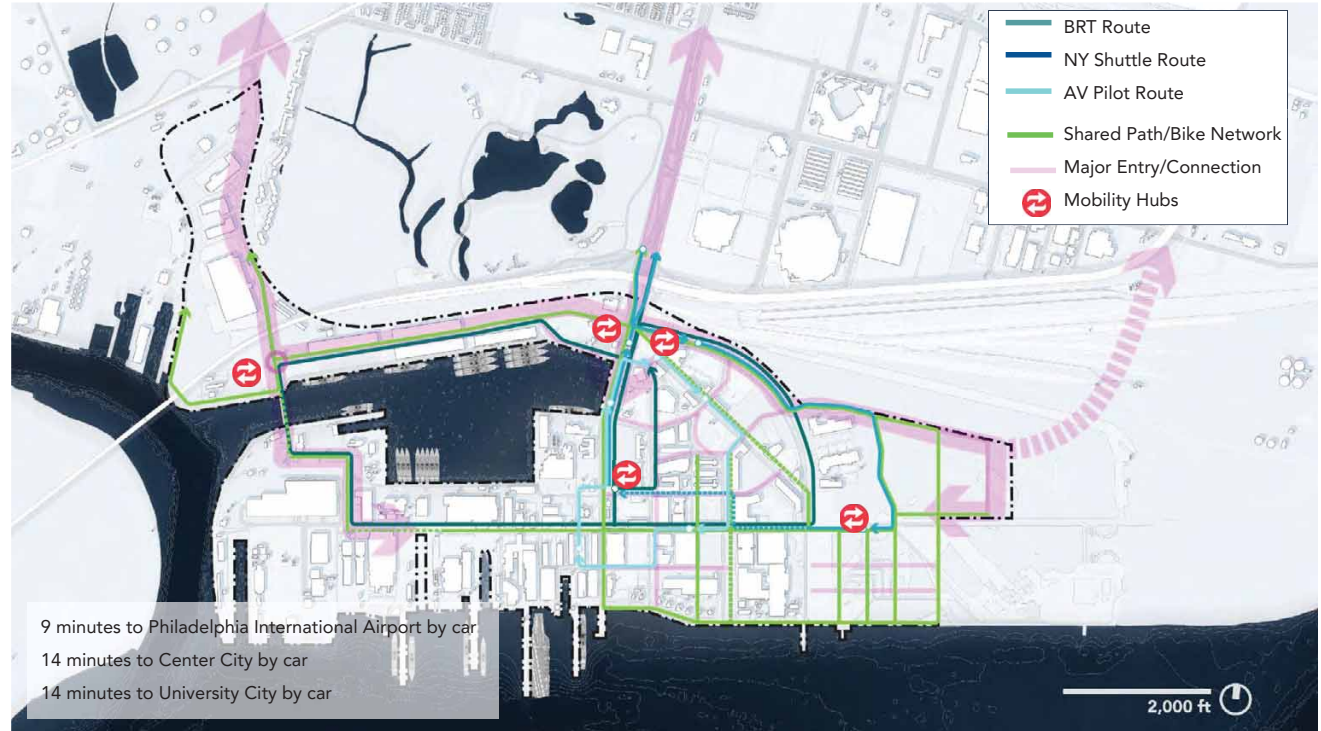
Challenges:

- Need for expanded multimodal access, including public transit
- Greater traffic volumes from future development necessitate expanded capacity and/or additional access points
- Ensuring inviting and safe pedestrian and bicycle circulation through the campus
- Streamlining circulation of motor vehicles and heavy trucks to decrease emissions and improve sense of place and quality of life

Opportunities:

- Address the confluence of motor vehicle traffic at the Broad Street entrance by strategically dispersing traffic via more streets and more intersections
- Introduce a third access point on the east end of the site with connection from I-95
- Reduce the scale of streets, where appropriate, to a human scale with shorter pedestrian crossings
- Employ streetscape design to change driver behaviors and expectations from dominance/high speed to sharing/low speed
- Provide pedestrian and bicycle facilities
- Explore curbside/flush streets in high pedestrian activity areas and places where events may occur

The Plan addresses the challenges and opportunities identified above to deliver a comprehensive and cohesive network of multimodal solutions, including mobility hubs, shared transit connectivity, and shared use paths in a connected street network.



ACCESSING THE NAVY YARD

Today, the Broad Street entrance serves as the primary access point to the Navy Yard, resulting in significant capacity issues at peak travel times. The planned development program and the projected increase in workers and residents will put untenable pressure on the existing entrance intersections (Broad Street and 26th Street), particularly if driving continues to dominate mode choice decisions. Dramatically expanding capacity of the Broad Street entrance is not a viable solution long-term, as this would undermine other goals in this Plan and likely only serve to induce more demand for driving.

This Plan recommends a different approach to accommodate growth and development, while promoting the desire for a more welcoming, livable, and equitable place. An important part of this strategy is to disperse the traffic load over time between the two existing access points and to consider a new third access point on the east end of the Navy Yard.

This study encourages a solution that accomplishes the following outcomes:

- Road networks and infrastructure should have a minimal impact on developable land
- Heavy truck traffic associated with adjacent industrial uses should not be routed through the Navy Yard for public safety, infrastructure integrity, and volume management reasons
- For truck traffic serving businesses within the Navy Yard, 26th Street and Broad Street should be used
- The connection between the Navy Yard and a new eastern access should connect to I-95 and prioritize passenger vehicles and be connected to the Navy Yard's street grid via a human-scale, urban street
- A multimodal connection should be provided as part of the new eastern access



Above: existing 26th Street north of League Island Boulevard
Below: proposed improvements: lighting, trees, planting, and shared path



Above: existing intersection @ 26th Street + League Island Boulevard
Below: proposed intersection improvements including a traffic circle and shared path



CIRCULATION & ACCESS

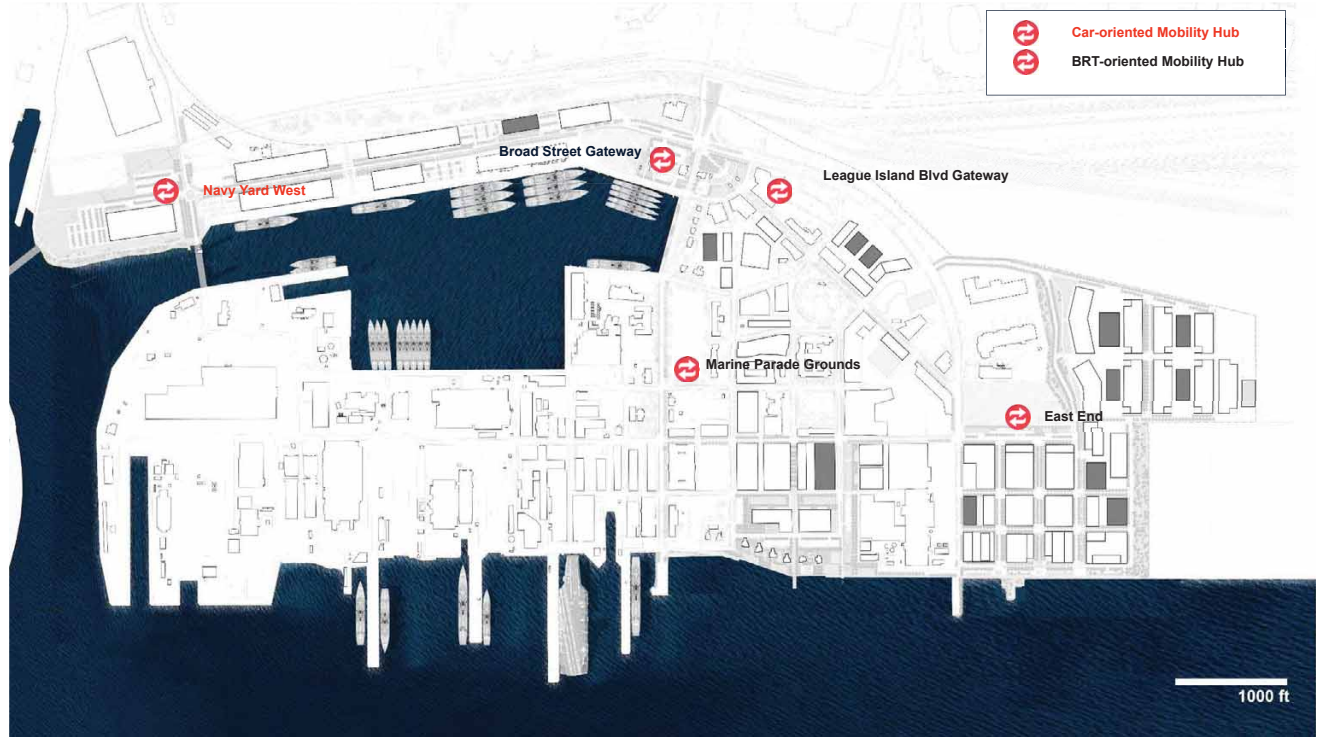
MOBILITY HUBS

Mobility hubs help with first- and last-mile connections, making multimodal travel easier by organizing shared mobility resources and transit stops near each other to facilitate simple transfers across modes. They may include amenities like bus stops, subway stations, bike or scooter share stations, pick-up and drop-off for ride-hailing, electric vehicle charging, information kiosks, and seating. Two different types of mobility hubs allow these spaces to cater to all Navy Yard visitors, whether they arrive via car or public transport.

Transit-Oriented Mobility Hub: Car-Oriented Mobility Hub:

- BRT station
- AV shuttle
- Navy Yard shuttle
- Real time arrival information
- Bike share
- Bike parking
- TNC drop-off/pick-up
- Information kiosks
- Seating and public realm improvements

- Electric vehicle charging
- Park and Ride
- TNC drop-off/pick-up
- Bike share
- Bike parking
- Information kiosks
- Seating and public realm improvements



CIRCULATION & ACCESS

TRANSIT CONNECTIVITY

As a traditionally business-only campus, the Navy Yard's unbalanced travel patterns and daytime-only populations have historically not generated sufficient ridership to support regular public transit services. While previous Plans have incorporated an extension of the Broad Street Line from its current terminus at NRG Station, the viability of this project is significantly challenged by formidable cost and major engineering constraints. To fill this transit gap, the PIDC-operated Navy Yard Transit shuttle connects the Navy Yard to Center City and to NRG Station. However, PIDC is constrained financially and operationally in its ability to expand shuttle service. Robust and reliable public transit options are critical in order to support the Navy Yard's goals of equitable economic opportunity and ensure that the Navy Yard is inclusive, welcoming, and connected.

A key near- to medium-term priority is to proactively invest in transit access so that traveling to and from the Navy Yard via bus is truly accessible, comfortable, convenient, and appealing. The goal is to achieve mode shift over time, or to have increasing percentages of people choosing to take public transit over driving and parking. Mode shift will help to accommodate increasing densities at the Navy Yard, while limiting internally circulating traffic and moderating increases in congestion at the main entrance. For these reasons, the 2022 Plan focuses on a new Bus Rapid Transit (BRT) service as the focal point of the transit connectivity strategy.

To make bus transportation a viable choice for more people, it will be important to increase the frequency of routes and decrease the time differential between driving and taking the bus through implementation of a BRT system. With BRT, time efficiency will be improved by providing priority travel lanes between Center City's transit hub and the Navy Yard, then on a perimeter but limited route through the campus to efficiently deliver passengers. Intersection design and signalization will explicitly prioritize bus operations over single-occupancy vehicle operations.

Bus priority queue jumps are recommended on Broad Street north of League Island Boulevard to allow buses to skip congestion at peak periods, further improving time savings and facilitating rapid connections between the Navy Yard, NRG Station at the end of the Broad Street line, regional rail, and other existing and planned bus routes. The Philadelphia Transit Plan: A Vision for 2045 should guide priorities and investments around the Navy Yard and will also provide a framework for planning, design, and operational decision-making.

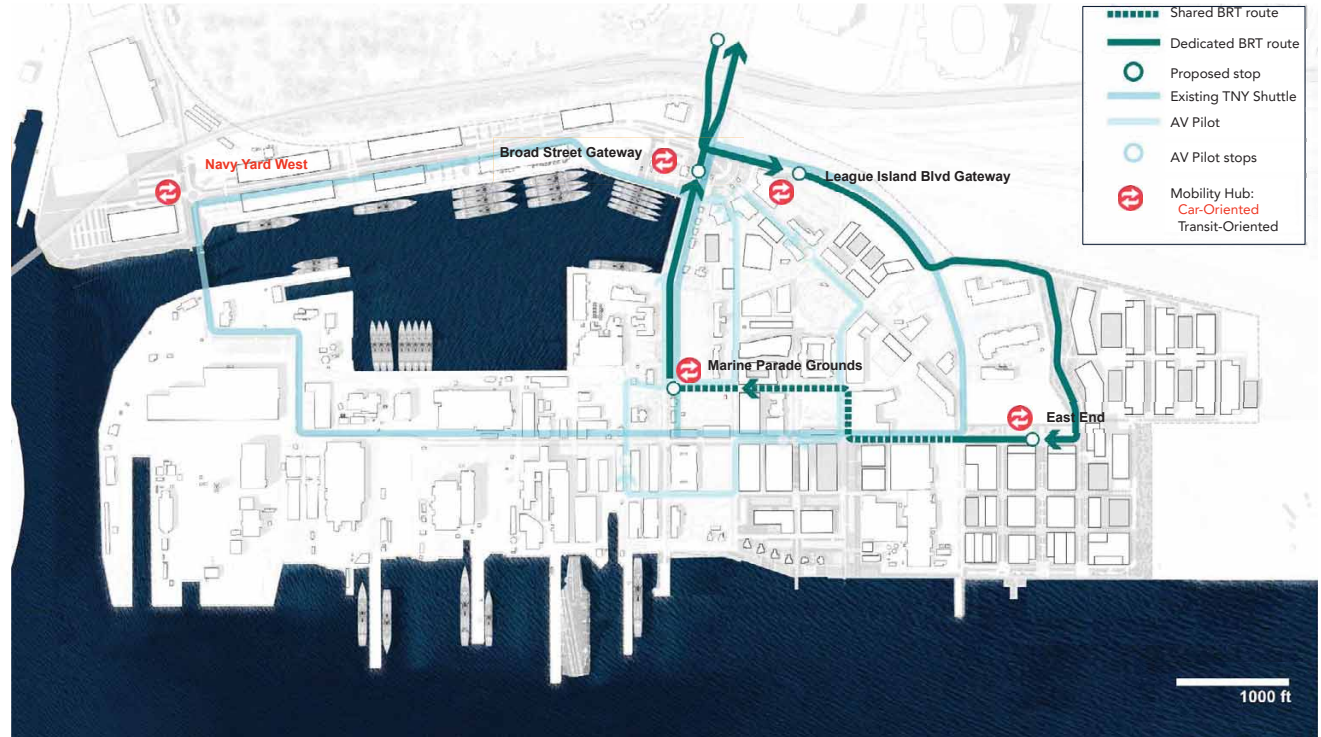


Top: Proposed queue jump lanes for BRT inclusion; Bottom: dedicated BRT lanes

TRANSIT CONNECTIVITY

Implementation recommendations for transit connectivity: Navy Yard stakeholders should continue to coordinate with SEPTA, Philadelphia's Office of Transportation, Infrastructure, and Sustainability (OTIS), and others to introduce weekday SEPTA bus service and expand weekend service to the Navy Yard, with additional service expansions deployed as density and demand increase.

- Navy Yard stakeholders should continue to coordinate with SEPTA, OTIS, and others to plan and deploy a BRT system that utilizes dedicated lanes and bus priority to connect the Navy Yard with Center City's transit hub and potentially other destinations (e.g. University City, 30th Street Station) over time.
- Bus stops and shelters should include high quality amenities like digital interactive displays and USB chargers, as well as seating and cover, within an appealing and comfortable public realm. Mobility hubs will be co-located with bus stops and stations so users can easily switch modes for the last mile of their trip, for example via bike share. The existing Navy Yard Shuttle and a planned AV Shuttle pilot program will also be coordinated with enhanced bus service to ensure seamless integration and to promote mutually reinforcing services with limited redundancy.
- A robust Transportation Demand Management (TDM) program should also be implemented to continuously manage vehicular traffic, as well as promote and encourage mode shift at the Navy Yard. TDM can direct drivers to open parking spaces to minimize intra-campus circling and congestion, as well as deploy smart curb technology to shift curbside spaces from loading to parking as conditions change during the day. TDM can also include things like free or reduced fees for transit and bike share at specific times to reduce vehicle volume and congestion, access to amenities such as showers and lockers, a multimodal travel mentor program, and financial incentives.



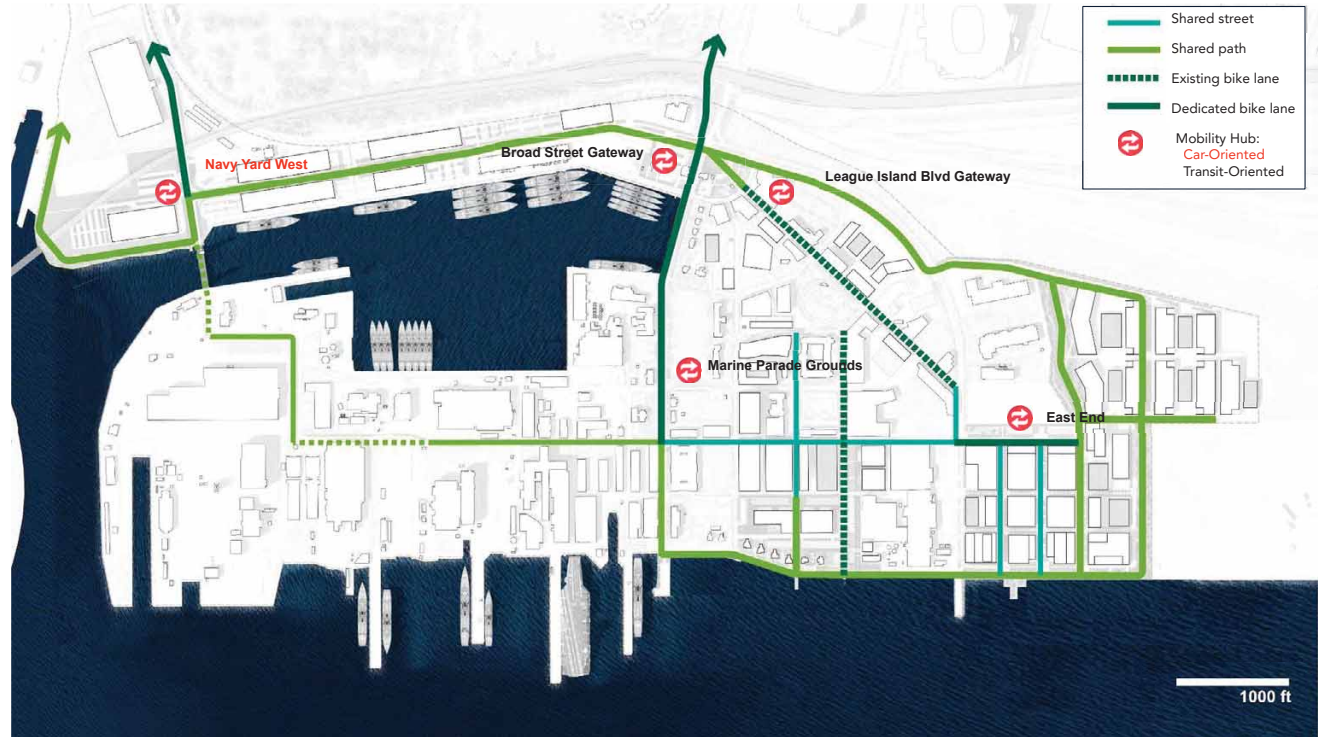
SHARED USE PATH SYSTEM

Safe, comfortable, and appealing shared-use path linkages between the Navy Yard and the City will provide alternatives to driving to and from the site, as well as welcoming recreational amenities. A high quality, accessible path, with safe intersection crossings and good lighting, will ensure that this functions and feels like a viable transportation option for accessing the Navy Yard.

The near-term implementation by the City of Philadelphia of a shared-use path on the west side of Broad Street will provide a clear and direct connection between NRG Station and the Navy Yard. Bike share stations and mobility hubs on both ends of the connection can promote the linkage to serve daily commute trips, and also promote the connection between the Stadium District and the Navy Yard.

Each Navy Yard district is planned with shared streets and shared paths that will enhance bike and pedestrian accessibility in tandem with future development. The internal shared-use path system at the Navy Yard will provide an important transportation and recreation function. The internal network will be physically separated from motor vehicles, and it will be accessible to people with disabilities. Intersection design should prioritize path users and encourage lower traffic speeds. The path should be intuitive and legible with wayfinding to assist users in making connections to internal and external destinations.

Longer term, it will be important to plan and design an all ages and abilities shared-use path connection between the Navy Yard and the planned Schuylkill River Trail system. This connection could start from the Broad Street shared-use path, connect through the west side of the Navy Yard, and could potentially be realized in conjunction or collaboration with the Hilco site, with the potential for eventual connection to the 30th Street Station for truly regional connectivity.



CONNECTED STREET NETWORK

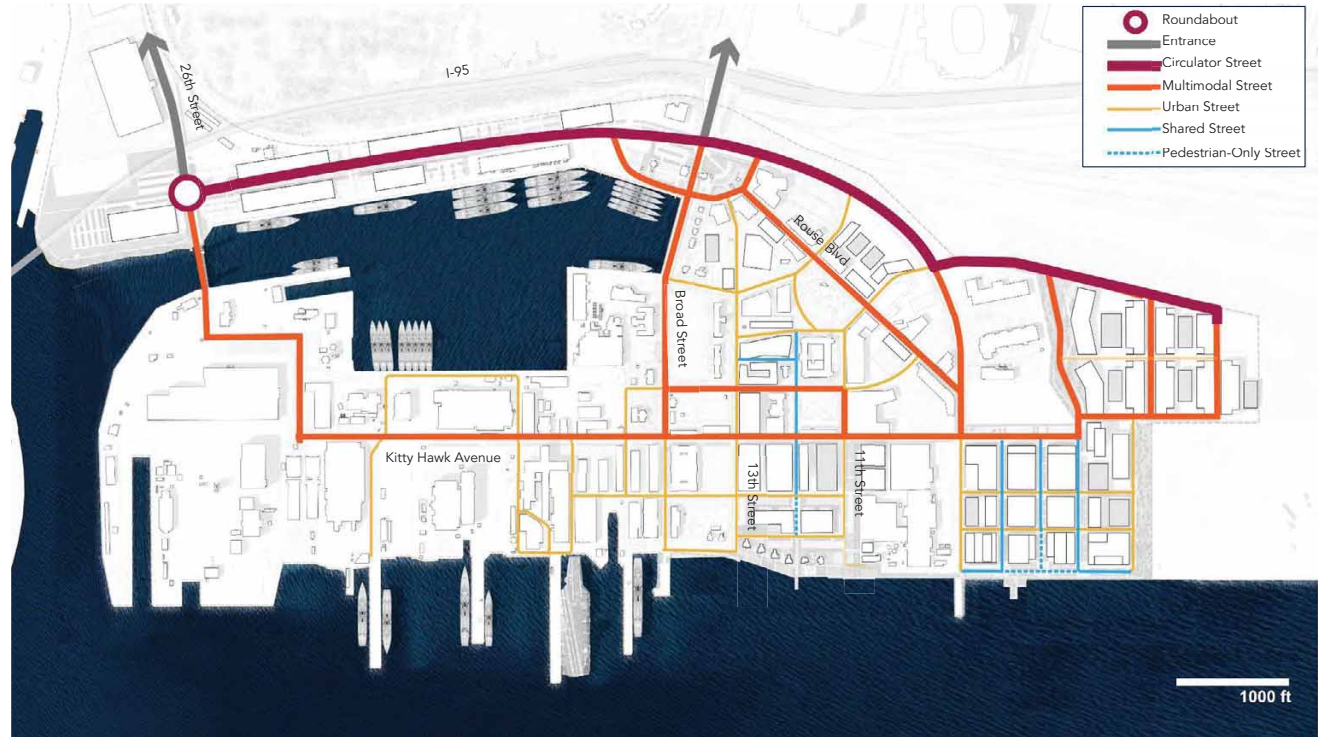
The street network in the Navy Yard should function as an urban grid, increasingly connected to the city and oriented to the water. Streets that are human-scale and comfortable for people contribute to vibrancy and a high-quality public realm, and enhance livability and quality of life for residents, employees, and visitors. The street network will provide access to parking, loading/unloading, and other functions. However, it should discourage unnecessary internal circulating (e.g., parking search, intra-site trips by car, etc.) that diminishes overall user experience. The goal is a “park-once environment” where motorists arrive, park their car, and then make internal trips on foot, by bike, or via transit. This will be assisted through a hierarchy of streets:

The circulator street encourages east-west access to motor vehicle traffic on the periphery, rather than internal to the site. The intent is that most of the east-west travel by car occurs along the northern edge of the Navy Yard, to reduce traffic pressure on Kitty Hawk Avenue. The circulator street will also be a complete street, with transit, connected shared-use path networks, and pedestrian friendly intersection design.

The multimodal streets provide internal access and circulation for multiple modes, while encouraging lower speeds and a high-quality public realm. Generous sidewalk widths and connected shared-use path networks provide multimodal connectivity.

The shared streets provide barrier-free access for all modes in a flexible, adaptable, low-speed, shared environment. People using wheelchairs, pulling roller bags, and pushing strollers have access to the whole space and do not need to find ramps. Furthermore, event set-up is far more flexible as curbs do not restrict the placement of tents or access to seating. The entire street serves as an appealing and comfortable part of the public realm, with materials used to designate this space to drivers.

The urban streets are primarily about basic access and on-street parking. Their designs encourage low motor vehicle speeds and volumes such that pedestrians feel comfortable. Typically, they will have narrower cross sections, compared with the other types of streets. These streets often have on-street parking.



CIRCULATION & ACCESS

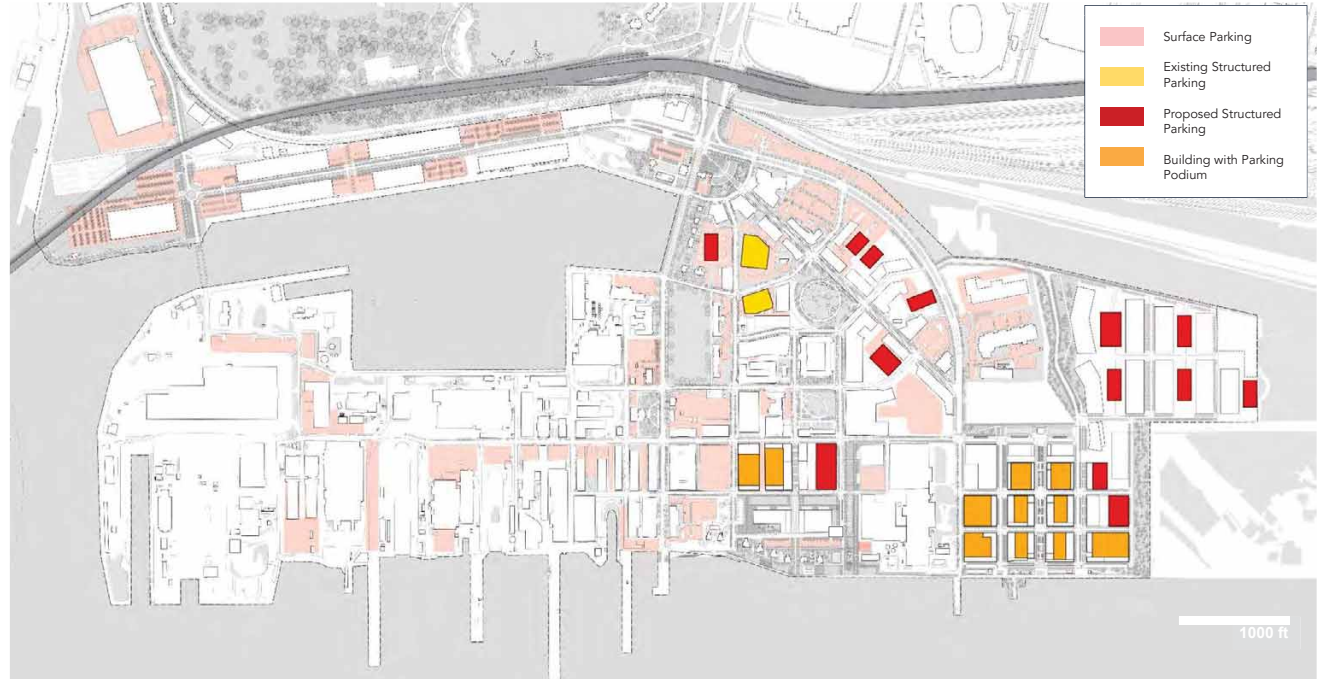
PARKING

Reflecting the diversity of employers present at the Navy Yard, employees live throughout the region. Due to limited transit connectivity, the vast majority of employees currently drive to work, generating significant parking demand throughout the site. The Navy Yard's ability to offer ample parking convenient to businesses is a key factor in tenant attraction and job creation. For this reason, new development in the Plan is accompanied by parking facilities that support single-occupancy vehicle use, in order to meet current user needs and preserve the Navy Yard's competitiveness in the short term. However, the Plan also advises operational changes, including active transportation demand management strategies to induce lower parking demand, and builds out infrastructure and public transportation to support multimodal use. An eventual shift away from single-occupancy vehicles will allow for planned parking facilities to be converted to more productive uses.

| District | Additional Surface Parking** | Additional Structured Parking** |
|------------------|------------------------------|---------------------------------|
| Gateway | 1,180 Spaces | |
| Corporate Center | | 2,350 Spaces |
| Historic Core | 220 Spaces | 2,210 Spaces |
| Greenway* | | 2,340 Spaces |
| Waterfront | | 4,475 Spaces |
| TOTAL | 1,400 Spaces | 11,375 Spaces |

*Total does not include potential development in the 7.5 acres designated for potential substation

**Surface parking counts do not include street parking or existing surface parking



Parking Ratios:

Life Science Manufacturing: 2 spaces / 1000 sf
 Lab/Office: 2.5 spaces / 1000 sf
 Residential: 0.5 spaces / 1 unit
 Retail: 2 spaces / 1000 sf
 Hospitality: 1 space / 1 unit

SUSTAINABILITY & RESILIENCE

SUSTAINABILITY & RESILIENCE

OVERALL GOALS & METRICS

With this Plan, the Navy Yard cements its leadership in sustainability and innovation by creating a world-class development that considers all aspects of resiliency, through climate adaptation, green infrastructure, transportation planning, and architecture. The Plan is created holistically, intertwining sustainable, inclusive, and accessible infrastructure and open spaces that enhance the quality of life for Navy Yard workers, residents, visitors, and the City as a whole. Development of the east end (the Greenway and Waterfront Districts) is defined by climate response and green infrastructure systems, which form the basis of the street grid and open space. The overall Plan measures sustainability integration by setting a goal of LEED ND Gold.

Resiliency: To protect against flooding and sea level rise, the Plan utilizes several conventional and innovative strategies to address potential sea level rise as a result of global warming.

- Continues the Navy Yard's established strategy of raising base floor elevations for new development, and ensures that ingress/egress routes are similarly raised to resilient elevations.
- The entire campus includes infiltrative surfaces, green roofs (where feasible and appropriate), soft edges, and stormwater management in bioswales and bioretention areas to increase water absorption and protect the site from cloudbursts.
- Stormwater infrastructure in newly developed areas is planned carefully to accommodate projected future environmental conditions.

Multi-Modal: The circulation and access plan enables a robust multimodal approach, which will diversify transportation choices, improving operational efficiency and ultimately reducing greenhouse gas emissions.

- Enhanced public transportation options and service provide connections to, from, and within the Navy Yard.
- Priority lanes for Bus Rapid Transit reduces commute time for employees, residents, and visitors.
- Shared Use Path Systems provide for a safe and inviting pedestrian and bicycle environment with the added benefit of promoting active lifestyles through more opportunities for walking and biking.

Green Infrastructure: The scale of the project presents significant opportunities for naturalized floodproofing and storm response, intertwining open spaces, development, and road infrastructure into an innovative model for floodplain development.

- Basing stormwater management systems on green infrastructure rather than on gray infrastructure often results in lower capital costs, due to lower costs for excavation and paving, and smaller or eliminated piping and detention facilities.
- In addition to cleaning and slowing down stormwater, green infrastructure can also contribute to groundwater recharging from infiltration, reduce the risk of erosion, and improve coastal resiliency.
- Increased vegetative cover, selecting plants for sustainability, and using native plantings, contributes to better air quality, enhances habitats and biodiversity, and reduces urban heat effects, which can ultimately result in lower cooling demands for adjacent buildings.
- Condition assessments can help prioritize repairs and improvements for stormwater infrastructure, including piping and outfalls, to ensure that such infrastructure is appropriately sized and located to effectively manage discharge needs for large areas of developed land at manageable costs.
- Combining green infrastructure systems with usable open space creates opportunities to educate residents and visitors and therefore contribute to a more eco-conscious society.

Architectural response: All building projects in the Navy Yard should strive to follow principles of sustainability.

- New developments are required to pursue a minimum of LEED Silver Certification, explore interior standards such as WELL and Fitwel to support employee/resident health, and establish a resiliency plan anticipating how the building may adapt to social, economic, and environmental change.
- Building designs should strive to exceed building code standards and lower lifetime HVAC demands, optimize the use of natural daylight, employ high-efficiency lighting systems and water fixtures, and mitigate bird strike potential when using large amounts of glazing. Material choices should be evaluated for lifecycle cost and impacts on occupant health. Use of recycled building materials is encouraged whenever possible, and projects should consider solutions to reduce net carbon and energy use, such as passive heating/cooling and rooftop solar power systems, wherever building uses and roof profiles permit.
- Sustainable construction processes should be used to minimize waste and noise pollution. Consider how data collection and management may play a role in assessing building performance against established goals.

PHILADELPHIA'S FIRST LEED GOLD NEIGHBORHOOD DEVELOPMENT

The Navy Yard will be Philadelphia's first LEED for Neighborhood Development (LEED ND) project of scale, targeting a LEED ND Gold rating.

This is significant as it recognizes and certifies high levels of environmentally responsible sustainable development, and the successful protection and enhancement of overall health, natural environment, and quality of life.

Unlike other LEED rating systems, which focus primarily on green building practices and offer only a few credits for site selection and design, LEED for Neighborhood Development places emphasis on the site selection, design, and construction elements that bring buildings and infrastructure together into a neighborhood and relate the neighborhood to its landscape as well as its local and regional context.

Developed by the U.S. Green Building Council, LEED is a framework for identifying, implementing, and measuring green buildings and neighborhoods. LEED is a voluntary, market driven, consensus-based tool that is designed to achieve seven goals:

- To reverse contribution to global climate change
- To enhance individual human health and well-being
- To protect and restore water resources
- To protect, enhance, and restore biodiversity and ecosystem services
- To promote sustainable and regenerative material resources cycles
- To build a greener economy
- To enhance social equity, environmental justice, community health, and quality of life

LEED is for all building types and all building phases. Each development typology is assigned a LEED rating system tailored to the project's scale. Within each rating system are prerequisites that projects must meet and credits that projects can select depending on the individual project's priorities. The number of credits that a project pursues determines the certification level.

Developments earning LEED Certification are designed to deliver the following benefits:

- Buildings within the LEED ND boundary will receive additional benefits if they elect to pursue a LEED certification of their own. Their LEED submission process will be simplified and their score will likely increase.
- Lower operating costs and increased asset value
- Reduced waste sent to landfills
- Energy and water conservation
- More healthful and productive environments for occupants
- Reductions in greenhouse gas emissions
- Qualification for tax rebates, zoning allowances, and other incentives in many cities

Specifically, LEED ND benefits are distinguished by the following:

- Scale: The sheer quantity of green benefits is magnified when captured at the neighborhood scale, often including dozens or hundreds of buildings and thousands of occupants.
- Comprehensiveness and synergies: Neighborhood planning is inherently comprehensive, and that all-inclusive scope enables unique opportunities to capture synergistic benefits. An example is rainwater management accomplished, in part, at an outdoor civic space that infiltrates runoff.
- Longevity: Once designed and constructed, neighborhoods may persist for hundreds of years. A sustainable neighborhood design, therefore, pays green dividends for generations, cumulatively a much larger return than on most other green investments.

In particular, this Plan scores well in the following LEED ND point categories:

Green Infrastructure & Buildings: This credit category focuses on measures that can reduce the environmental consequences of the construction and operation of buildings and infrastructure. Sustainable building technologies reduce waste and use energy, water, and materials more efficiently than conventional building practices.

Smart Location & Linkage: This credit category focuses on selection of sites that minimize the adverse environmental effects of new development and avoid contributing to sprawl and its consequences. To reduce the effects of sprawl and create more livable communities, preference should be given to locations close to existing town and city centers, sites with good transit access, infill sites, previously developed sites, and sites adjacent to existing development.

Neighborhood Pattern & Design: This credit category emphasizes the creation of compact, walkable, vibrant, mixed-use neighborhoods with good connections to nearby communities. These neighborhoods provide many important benefits to residents, employees, and visitors and to the environment.



SUSTAINABILITY & RESILIENCE

INFRASTRUCTURE SYSTEMS

Gas: The natural gas system will originate from the recently completed Philadelphia Gas Works (PGW) high pressure gas main located in Kitty Hawk Avenue. The high-pressure system will allow for cogeneration or combined heat and power (CHP), in accordance with the Navy Yard Energy Master Plan. A low-pressure gas main will provide service to building sites in the east end.

Electrical: Electric service for the initial phase of the east end will be provided by a cross connection feed from the Navy Yard's west end substation. Subsequent development in the Greenway and Waterfront Districts will require substantial new power from either a new, enclosed, and architecturally-designed PECO transmission substation or a district energy system located on the easternmost edge of the Greenway District. An enclosed transmission substation has the potential to support not just the Navy Yard's expansion, but adjacent industrial developments that project significant growth and job creation over the next two decades. While typical transmission substations are open, bleak, and unattractive facilities that would be incompatible with development in the Greenway District, an emerging new trend to enclose these facilities in beautifully designed structures with community-friendly exteriors presents an exciting opportunity for innovation at the Navy Yard. The distribution system should provide for cross connections with the existing electrical grid at the Navy Yard. Service extensions should extend from the intersection of League Island Boulevard and Crescent Drive to a new substation in the Greenway District. From this new substation, the new electrical service will be looped to allow for redundancy. The electrical service will be provided in concrete encased ducts constructed in accordance with PECO and PIDC standards.

Communications: The new communication services will be looped within the east end to allow for redundancy. The communication service will be provided in concrete-encased ducts constructed in accordance with utility provider standards. The new looped ducts will connect to existing services located in League Island and Rouse Boulevards.

Water: The new public water main sewer system will be constructed in accordance with Philadelphia Water Department (PWD) standards and dedicated to the City. Water service will be provided in the form of two proposed loops: one for the Greenway District and one for the Waterfront District. The proposed water main loops will connect to the existing PWD water system located on Kitty Hawk Avenue.

Sanitation: Sanitary sewer system will be constructed separately from the storm sewer system, in accordance with Philadelphia Water Department (PWD) standards, and dedicated to the City. Due to anticipated site conditions, cost estimating for sanitary sewer service includes a pile support system. Sanitary sewer service for the Greenway District will be provided by a new gravity sewer system that will collect waste from the sites and convey them to the existing sanitary sewer system on Kitty Hawk Avenue.

GAS



ELECTRICAL
+ COMMUNICATIONS



WATER



SANITATION



SUSTAINABILITY & RESILIENCE

SUSTAINABLE SYSTEMS

Given the new construction of dense areas on a greenfield site in the east end, multiple sustainable systems and smart technologies can be implemented:

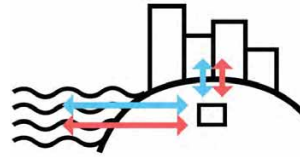
Water Re-Use: Recycled water is most commonly used for non-potable purposes, such as landscape irrigation, toilet flushing, and industrial process water. Wastewater reuse systems reduce the dependence on the municipal distribution system and the lower water consumption can help decrease the diversion of water from sensitive watersheds and ecosystems.

By removing wastewater discharges to the combined sewer system and therefore reducing combined sewer overflows, wastewater reuse systems contribute to cleaner rivers.

While the higher upfront capital costs can be recouped over time due to reduced water costs, cost-benefit ratios for wastewater reuse systems vary on a case-by-case basis and will need to be further studied in future planning phases.

Thermal: Renewable thermal technologies offer a safe, clean, and efficient option for reducing conventional energy use. Utilizing sustainable renewable resources rather than finite fossil fuels reduces emissions, offers more predictable costs than financially volatile conventional energy sources, and increases energy security by developing locally controlled energy sources.

While the higher upfront capital costs can be recouped over time due to reduced municipal electricity costs, cost-benefit ratios for thermal and other sustainable energy systems will need to be studied in future planning phases.



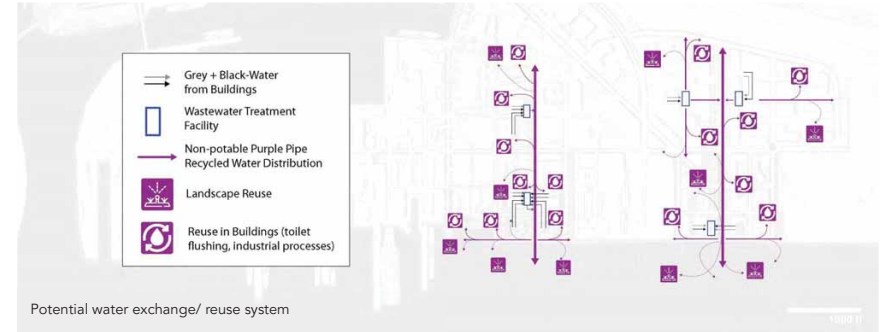
River heat exchange

Extract cool water in summer, and warm water in winter

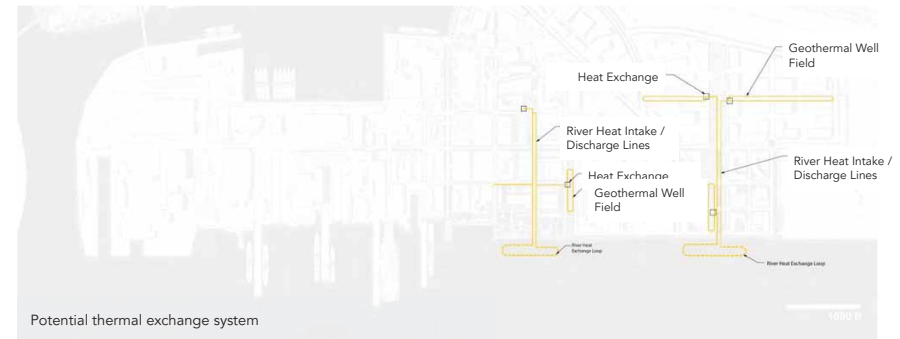


Geothermal heat exchange

Extract cool earth temperature in summer, and warm earth temperature in winter



Potential water exchange/ reuse system



Potential thermal exchange system

INNOVATIVE INFRASTRUCTURE: CO-OPTIMIZATION & SMART CITY TECHNOLOGIES

With water and energy resources becoming more finite and energy use adversely affecting the climate, there has been a recent push to develop infrastructure systems that support multiple needs and serve multiple purposes while minimizing resource and material usage. While these strategies are more likely to be employed out of necessity - for example in arid areas with limited water supply or remote areas with limited access to municipal infrastructure, they are anticipated to become more prevalent as technologies improve and more data becomes available to help developers make informed decisions. While employing these strategies on a broader scale at the Navy Yard may not be feasible due to the required upfront commitments, their feasibility and cost-benefit ratio should be evaluated during future planning phases. Some of these strategies include:

Waste Water Heat Extraction: Harness waste heat from municipal sewage main or the building sewer system for building heating needs such as hot water and preconditioning intake air during winter months. Closed loop system eliminates any potential for exchange of air with wastewater. Recovering heat from wastewater pipes uses 20% of the energy of producing heat. In the US, 350 Billion kWh of energy is lost from wastewater heat loss; enough to melt 3.77 billion tons of ice leads to warming oceans, melting ice, creates more vapor, and can cause more frequent storms.

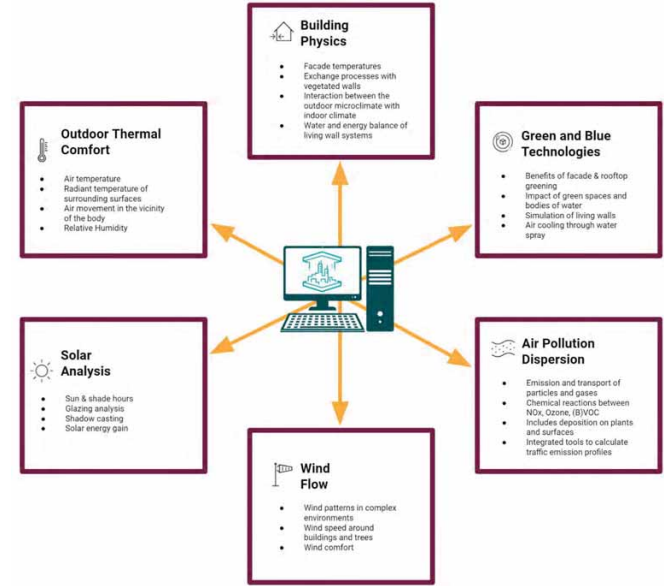
Biodigestion + Fuel Cells (Waste to Energy): Install a micro-biodigestion system paired with a fuel cell or micro-turbine to convert organic waste into energy - a circular economy and low emissions strategy to dispose of organic waste and create renewable energy. Methane storage vessels can become public art elements visible to users and that are an educational opportunity.

Water Reuse & Green Roof Filter: Capture wastewater from interior plumbing and/or municipal sewer. Treat primary treatment in building mechanical space and polish on green roof through shallow irrigation piping. Clean effluent to be used for non-potable demand such as site irrigation, toilet flushing, and cooling tower makeup. Excess heat from wastewater is transferred to building hot water and building heating systems. This reduces potable water consumption and combined sewer overflows, benefiting the wider watershed ecology. There is a reduction in energy use through heat exchange and a reduction in sewer and water bills. System could be scaled up by withdrawing more wastewater from municipal mains and distributing clean/non-potable water to adjacent land properties.

Living Shoreline (Ecological Enhancement + Shoreline Protection): Install specialized concrete forms at river edge and on pier foundations. This transforms the water edge into riparian habitat while protecting the edge. Improves user access to the waterfront and creates an opportunity for learning.

Micro-Hydro Power (Renewable Electricity from River Flow): Install micro-turbines at river edge. Uses river flow pattern to generate consistent zero carbon base load power supply, complementary to solar. Visible to users and creates educational opportunities.

Microclimate Computational Fluid Dynamics (CFD) Modeling: This provides designers, planners, and engineers with site-specific and project-specific microclimate metrics that helps them account for the complex interactions of building structure, atmosphere, soil and vegetation to reduce costs and maximize benefits, such as the reduction of urban heat island effect.



Smart Water Management: Smart water management requires the integration of systems and a complex of measures to monitor, control, and regulate the usage and quality of water resources as well as maintain the associated equipment (pipes, pumps, etc.). There is a wide range of hardware and software instruments, including sensors, meters, data processing and visualization tools, actuators, and web and mobile controls connecting people with water systems. Key benefits include waste water reduction, improved water quality, enhanced efficiency of water systems, leakage control, and consumption monitoring.

SUSTAINABILITY & RESILIENCE

ELECTRICAL PROVISION

Present Conditions

The Navy Yard is presently powered by a suite of assets, including four microgrids (on separate PECO feeds for resiliency), a natural gas peaker plant, and a solar installation, which collectively provide approximately 19 MW of power across the campus.

An estimated 54 MW of additional power will be needed to support full buildout of this Plan, as well as continued growth and expansion of current Navy Yard businesses. To meet these long-term power needs, the Navy Yard Electric Utility is exploring development of a new, enclosed, and architecturally-designed transmission substation in partnership with PECO, as well as an alternative concept for a district energy solution.

Long Term – Option 1 - Transmission Substation

- The substation would occupy a 6 acre footprint, similar to PECO's existing Penrose Transmission Substation.
- Substation would be designed to meet PECO's technical design requirements, in an enclosed, attractively-designed facility that is compatible with adjacent life sciences and flex commercial buildings in the Greenway District.
- Power feeds would need to be constructed to the substation within 250 ft wide right-of-way (ROW). Development within the ROW would not be permitted. The ideal location to limit ROW/development impacts is along the northern boundary of the Greenway District.
- Power amount would initially be 70 MW upon delivery of substation, with the ability to expand to 105 MW.
- Planning and construction requires a 6-8 year timeframe.



Existing Navy Yard Distributed Generation

Long Term – Option 2 - District Energy / Distributed Generation

The substation would be similar in size and scale to the new West End substation combined with battery storage and generation. Substation area needs are approximately one acre. Battery storage and generation space needs are approximately one acre.

- District energy could be a combination of batteries for peak, medium voltage feed from PECO for regular demand, and other onsite supply (ie. Solar, CHP, etc.).
- District energy could have a large upfront cost on front end of development and may result in higher electric rates passed through to customers relative to the existing Navy Yard Electric Utility system, but it would allow the power needs to scale and grow as the development grows.
- Power amount would be scalable as development grows, with an initial capacity of 10 MW and incremental expansion to the total power supply needed to support full buildout.



Seattle WA Substation

SUSTAINABILITY & RESILIENCE

CLIMATE ADAPTATION

Portions of the Navy Yard site are vulnerable to major storm events and future sea level rise. In response, the 2022 Plan Update employs a suite of innovative and proactive strategies to protect public safety and business continuity. These strategies and interventions were evaluated in balance with the cost of construction and market viability in order to deliver a buildable and feasible plan.

The climate adaptation plan includes strategic planning for site elevations and first-class, innovative engineered stormwater solutions. Recommendations regarding the elevation for the site began with a practical and crucial goal: ensuring sustained safe ingress and egress during severe weather events or other emergency circumstances. Road elevations are set accordingly in order to be resilient, and recommendations for elevations of other site elements were determined systematically. Base building elevations are set to make sure that the interaction between private building space and public realm is coherent. Open, permeable green spaces are set lower to absorb runoff; critical infrastructure is protected at higher elevations.

A comprehensive system of integrated green stormwater infrastructure is employed throughout the site, particularly in the greenfield areas of the Greenway and Waterfront Districts. More than just a functional system, these green spaces also define a unique, world-class public realm that is unlike anywhere else in the city of Philadelphia, and exceptional within the United States. Other benefits of green infrastructure are summarized below:

- Basing stormwater management systems on green infrastructure rather than on gray infrastructure often results in lower capital costs, with the savings resulting from lower costs for excavation and paving, and smaller or eliminated piping and detention facilities.
- In addition to cleaning and slowing down stormwater, green infrastructure can also contribute to groundwater recharging from infiltration, reduce the risk of erosion, and improve coastal resiliency.
- The increase in vegetation contributes to better air quality, enhances habitats and biodiversity, and reduces urban heat effects, which can ultimately result in lower cooling demands for adjacent buildings.
- Condition assessments can help prioritize repairs and improvements for stormwater infrastructure, including piping and outfalls, to ensure that such infrastructure is appropriately sized and located to effectively manage discharge needs for large areas of developed land at manageable costs.
- Combining green infrastructure systems with usable open space creates opportunities to educate residents and visitors and therefore contribute to a more eco-conscious society.

In order to best support the stormwater management strategy outlined in this Plan, PIDC and Ensemble/Mosaic or other development partners should work with the Philadelphia Water Department (PWD) to confirm existing infrastructure such as pipes and outfalls, their sizes and locations, and determine feasibility of enhancing or expanding infrastructure where needed.

Increasing the size of PWD infrastructure, namely the storm sewers and associated outfalls, will increase capacity and be particularly effective in improving drainage conditions during storm events when tides are at or below outfall inverts. When rain events that fill the storm sewers coincide with high tide, large pipes and/or vaults may be needed to retain excess surface stormwater until it can be discharged to the river. In general, the Plan prioritizes integrated green stormwater infrastructure over grey infrastructure, but both will be necessary to support the full breadth of the site.

A more detailed examination of individual pipe runs, capacities, and conditions should be undertaken in collaboration with PWD, as a separate project. Collaboration with PWD can also indicate where there are current flow restrictions and determine the affected drainage areas, to prepare and institute a phased storm drain replacement program to improve drainage conditions over time.

SUSTAINABILITY & RESILIENCE

CLIMATE ADAPTATION

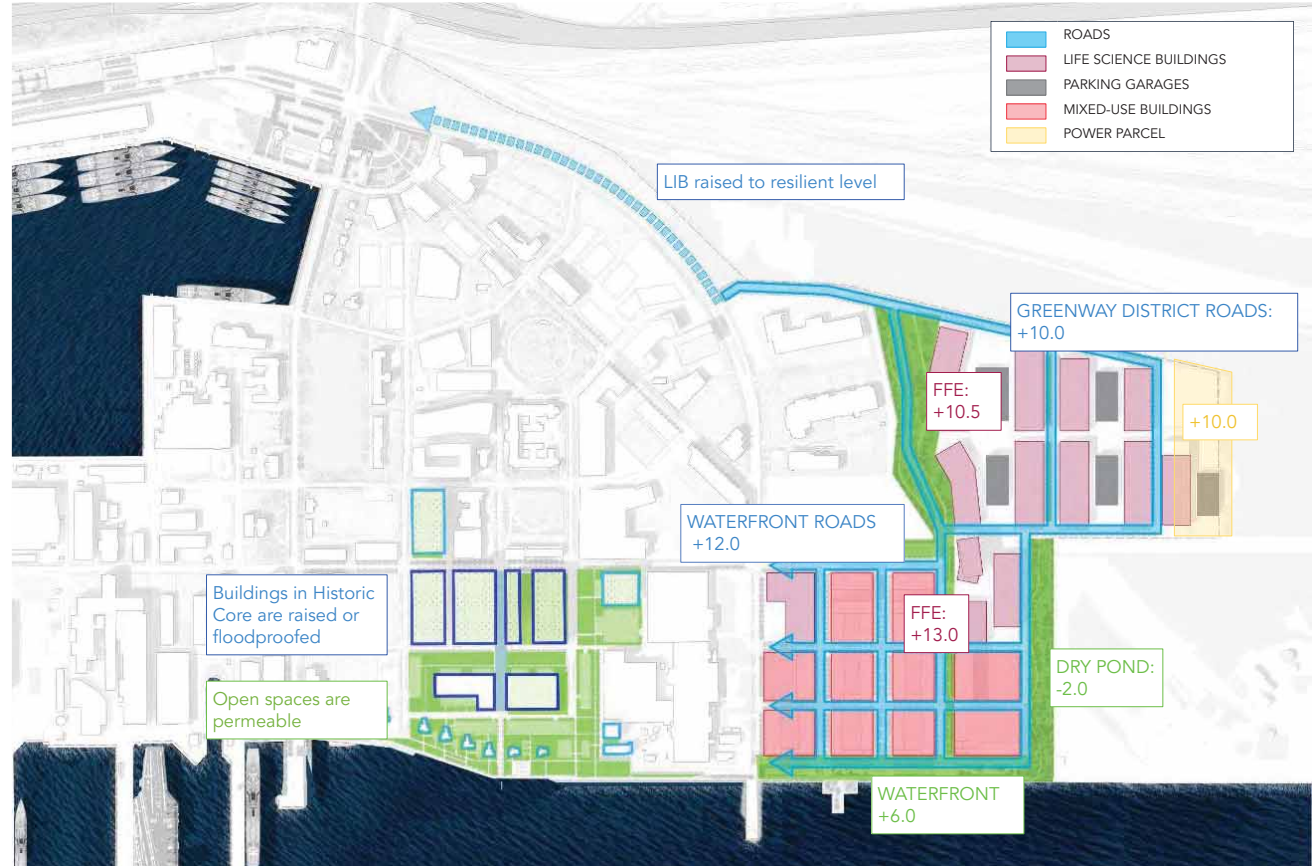
The Plan addresses climate change and sea level rise in a number of ways. The Historic Core combines a series of strategies including moving critical infrastructure away from the river's edge, removing impermeable surfaces and increasing permeable surfaces, and flood-proofing buildings. The Greenway District is raised to provide resilient infrastructure for 80-year design life, while maximizing the fill efficiency to create resilient and viable development parcels.

Roads:

- A resilient, 80-year design (year 2100) loop road extends from League Island Boulevard (LIB) and wraps around the north and east sides of the district, continuing down into the Waterfront District
- Basis of design is base flood elevation (BFE) + 4', based on a year 2100 anticipated 4' sea level rise projection
- Transform LIB East by raising the roadway

Building Parcels:

- Life science building finished floor elevations (FFE) are set at levels above roads (12" minimum)
- Service areas and parking garages are set lower to maximize resiliency and protect safety of public and businesses, while managing costs; in extreme weather and flood events, notification systems will alert users with ample time to allow for relocation, block incoming access to ensure safety, and minimize property damage
- Open spaces are set below the service area elevations to allow for drainage of the blocks and permeable water retention areas prior to absorption and discharge
- Power parcel in Greenway District is set 4' above BFE to ensure resiliency of critical power infrastructure
- Mixed-use buildings in the Waterfront District set on basement parking garages (not fill), to maximize resiliency while managing costs; in extreme weather and flood events, notification systems will alert users with ample time to allow for relocation, block incoming access to ensure safety, and minimize property damage
- FFEs for mixed-use buildings in the Waterfront District are set higher, above basement parking levels and above roads

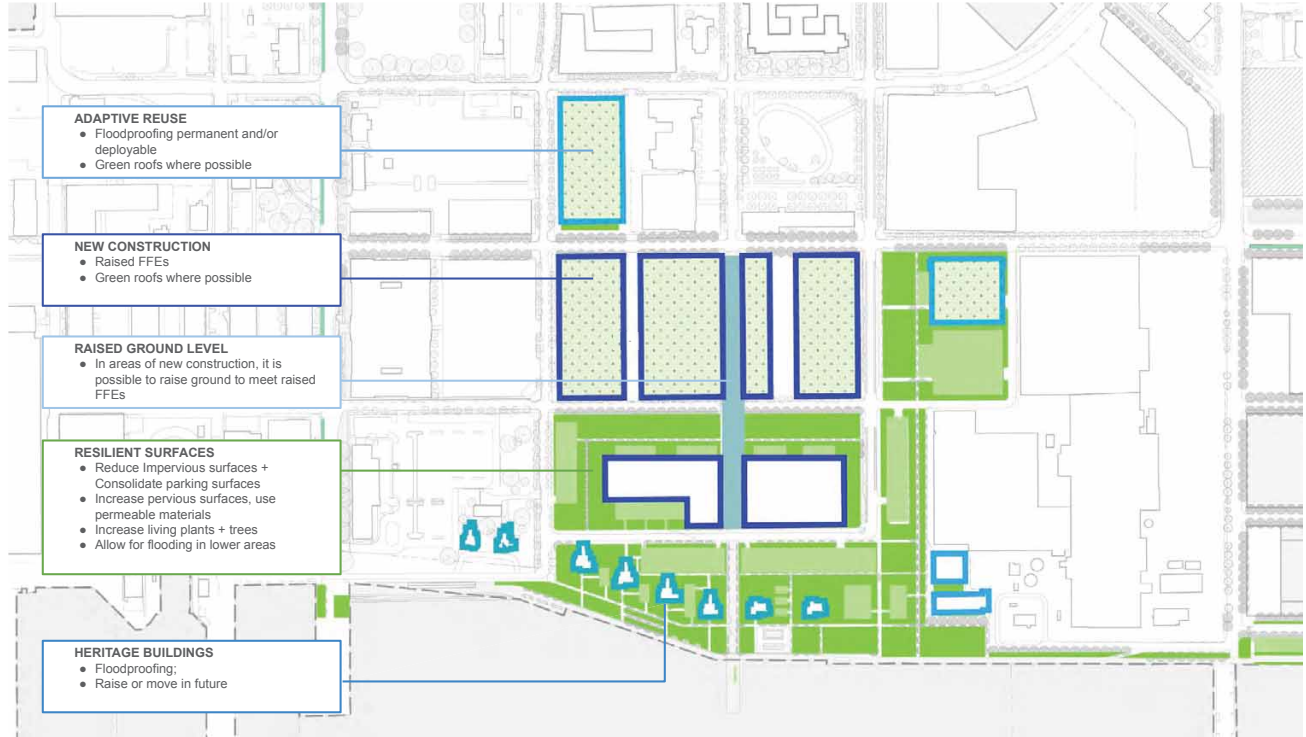


RESILIENCY + STORMWATER IN HISTORIC CORE

Relocating Admiral Peary Way and vehicle traffic and parking to the area north of the Officers' Quarters provides more permeable green space to absorb water from storm and flood events, including cloudbursts. Increasing the distance of the roadway from the water's edge also ensures greater human safety and protects ingress/egress during storm events.

A combination of various, site-specific strategies can be employed to create a resilient district that maintains the nature of the Historic Core, while allowing for improvements over time:

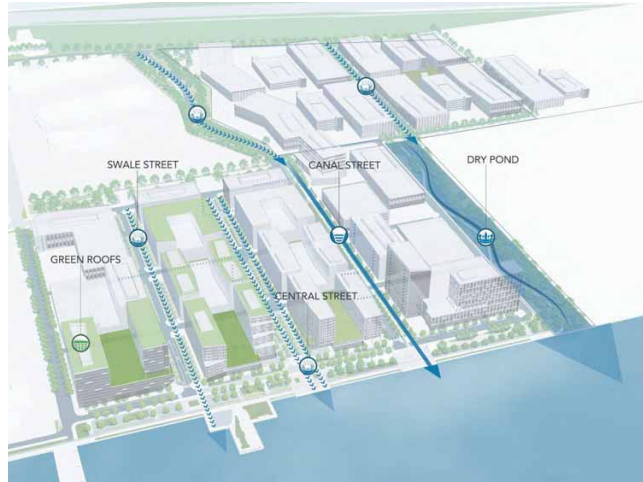
- allow for flooding in open areas (positive slope to the river)
- increase pervious surfaces (reduce impervious surfaces, add permeable pavers, use parking with stabilized gravel, etc)
- increase planted material (trees, shrubs, etc) and select planted material to support increased absorption of carbon and water
- install partial or complete green roofs wherever possible on all new construction/adaptive reuse
- potential to raise and flood-proof the Officers' Quarters buildings in the future if needed in response to sea level rise and as supported by SHPO
- use permanent and/or deployable floodproofing mechanisms around Building 83, Building 79, and other existing heritage buildings
- elevate new construction and new roadway infrastructure where feasible in the context of existing development



SUSTAINABILITY & RESILIENCE

STORMWATER IN EAST END

The Greenway and Waterfront Districts use a range of surface green infrastructure to convey, filter, and detain stormwater.



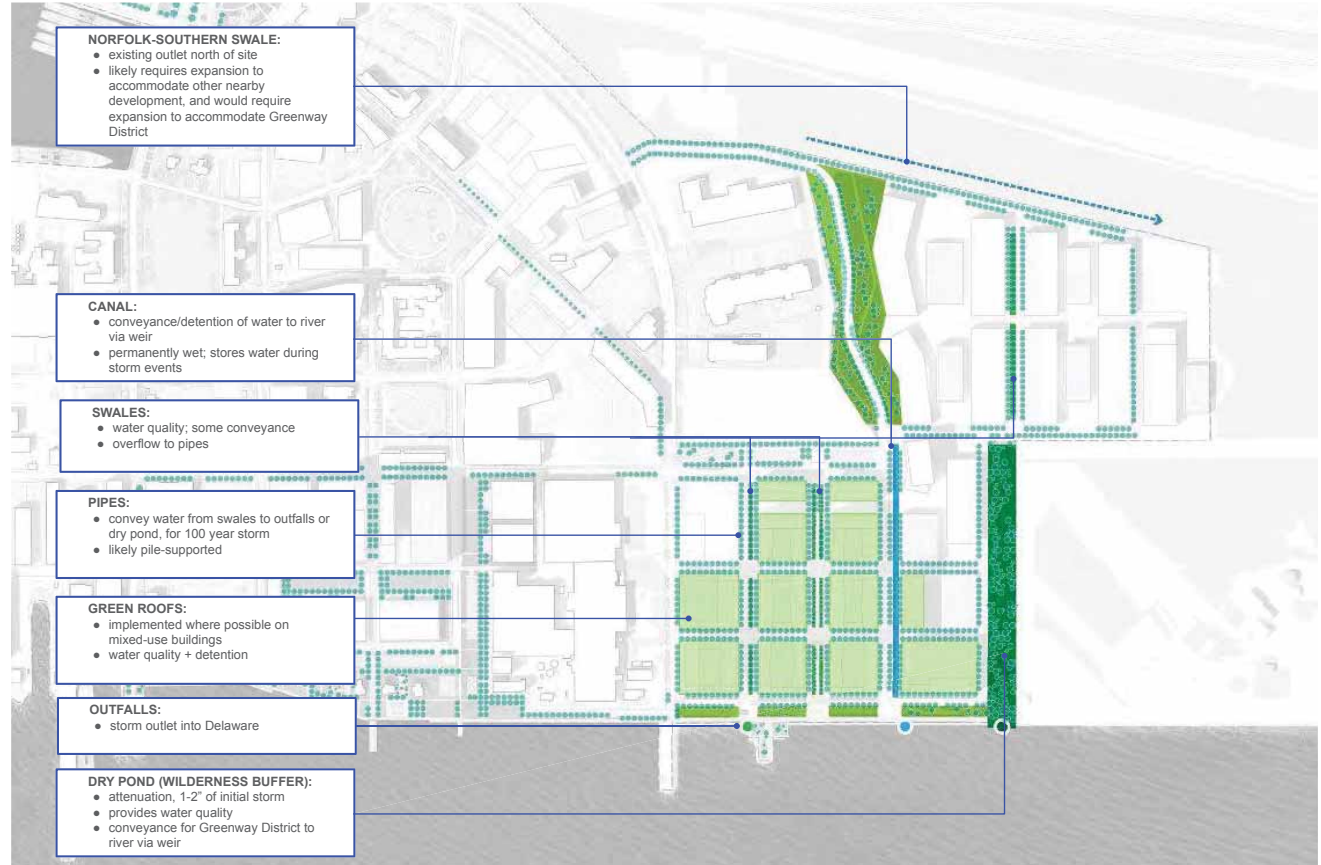
canal



dry pond



swale



STORM OPTIONS FOR EAST END

A rough analysis for the pipe networks for the Greenway and Waterfront Districts was analyzed in order to evaluate possible road elevations. The exhibits below show three creative approaches evaluating elevations and drainage methods with 0.5% and minimum 3 foot cover. All options efficiently manage stormwater to provide a safe environment for the public and minimize storm-related property damage. Each of the solutions below offer varying pros and cons including, but not limited to, reliance on development timing assumptions, required collaboration with outside partners, and the amount of fill quantity and related cost.



Option 1

Option 1 would require utilization of a combination of systems, including the Norfolk-Southern swale and be more effective in order to keep fill cost down and allow for implementable segmented phases. Total fill requirements are estimated at approximately 700,000 cubic yards (CY) for this option.

Option 2 uses the Wilderness Buffer area as the primary outfall for the Greenway District and does not tie into the Norfolk-Southern swale. This requires raising the fill volumes in the east end by roughly 300,000 CY (approximately 1M CY total) and results in elevations exceeding



Option 2

See appendix for more detail on these elevations and approaches.

+15.0, which creates design challenges for the transition to existing parcels at lower elevations.

Option 3 extends the Wilderness Buffer north from Kitty Hawk Avenue into the Greenway District. This eliminates a building parcel in the Greenway District, but lowers required elevations in the district, close to the required elevations for sea-level rise resilience. Total fill requirements are estimated at approximately 700,000 cubic yards (CY) for this option.

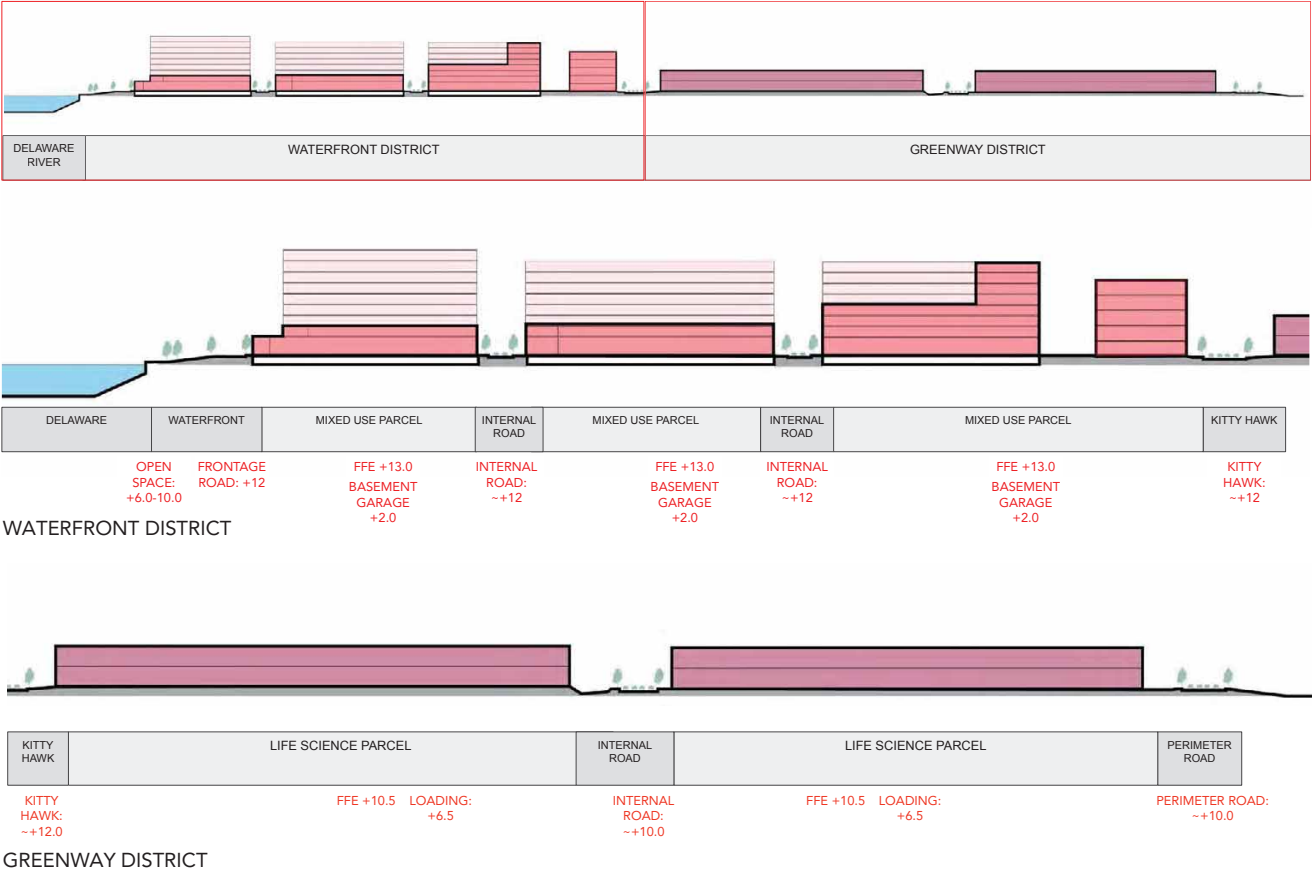
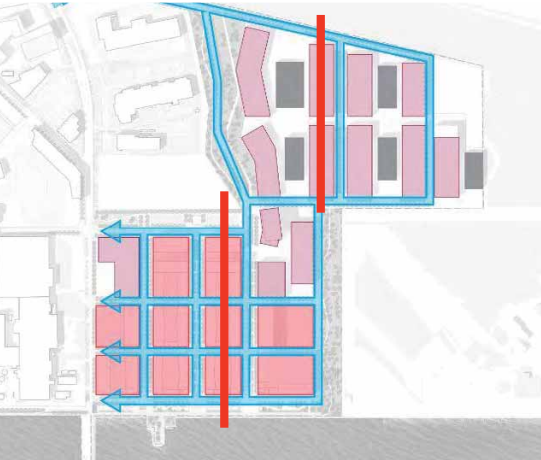


Option 3

SUSTAINABILITY & RESILIENCE

RAISING THE SITE

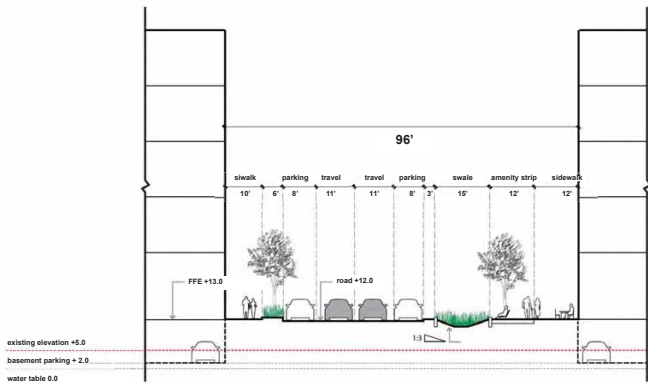
The resiliency strategy for the east end involves two separate responses in raising the site for climate adaptation: in the Waterfront District, building basements and lower-level parking reduce the amount of fill required while raising habitable spaces to higher elevation. In extreme weather and flood events, notification systems will alert users with ample time to allow for relocation of people and personal assets (e.g. vehicles in lower-level parking), block incoming access to ensure safety, and minimize property damage. In the Greenway District, the roads are raised to the required 80-year (year 2100) flood level, with building elevations set in relation to the roads. Note that the Greenway District elevations shown here are subject to the ultimate selection between the options presented on the prior page.



SUSTAINABILITY & RESILIENCE

SWALE STREET

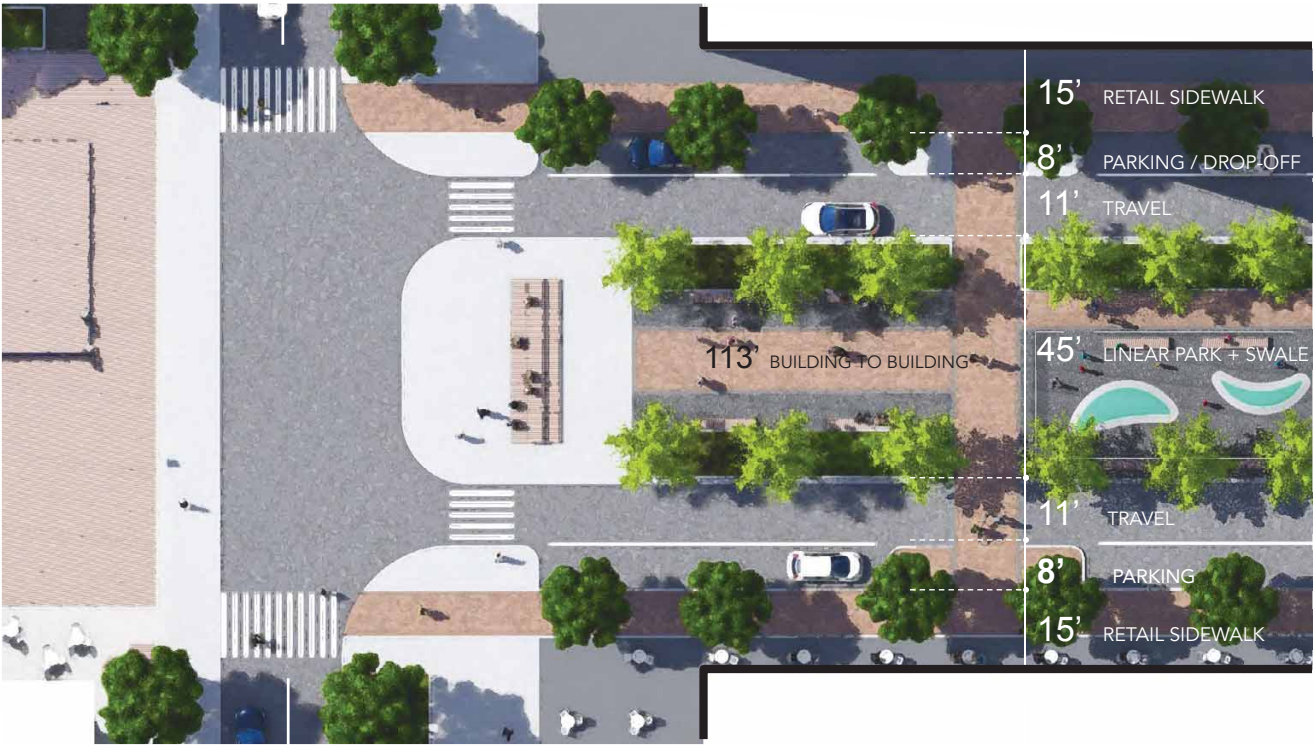
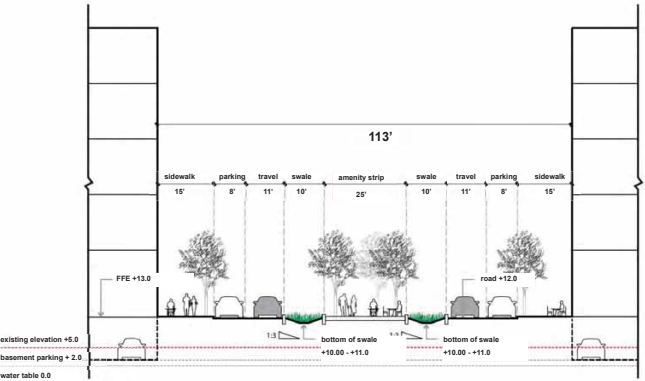
A continuous storm swale is the primary defining feature of this westernmost street in the Waterfront District. This feature is reinforced by three continuous rows of trees lining the edges of the street, improving pedestrian comfort, reducing the heat island effect, and adding abundant natural scenery as a complement to the built environment. Tulip Poplars, with a fast replacement rate and significant capacity for carbon sequestration due to their large size and long lifespans, are recommended here.



SUSTAINABILITY & RESILIENCE

CENTRAL STREET

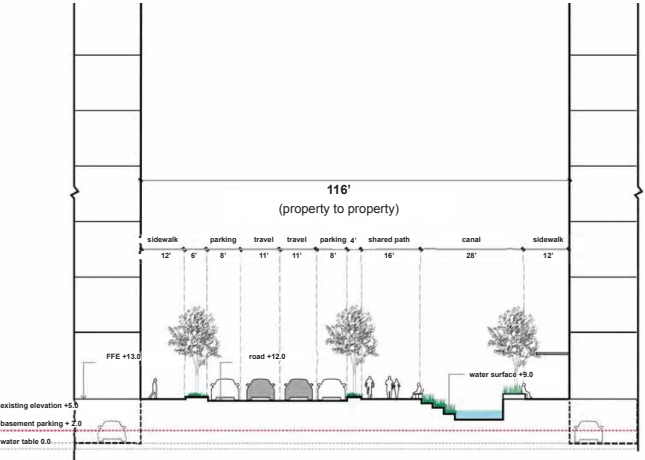
The Central Street supports inviting outdoor spaces that foster social interaction while increasing ecological functions. Its swales create linear ecological connections, and feature native plantings at a scale that can be relatively easily maintained. Tulip Poplars and London Plane trees, with their preference for moist or wet soils and high tolerance for urban conditions, are recommended here.



SUSTAINABILITY & RESILIENCE

CANAL STREET

The canal functions as a conveyance and detention device for stormwater, as well as a defining urban feature. The canal is generally shallow during most non-rainy-day conditions. The sides of the embankment are stepped, limiting the depth and distinguishing the feature from adjacent walkways; other open sides are edged with seating, railings, or planting. Bridges provide intermittent access along the commercial side of the street. Cypress trees are recommended here.



SUPPORTING LIFE SCIENCES

SUPPORTING LIFE SCIENCES

LIFE SCIENCE ECOSYSTEMS

Successful life science ecosystems have:

- Varying, but defined and clear density / character: urban vs. suburban vs. park-campus
- Appropriate targeting of a segment of the life sciences pipeline and cycle
 - a. startup, graduate, mid-size, and/or mature,
 - b. using other sites (e.g. Boston / University City) as feeders,
 - c. opportunities to attract incubator management company (e.g. jlabs, biolabs) and/or Contract Development and Manufacturing Organizations (CDMOs);
 - d. connections across the pipeline via circulation & program
- People-centric offerings to attract scientist employees (graduate and post-graduate level) as well as critical support staff (administrative and laborers)
- A “Live / Work / Play” mix: a mature social ecosystem organized around a town center, with multiple work and R&D/lab sectors, hotels, and retail/restaurant offerings
- A balance between security and social connectivity with the ability for manufacturing to be more remote
- A strong public transportation / bike network and walkability, trending away from cars and long commute times towards green options and sustainability

Lab - centric life science typologies:

| Wet Labs <i>High intensity</i> | Dry Labs <i>Medium intensity</i> | Computational Labs <i>Low intensity</i> |
|---|---|--|
| <ul style="list-style-type: none"> - Life sciences - Cell and gene therapy - Macromolecule - Biopharma - Personalized Medicine | <ul style="list-style-type: none"> - Biotech - Medical devices - Robotics & 3D printing - Diagnostic tests - Drug delivery - Medium intensity | <ul style="list-style-type: none"> - Precision medicine - Pharmacogenetics - Digital health - Bioinformatics - EMR - Low intensity |



San Francisco Bay Area; California



Research Triangle Park; Raleigh-Durham, North Carolina



Kendall Square; Cambridge-Boston, Massachusetts

SUPPORTING LIFE SCIENCES

LIFE SCIENCE PIPELINE

| Growth Stage | Startup | Graduate | Mid-Size | Mature 1.0 - Commercialization | Mature 2.0 – Scaling & Expansion |
|-------------------------|---|--|--|---|---|
| Funding Source | Research & Development Seed / Angel Funding | Preclinical Trials Series A Funding | Phase I – III clinical trials Series B Funding | Commercialization Series C+ Funding | IPO / Self-financing |
| Primary Activities | <ul style="list-style-type: none"> •Provisional patent / licensing | <ul style="list-style-type: none"> •Basic research / drug discovery •Prototyping •Preparing for clinical trials | <ul style="list-style-type: none"> •Clinical Trials phase I – III •Beta version testing •Preliminary market product testing | <ul style="list-style-type: none"> •Clinical result publication •Regulatory review/approval •Initial market launch | <ul style="list-style-type: none"> •Post-market clinical studies •IPO/potential M&A |
| Space / Operating Needs | <ul style="list-style-type: none"> •Move in ready •Lab > office •Private lab space •networking spaces •Shared equipment | <ul style="list-style-type: none"> •Ability to expand quickly •Lab ≥ office •Private lab & office •More social amenities •No shared equipment | <ul style="list-style-type: none"> •Custom buildout •Lab = office •Increased private office needs •More amenities in tenant spaces •Single floor plate in multi-tenant building | <ul style="list-style-type: none"> •Custom buildout •Office > lab •Increased staffing needs •More family / life oriented amenities, e.g. schools •Single building | <ul style="list-style-type: none"> •Custom buildout •Office > lab •Manufacturing either on site or at a remote location •Manufacturing needs impact total sf |
| Lease Terms | <ul style="list-style-type: none"> •Flexible, month-to-month •incubator spaces | <ul style="list-style-type: none"> •3 – 5 years | <ul style="list-style-type: none"> •5 – 10 years •Capacity to expand to larger space locally with same lease terms, based on trial results | <ul style="list-style-type: none"> •7 – 10 years •Single tenant build-to-suit or anchor tenant on multiple floors | <ul style="list-style-type: none"> •10 – 15 years •Build-to-suit, multiple floors, or campus style space |
| Space Needs | 1,500 – 2,000 SF | 2,000 – 10,000 SF | 20,000 – 30,000 SF | 30,000 – 100,000 SF | 300,000 – 550,000 SF |

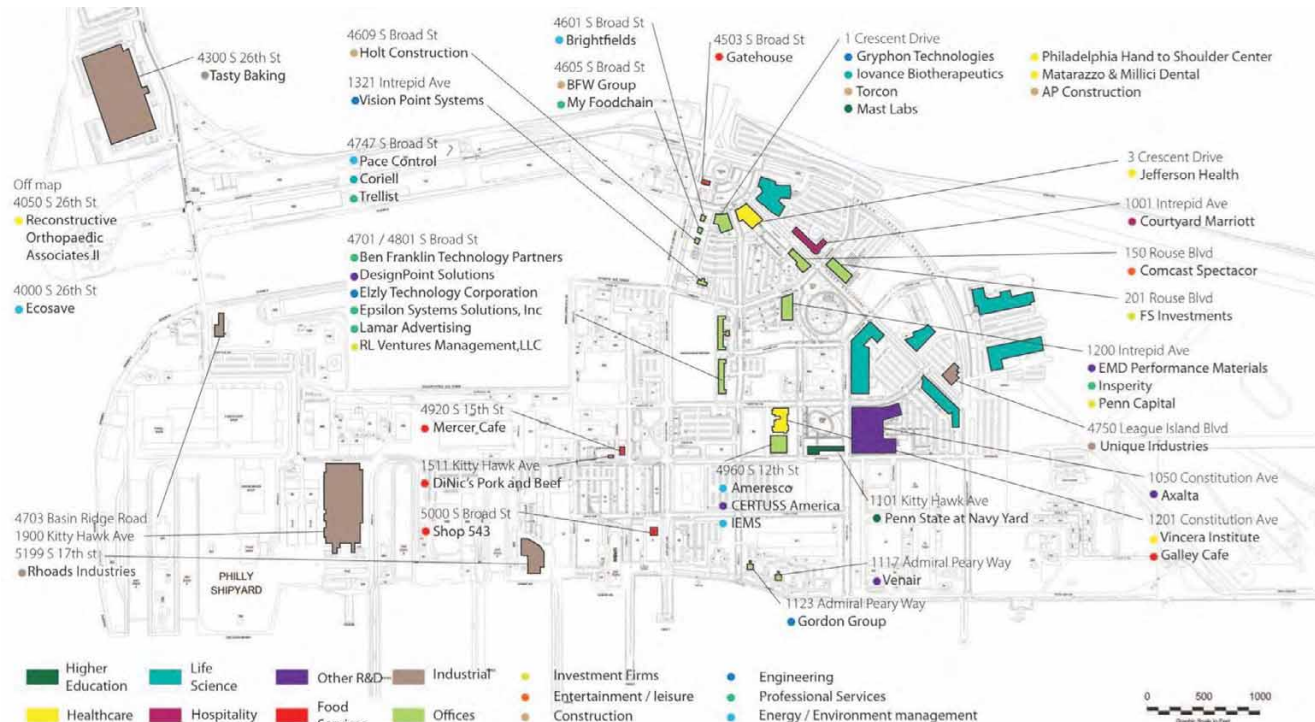
Source: PIDC, RESGroup, Market Assessment of Life Sciences Laboratory Space in Philadelphia, November 2019

LIFE SCIENCE AT THE NAVY YARD

Currently, the Navy Yard features a powerful combination of clinical healthcare, advanced life sciences R&D, and cell and gene therapy production. The Navy Yard is uniquely suited to attract and support life sciences both locally and internationally. With its proximity to the innovation and talent pool in University City and the surrounding region, the Navy Yard is an alluring option for companies that have outgrown their space in urban submarkets but are still looking leverage the nearby innovation and talent pool. With rising costs and low inventory in Boston, many domestic and international firms are turning to Philadelphia and the Navy Yard to create iconic headquarters and Good Manufacturing Practice (GMP) facilities.

The Navy Yard has already attracted a number of life science anchor tenants including Jefferson Health, Adaptimmune, Iovance, Coriell Life Sciences, and WuXi Advanced Therapies, a cell and gene therapy CDMO. WuXi has greatly expanded their operations on site and is a real attractor for graduate and mid-sized companies looking for help with development and manufacturing.

Perhaps even more important than specific life science companies are the larger ecosystem and amenities that are being curated at the Navy Yard. Critical and related industries such as higher education, healthcare, makerspace, food services, and hospitality are also available on site. Not only is the Navy Yard becoming a vibrant work / live / play community, but it will be ripe for creating collisions and collaborations between employees and companies.



SUPPORTING RETAIL

SUPPORTING RETAIL

Overview and Current Conditions

Current retail offerings at the Navy Yard comprise a small number of food and beverage (F&B) tenants serving the daytime office population and limited evening service for employees after work or people visiting the Stadium District immediately to the north of the Navy Yard. In surveys of both existing Navy Yard community members and the broader Philadelphia public, the growth of retail and F&B options on-site was a primary need identified. A larger and more diverse retail environment is critical for attracting new businesses and jobs, and the advent of a residential population will further support a more diversified portfolio of retail tenants. The retail strategy facilitates the Plan goals of creating inclusive and welcoming spaces and equitable business growth opportunities by ensuring that retail spaces are made accessible to minority- and women-owned businesses, and that goods and services are accessible to all employees and residents.

Creating an Inclusive 15-Minute Neighborhood

The Navy Yard’s retail strategy is modeled on the principle of a 15-minute neighborhood, an urban design concept that promotes access to key amenities for residents and workers within a 15-minute walk of their homes or workplace.

The retail mix should include convenience goods like grocery, personal care products and services, and health services as well as more specialized offerings like restaurants, coffee shops, and boutiques. Ensuring affordable options for diverse income levels will be important to effectively serve all Navy Yard workers and drive the success of the mixed-income housing strategy.

Finally, the retail plan seeks to promote localization of the Navy Yard economy through the presence of on-site makers, whose products feed into and differentiate the retail mix. Concepts are included for food/beverage makers, whose kitchens, breweries, consumer packaged goods, etc., can support front-of-house bakeries, restaurants, bars, and grocers, as well as craft makers, whose artisanal goods can be sold on-site (and through e-commerce outlets) to create one-of-a-kind, destination shopping experiences.

Supportable Retail Density

In order to set up all existing and future retail users for success at the Navy Yard, the Plan thoughtfully considers the total square footage of retail space that is supportable throughout the campus. The low and high estimates of supportable square footage shown below is calculated based on the expected number of residents, workers, and visitors who will shop, dine, and use services at the Navy Yard; the amount that these potential customers are expected to spend; and the amount of sales that businesses will need to make to be viable.

| | Low Estimate | High Estimate |
|---------------------------|--------------|---------------|
| Total Retail Space | 88,000 SF* | 150,000 SF |
| Total Food/Bev Makerspace | 30,000 SF* | 90,000 SF |
| Total Craft Makerspace | 25,000 SF* | 60,000 SF |

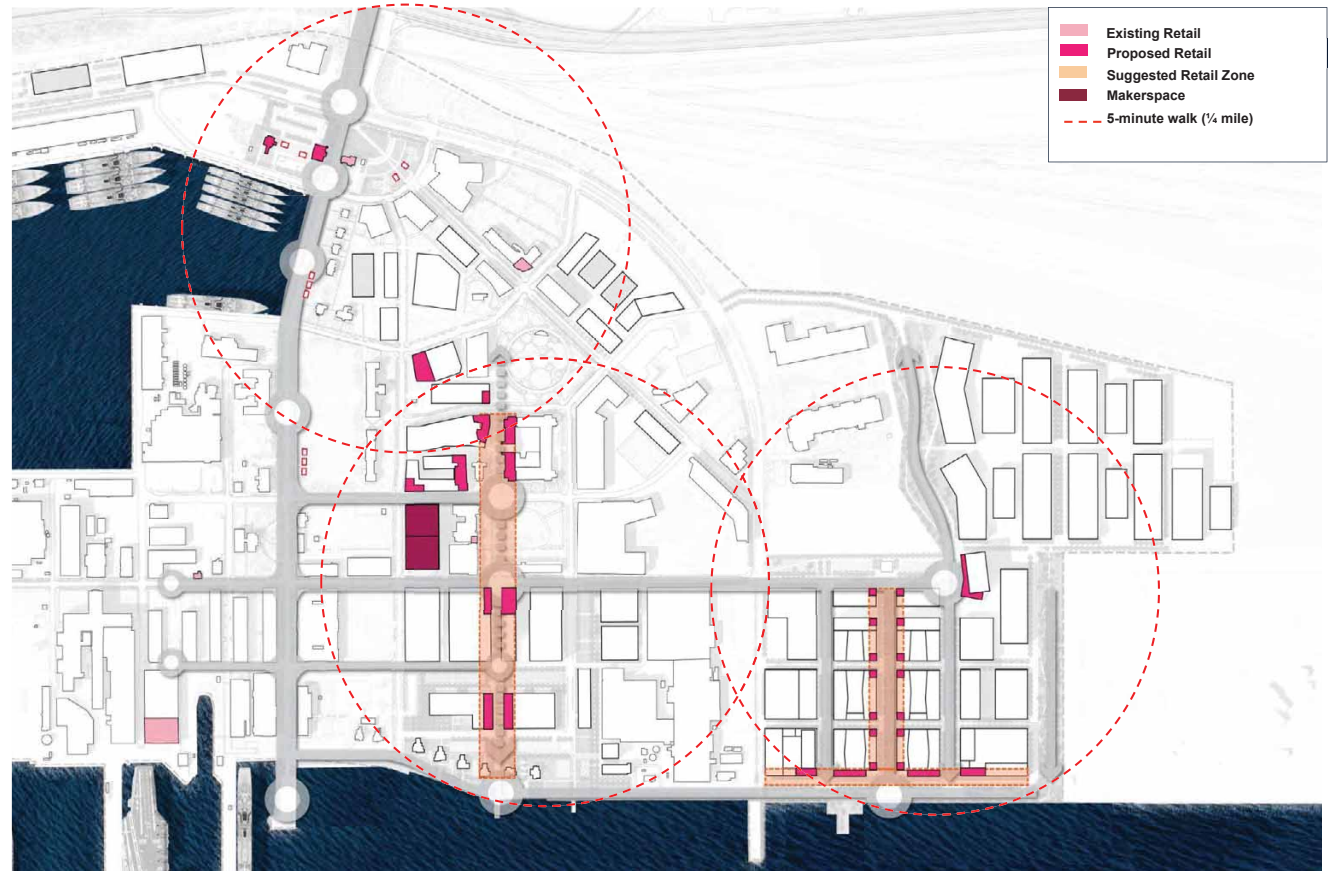
Low estimate of total space includes approximately 33,000 retail SF in existing spaces, plus Phase 1 (Chapel Block and Barracks Hotel)

SUPPORTING RETAIL

RETAIL PROGRAM

Retail is strategically concentrated with the goal of creating retail zones within the most dense districts, and ensuring that retail spaces are located within a reasonable walking distance from the approximate center of the Gateway District (Broad Street entrance), Historic Core, and the east end (Greenway District and Waterfront District). Other areas are connected to retail zones and associated amenities via regular and convenient internal circulators like the Navy Yard Shuttle. Retail is also co-located with other attractive amenities, such as the waterfront, to maximize the benefits of foot traffic.

The Plan indicates ground-floor locations of retail in both the low-density scenario (approximately 88,000 SF) and in the high-density scenario (approximately 150,000 SF). In both cases, retail is organized around central corridors: 12th Street in the Historic Core and the Central Street in the Waterfront District. These corridors strategically pull people to the waterfront by activating the path and helping to interrupt what may otherwise be perceived as a unappealing distance.



SUPPORTING RETAIL

RETAIL CONCEPTS

Retail includes all categories of customer-facing spaces for the sale of goods and services. This typology includes vendor markets in addition to storefront retail. The retail portfolio at the Navy Yard is envisioned as a creative, local, equitable, and eclectic mix of businesses that will bolster the Navy Yard's authenticity and uniqueness, and distinguish the Navy Yard as a retail destination relative to other large regional retail centers. Total planned retail space ranges from 88,000 SF (low estimate) to 150,000 SF (high estimate).

Phasing Considerations:

- Begin with pop-ups and a few key anchor tenants.
- Consider designing flexible, modular, approachable storefront spaces, with movable interior walls that can be adjusted in size to meet tenant needs or accommodate growth, and appropriately sized frontages for the potential traffic and scale of retail environment.
- Seek to offer early tenants graduated and/or short-term lease structures and lease guarantees.

Storefront Retail: Locate convenience amenities and unique destination retail along the corridors.

- Focus on restaurants, bars, and coffee shops that serve residents, workers, and visitors. Consider hotel guests and potential corporate visitors.
- Recruit business service retail, including pack, ship and office supplies, in storefronts with convenient access to office spaces.
- Develop a transitional, phased plan for grocery service, with small and/or gourmet convenience in the early phases and a small format grocery (e.g., Giant Heirloom) at full residential buildout. The small format grocer can be supplemented by convenience stores that can include groceries, such as a bodega and a pharmacy, and by the multi-vendor grocery model described in the next section.
- Plan for services for residents and workers, including childcare, urgent care, and a fitness center.
- Recruit and support women- and minority-owned services, as well as traditional and artisanal retail (e.g. booksellers, jewelry, home goods). Supplement with retail products generated in the craft makerspace.

Multi-Vendor Retail: Build on the Navy Yard's food truck tradition by establishing permanent spaces for vendor-based dining and retail.

- Supplement grocery mix with a multi-vendor grocery market in the model of Reading Terminal Market. As multi-vendor grocery model becomes a destination, it could gradually support additional space and a broader mix of vendors.
- Continue pop-up food vendor events and host cultural food festivals with a regional draw.
- Establish permanent vendor stalls in a food hall with indoor/outdoor dining, using flexible spaces that facilitate the rotation of vendors.



Storefront retail with open, transparent facades



Food and craft goods representing myriad cultures



Vendor-based grocery and pharmacy

FOOD & BEVERAGE MAKER CONCEPTS

F&B makerspace is defined by space and equipment for food/beverage production, that builds jobs and prioritizes local flavors and characters, establishing a retail destination that builds upon the Navy Yard's brand of creative exploration exemplified by weekly food trucks and food-centered annual events. This typology may include shared infrastructure like commissary or incubator kitchen space, consumer packaged goods (CPG) production and other food manufacturing facilities, and food innovation R&D labs as well as single-tenant spaces like breweries, distilleries, roasteries, and bakeries all with the ability to have a public facing retail storefront. Increasing the Navy Yard's F&B offerings with unique, local, and emerging concepts answers stakeholder feedback seeking more of these amenities in a distinctive way. Total planned food and beverage retail space ranges from 30,000 SF (low estimate) to 90,000 SF (high estimate).

F&B Production For Ready-To-Eat Goods: Create anchor, customer-serving food production facilities and shared kitchen infrastructure to support food and beverage at the Navy Yard.

- Establish a commissary kitchen for vendors, especially those at the Navy Yard and nearby FDR Park.
- Support citywide momentum in food entrepreneurship by establishing a shared/ghost kitchen for restaurateurs who can deliver both on-site and throughout the city.
- Develop single-tenant spaces with back-of-house production and front-of-house retail, such as a brewery, roastery, distillery, and/or bakery, to anchor the corridors.
- Consider the development of a kitchen incubator to support food entrepreneurship and workforce development.

F&B Production & Innovation For Packaged Goods:

Develop food production and innovation infrastructure for the manufacturing of food and beverages that will be consumed off-site. Introducing this segment builds upon the Navy Yard's brand of innovation and expands Philadelphia's celebrated food scene, both of which offer unique employment opportunities and visitor attractions.

- Develop a consumer packaged goods (CPG) production facility that feeds on-site retail uses.
- Identify a key point in local food manufacturing supply chains that could be supported through a contract manufacturing facility.
- Partner with local universities to create a food R&D lab, building on the Navy Yard's reputation for innovation and curating a potential future identity as a mecca for diverse local food.



Breweries, bakeries, and other single-tenant spaces as anchors



Food innovation and R&D space



Small CPG and prepared food production spaces

CRAFT MAKERSPACE CONCEPTS

Craft makerspace is defined by space and infrastructure for the production of goods, excluding food and beverage. This typology focuses on individual offices, studios, and light manufacturing spaces for small businesses and entrepreneurs with the ability for a small public-facing retail storefront. These types of spaces are particularly well-suited for the adaptive reuse of large-floorplate former warehouse buildings such as Building 83, and can help fill an existing market gap for affordable makerspace. At the Navy Yard, new craft makerspaces build upon an authentic creative brand symbolized by existing businesses like Urban Outfitters and weave vibrancy further throughout the Historic Core and the Waterfront District. Total planned makerspace ranges from 25,000 SF (low estimate) to 60,000 SF (high estimate).

Small Business Craft Makerspace: Create studio spaces for artists and small creative/light manufacturing businesses.

- Establish spaces for artists to make and showcase work.
- Offer affordable shell studio and workshop spaces for established small maker and light manufacturing businesses and entrepreneurs. Focus on traditional fabrication uses like wood, ceramic, and textile, but minimize restrictions on use to allow the market to shape itself (while maintaining appropriateness for co-tenancy and for proximity to residential).
- Offer customizable or fully-built out studios or workshop space to small businesses and entrepreneurs.
- Create a front-end retail component added to individual studios and/or a shared retail showroom in the building or pop-ups along the retail corridors.

Shared Makerspace: Identify a strong and experienced operator to execute a successful shared makerspace facility and support the installation and management of shared equipment.

- Create shared equipment labs or workshops for use by tenant small businesses and entrepreneurs. Shared equipment allows for the purchase of higher quality infrastructure while saving costs and space for tenants.
- Introduce studio passes for part-time or new entrepreneurs to access equipment and begin interacting in the Navy Yard's maker ecosystem before they can commit to renting space.
- Introduce public studio passes and classes for hobbyists to generate additional revenue.



Spaces for light manufacturing with tenant-provided equipment



Small studio spaces for entrepreneurs



Potential shared lab spaces in the future

AN EQUITABLE NEIGHBORHOOD

AN EQUITABLE NEIGHBORHOOD

This Plan leverages the tremendous development potential ahead of the Navy Yard to deliver equitable employment, business, and living opportunities for Philadelphians. Together we are shaping a plan for the transformation of the Navy Yard into a vibrant urban district that empowers, strengthens, and connects the incredible people and communities that work and live within and around the site.



In developing 109 acres of the Navy Yard, Ensemble/Mosaic has committed to a robust and holistic equity strategy that will deliver meaningful economic opportunities for minority- and women-owned businesses and traditionally under-represented individuals. This commitment established a new standard at the Navy Yard and in development projects across the City. The agreement stipulates minimum obligations to promote equity and inclusion in the residential and retail development, including:

- 15% of all residential units (representing approximately 450 units) will be made affordable to individuals or families at incomes ranging from 60% to 120% of AMI, with the affordability covenant ensured for 40 years
- 25% of retail space will be made available for lease to local minority- and women-owned companies.
- In addition, Ensemble/Mosaic has created, in accordance with the agreement, the TNY Empowerment Foundation, funded by ongoing contributions from each individual Ensemble/Mosaic project at the Navy Yard. The Foundation is dedicated to providing education, job training, access to capital, mentorship, and wealth creation opportunities.

Understanding that the presence of income-based housing opportunities and affordable commercial space does not solely create an equitable neighborhood, the Plan is also committed to ensuring that the Navy Yard's equity strategy is comprehensive. Retail and other amenities will be programmed intentionally, to offer the necessary diversity in in price point and typology to make this a truly inclusive, viable location for all residents regardless of income or wealth. In addition, PIDC, Ensemble/Mosaic, and other Navy Yard stakeholders are committed to working with partners to improve transit accessibility to and within the campus, in order to connect all corners of Philadelphia to the opportunities to work, make, live, and play at the Navy Yard.

The equitable strategies detailed in this chapter are integral to the 2022 Plan Update, which prioritizes:

- An urban fabric that enables entrepreneurship and accommodates change
- Sustainable, inclusive, and accessible infrastructure and open spaces that enhance the quality of life for Philadelphia residents
- Safe and equitable multimodal access to jobs and housing
- Affordable access to public transit, shuttles, and shared mobility services (e.g., bike share, Uber/Lyft, Mobility Hub services, etc.)
- Accessibility for people with disabilities
- Meaningful engagement with a large group of voices and stakeholders
- Empowerment of communities that have been historically marginalized and underserved at the Navy Yard and in surrounding neighborhoods
- Forward-thinking design that acknowledges future climate challenges

AN EQUITABLE NEIGHBORHOOD

HOUSING AFFORDABILITY

The Housing Affordability plan focuses on the aspects and features of the development that will provide residents of all income levels with equitable access.

Housing affordability is not simply “income-based housing” but is rather about creating equal affordable access to housing and the things that make that possible, such as access to affordable transportation and childcare, and access to jobs and amenities and social outlets so that residents of modest means realize the overall value in living and thriving at the Navy Yard.

This also means that from the time one learns about the Navy Yard Plans and then crosses the threshold of the Navy Yard, a sense of inclusivity and belonging is conveyed. This is achieved via visual cues and especially through marketing material and housing typology that does not differentiate. Like other elements of the inclusion strategy, this is memorialized in the Ensemble/Mosaic development agreement, to ensure that all residents within a given residential building enjoy similar living spaces and common spaces.

Finally, programming must reflect and encourage inclusive community organizations and foster interactions that represent diverse business, community, and social interests.

Implementation Considerations:

- Continue to integrate affordable housing into residential development.
- Incorporate the same architecture typologies for affordable and market-rate housing.
- Explore employer interest in subsidizing rental housing on-site for lower wage workers.
- Provide a diverse array of price points for commercial services and retail.
- Explore opportunities to access Philadelphia's Neighborhood Preservation Initiative funding, which includes funds to support affordable housing production and for shallow rent assistance.
- Expand affordable transit access for Navy Yard workers and residents.
- Expand the Navy Yard Skills Initiative workforce training program to connect unemployed and under-employed Philadelphians, particularly those in historically disadvantaged communities, with quality job opportunities at the Navy Yard.

AN EQUITABLE NEIGHBORHOOD

RETAIL & MAKERSPACE STRATEGY GOALS

The Retail and Makerspace Strategy aims to consider paths toward an equitable, active, and amenity-rich Navy Yard that supports the growth of local, women- and minority-owned businesses and generates accessible, quality jobs.

The strategy encompasses recommendations for programming related to the retail, food/beverage makerspace, and craft makerspace concepts outlined in Chapter 7. It has the following goals:

1. **Support Businesses and Residents:** Develop a retail program with equitable opportunities and access for local, women- and minority-owned businesses and residents. Implement Ensemble/Mosaic's commitment to supporting these types of tenants in 25% of the retail space in their portfolio, and deploy PIDC small business lending and technical advisory services to support business growth. Small businesses should have opportunities to grow within the ecosystem of the Navy Yard.
2. **Promote Job Access and Career Growth:** Continue and leverage the Navy Yard Skills Initiative for job training and recruitment opportunities for Philadelphia workers in the retail sector. Support and expand on apprenticeships and employer-based training in addition to connections to small business employers.
3. **Foster Equitable Entrepreneurship:** Create business start-up and growth opportunities for local owners and minority- and women-owned businesses. This goal encompasses affordable, appropriate infrastructure for start-up and growth; competitive connections to customers (business-to-business and business-to-consumer); connections to peers and professional service providers; and collective branding and marketing. PIDC and Ensemble/Mosaic can act as a connector between businesses and resources and partners where services and opportunities are contained and accessible.
4. **Build an Amenity-Rich Neighborhood:** Ensure access to quality goods and services for residents, workers, and businesses at the Navy Yard. Create a space that feels like home, served by convenience retail, lunch and dining options, and business-serving retailers.
5. **Activate a Destination:** Attract additional visitors from all Philadelphia neighborhoods and beyond. Build a radically welcome environment of discovery, surprise, and delight; dining and retail experiences; a space that feels authentically Philadelphia; and a space that feels distinct from anywhere else in the city.



AN EQUITABLE NEIGHBORHOOD

RETAIL SUPPORT

Phasing And Lease Structures

- Utilize pop-ups and secure key anchor tenants. Regular pop-ups and larger events allow small businesses to test out the market, and bring new visitors to the Navy Yard.
- Subsidize rents for 25% of retail tenants in the Ensemble/Mosaic-developed retail spaces, in accordance with their commitments to provide equitable opportunities for local and MBE/WBE retail businesses, which can induce a representative spread of businesses and varied price points for customers.
- Offer graduated lease structures where possible, as business owners will not be able to plan for customer flow in what is essentially a new market.
- Explore opportunities through PIDC and other financing sources for lease guarantees or working capital loans to pay for fit-out. Tenant improvements to a space can be a prohibitive cost because capital for fit-out is often difficult and expensive to secure.

Support And Referrals

- Support food-based cultural programming in the vein of models like Dine Latino, Asian Eats, and Restaurant Week, as well as cultural food festivals where Philadelphia's myriad of local cultures can showcase diverse food experiences and incorporate arts and music.
- Explore partnerships to market and promote Navy Yard businesses to the City and region, as well as connect Navy Yard businesses to potential clients.
- Connect Navy Yard businesses with centers such as those managed by PIDC's business lending function, the City of Philadelphia's Commerce Department, Chamber of Commerce and other local, diverse Chambers of Commerce (e.g. the African-American Chamber of Commerce of PA/NJ/DE, the Asian American Chamber of Commerce of Greater Philadelphia, and the Philadelphia Hispanic Chamber of Commerce). These resource access points can link to a citywide business resource referral tool (currently in development) and/or provide a dedicated advisor who makes referrals or supports lease negotiations.
- Connect Navy Yard small businesses to PIDC's technical training opportunities for small business owners.

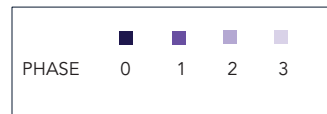
Partnerships And Tenant Recruitment

- Reach out to existing entrepreneurs with strong peer networks. Business owners are the most trusted source of shared opportunities among their peers. Some would be willing to serve as mentors or builders of a supportive peer ecosystem at the Navy Yard.
- Couple Ensemble/Mosaic's retail tenant marketing outreach with Navy Yard crowdfunding outreach. Insights from initial crowdfunding engagement demonstrated that Philadelphians are interested in owning, participating in, and building the culture of the Navy Yard.

F&B AND CRAFT MAKERSPACE SUPPORT

F&B Makerspace - Phasing

- Establish single-tenant anchors like a brewery, roastery, bakery, etc. Focus on minority- and women-owned businesses to immediately begin building the Navy Yard's reputation as an equitable entrepreneurship engine.
- Target the commissary kitchen for vendors at FDR Park and the Navy Yard.
- Consider a ghost kitchen model to provide much-needed space to Philadelphia's many food entrepreneurs. During the pandemic, social media and the explosion of delivery services meant that food businesses could open or operate without a dining space at greater volumes. New entrepreneurs are cooking from home and need infrastructure to expand.
- Explore establishing a CPG production facility for small food businesses.
- Consider developing a food innovation/R&D lab. The R&D center could explore unique takes on prepared or CPG food, and/or it could leverage the life science ecosystem and universities to delve into forward-thinking, sustainable food technology. Grounded as a hub for Philadelphia's diverse food cultures, the Navy Yard could collectively build toward food cultures of the future.
- Consider development of an incubator kitchen that leverages the ecosystem of previously developed resources to help entrepreneurs launch new food businesses and train chefs and other food industry professionals.



F&B Makerspace - Support and Referrals

- As a collective marketing tactic, consider developing a shared Navy Yard brand or a stamp that accompanies the many brands emerging from the F&B makerspace (e.g., "Made at the Navy Yard"). Seek expert consultation or fund a dedicated advisor who can support this brand with accessing collective procurement opportunities and selling to larger retailers.
- Make business support resources available for users, including referrals to relevant programs and providers or access to professional service providers on-site.
- Identify an experienced operator to manage any shared kitchen infrastructure. Ensure that standards for experience and professionalism are established to avoid conflicts in and damage to the space and equipment.
- In all stages of the F&B makerspace, ensure permanent availability of affordable space through subsidy of capital or operating expenses, development costs, and/or individual tenants. Create partnerships with sponsors to underwrite rents for BIPOC operators.

Craft Makerspace - Phasing and Lease Structures

- In the near term, consider seeking grant funding for an artist-in-residency program or creating working space for artists who have secured their own grants. In exchange for space and promotion, explore a partnership that allows the Navy Yard to display the artists' work at a low cost.
- In the medium term, offer studio spaces for small businesses and entrepreneurs in arts and light manufacturing. Offer capability for retail sales in studios or in small spaces along retail corridors.
- In the long term, consider identifying an operator to run a shared craft infrastructure space like a sewing lab, pottery studio, or wood shop for use by entrepreneurs or hobbyists.
- Seek opportunities for makerspace tenants to connect to the supply chain at the Navy Yard, both in tenant recruitment and through supplier diversity support. Consider fashion design and manufacturing tenants who can leverage synergy with URBN to support district identity.
- Short, flexible leases should be pursued where possible with tenants. Small maker businesses often quickly find themselves in need of more space or different space, so flexibility is critical for both the business to continue growing unimpeded and for the space to hold onto tenants as they grow.

Craft Makerspace - Support and Referrals

- Consider collective marketing strategies that promote craft makerspace businesses, whether along with all Navy Yard businesses or specifically among makerspace businesses.
- Connect tenants to support accessing opportunities in supply chain diversity (connect with Economy League) or global exports (connect with The Welcoming Center).

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