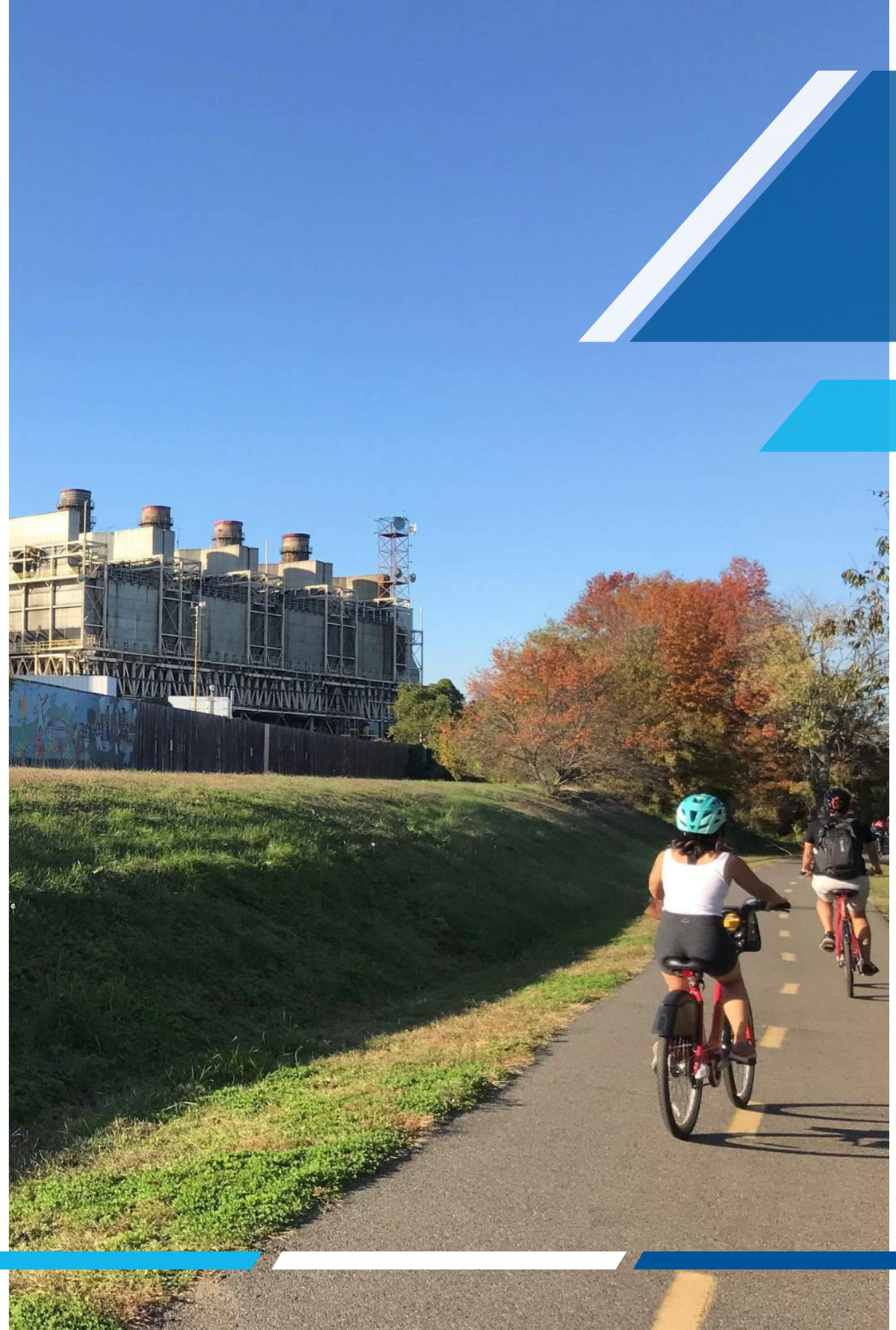

POTOMAC RIVER GENERATING STATION

ENVIRONMENTAL POLICY COMMISSION

NOVEMBER 21, 2022

Hilco™ Redevelopment Partners

WIRE GILL LLP · Gensler · HANDEL ARCHITECTS · SCB · OJB · christopher consultants IMEG

Thornton Tomasetti · BURO HAPPOLD · GOROVE SLADE Transportation Planners and Engineers · CLARK CONSTRUCTION · ARUP

WALKER CONSULTANTS · Michael Blades & Associates Elevator and Escalator Consulting · LERCH BATES Building Insight · vhb · Capitol Airspace Group

moffatt & nichol

SCHEDULE & PROCESS

STEPS FORWARD

CDD APPROVAL
CITY COUNCIL HEARING
JULY 5, 2022

IDSP
CONCEPT 1 SUBMISSION
JULY 8, 2022

DRAFT CSS
SUBMISSION
OCT 6, 2022

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BLOCK DSUP
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IDSP | DESIGN EXCELLENCE
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BLOCK DSUP
PLANNING COMMISSION HEARING
Q4 2023

BLOCK DSUP
CITY COUNCIL HEARING
Q4 2023

KEY

- IDSP
- DSUP
- CDD APPROVAL
- CSS
- COMMUNITY MEETINGS

AGENDA

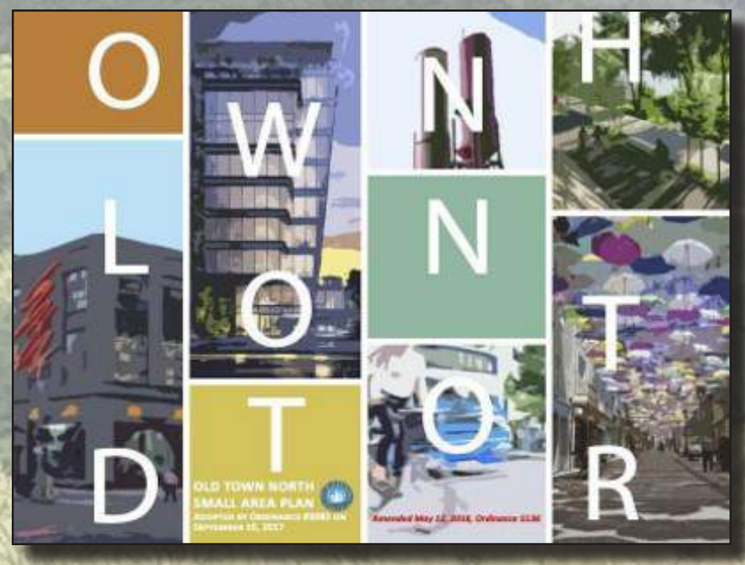
1. PROJECT HISTORY & VISION
2. ARUP SUSTAINABILITY PRACTICE
3. COORDINATED SUSTAINABILITY STRATEGY OVERVIEW
4. CSS REPORTING AND TRACKING

For over sixty years, this former coal fired power plant operated in Old Town Alexandria.

It emitted approximately 3.15 million metric tons of CO_2 annually and approximately 200 million metric tons of CO_2 over the course of its operation.

3,150, $mTCO_2$ annually
200,000,000 $mTCO_2$ lifetime

The plant was closed in 2012 thanks to the advocacy of many Alexandrians.



The vision for reintegrating this site into the neighborhood was established in a two+ year planning process that culminated in the adoption of the Old Town North Small Area Plan (SAP) in 2017.

WE TRANSFORM UNSIGHTLY BLIGHT...

INTO SUSTAINABLE COMMUNITIES

A COMPREHENSIVE SITE VISION

1 INTEGRATE THE SITE INTO OLD TOWN NORTH

Create a mixed-use, people centric environment thoughtfully connected to OTN

2 CONNECT PEOPLE TO THE WATERFRONT

Expand equitable access to Alexandria's waterfront

3 PROVIDE MEANINGFUL & VARIED OPEN SPACE

Create places for a variety of activities seamlessly connected to neighboring parks

Hilco Redevelopment Partners | Gensler | ARUP

We transform unsightly blight...

Into sustainable communities

A COMPREHENSIVE SITE VISION

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Create places for a variety of activities seamlessly connected to neighboring parks

4 CREATE A SUSTAINABLE NEW PLACE
Pursue sustainable and resilient strategies through a multi-pronged approach

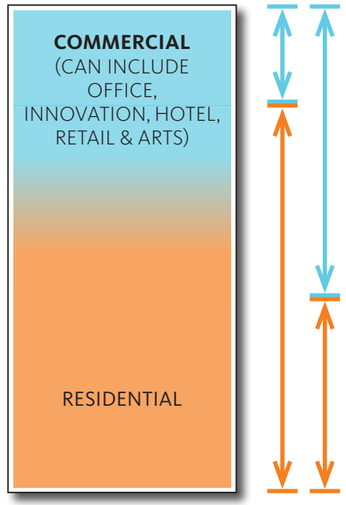
Hilco Redevelopment Partners Gensler ARUP

LAND USE & HEIGHT

APPROVED IN CDD

- A mix of commercial and residential uses will be developed on the site. Commercial uses may include office, arts, innovation, hotel & retail.

FLEXIBLE DISTRIBUTION OF USES ACROSS SITE



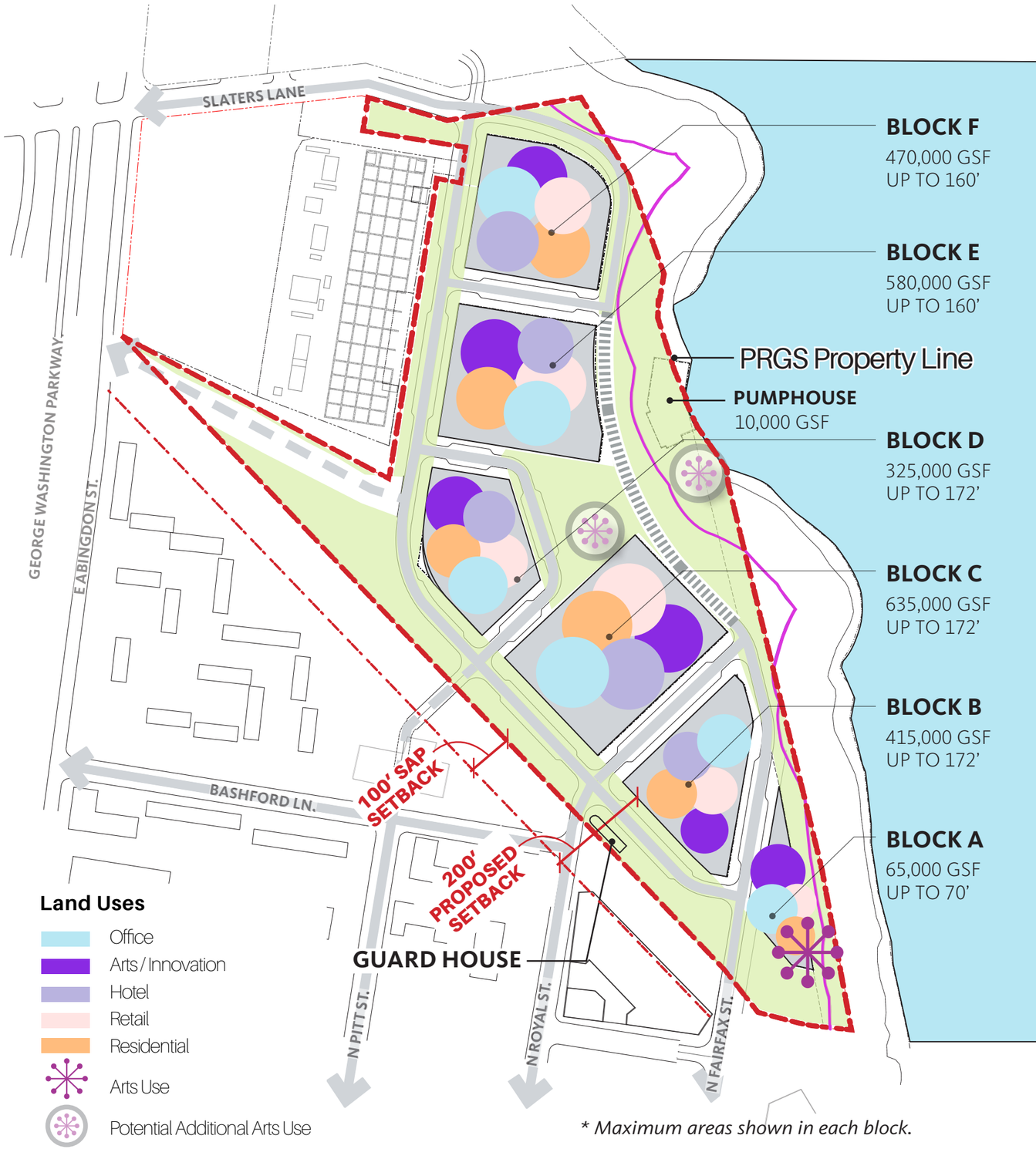
COMMERCIAL
20-60%
430,000 - 1,500,000 GSF

RESIDENTIAL
40-80%
860,000 - 2,000,000 GSF

*USES WILL BE MIXED ACROSS THE SITE.

*Commercial uses can include, but are not limited, to those listed.

	BLOCK A	BLOCK B	BLOCK C	BLOCK D	BLOCK E	BLOCK F	PUMP HOUSE
	65,000 GSF	415,000 GSF	635,000 GSF	325,000GSF	580,000 GSF	470,000 GSF	10,000 GSF
Commercial *	✓	✓	✓	✓	✓	✓	✓
Office	✓	✓	✓	✓	✓	✓	
Arts/ Innovation	✓	✓	✓	✓	✓	✓	✓
Hotel		✓	✓	✓	✓	✓	
Retail	✓	✓	✓	✓	✓	✓	✓
Residential	✓	✓	✓	✓	✓	✓	



** Maximum areas shown in each block.*

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COMMUNITY BENEFITS

Environmental Remediation

Abatement & Deconstruction Of Power Plant

Site remediation in coordination with Virginia Department of Environmental Quality (VDEQ)

$60 Million

Economic Benefit

1,100 Construction Jobs
2,000 Permanent Jobs

+/- 1,100 construction-related jobs

+/- 2,000 permanent jobs

+/- $35 M net taxes during development

$12 -15 M net annual taxes at completion

+/- $35 Million Net Taxes (over 11 years)

Affordable Housing & Subsidized Arts Uses

8-16% Affordable
15,000 SF Arts space

Affordable Housing:

$8-11M monetary contribution

+/- 60 units through bonus density

+/- 100 units through P3

Arts:

+/- 15,000 SF subsidized arts space through bonus density

$48-111 Million
$16 Million

Open Space & Activation

14 Acres New or Improved Open Space

14.2 acres of publicly accessible open space created or improved

- Improved cyclist and pedestrian connectivity

- Active & passive open spaces

- Potential **waterside dining** at pump house

$30-35 Million

Environmental Sustainability

Aggressive Carbon Reduction Targets

- 25% Energy savings

- 10% Embodied carbon reduction

- 3% On site renewable

- Electrification

Comprehensive sustainability approach: **reduced energy usage, renewable energy, storm water management, & decreased reliance on vehicles**

$65 Million

Transportation & Connectivity

Pedestrian & Bike Friendly
Improved GWMP Connections
New DASH Stops

Reconnection to Old Town North road network

Bike infrastructure connected to Mt. Vernon Trail

Woonerf provides pedestrian & cyclist priority.

Below-grade parking garage

$177 Million

CDD SUSTAINABILITY COMMITMENTS

ABOVE & BEYOND CITY SUSTAINABILITY CONSIDERATIONS

25% **Energy Use Reduction** target

10% reduced **Embodied Carbon** target

3% **On-site Renewable Energy** target

Electrification minimizes on-site combustion

Transportation and transit improvements

OPERATIONAL ENERGY REDUCTION TARGETS

* Percentages measured **BETTER** than ASHRAE 90.1-2010

	RESIDENTIAL	COMMERCIAL
Typical LEED BD+C Silver Building	12%	9%
Typical LEED ND Silver Site	5%	2%
Alexandria Green Building Policy	14%	11%
2X Alexandria Green Building Policy — **POTOMAC RIVER GENERATING STATION**	**25%**	**25%**

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ARUP SUSTAINABILITY PRACTICE

- SUSTAINABILITY STRATEGY
- RESILIENCE AND ADAPTATION PLANNING
- CAMPUS DECARBONIZATION STRATEGY
- CLIMATE ACTION PLANNING AND GHG
- CLEAN ENERGY PROCUREMENT ADVISORY
- RENEWABLE ENERGY ANALYSIS
- BATTERY STORAGE SYSTEMS
- DISTRICT ENERGY FEASIBILITY
- GEOTHERMAL ANALYSIS
- BIOMASS FACILITY ASSESSMENT
- TRANSPORTATION ELECTRIFICATION
- EMBODIED CARBON REDUCTION AND CIRCULAR ECONOMY STRATEGY
- NATURE-BASED SYSTEMS
- CERTIFICATION AND RATING SYSTEM ADMINISTRATION
- SMART & DIGITAL MASTERPLANNING

A HISTORY OF PROVEN EXPERIENCE

Low carbon buildings with on-site renewables

Embodied carbon calculation and material specification expertise

Linda Toth
CLIMATE & SUSTAINABILITY

Rebecca Hatchadorian
CLIMATE & SUSTAINABILITY

Katherine Schwartz
CLIMATE & SUSTAINABILITY

Alan Glynn
DISTRICT ENERGY

Nick Swedberg
DISTRICT ENERGY

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COORDINATED SUSTAINABILITY STRATEGY

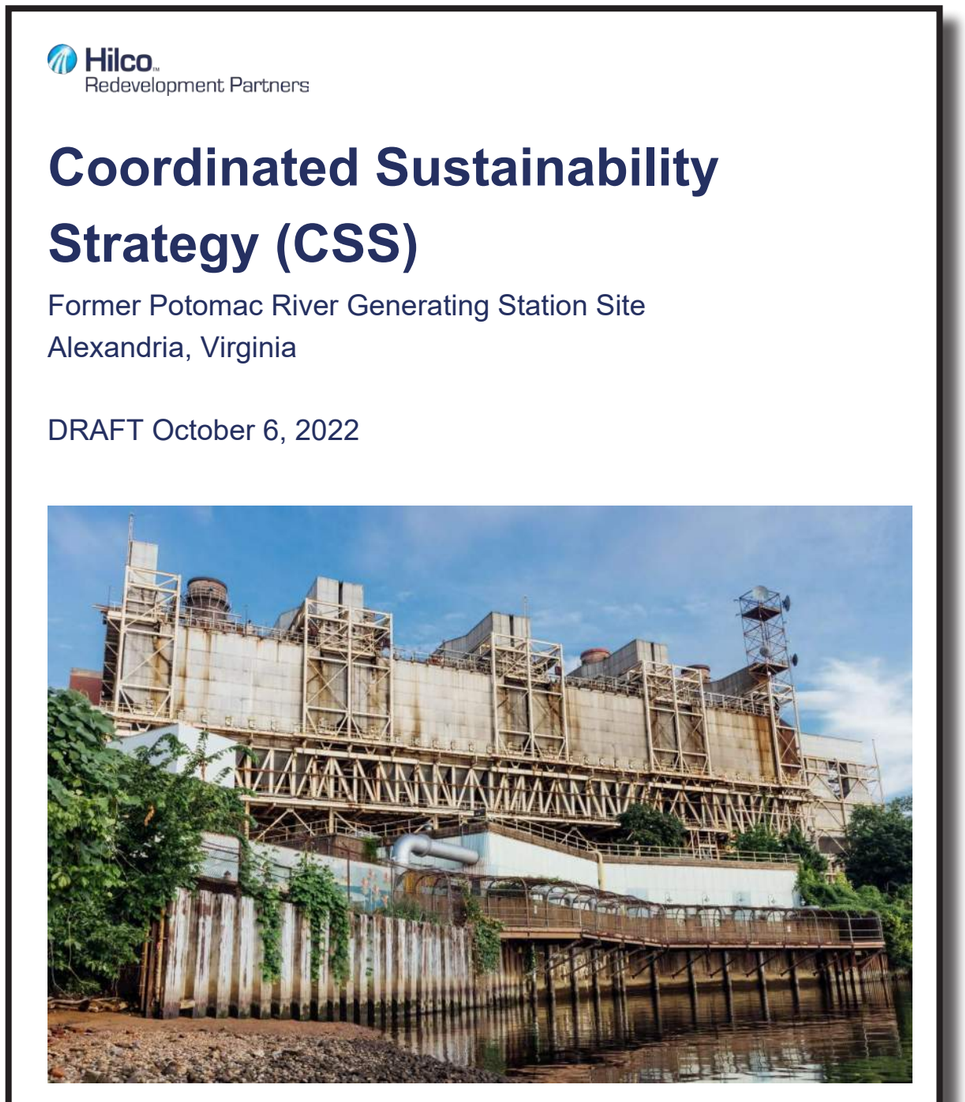
The Coordinated Sustainability Strategy (CSS) is a comprehensive approach to sustainability to inform design, construction, and operational decisions.

The CSS builds on CDD committments and is based on **triple bottom line thinking**, **considering environmental, social and economic factors**. Holistic analysis of each strategy will consider factors that align with the most innovative planning elements to address climate change backed by the latest scientific data from sectors including buildings, transportation, waste, and water.

The Coordinated Sustainability Strategy (CSS) is a comprehensive approach to sustainability to inform design, construction, and operational decisions. The development of the CSS runs in parallel to the Infrastructure DSP and helps inform future DSUPs.

The purpose of the CSS is to:

- Establish metrics for sustainable performance thresholds across 6 categories
- Demonstrate compliance with CDD targets
- Establish potential short-term, mid-term, and long term strategies
- Emphasize important elements of sustainability outcomes for the development
- Outline pathways for building-level and site-level LEED Certifications



CSS PLANNING TIMEFRAMES

CSS PLANS ACROSS **THREE TIMEFRAMES**

SHORT TERM 2022-2026

- **Readily available technology with an established payback period of 7 years**
- Payback evaluation criteria includes first cost, incentives, utility savings, and operations & maintenance costs over the life of a system
- Technically and financially feasible sustainability strategies will be included in DSUPs submitted during this timeframe

MID TERM 2027-2031

- **Technology that** may not be technically or financially feasible as a short-term strategy but **could have improved efficiency, payback period or financial incentives in the future**
- Potential process improvements to operational methods

LONG TERM 2032 & beyond

- **Ambitious or unknown technologies** that can adapt to previously constructed buildings
- Management and operational methods that improve and/or maintain existing equipment and materials

CSS draft submission
October 6

EPC review meeting
November 21

Worksessions with Planning Commission and City Council in December 2022

Revised CSS Submitted
January 2023

Planning Commission hearing
March 2023

City Council hearing
March 2023

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CSS CATEGORIES

SITE

- Site Sustainability Strategies
- Open Space
- Native and Adaptive Planting for Ecosystem Support
- Circulation and Transportation
- Stormwater Management and Green Infrastructure
- Zero Emission Vehicle Infrastructure

INDOOR ENVIRONMENT

- Indoor Environment Considerations
- Indoor Air Quality
- Daylight, Thermal and Acoustic Comfort
- Human Health and Wellness
- Construction Air Quality Management

WATER

- Water Conservation Strategies
- Potable Water Demand Reduction
- Indoor Water Use Efficiency
- Water Storage and Reuse

MATERIALS & WASTE

- Material and Waste Reduction
- Healthy Materials
- Responsible Sourcing
- Waste Management

ENERGY & CARBON

- Energy & Carbon Reduction Strategies
- On-Site Renewables
- Embodied Carbon
- System Electrification
- Offsite Renewables
- Commissioning and Efficient Operations

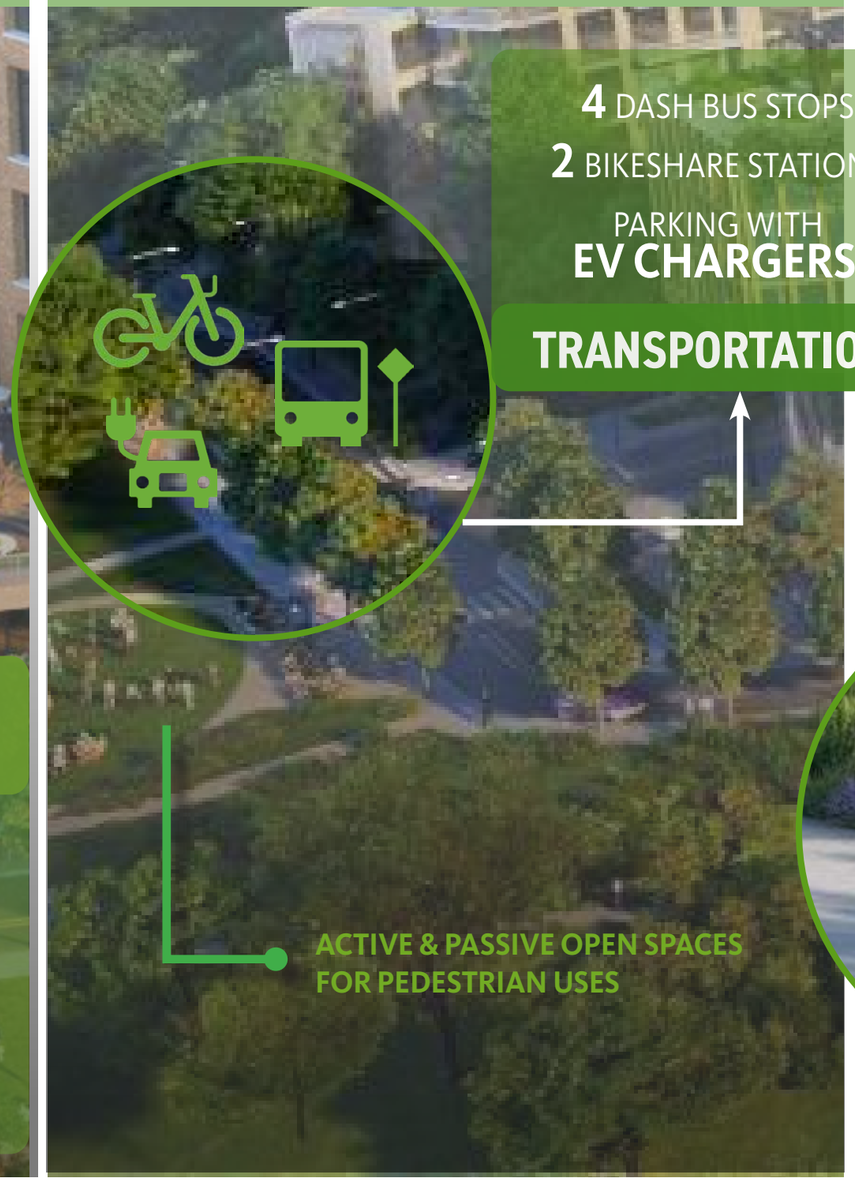
CLIMATE & RESILIENCE

- Climate Resilience Strategies
- Heat Island Effect and Tree Canopy
- Adaptation for Extreme Weather Events
- Future-proofing and Flexibility for Infrastructure Demands

SITE

GREEN INFRASTRUCTURE

TRANSPORTATION



PUBLIC OPEN SPACE

WATER

POTABLE WATER DEMAND REDUCTION

INDOOR WATER USE EFFICIENCY

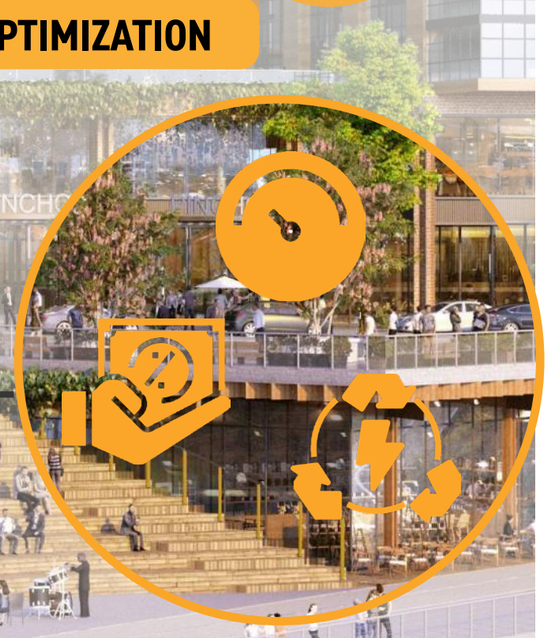
WATER STORAGE & REUSE

ENERGY & CARBON

ENERGY EFFICIENCY STRATEGIES

SYSTEM ELECTRIFICATION

COMMISSIONING & EFFICIENT OPERATIONS



ALL ELECTRIC
BUILDING DHW/HVAC SYSTEMS

ENERGY STAR
APPLIANCES & EQUIPMENT

HIGH PERFORMANCE

MASSING & ENVELOPE

DENSITY
RESULTS IN A LOWER CARBON FOOTPRINT PER CAPITA

HIGH PERFORMANCE
BUILDING ENVELOPES

REDUCED
WINDOW TO WALL RATIO

METERING
FOR ENERGY USE TRANSPARENCY

COMMISSIONING
OF SYSTEMS

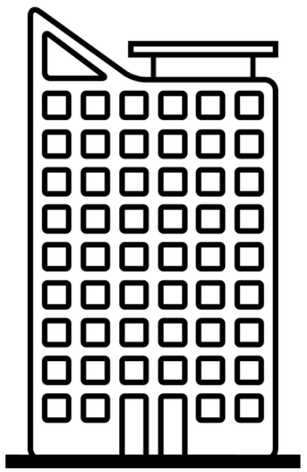
DISTRICT & ENERGY RECOVERY SYSTEM
EVALUATION

25% REDUCTION

SYSTEM OPTIMIZATION

ENERGY & CARBON

USE INTENSITY TARGETS



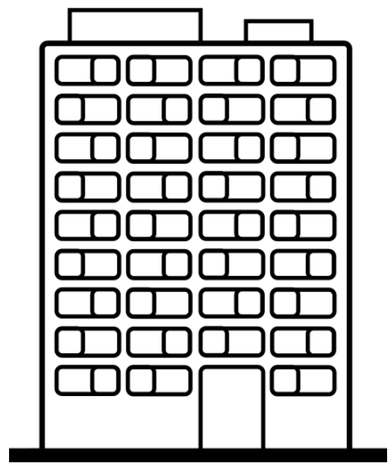
MID-RISE COMMERCIAL OFFICE

30% BETTER THAN REGIONAL MEDIAN

15% BETTER THAN GBP

EUI

53	48	40	34
NATIONAL MEDIAN (PGRS CNA)	REGIONAL MEDIAN (PGRS CNA)	2019 GBP COMPLIANT	**PRGS TARGET**



MID-RISE MULTI-FAMILY RESIDENTIAL

20% BETTER THAN REGIONAL MEDIAN

13% BETTER THAN GBP

EUI

60	56	52	45
NATIONAL MEDIAN (PGRS CNA)	REGIONAL MEDIAN (PGRS CNA)	2019 GBP COMPLIANT	**PRGS TARGET**

CARBON INTENSITY REDUCTION OVER TIME

REGIONAL ELECTRIC GRID EMISSIONS (LBS/MWH)

EPA EGRID SRVC

1,134	1,073	805	675	623	~515	NET ZERO
2005	2010	2016	2019	2020	2030	2045-2050

ENERGY & CARBON

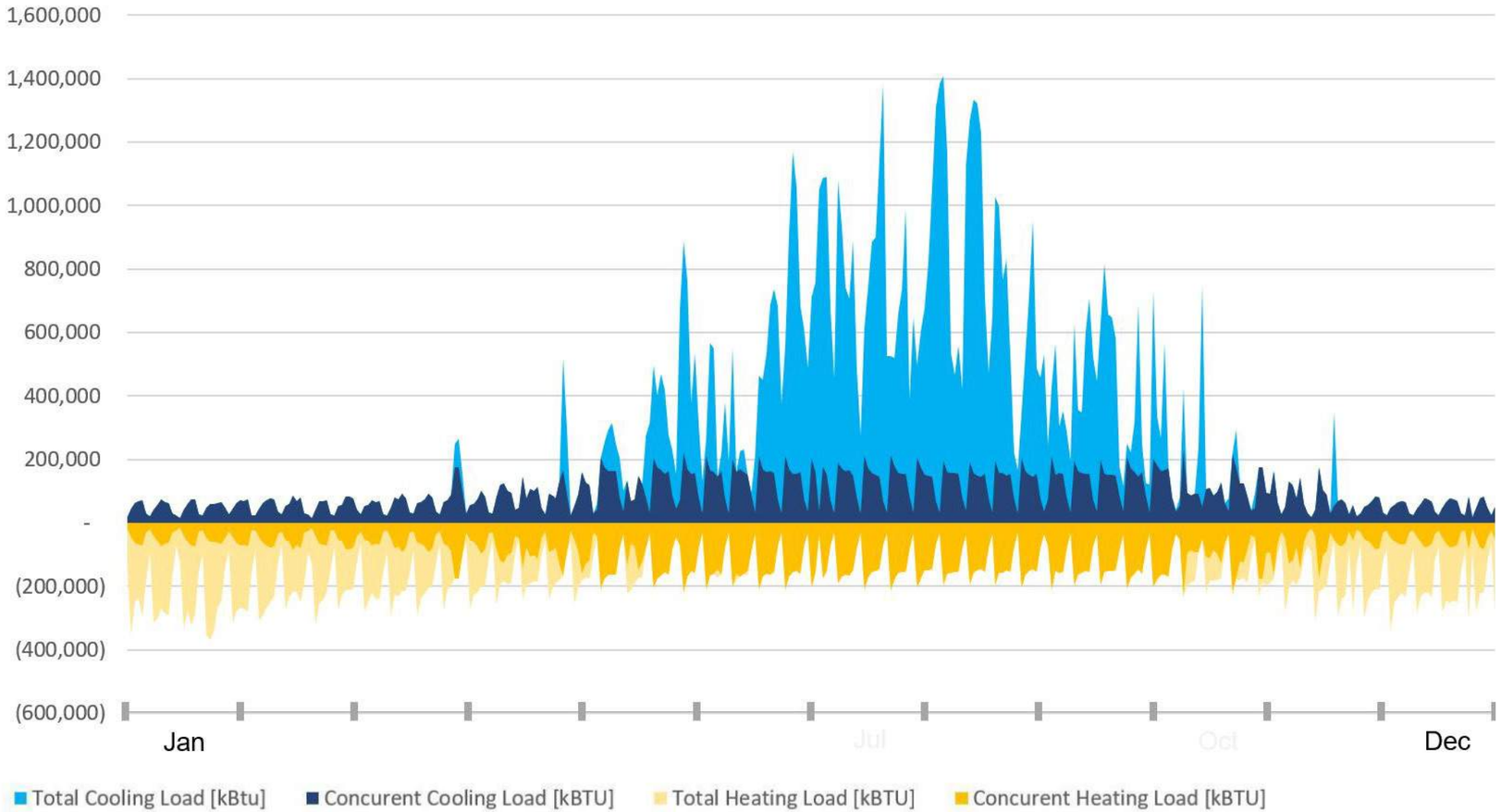
DISTRICT SYSTEMS

The final CSS will be informed by a district energy analysis.

The purpose of this analysis is to:

- Evaluate financial and technical feasibility of shared systems for performance, physical space requirements, operations and maintenance, costs and incentives, and future connectivity
- Align performance metrics with energy efficiency, operational carbon and embodied carbon targets as defined in the CDD
- Identify potential emerging technologies beyond short-term and mid-term timeframes that may be adopted long-term

PRGS DRAFT ANNUAL ENERGY DEMAND PROFILE

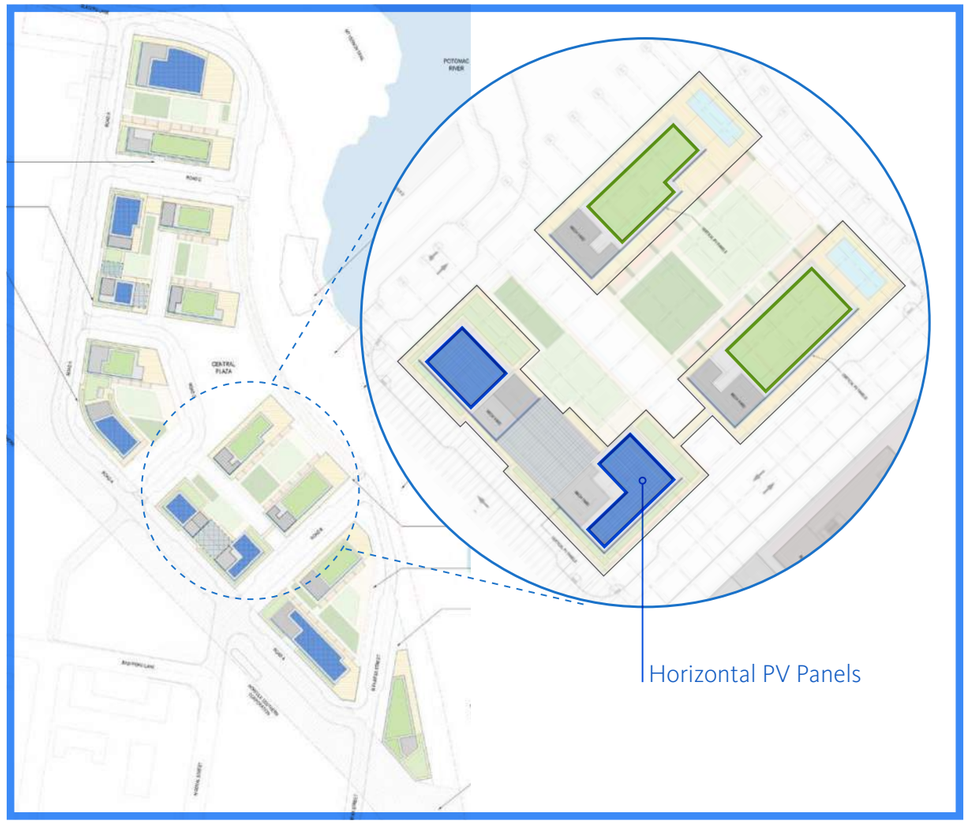


ENERGY & CARBON

ON- AND OFF-SITE RENEWABLES

ON-SITE

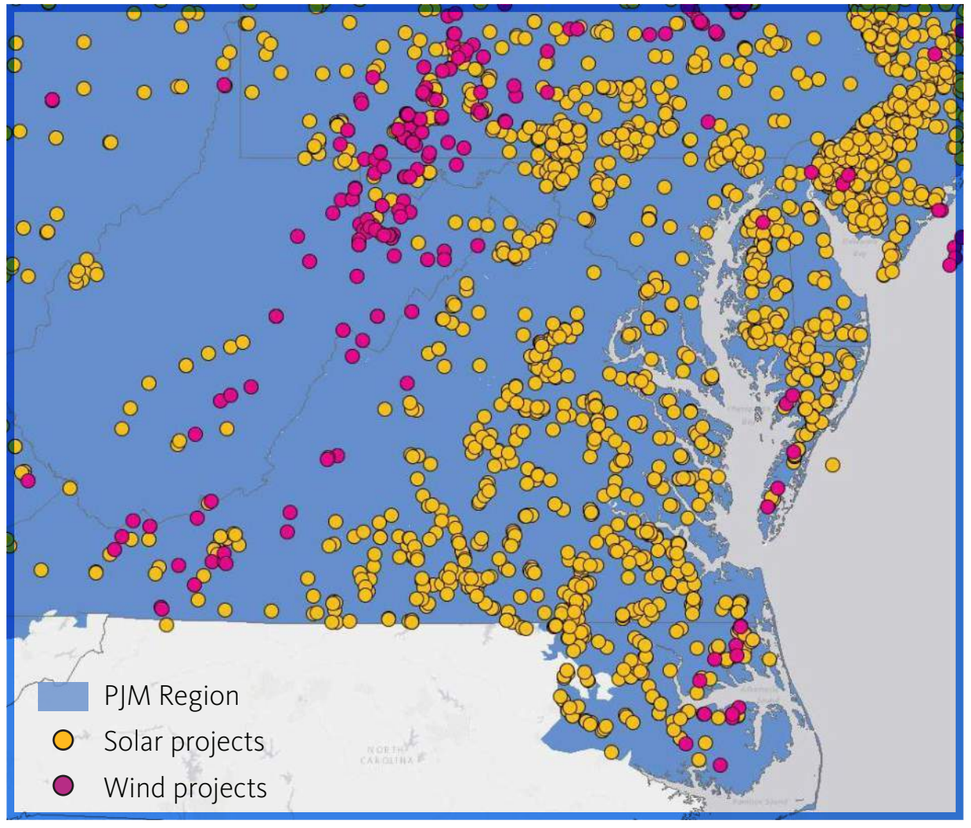
RENEWABLE ENERGY



Target **3%** on-site renewable energy production
from rooftop solar photovoltaics

OFF-SITE

RENEWABLE ENERGY



Solar & Wind renewable energy projects
applications in the region PJM market

ENERGY & CARBON

EMBODIED CARBON

Target 10% reduction with optimized or emerging materials

CONCRETE WALKWAY AND STRUCTURES

Low Cement Content Concrete

Structural Optimization to Reduce Concrete Volume

Concrete with Embedded CO_2

STEEL STRUCTURE

High Recycled Content & Electric Arc Furnace Manufacturing

WOOD STRUCTURE

Biogenic Carbon Storage

Renewable Resource

ROADWAYS

Low Carbon Asphalt

ENVELOPE INSULATION

No HFC Blowing Agents

MATERIALS TRANSPORTATION

Regional Materials

INTERIOR FINISHES

Recycled Content

Low-Carbon Impact Manufacturing

INDOOR ENVIRONMENT

INDOOR AIR QUALITY	DAYLIGHT	THERMAL & ACOUSTICAL COMFORT	HUMAN HEALTH & WELLBEING	CONSTRUCTION AIR QUALITY MANAGEMENT

BIO-BASED MATERIAL

REDUCED MATERIAL
OFF-GASSING

EXERCISE & WELLNESS FACILITIES

WELLBEING

OCCUPANT THERMAL CONTROL

MECHANICAL SYSTEM
DESIGN & INTERGRATION

SMART THERMOSTATS

THERMAL COMFORT

INDOOR ENVIRONMENT

DAYLIGHT
ACCESS & CONTROL

INDOOR AIR QUALITY
MANAGEMENT PLANS

ACOUSTICAL DESIGN
OPTIMIZED AT ENVELOPE

MATERIALS & WASTE

MATERIALS & WASTE REDUCTION

COMPOSTING

FOOD WASTE
OPERATIONAL COLLECTIONS

HEALTHY MATERIALS

LOW-EMITTING MATERIALS

MINIMUM OF 3 PRODUCT CATEGORIES
OF LOW-EMITTING MATERIALS IN SPECIFICATION & PROCUREMENT

RESPONSIBLE SOURCING

MATERIAL TRANSPARENCY

ENVIRONMENTAL PRODUCT DECLARATIONS
&
MATERIAL INGREDIENT REPORTS
FOR PRODUCTS IN SPECIFICATION & PROCUREMENT

WASTE MANAGEMENT

WASTE MANAGEMENT PLAN

ALL CONSTRUCTION PHASES & OPERATIONS
WITH WASTE MANAGEMENT PLANS

OPERATIONAL AUDITS
PERFORMED ANNUALLY

CLIMATE & RESILIENCE

CLIMATE RESILIENCE STRATEGIES

HEAT ISLAND EFFECT

ADAPTATION FOR EXTREME WEATHER EVENTS

FUTURE-PROOFING & FLEXIBILITY FOR INFRASTRUCTURE

HIGH REFLECTANCE
MATERIALS

TREE CANOPY

SHADING STRUCTURE

HEAT ISLAND REDUCTION

FUTURE-PROOFING
SYSTEM SELECTION

BATTERY STORAGE
TO ON-SITE PV IN FUTURE

FLEXIBLE CAPACITY
FOR FUTURE DEMANDS

INFRASTRUCTURE

STORMWATER
MANAGEMENT

EXTREME WEATHER
ADAPTATION

NATURE-BASED SITE SOLUTIONS

Hilco Redevelopment Partners Gensler ARUP

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CSS REPORTING & TRACKING

IMPLEMENTATION AND TRACKING OBLIGATIONS

- Implementation and tracking obligations. This includes a custom tracking Dashboard developed to work across the entire site and multiple development parcels.

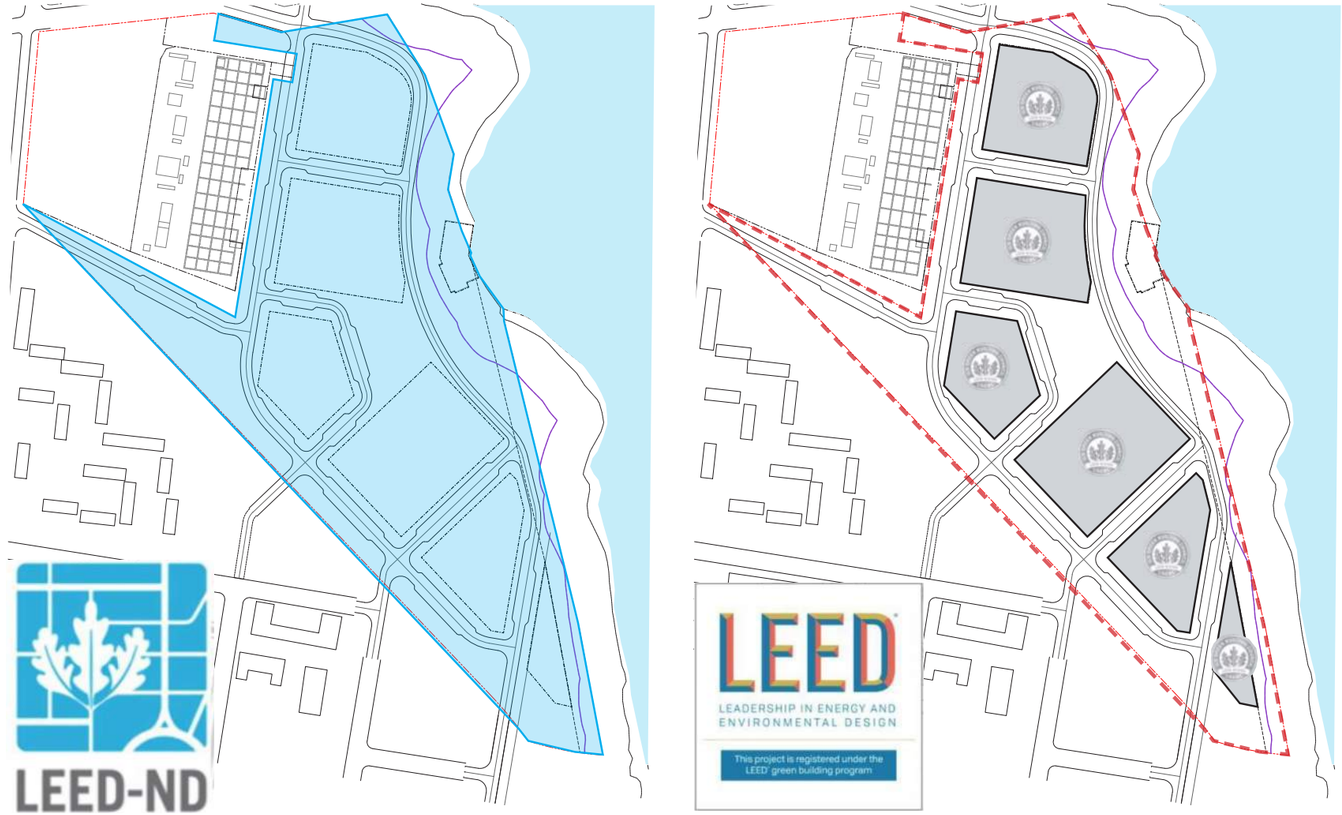
Source			Goal/Intent	Key Metric	Sitewide Performance	Performance By Submission
SOURCE	**REFERENCE**	**CATEGORY**	**DEFINITION / GOAL / INTENT**	**KEY METRIC**	**Sitewide Performance**	**Infrastructure DSP**
CDD	**154** **155**	CARBON	Public benchmarking results for each new building(s) within the CDD plan area will be made available to the City through ENERGY STAR ® Portfolio Manager platform or equivalent. Monitor and provide tracking documentation following occupancy of each building for the first 5 years of occupancy.	**N/A**	**N/A**	**N/A**
CDD	**96**	SITE	The applicant shall design and provide the following publicly accessible and public open space a. Central Plaza - approximately 0.70 acres b. Rail Corridor Park - approximately 1.67 acres c. Waterfront Park - approximately 3.00 acres d. Pepco Liner - approximately 0.40 acres	**Minimum 5 acres**	*#.## acres (delivered)*	**N/A**
CDD	**139.a**	CARBON	Each building(s) shall achieve a minimum 25% reduction in operational emission based on ASRHAE Standard 90.1-2010 Appendix G established by 2019 Alexandria's Green Building Policy or achieve an EUI target based table CC103.1 of the 2021 IECC.	**≥ 25% reduction in energy (Design)** ***- or -*** **EUI ≤ 45 kBtu/sf - Multifamily (Table CC103.1)** **EUI ≤ 28 kBtu/sf - Office (Table CC103.1)** **EUI ≤ 69 kBtu/sf - Hospitality (Table CC103.1)**	*##% reduction* *##.# kBtu/sf (residential)* *##.# kBtu/sf (commercial)*	**N/A**
CDD	**139.b**	RENEWABLES	The site shall achieve a minimum 3% annual on-site renewable energy generation across the CDD area. Prior to the approval of the infrastructure development site plan (DSP), the applicant shall evaluate strategies to increase the targeted 3% on-site energy generation through approaches such as use of public open space, adjoining properties, or other comparable approaches as part of the Coordinated Sustainability Strategy (CSS). The applicant will evaluate strategies to increase the onsite generation above 3%.	**≥ 3% on-site renewable generation (site aggregated basis - designed)**	*≥ #% on-site renewable generation (site aggregated basis)*	**N/A**

CSS REPORTING & TRACKING

CERTIFICATIONS + REPORTING TIMELINES

- The Reporting & Tracking section in the CSS outlines:
  - **Building and neighborhood certifications**

- The CDD defines reporting timelines:
  - **Prior to Release of Final Site Plan**, submit a draft scorecard for each DSUP
  - **At Building Permit**, submit a scorecard reflecting final design
  - **One year following Certificate of Occupancy**, submit final scorecard
  - **For the first 5 years of occupancy**, monitor and report energy usage



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THANK YOU!

POTOMAC RIVER GENERATING STATION
REDEVELOPMENT