



Project Update and Public Open House

Alexandria Waterfront Implementation Project: Flood Mitigation and Lower King Street Improvements

March 26, 2024

Introductions



SKANSKA



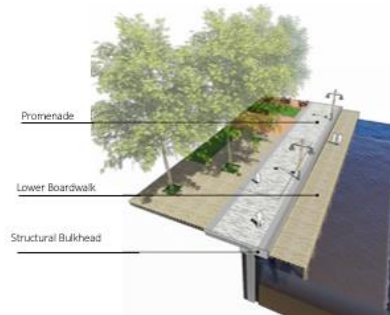
The City seeks to implement the Waterfront Implementation Project to:

- Mitigate stormwater and the most frequent tidal and riverine flooding
- Replace aging and failing shoreline infrastructure, where practicable and affordable
- Improve public accessibility and public amenities within key waterfront locations of Old Town Alexandria
- Actualize the goals of the Waterfront Small Area Plan

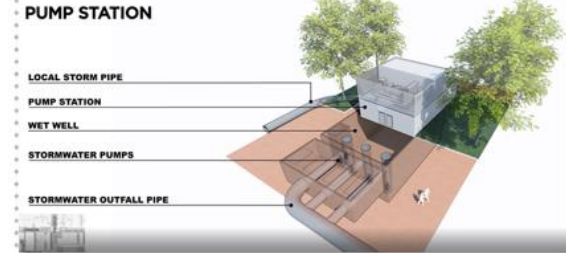
BACKFLOW of River Outfalls



OVERTOPPING of Bulkhead



INUNDATION of Storm Sewers



Update on Site Investigations



- **Cultural Resource Investigations**

- Supplemental documentary study by Waterfront Historian.
- Informed team of higher risk of encountering historic wharf structures and/or ships at historic shorelines for PS2 in Founders Park.

- **Environmental Investigations**

- Additional quantification of soil contamination – informed us of higher than anticipated costs of disposal.
- Additional groundwater table monitoring – documenting higher than previously recorded water table.
 - Additional challenges and risks with underground storage (higher dewatering costs, risk of losing storage capacity and potential risk of water contamination).

- **Structural Assessments**

- Bulkhead condition at Waterfront Park has continued to decline from prior assessment.
- Additional scope and cost to repair or replace now anticipated, if feasible within funding.

- **Pump Station Location Assessment**

- PDB Team re-evaluated pump station size, location, and permanent impacts to park areas.
- Identified opportunity to reduce capital costs, risk, and asset management costs with alternative pump station approach.

Site Investigations and Evaluations

Draft, Deliberative, Pre-Decisional



• Structural Assessments

- Bulkhead condition at Waterfront Park (H) has declined from prior assessment.
- May require additional scope and cost to repair, or replace, if feasible and within funding.

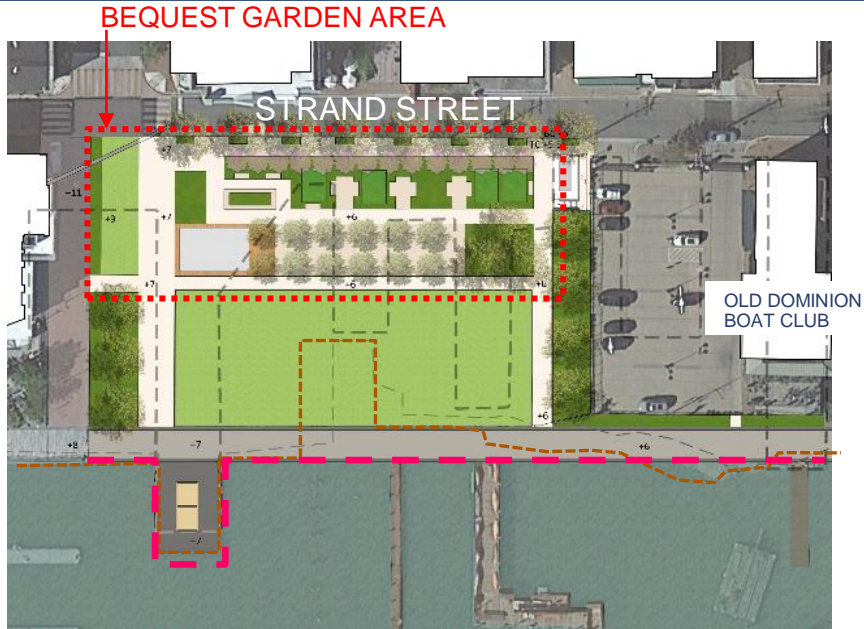
Scoping to Budget



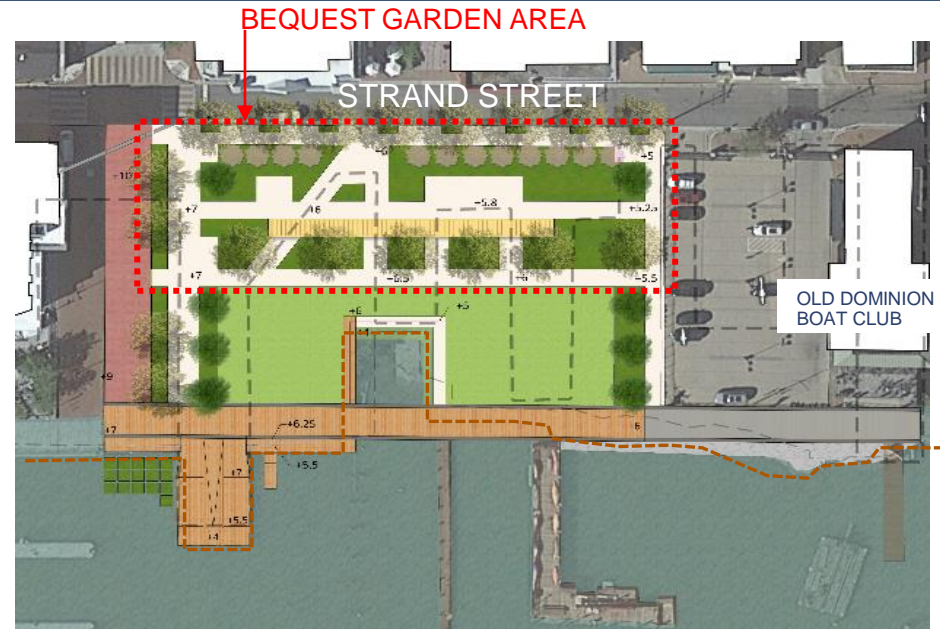
- **City is realizing the anticipated Benefits of Progressive Design Build!**
 - Cost reduction and innovation with expert designer and builder input
 - Builder input on assessing and pricing risk, means and methods, and cost estimates
- **Primary Cost Saving and Risk Mitigation Measures:**
 - **Eliminate Underground Storage**
 - **Single Pump Station Alternative**
- **Scoping To Budget Continues to keep project costs within Funding:**
 - Includes Primary Cost and Risk and saving measures above
 - Currently both Baseline and Alternate Approach **excludes replacement of aging and/or failed bulkhead from Cameron to Queen St**
 - Park/Street Restoration (in-kind) and potentially limited park improvements.
 - **Maintains most of Waterfront Park Improvements in current condition (as previously anticipated).**
- **Additional strategies will be further evaluated:**
 - Alternative/Hybrid Shoreline within Point Lumley Park to minimize impacts and cost of new bulkhead
 - Reducing Overhead Power Line Undergrounding (Prince Street and Strand Street)
 - Minimizing landscape and bulkhead improvements north of King Street (while still incorporating riverine flood protection elements)

Point Lumley Park – Shoreline Alternatives

Draft, Deliberative, Pre-Decisional



BULKHEAD OPTION*



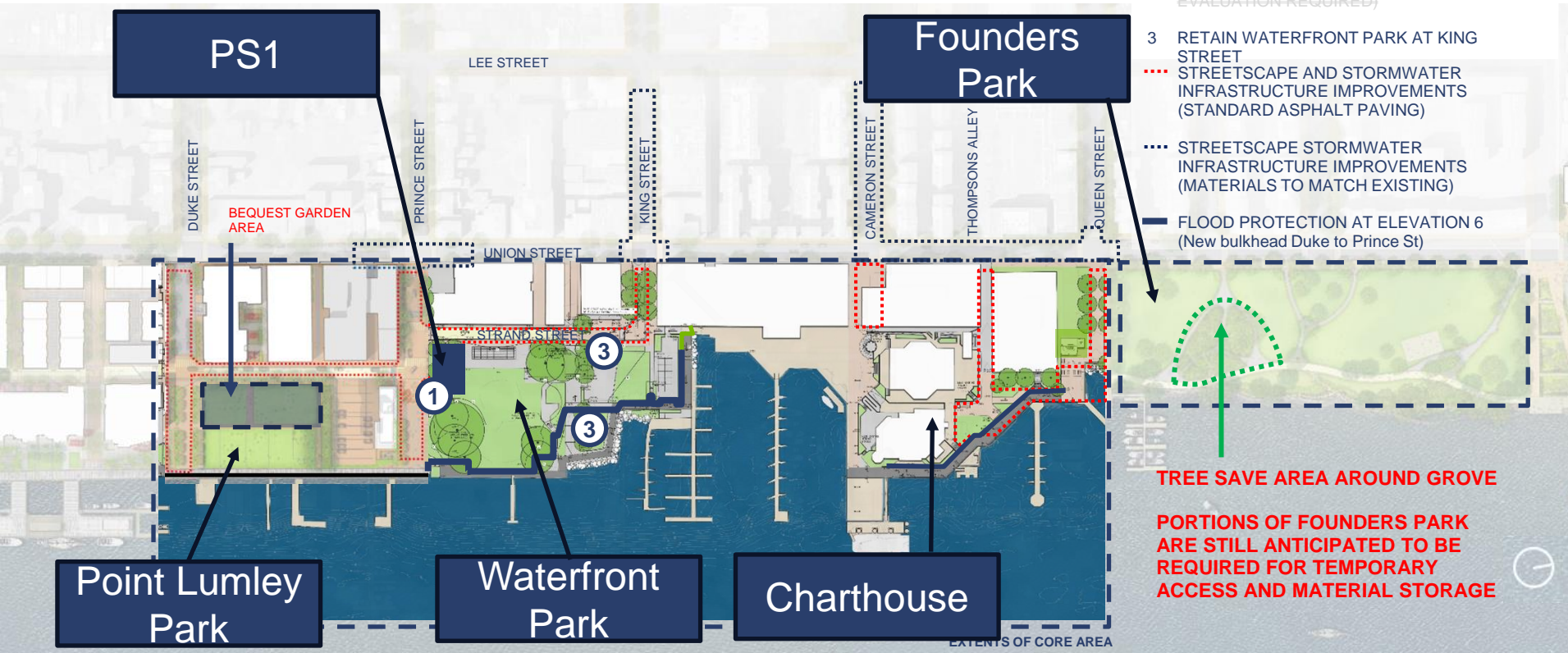
HYBRID SHORELINE ALTERNATE*

*Cost and regulatory impacts will be a primary driver in feasibility and selection

Alternative – Single Station Approach

LEGEND **Draft, Deliberative, Pre-Decisional**

- 1 PUMP STATION
- 2 POTENTIAL UNDERGROUND STORMWATER DETENTION CHAMBERS (FURTHER EVALUATION REQUIRED)
- 3 RETAIN WATERFRONT PARK AT KING STREET
- STREETScape AND STORMWATER INFRASTRUCTURE IMPROVEMENTS (STANDARD ASPHALT PAVING)
- STREETScape STORMWATER INFRASTRUCTURE IMPROVEMENTS (MATERIALS TO MATCH EXISTING)
- FLOOD PROTECTION AT ELEVATION 6 (New bulkhead Duke to Prince St)



Point Lumley Park

Waterfront Park

Charthouse

Founders Park

PS1



Baseline - Two Pump Station Impacts

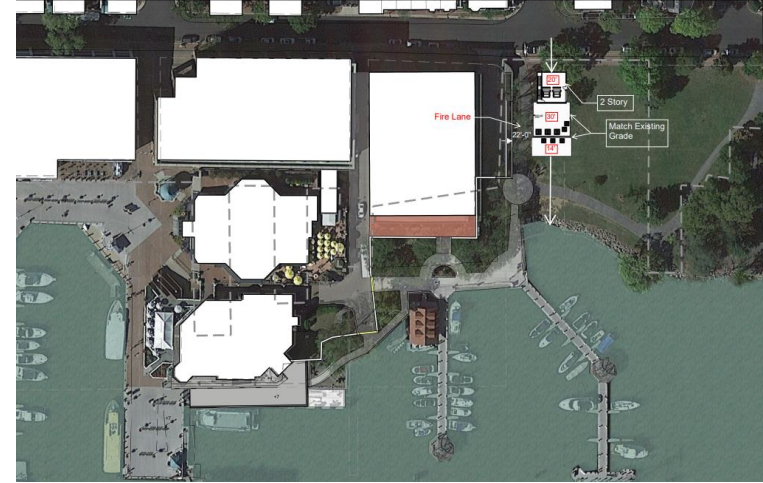
Draft, Deliberative, Pre-Decisional

PUMP STATION 1 – WATERFRONT PARK



- Above-grade Size: ~35'x60' footprint
- Total Impact: ~4,800 SF
- Long side facing Prince Street
- Two Stories – internal stair

PUMP STATION 2 – FOUNDERS PARK



- Above-grade Size: 35'x40'
- Total Impact: ~4,100 SF
- Long side facing to Founders Park
- Two Stories – internal stair

Total Combined permanent impact to public space: ~9,000 SF

Waterfront Park - Single Pump Station Alternative

Draft, Deliberative, Pre-Decisional



- Above-grade Size: ~53'x88'
- Total Impact: ~6,000 SF
- Long side facing to Founders Park
- Two Stories – internal stair

PS1

Total permanent impact to public space: ~6,000SF

Net reduction of permanent impacts: ~3,000 SF

- Significantly reduces capital cost and risk:
 - Contaminated soil in Founders Park
 - Cultural Resource Implications/Risks
 - Eliminates excavation next to an existing building (211 Harbor Center)
 - Single building site / building crew
 - Lowers dewatering costs
- Anticipated reduction in Operating Budget Impacts:
 - Single Asset to operate and maintain
 - Lower replacement and lifecycle costs – roof, pumps, generators, etc.
- Maintains/Maximizes Open Space
- Eliminates visual impacts to Founders Park
- Responsive to points of known community concern

Stormwater Infrastructure Plan

Draft, Deliberative, Pre-Decisional

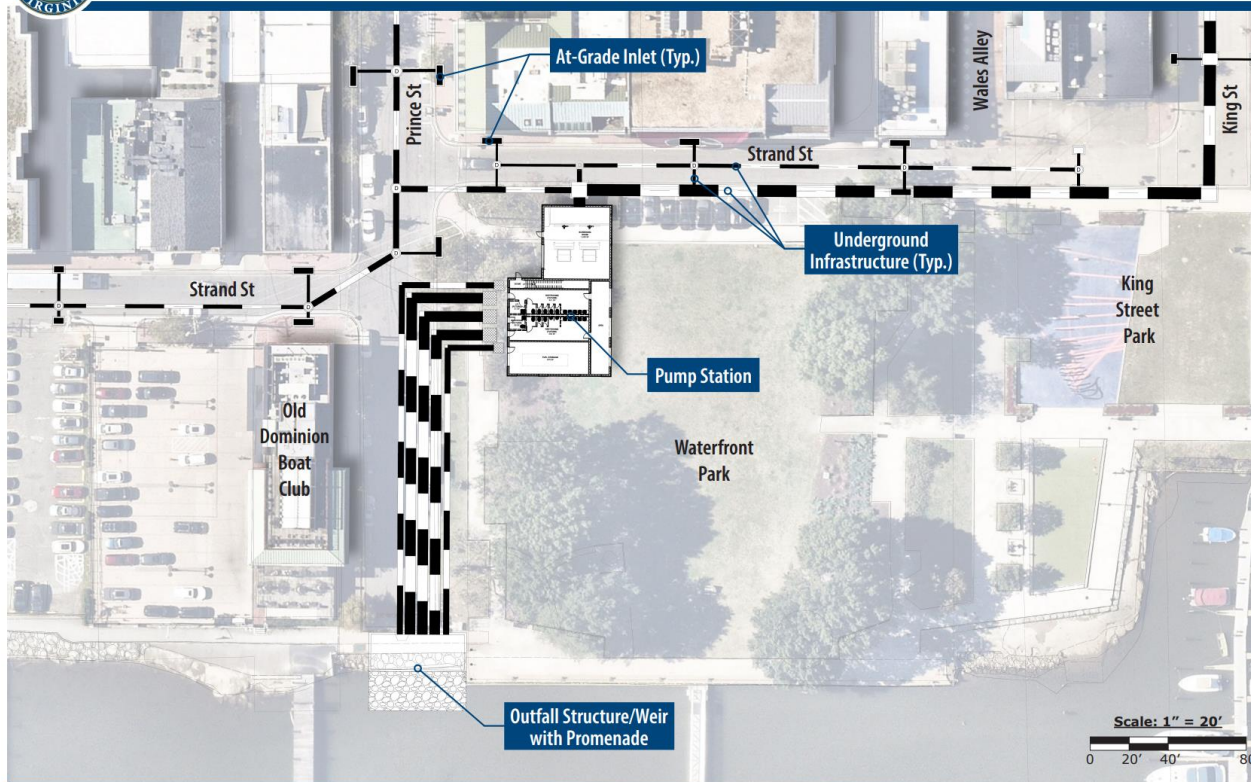


City of Alexandria Waterfront Flood Mitigation - Stormwater Infrastructure Plan





City of Alexandria Waterfront Park and Pump Station/Infrastructure Detail



Point Lumley Park

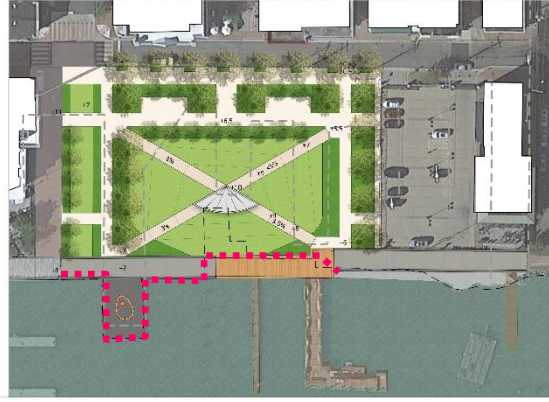


Point Lumley Park – Shoreline Alternatives

Draft, Deliberative, Pre-Decisional



OPTION A: BULKHEAD



OPTION B: BULKHEAD WITH OVERHANG



OPTION C: BUILT UP SHORELINE



OPTION D: BUILT UP SHORELINE



OPTION E: NATURAL SHORELINE



OPTION F: NATURAL SHORELINE

Point Lumley Park – Precedent Images

Draft, Deliberative, Pre-Decisional



Boardwalk



Structure



Trellis



Steps



Cribbing

*Cost and regulatory impacts will be a primary driver in feasibility and selection

Waterfront Park





OPTION 1A



OPTION 2A



OPTION 3A



OPTION 1B



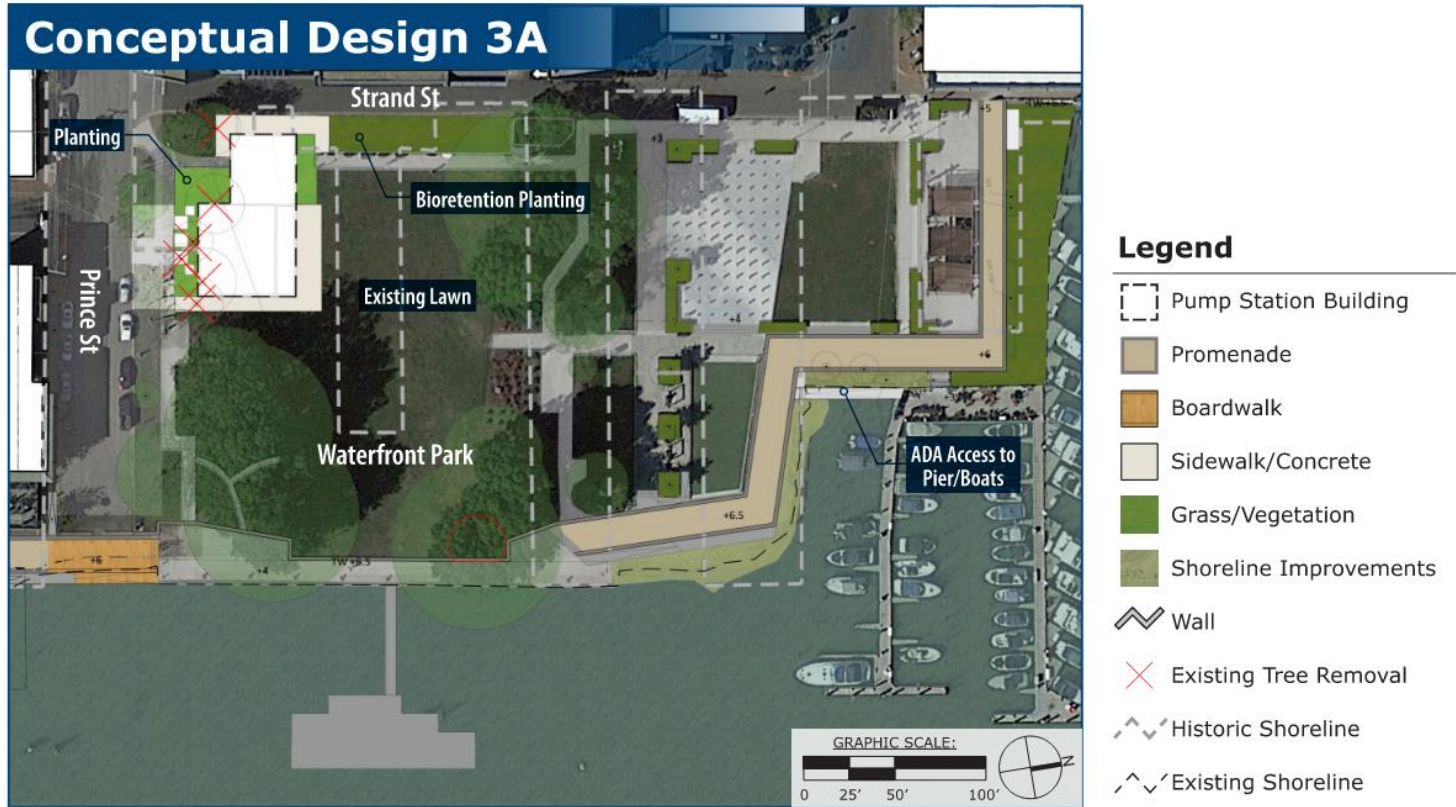
OPTION 2B



OPTION 3B

Waterfront Park Concepts

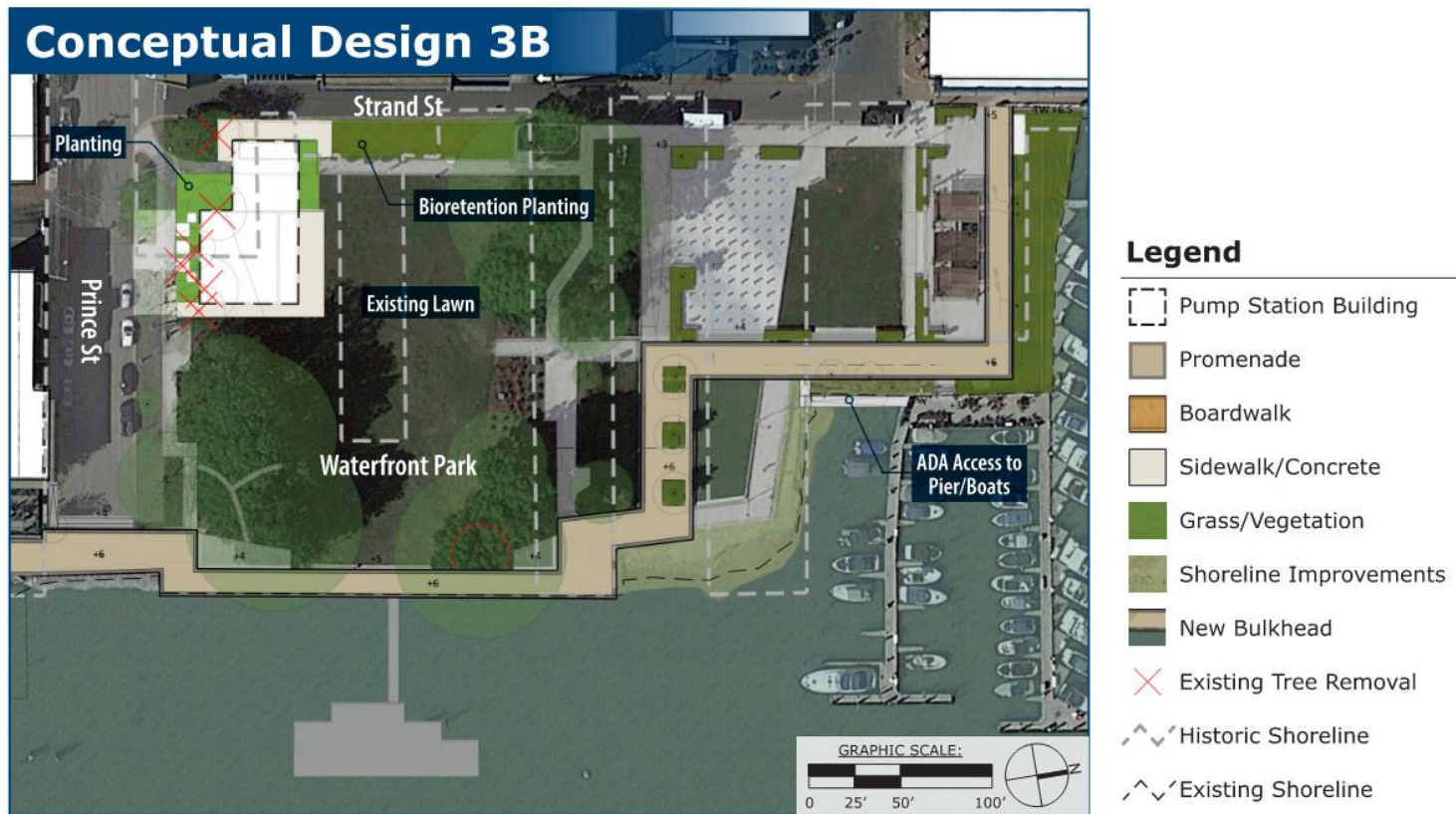
Draft, Deliberative, Pre-Decisional



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Waterfront Park Concepts

Draft, Deliberative, Pre-Decisional



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**Waterfront Park:
PS1 – Pump Station Concept
(Single Station Alternative - Development Ongoing)**



PS1- WATERFRONT PARK (Single Station)

Study to determine scale and mass if only a single pump station were to be constructed:

- Two story Pump Station required
- 30-35' max height anticipated
- Coordination ongoing with Dominion Energy
- Coordination ongoing with National Park Service for deed modification of height limitations
- BAR Concept Review anticipated – seeking input on architectural features
- Materials are conceptual – coordination with BAR and budget affordability required

EXCEEDS 15' HEIGHT RESTRICTION PER NPS SETTLEMENT / DEED

NORTH ELEVATION

4' 0 4' 8'



Draft, Deliberative, Pre-Decisional



PS1- WATERFRONT PARK (Single Station)

Draft, Deliberative, Pre-Decisional

- Team assessing further reduction in footprint
- Location of exterior walls structurally tied to underground wet-well structure
 - Informs minimum footprint dimensions
- Materials are conceptual – coordination with BAR and budget affordability required.



SOUTH ELEVATION

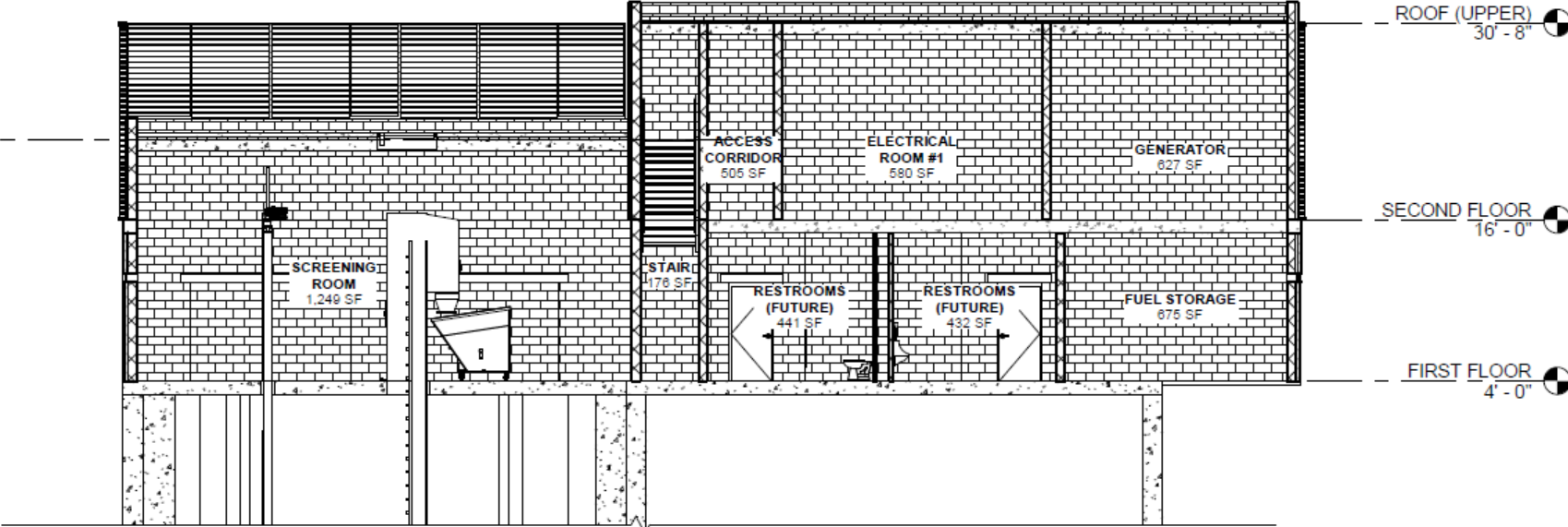
4' 0 4' 8'



Draft, Deliberative, Pre-Decisional

PS1- WATERFRONT PARK (Single Station)

Draft, Deliberative, Pre-Decisional



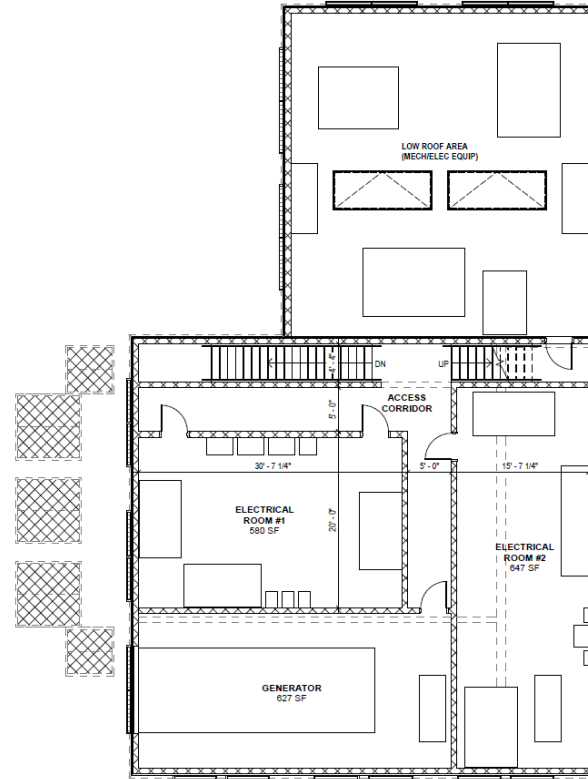
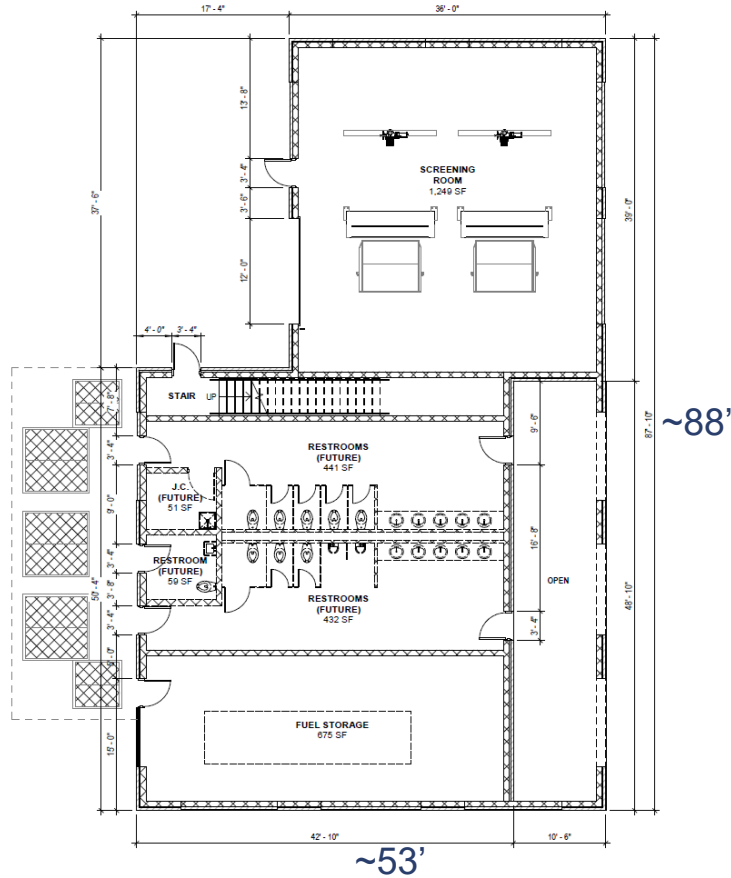
LONGITUDINAL SECTION



Draft, Deliberative, Pre-Decisional

PS1- WATERFRONT PARK (Single Station)

Draft, Deliberative, Pre-Decisional



PS1- WATERFRONT PARK (Single Station)

Draft, Deliberative, Pre-Decisional



- Team working to further minimize footprint
- Location of exterior walls structurally tied to underground wet-well structure and informs minimum footprint dimensions
- Materials are conceptual – coordination with BAR and affordability required.

PERSPECTIVE OF SOUTH ELEVATION

PS1- WATERFRONT PARK (Single Station)

Draft, Deliberative, Pre-Decisional



PERSPECTIVE LOOKING SW
Draft, Deliberative, Pre-Decisional

PERSPECTIVE OF NORTH ELEVATION

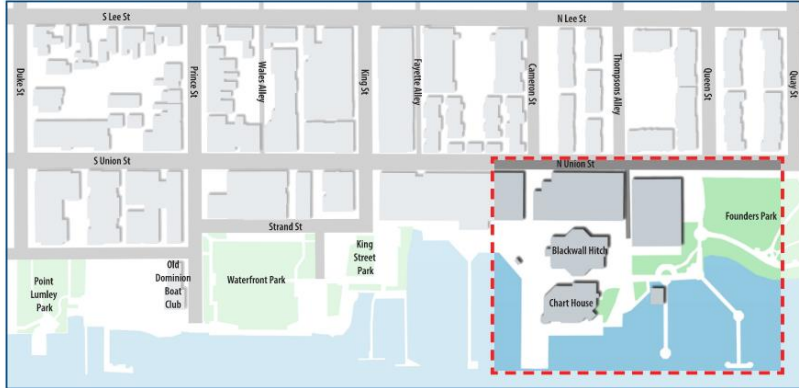
Chart House and Thompsons Alley



Chart House and Thompsons Alley Concepts

Draft, Deliberative, Pre-Decisional

Key Map



Conceptual Design 1



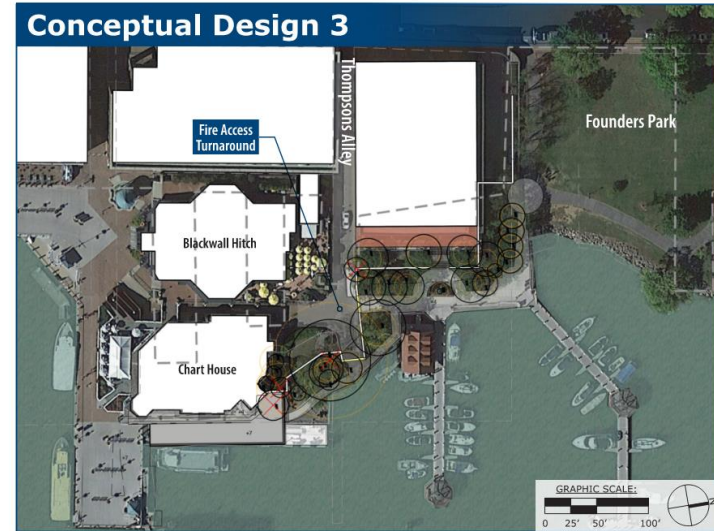
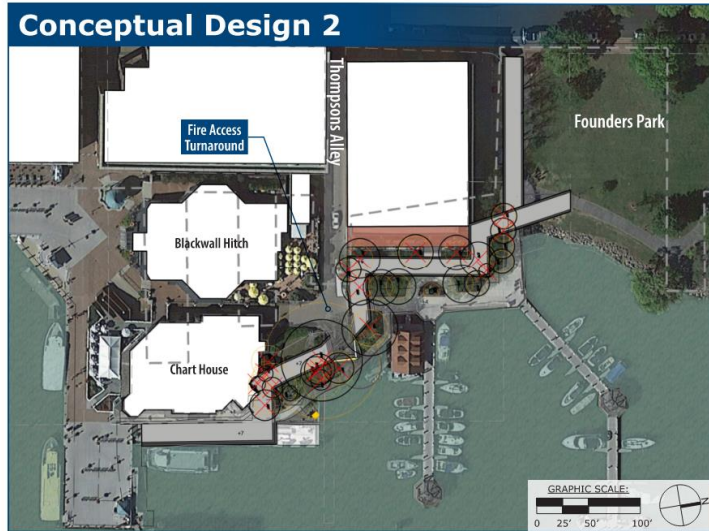
Legend

- Promenade
- Boardwalk
- Planting
- Existing Tree Removal
- Historic Shoreline
- Existing Shoreline

*Cost and regulatory impacts will be a primary driver in feasibility and selection

Chart House and Thompsons Alley Concepts

Draft, Deliberative, Pre-Decisional



Legend

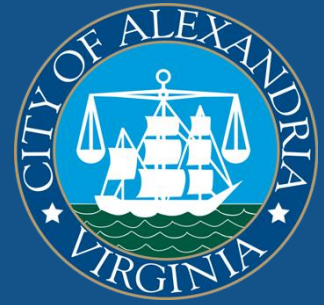
- Promenade
- Wall
- Deployable Barrier
- Existing Tree Removal
- Historic Shoreline
- Existing Shoreline

Legend

- Promenade
- Wall
- Deployable Barrier
- Existing Tree Removal
- Historic Shoreline
- Existing Shoreline

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Lower King Permanent Design



Use Diagrams

City of Alexandria
Department of Transportation & Environmental Services &
Department of Project Implementation

Project Boundaries



Guiding Principles

Utilize quality, affordable, durable and easy-to-maintain materials for construction.

Implement a cohesive streetscape design that creates a unique sense of place.

Build a pedestrianized area that protects users while maintaining access for emergency services.

Create a balanced space that supports all users, including pedestrians, shoppers, and diverse businesses.

Illustrative Pedestrian Streets

Española Way, Miami



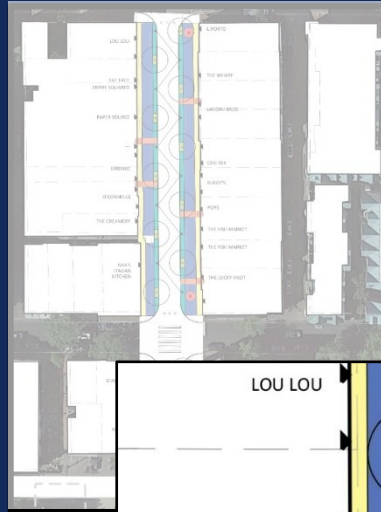
Capitol Riverfront, DC



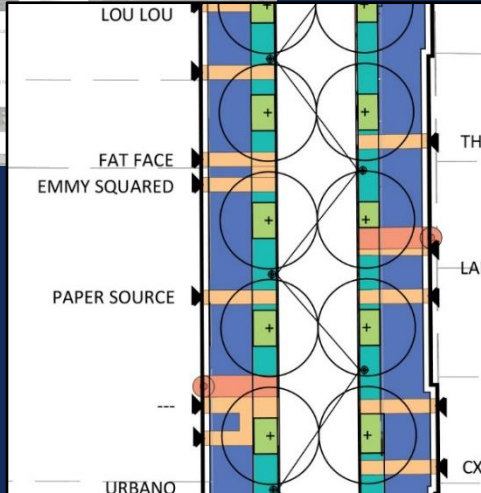
Charlottesville, VA



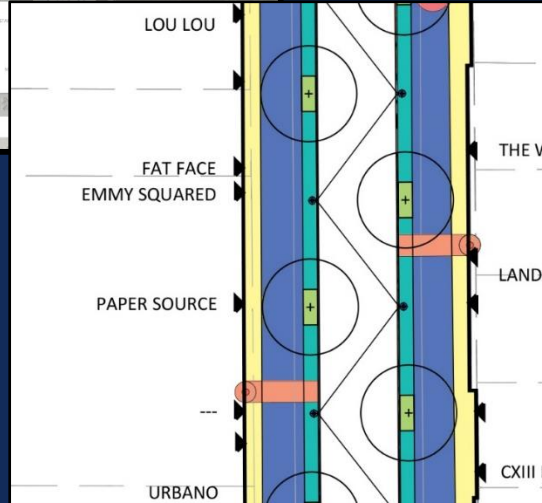
King Street Use Studies



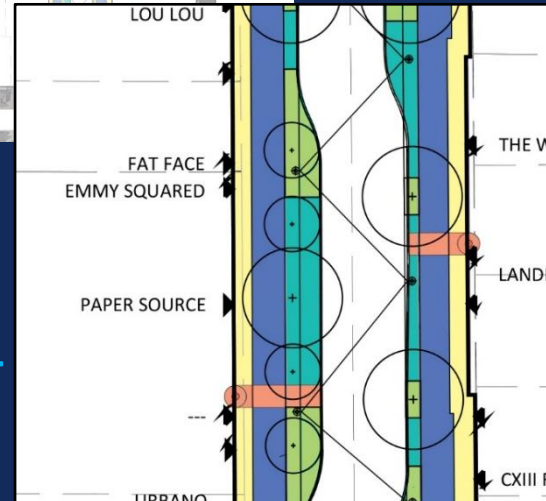
Option 1



Option 2



Option 3



Staff Recommendation: Option 2

LIGHT POLE
 22' EVE
 4' PUBLIC AMENITY ZONE

~12' COMMERCIAL USE ZONE

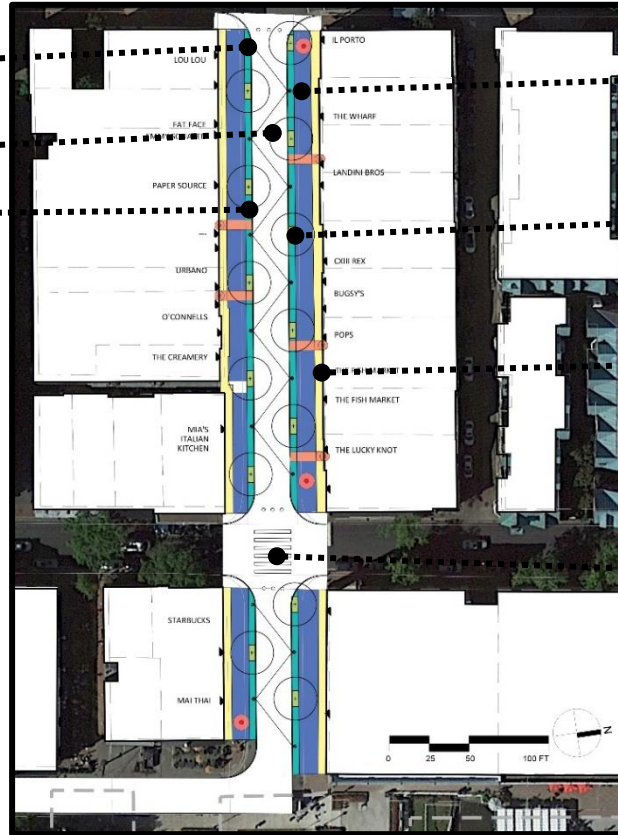
NEW TREE IN TREE PIT

~5' MIN ACCESS ZONE WITH BRICK PAVING AT BUILDING

INTERSECTION IMPROVEMENTS

LEGEND

- COMMERCIAL ZONE
- PUBLIC AMENITY ZONE
- ACCESS ZONE
- PLANTING AREA
- EXISTING FIRE HYDRANT
- EXISTING FDC
- STREET LIGHT



Street Materials & Design

Lighting



Seating



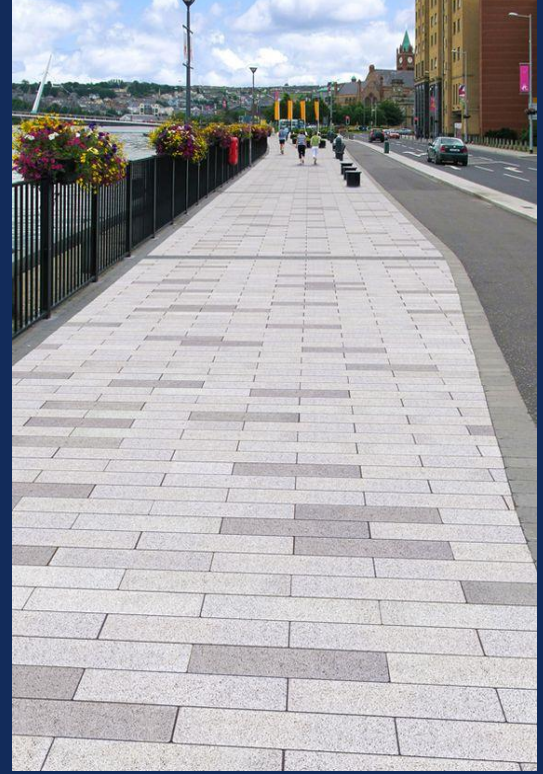
Safety



Historic Elements



Pavement Materials



Managing Community Impacts & Good-Neighbor Practices



Our Values

Be better together



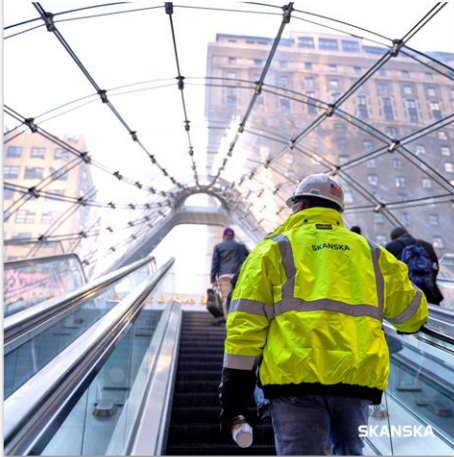
Care for life



Act ethically and transparently



Commit to customers



Good-Neighbor Practices

- Reduce traffic impacts by utilizing designated haul routes.
- Pause work in advance of and during holidays and major events.
- Shield the community by confining work within designated, fenced-in work areas with visual barriers.
- Control dust through active use of water trucks.
- Protect water quality using silt fencing, floating booms, and other control measures.
- Workers will park only in designated off-street locations.
- Coordinate work with adjacent project(s).



What Neighbors Can Expect During Construction

- Daytime pile driving, concrete/asphalt saw cutting, jack hammering, and other noise-producing work.
- Truck traffic on local streets.
- Back-up alarms will be audible, particularly due to working within a highly confined space.
- Periodic weekend work, if necessary, to maintain schedule.
- Portions of the Waterfront will occasionally be off-limits for public use.
- One-to-two-block segments of City streets will intermittently be closed to vehicular traffic for multiple-week periods.
- Pedestrian access to residences & businesses will be maintained.



Civic Engagement

- Direct outreach to businesses and residents
- In-person and virtual public meetings
- Community tours
- Construction inquiry phone lines & email
- Webpage updates
- E-newsletter
- Flyers & door hangers
- Pop-up events



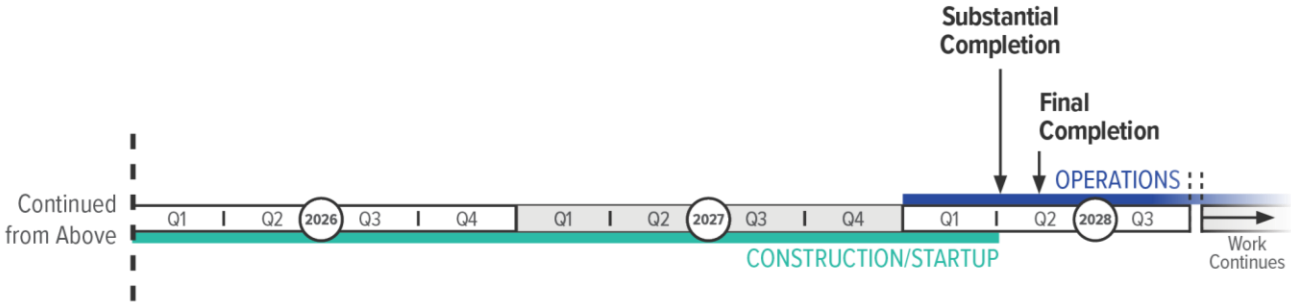
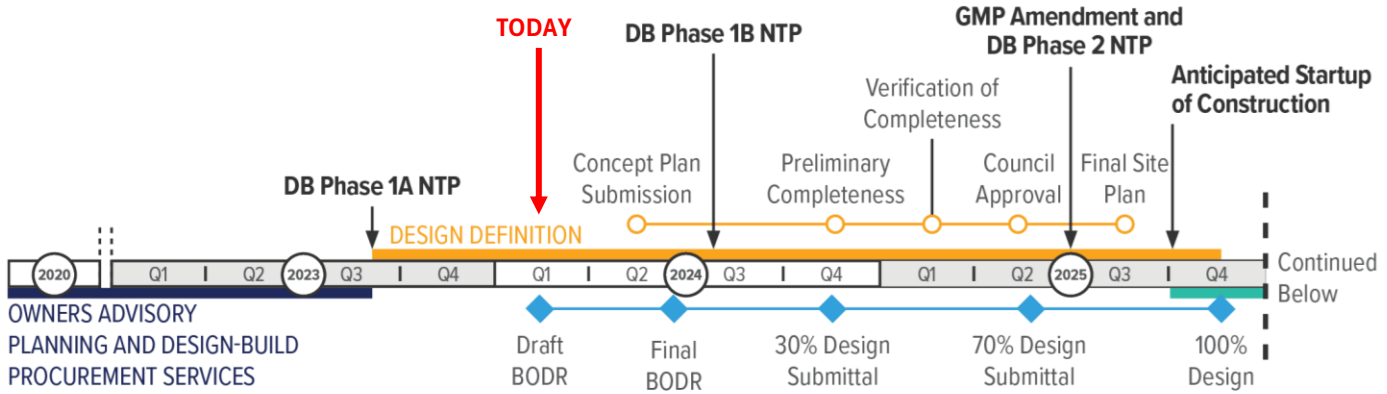
Project Schedule



Anticipated Near-Term Schedule

- March:
 - 19th - Updates to Waterfront Commission
 - 21st - Updates to Parks and Recreation Commission (VIRTUAL)
 - **26th – 7pm - Public Open House – Charles Houston Recreation Center**
- April & May
 - April 10 – Old Town Civic Association (in person)
 - OHAD BAR Concept Review (Station Only) – Anticipated April/May – Date TBD
 - Additional Public Meetings, as new information and updates available

Baseline Project Schedule



LEGEND

◆	Design Milestones
○	DSUP Milestones
BODR	Basis of Design Report
GMP	Guaranteed Maximum Price
DB	Design Builder
DSUP	Development Special Use Permit

Construction will commence AFTER City's 275th birthday celebration

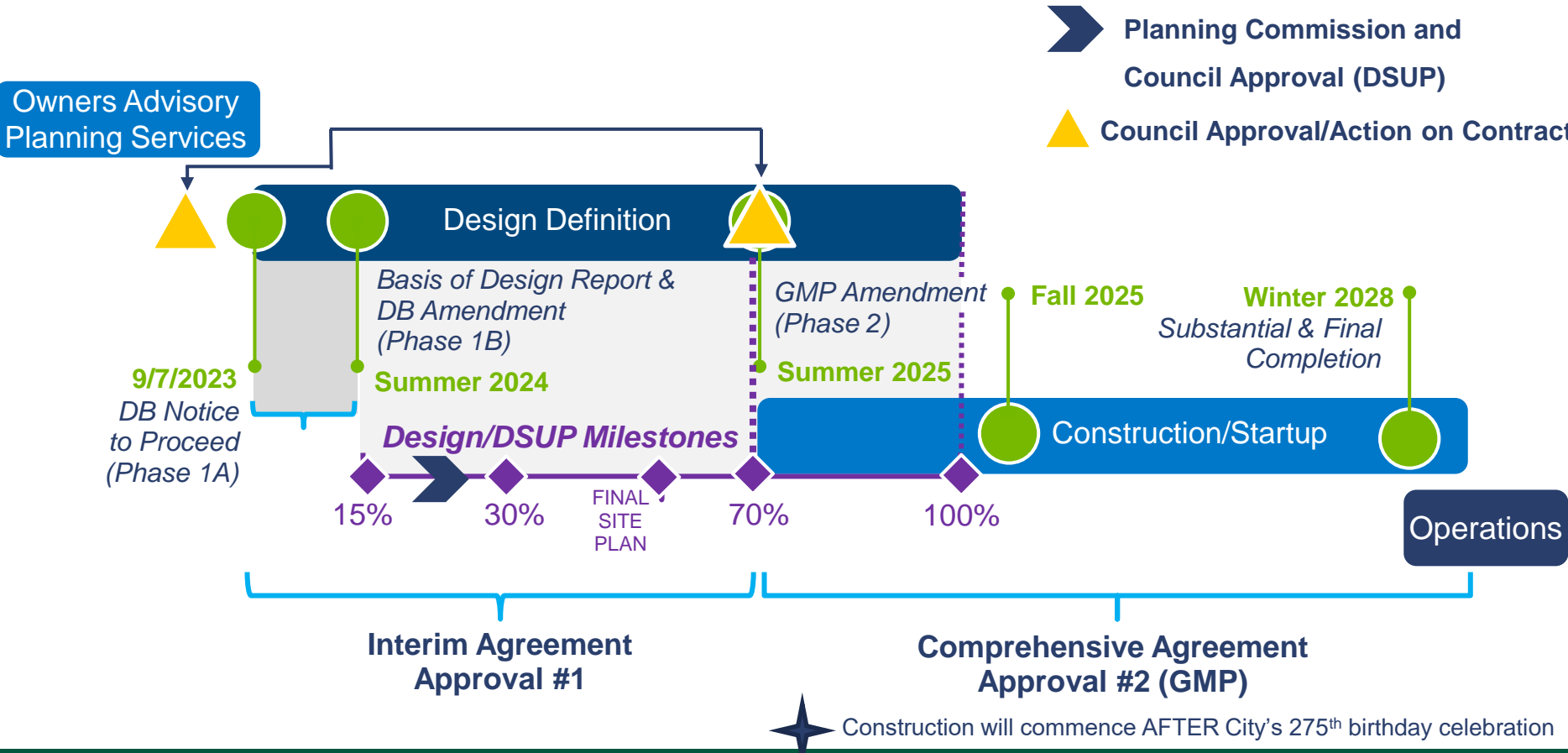
Open House Portion

Email Questions or Comments to:
Matthew.Landes@AlexandriaVA.gov

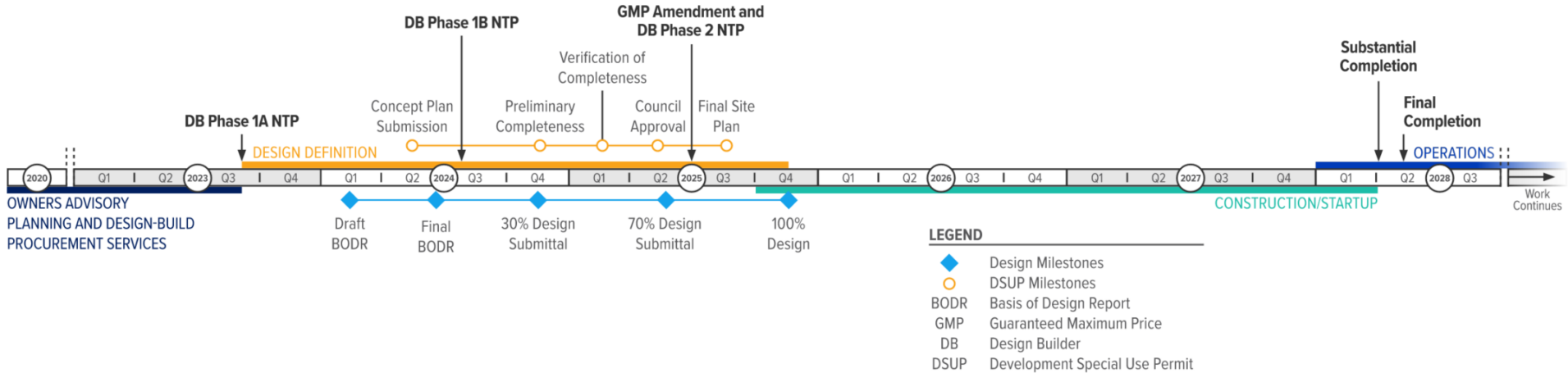
Project Website:
www.AlexandriaVA.gov/Waterfront



Anticipated Project Schedule



Baseline Project Schedule



Construction will commence AFTER City's 275th birthday celebration