

Central Artery Ramp Parcels Cover Study

Public Meeting #2

September 30, 2014

Consultants:
HDR Engineering, Inc.
Utile, Inc.

Introductions

Introductions

Who We Are

MassDOT

John Romano, Legislative Affairs
William Tuttle, Director of Projects

Boston Redevelopment Authority

Lauren Shurtleff, Senior Planner
Lara Merida, Deputy Director for
Community Planning

Consultant Team

HDR Engineering, Inc.

Roch Laroche, P.E., Project Manager

Utile, Inc.

Matthew Littell, Principal

Agenda

I. Introductions

II. Purpose of the Study - Why are we here

III. Overview of Sites

IV. General Design Elements – per parcel

- a. Tunnel & Ramp Configurations
- b. Underground Utilities
- c. Structural Design Considerations

V. Urban Design Analysis

- a. Connectivity along the Greenway
- b. Greenway Cross-connections

VI. Addressing Individual Ramp Parcels (18, 12 & 6)

- a. Overall Character & Current Parcel Uses
- b. Circulation, Active Edges & Desire Lines
- c. Cover Options
- d. Potential View Corridors

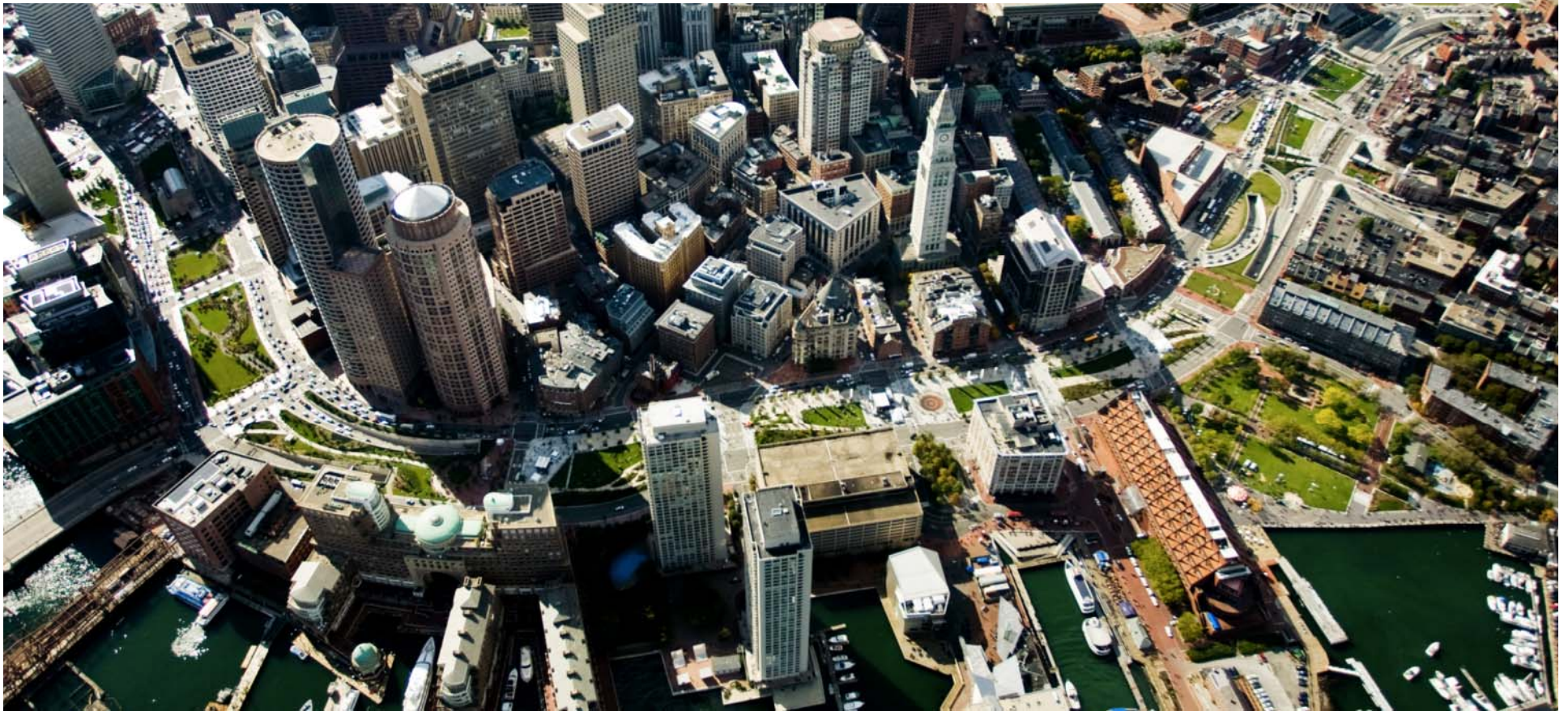
VII. Discussion

VIII. Next Meetings –Wednesday, October 29th & Thursday, January 8th

Purpose of the Study

What we're trying to accomplish

MassDOT environmental commitment is about visual and aesthetic impacts. Not about noise or air quality – the CA/T meets all noise and air quality standards without covers.



What we need to do to define “cover.”

The commitment is about visual and aesthetic impacts. Not about noise or air quality – the CA/T meets all noise and air quality standards without covers.

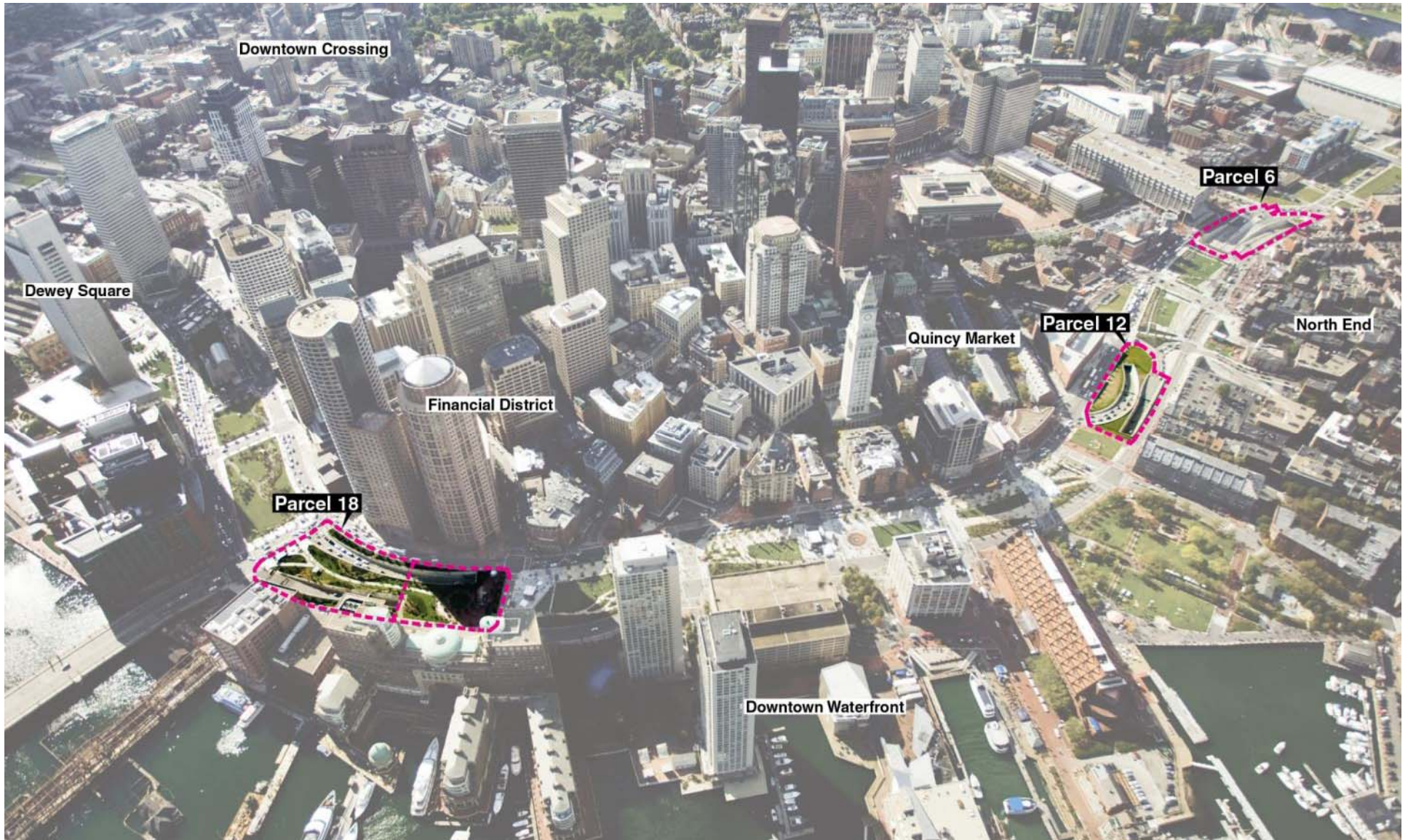
Original permit for CA/T Project was for buildings atop the ramps on Parcels 6 and 12 and open space on Parcel 18.

Now to provide “cover,” MassDOT needs to **propose how to cover the ramp parcels**. This process—with MassDOT, the BRA, and the community—will determine the approach.

The goal is to submit **Notice of Project Change** to MEPA and receive approval for all three ramp parcels, and **complete Parcel 12 cover by November 2017**.

Purpose of the Study

Location of the Ramp Parcels



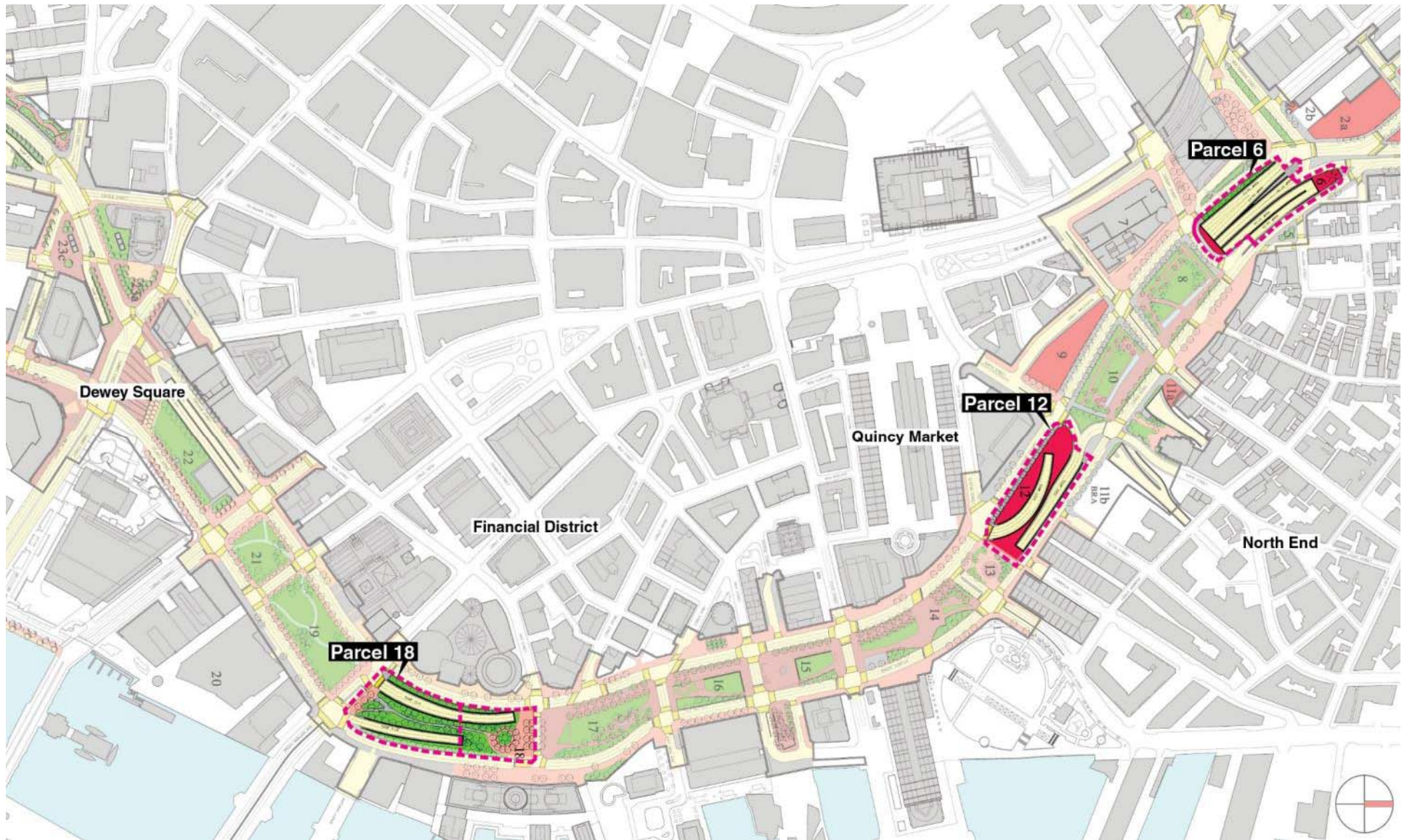
Zoning

Article 49, Central Artery Special District

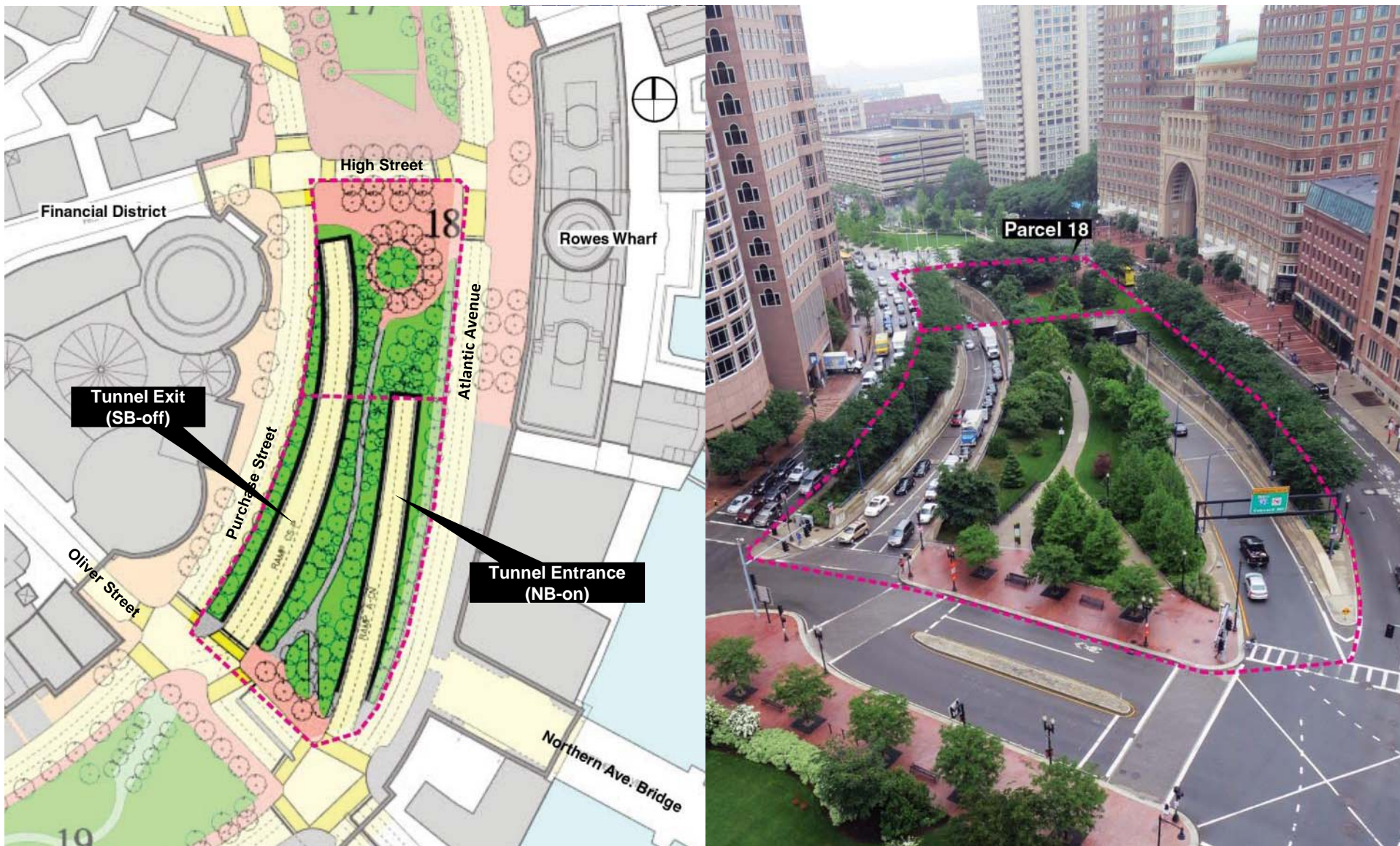
	Use	Dimensional Restrictions Height	Lot Coverage	FAR
Parcel 6	Recreation Open Space (OS-RC) Subdistrict, Community Uses	55 feet <i>Above the top of the ramp structure</i>	—	4
Parcel 12	Residential Uses, Community Uses, Cultural Uses, and Local Retail/Service Uses	55 feet	—	4
Parcel 18 Parcel 18N	Urban Plaza Open Space (OS-UP) Subdistrict, Seasonal and Festival Uses, Cultural Uses, and Restaurant Uses	35 feet	Max. Lot Coverage: 15% <i>Max. building footprint for any individual buildings: 1,200 square feet</i>	FAR shall be determined by the lot coverage and height restrictions
Parcel 18S	Parkland Open Space (OS-P) Subdistrict, Arboretum, Community Uses, and Restaurant Uses.	35 feet <i>Building height shall be measured from grade unless the building is located on a raised landscaped terrace, in which case the building shall be measured from the terrace.</i>	Max. Lot Coverage: 15% <i>Max. building footprint for any individual buildings: 6,000 square feet</i>	—

Overview of Sites

Location of the Ramp Parcels

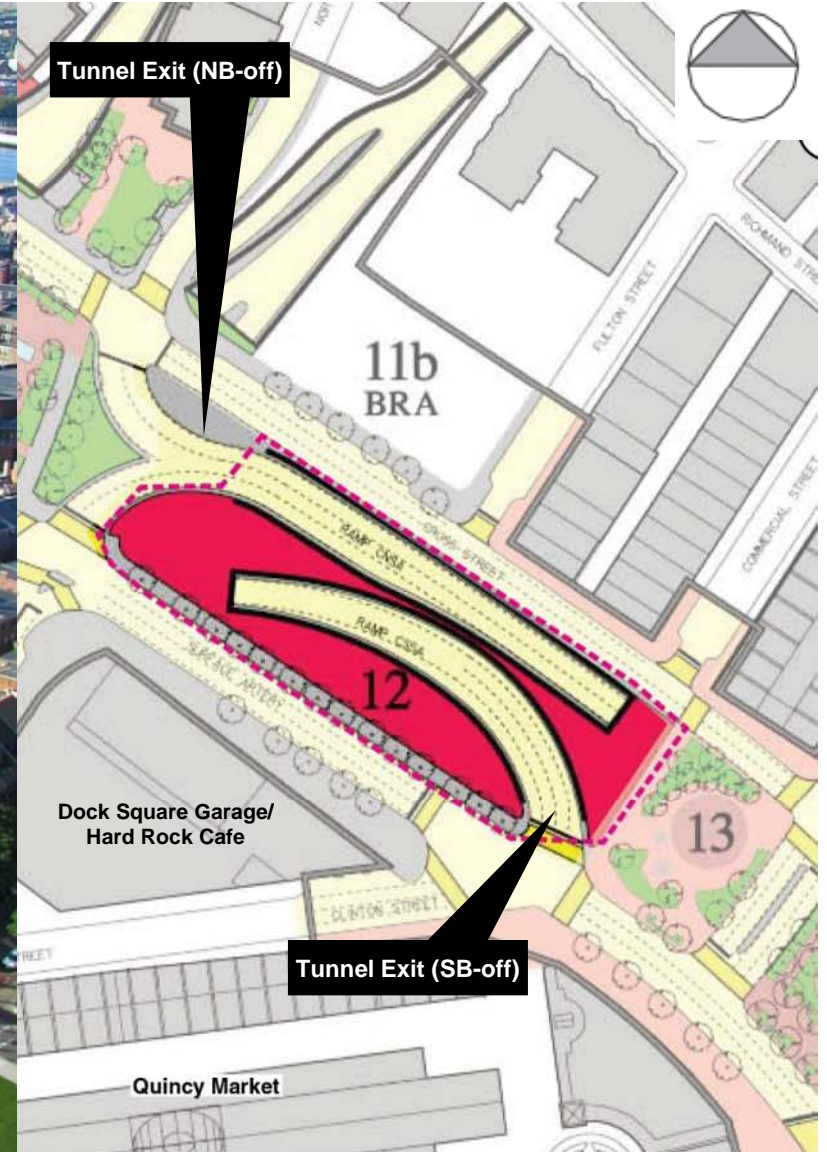
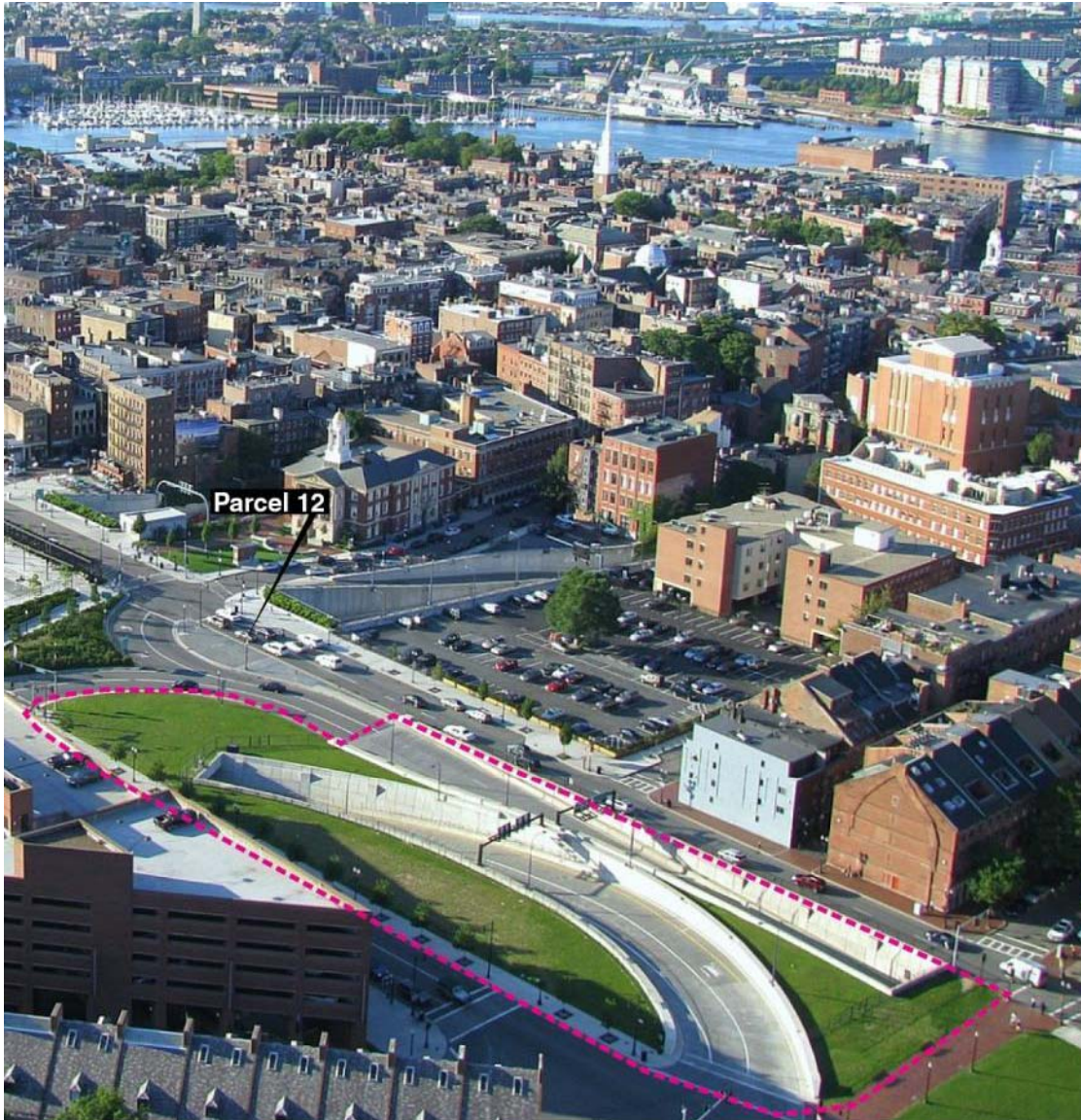


Parcel 18



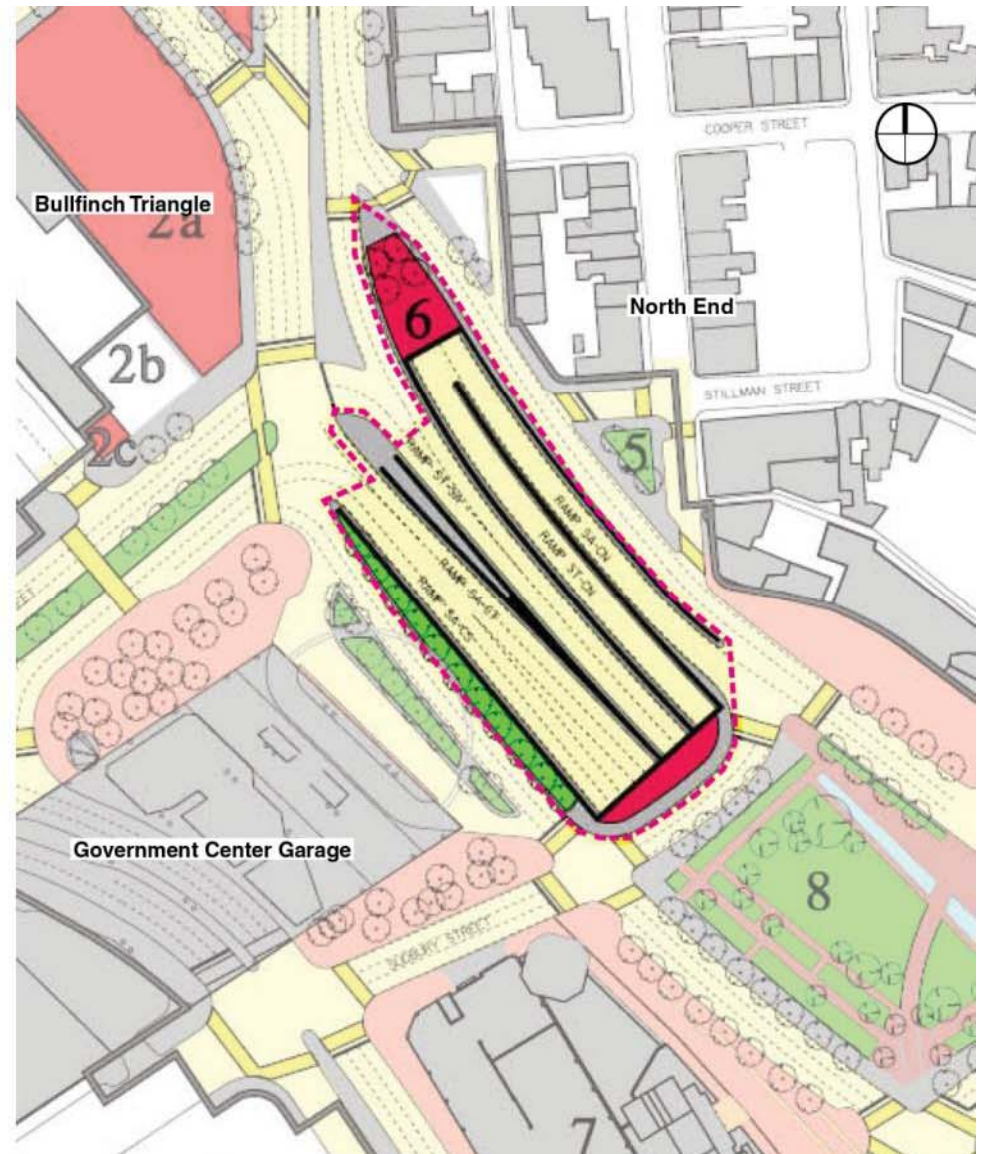
Overview of the Sites

Parcel 12



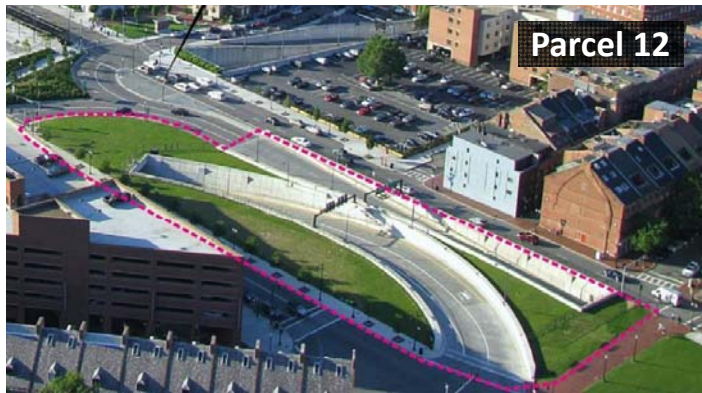
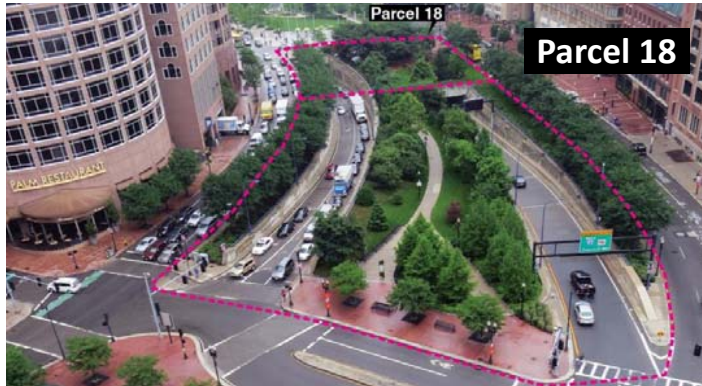
Overview of the Sites

Parcel 6



General Design Elements

Key Considerations During Design



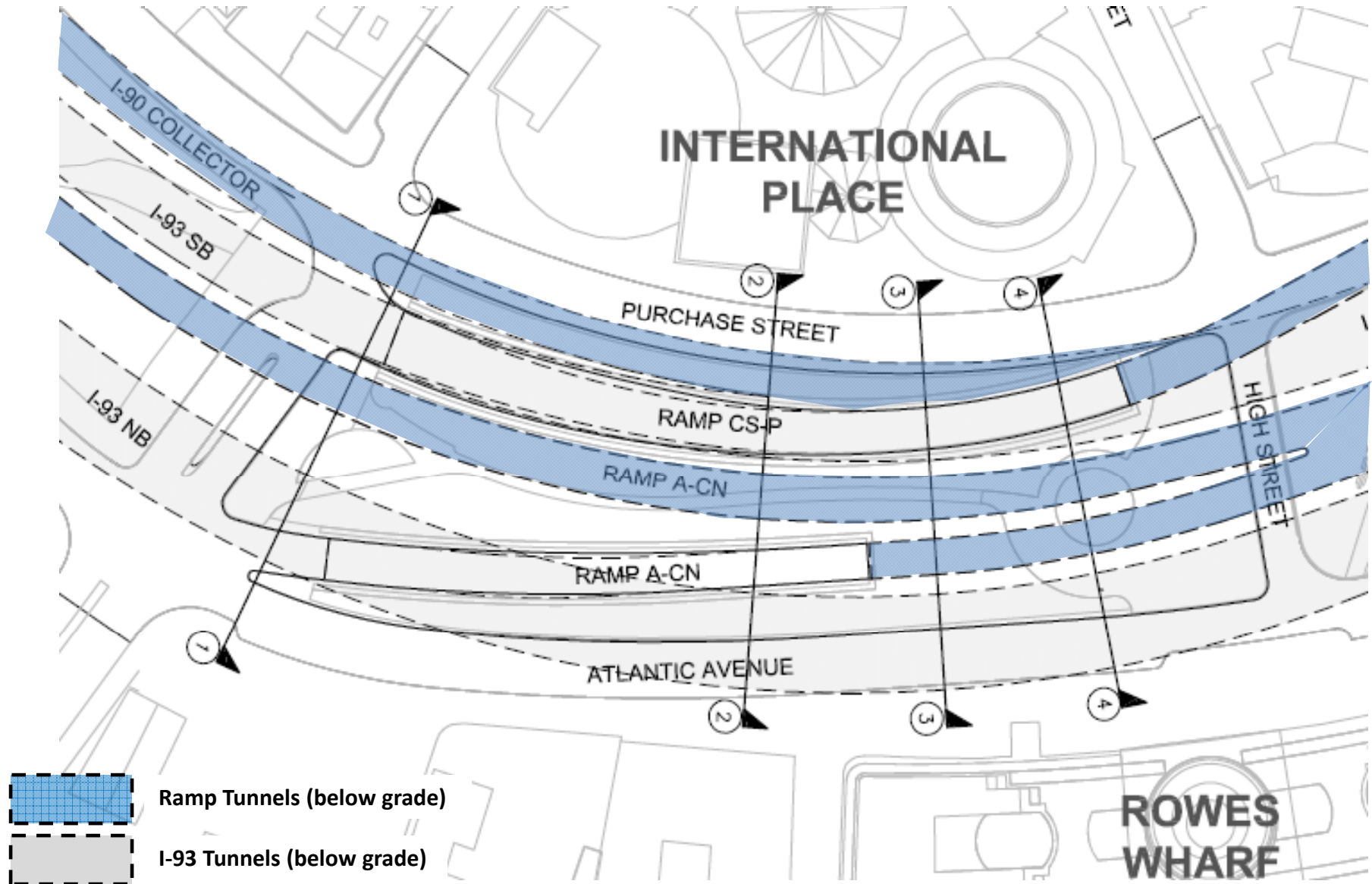
- Article 49 Zoning / Allowable Uses
- Pedestrian Access & Connectivity
- Vertical Clearances (14'-6")
- Air Quality, Lighting, Ventilation
- View Corridor Locations
- Location of Major Utility Corridors, Service Connections & Access
- Allowable Loading over Existing Tunnels & Ramps
- *Drainage of Proposed Sites*
- *Sight Distance along Ramps*
- *Signing/IPCS System*
- *Resiliency Planning*
- *Economic Sustainability*

Future Discussion Topics

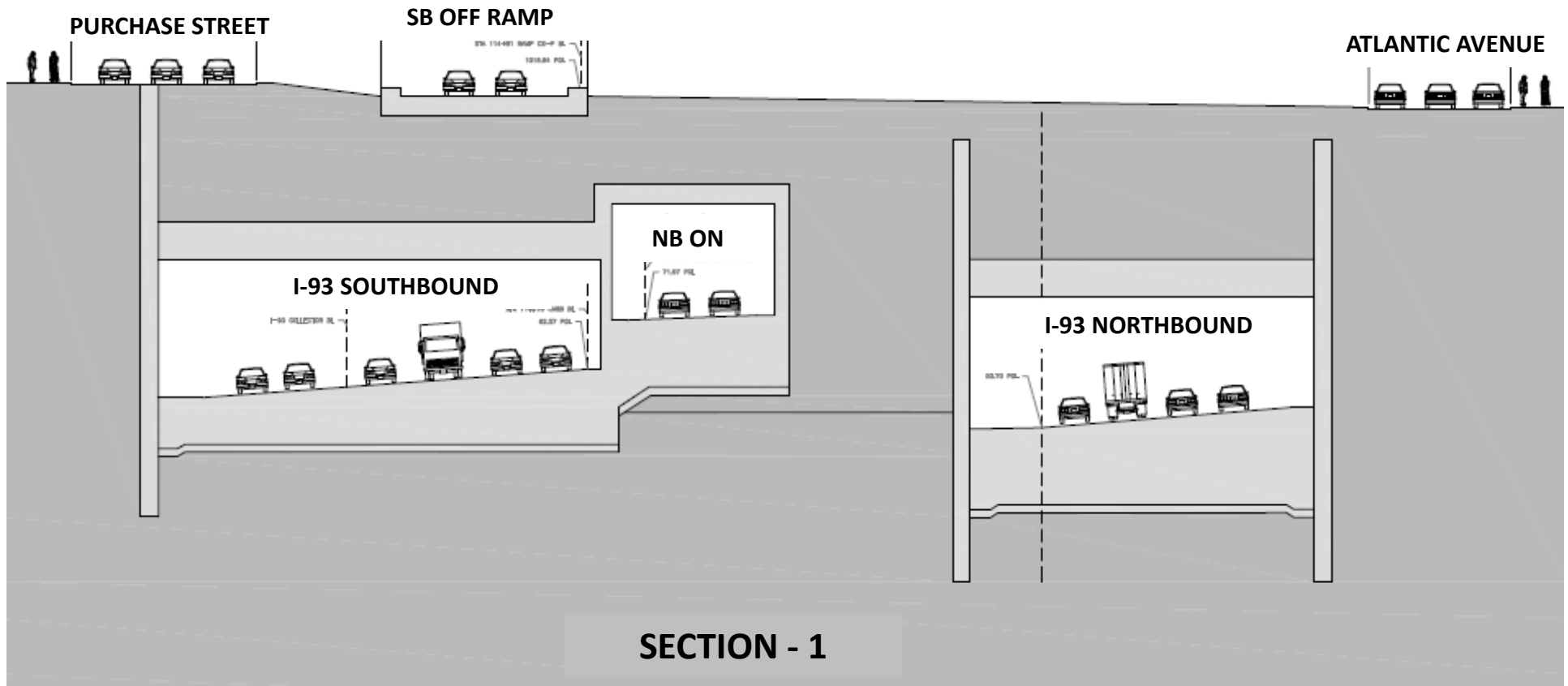
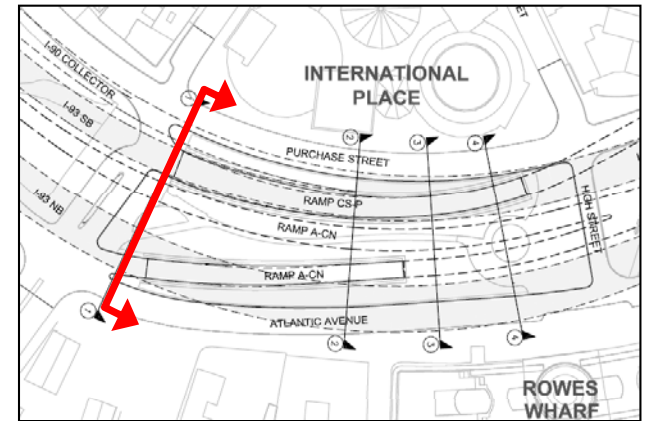
Surface Artery Configuration - *Parcel 18*



Tunnel & Ramp Configuration - Parcel 18

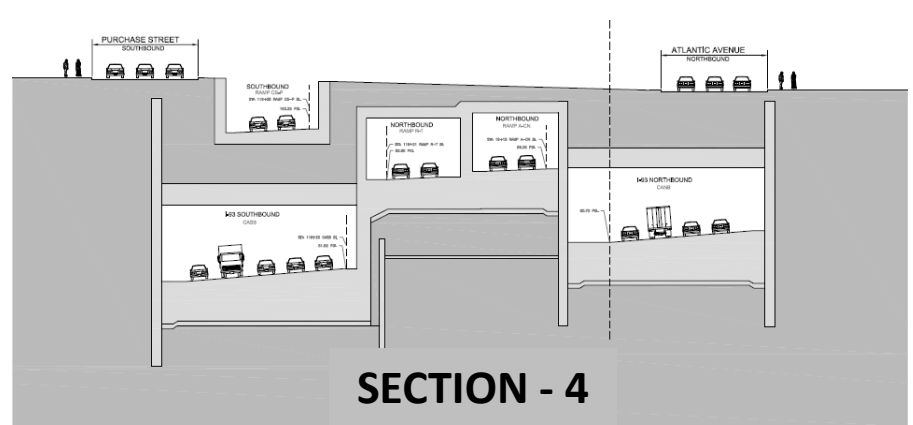
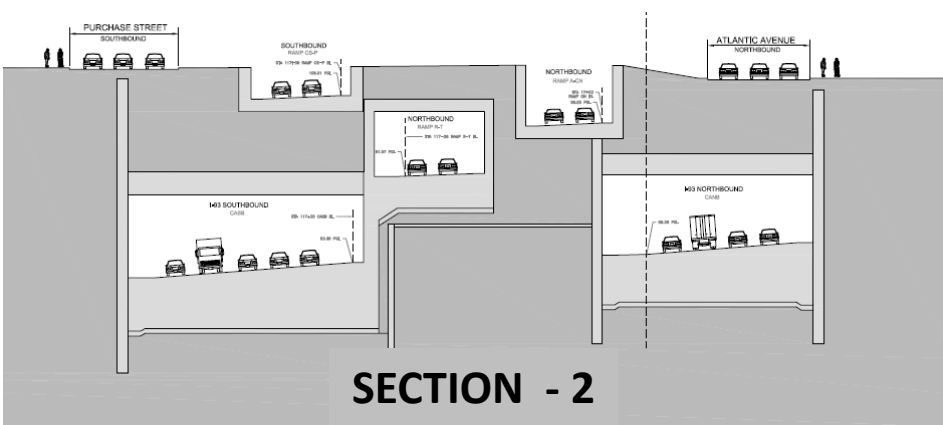
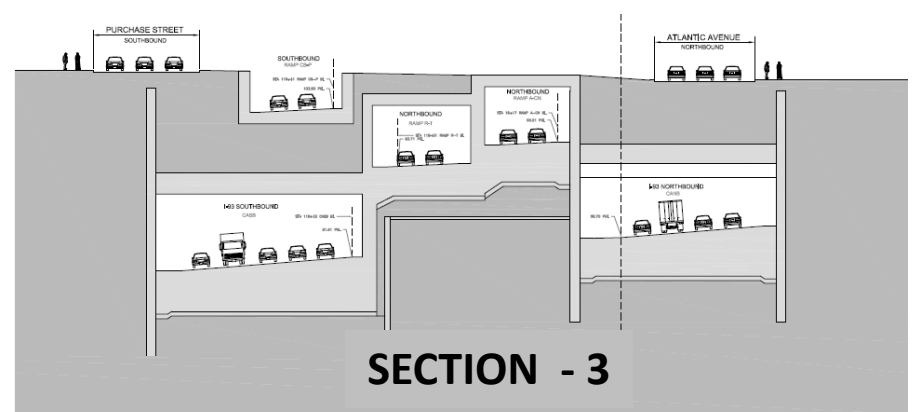
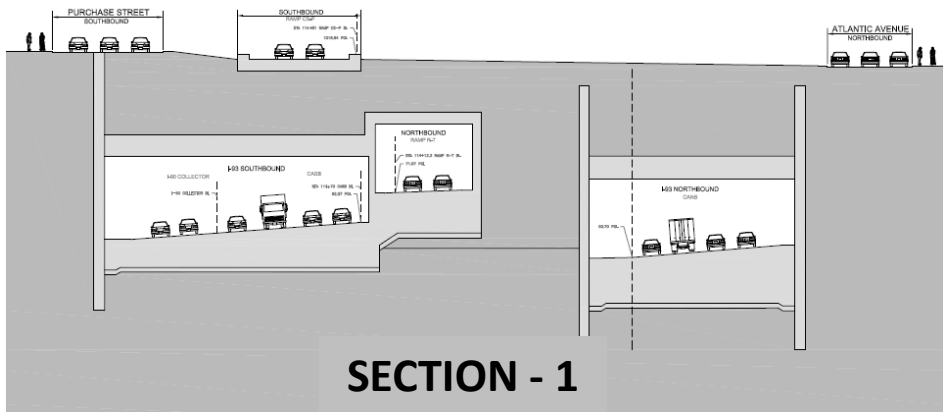
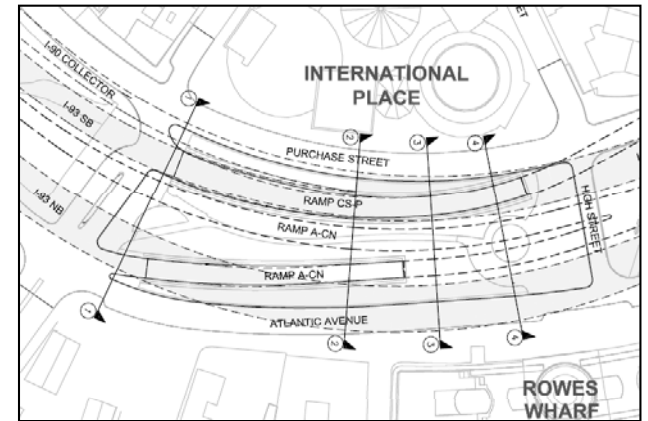


Tunnel Sections – Parcel 18

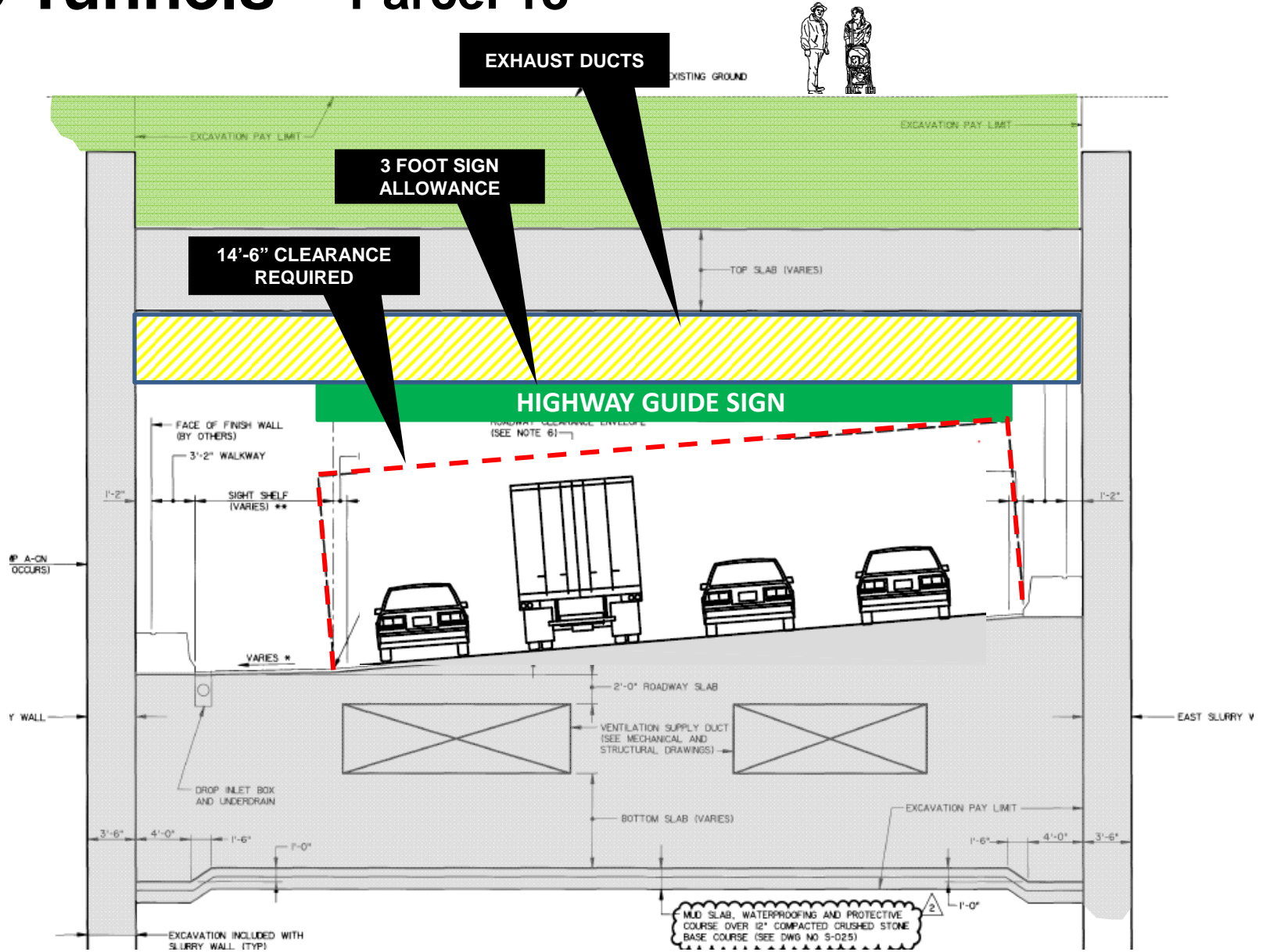


SECTION - 1

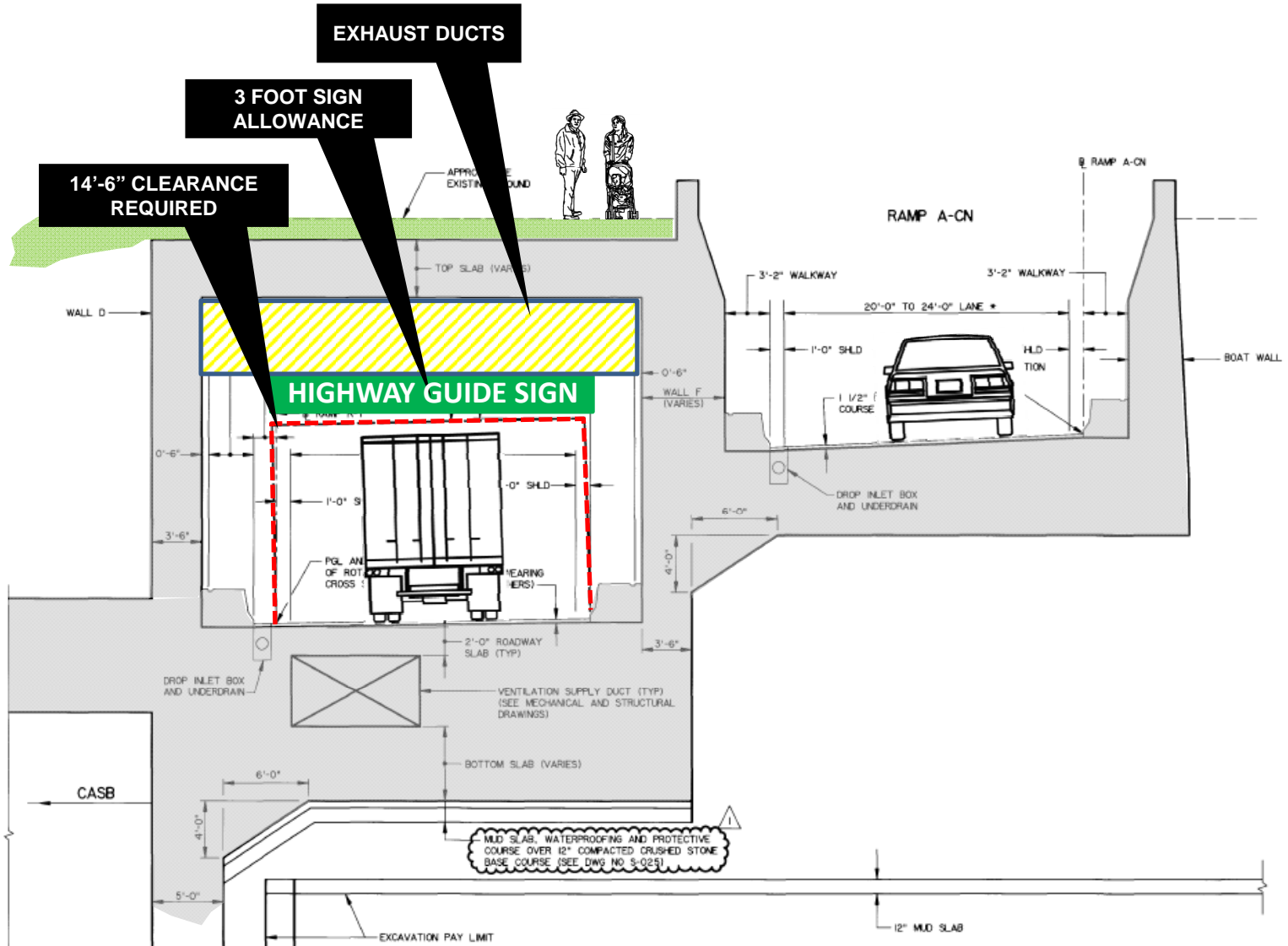
Tunnel Sections – Parcel 18



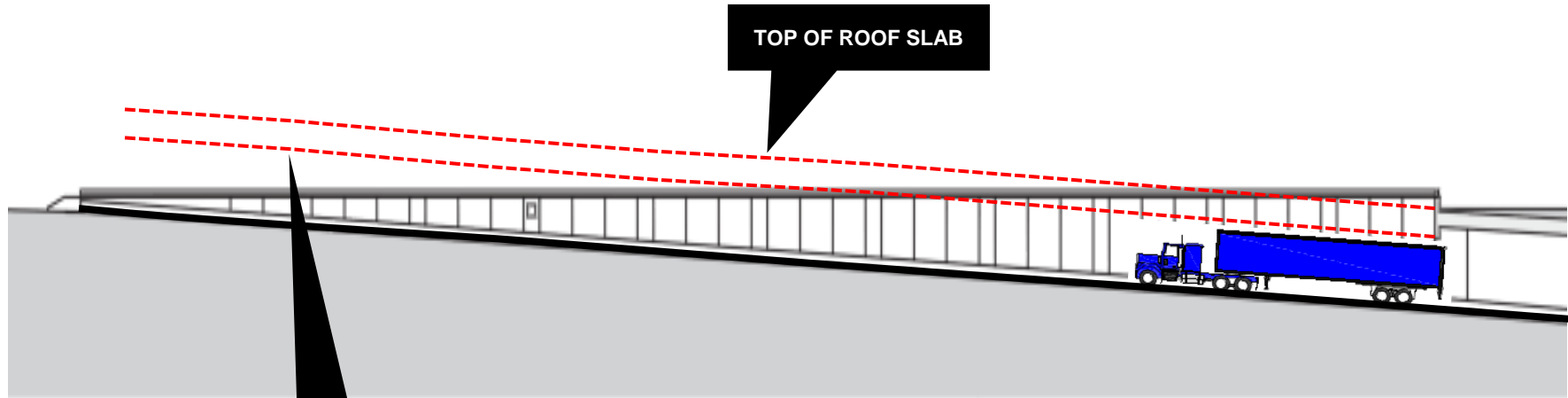
I-93 Tunnels – Parcel 18



Typical Ramps – Parcel 18

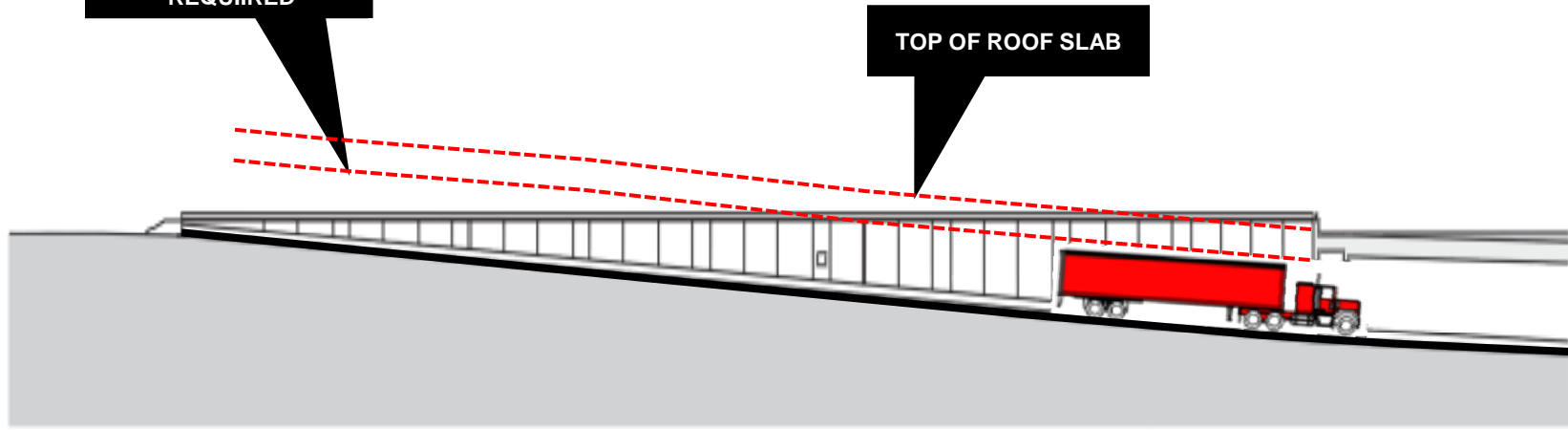


Ramp Tunnel Profiles – Parcel 18



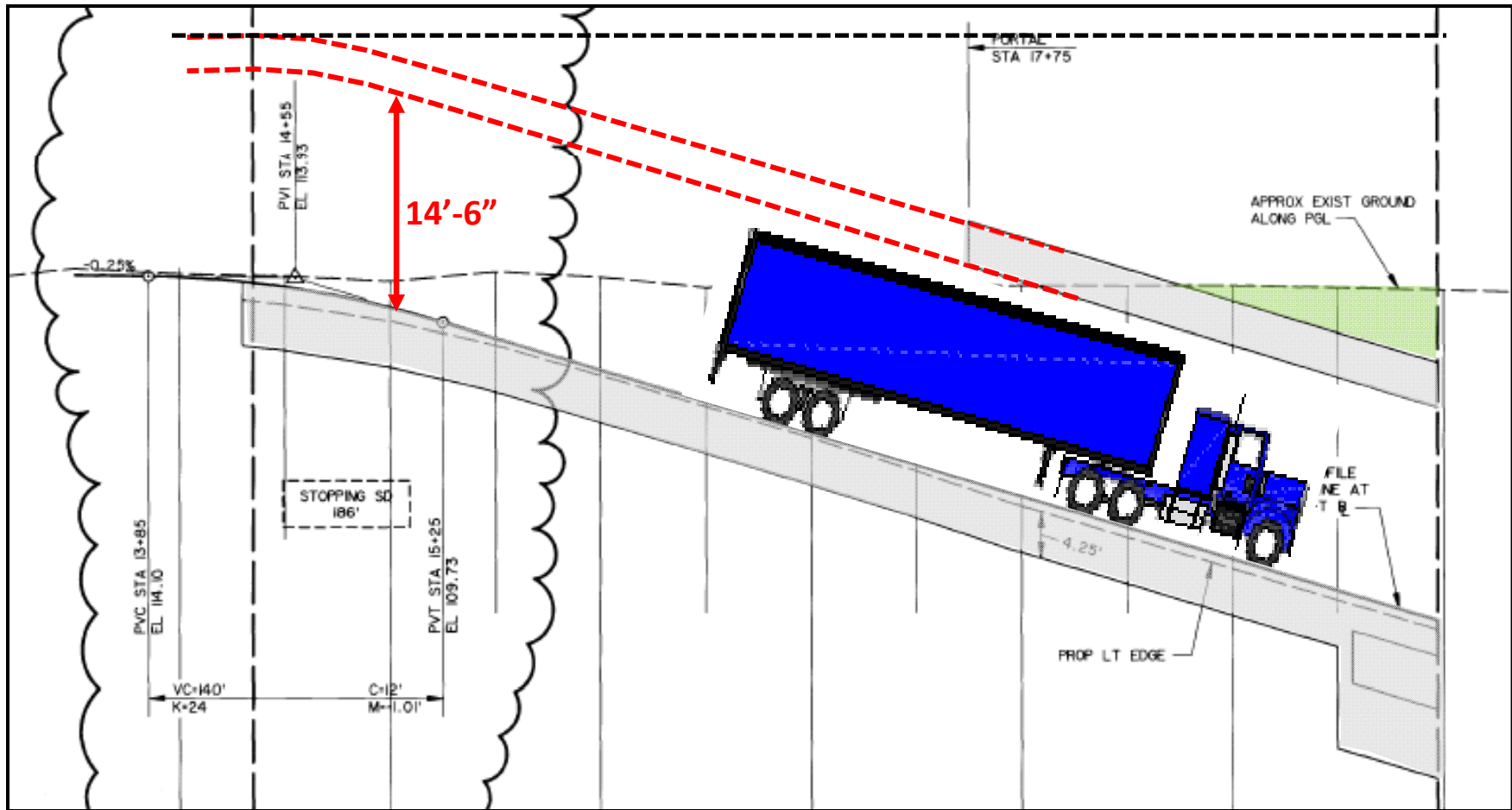
**14'-6" CLEARANCE
REQUIRED**

Longitudinal section through ramp CS-P (SB-off)



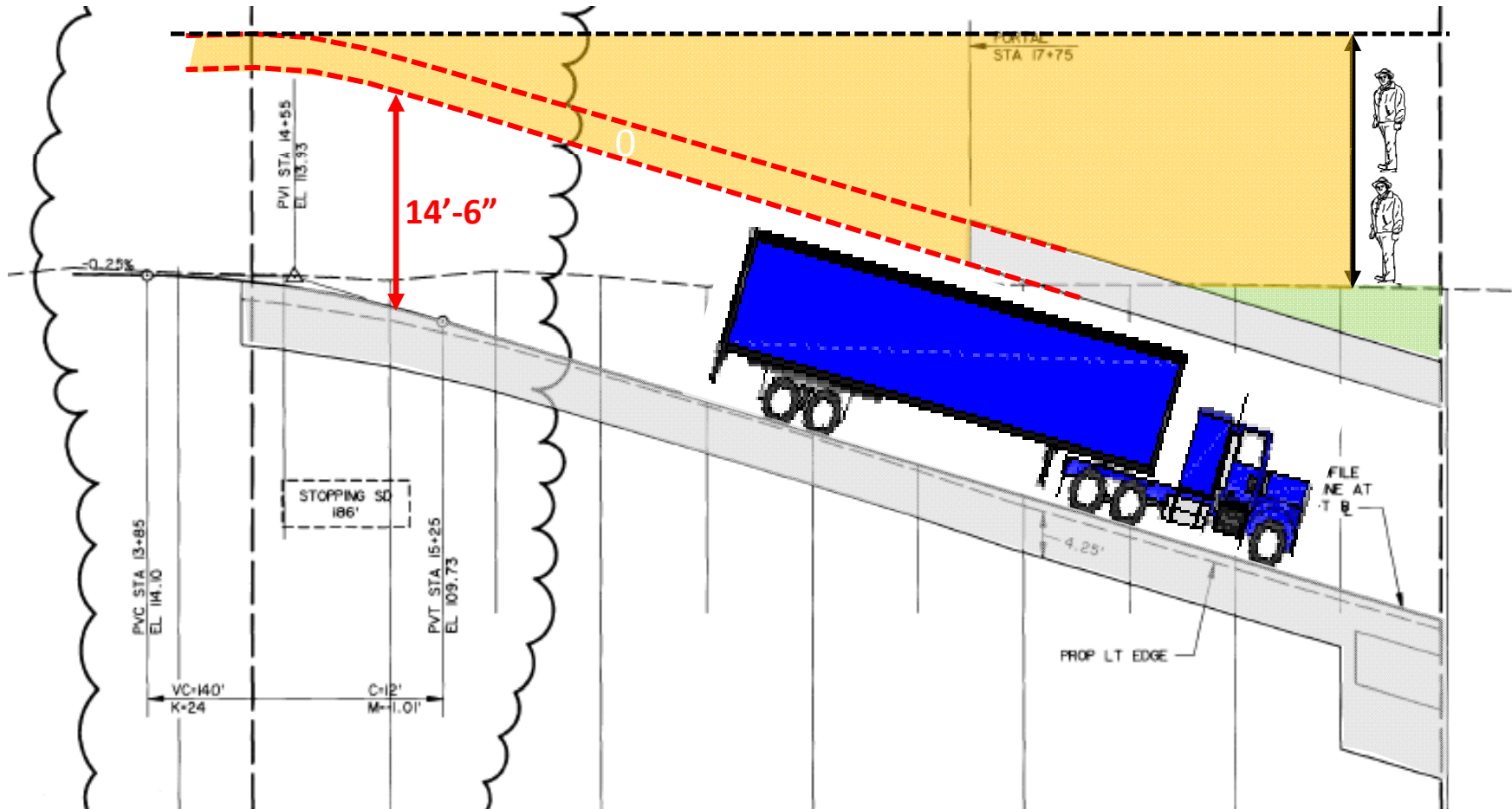
Longitudinal section through ramp A-CN (NB-on)

Ramp Tunnel Profiles – Parcel 18



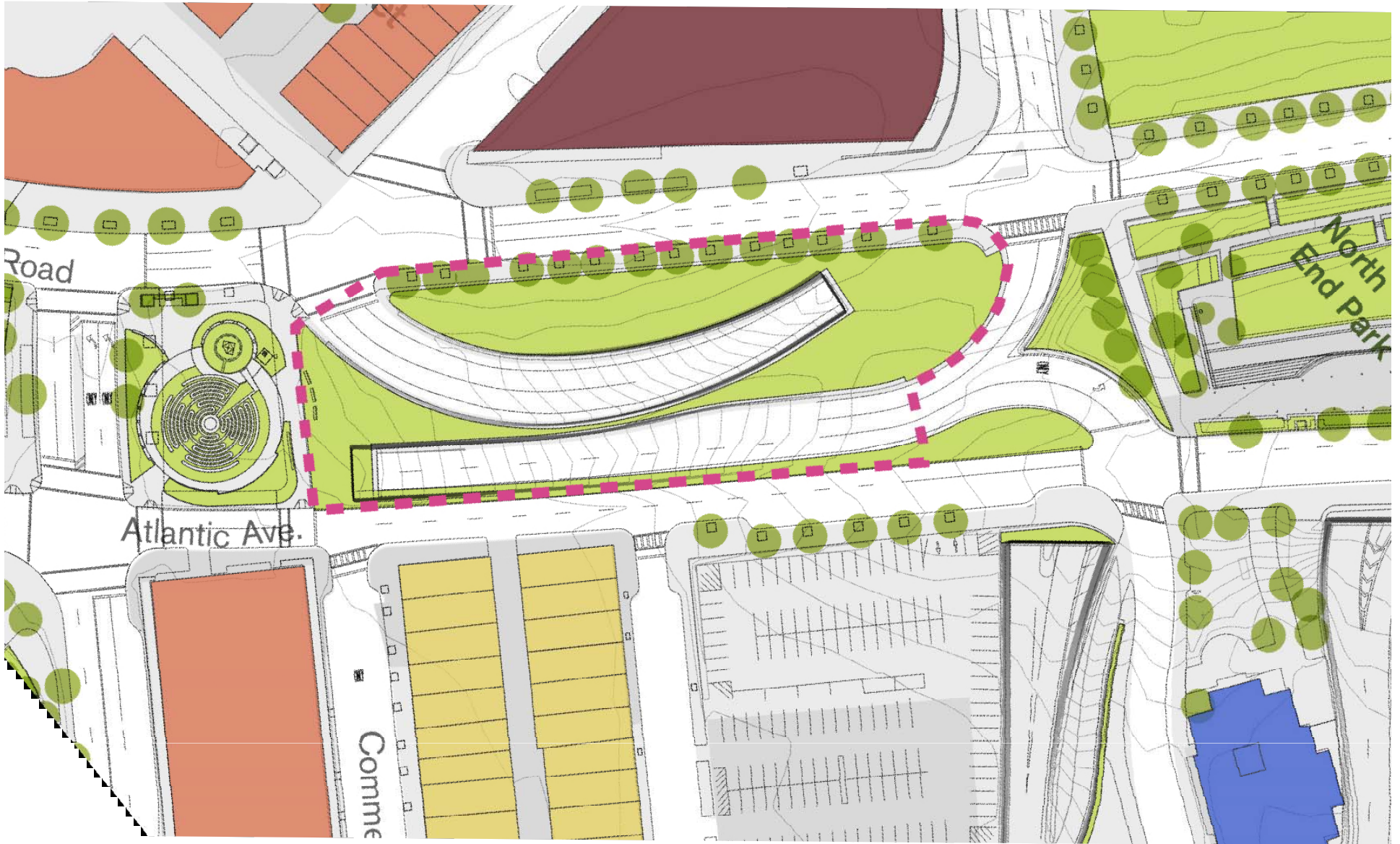
Longitudinal section through ramp A-CN (NB-on)

Ramp Tunnel Profiles – Parcel 18

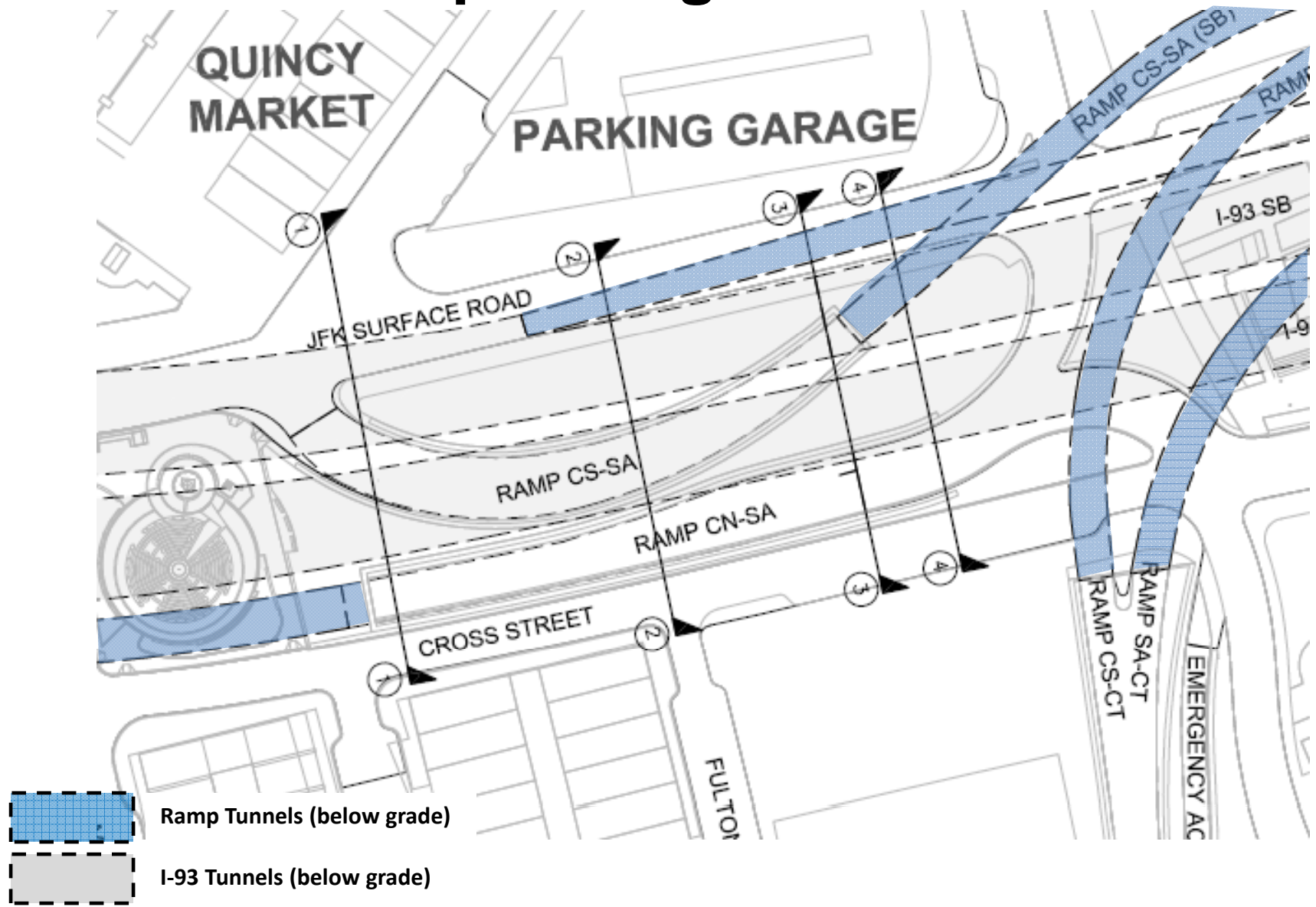


Longitudinal section through ramp A-CN (NB-on)

Surface Artery Configuration - *Parcel 12*

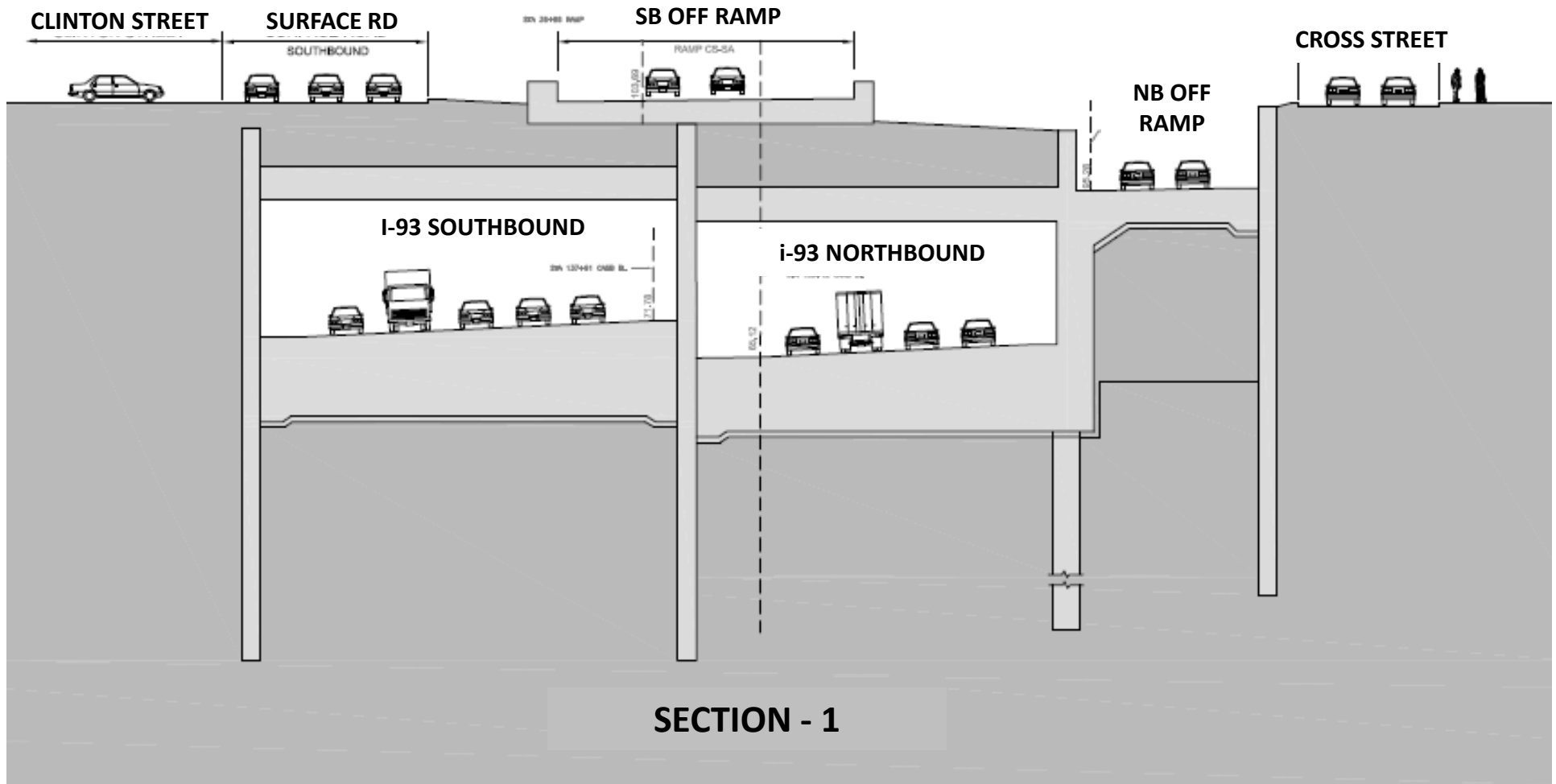
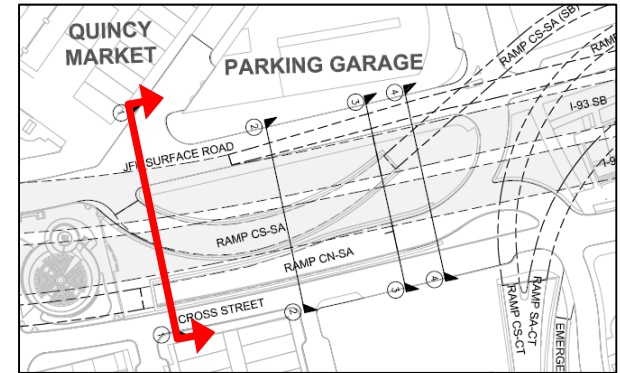


Tunnel & Ramp Configuration - Parcel 12

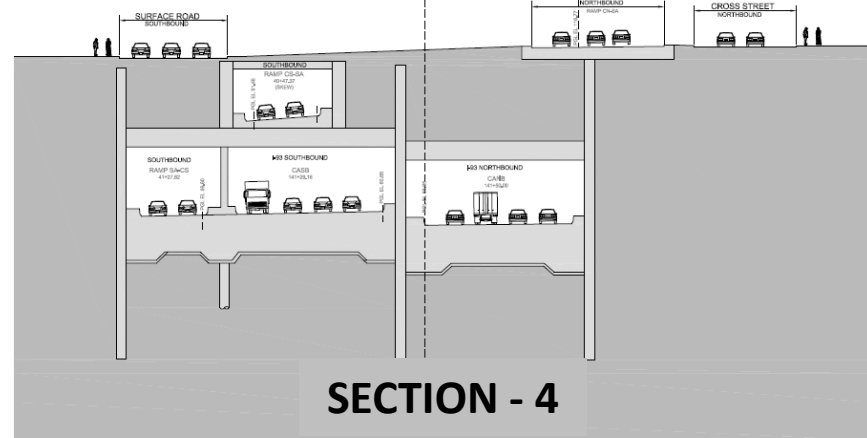
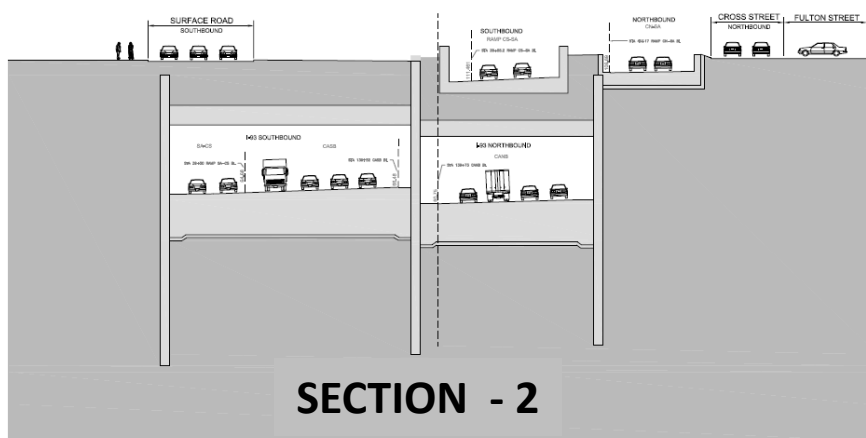
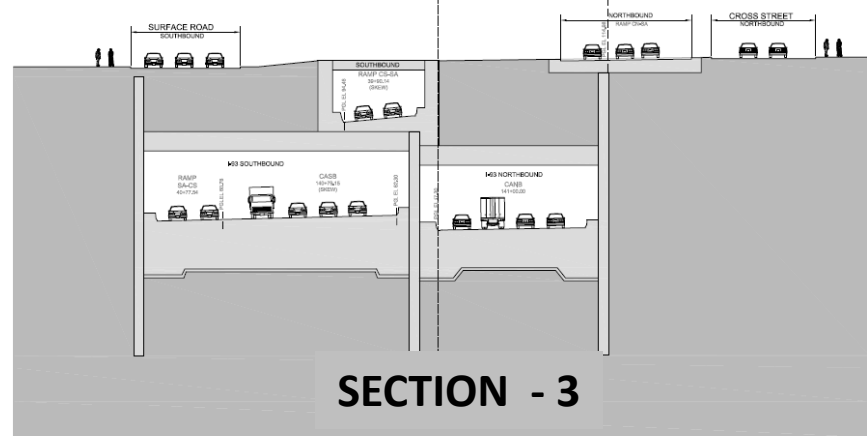
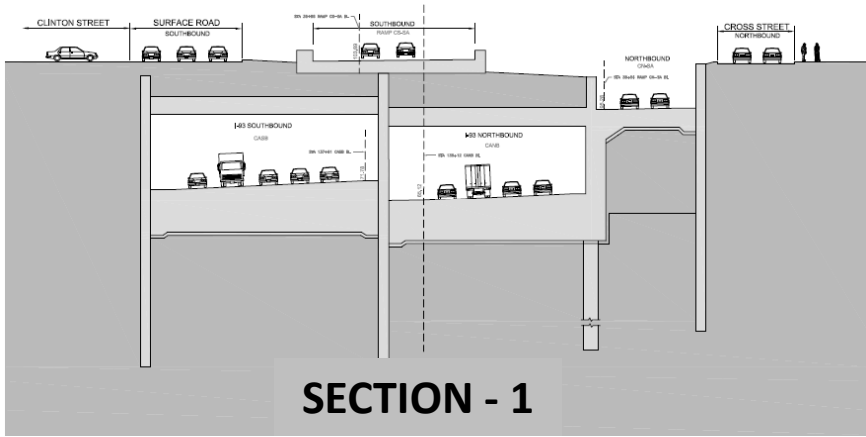
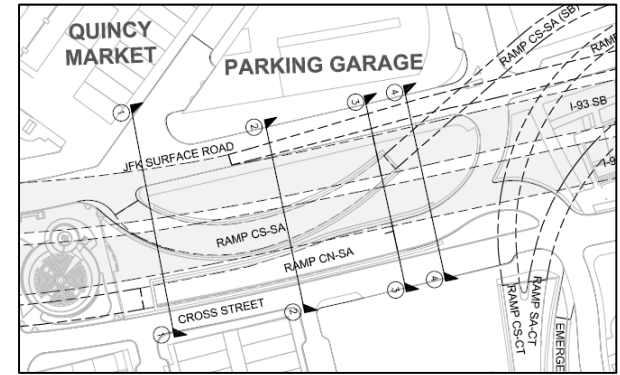


General Design Elements

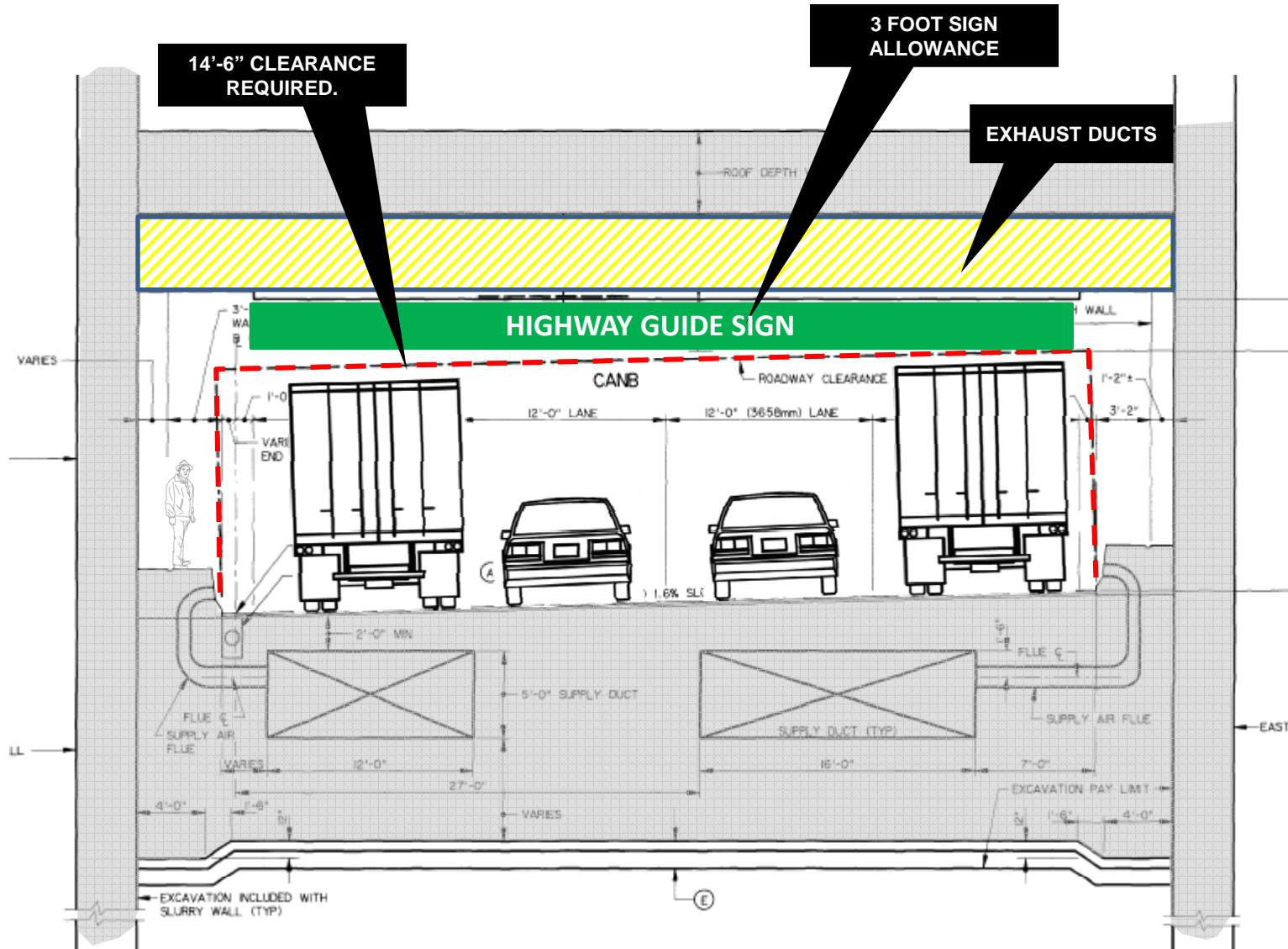
Tunnel Sections – Parcel 12



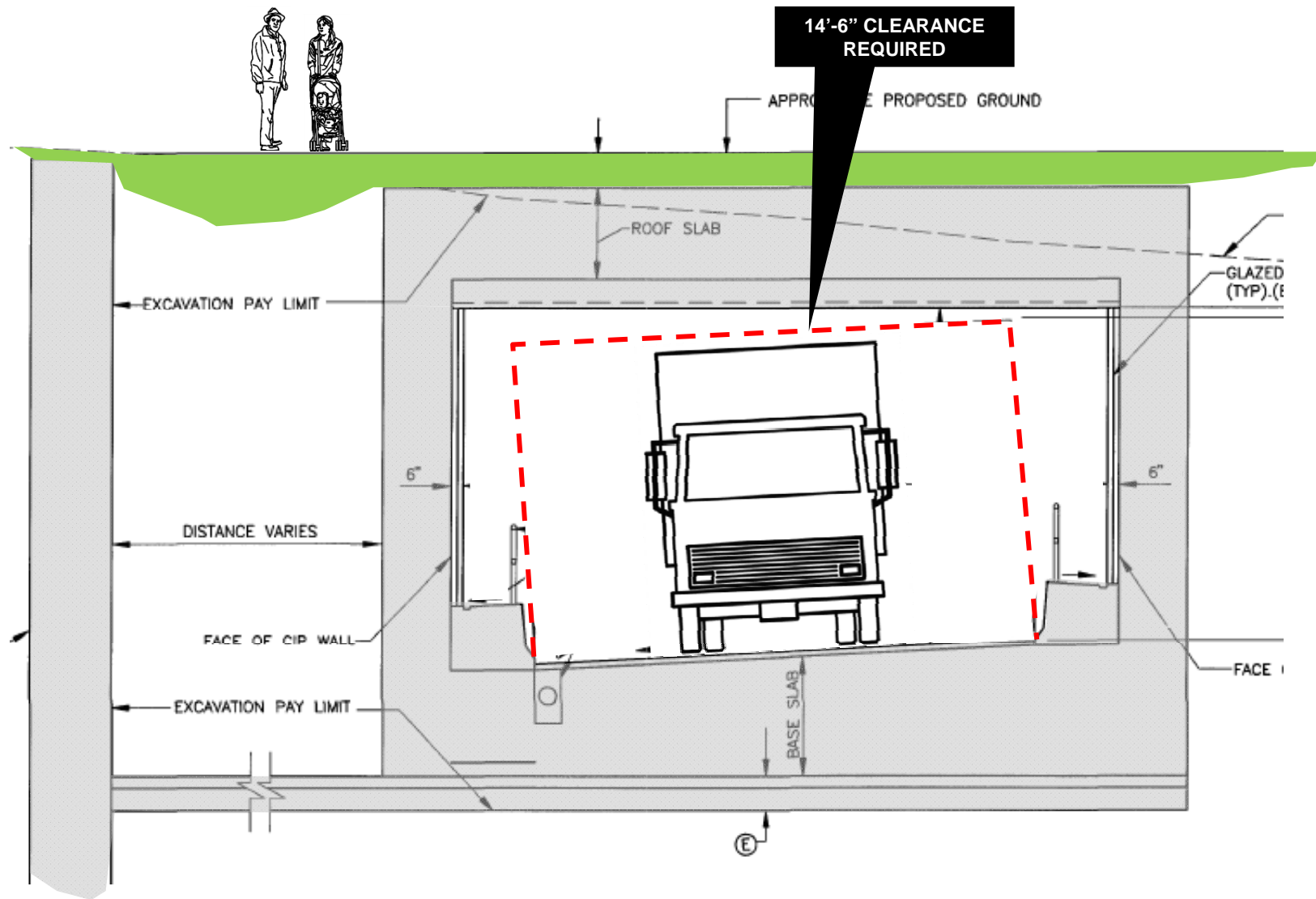
Tunnel Sections – Parcel 12



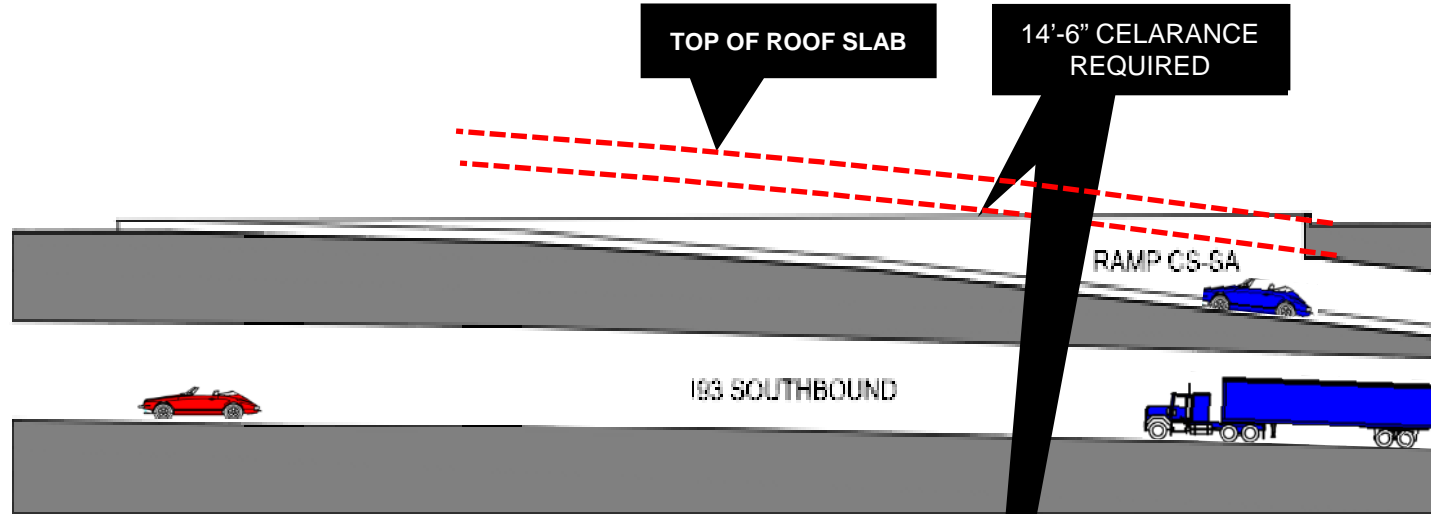
I-93 Tunnels – Parcel 12



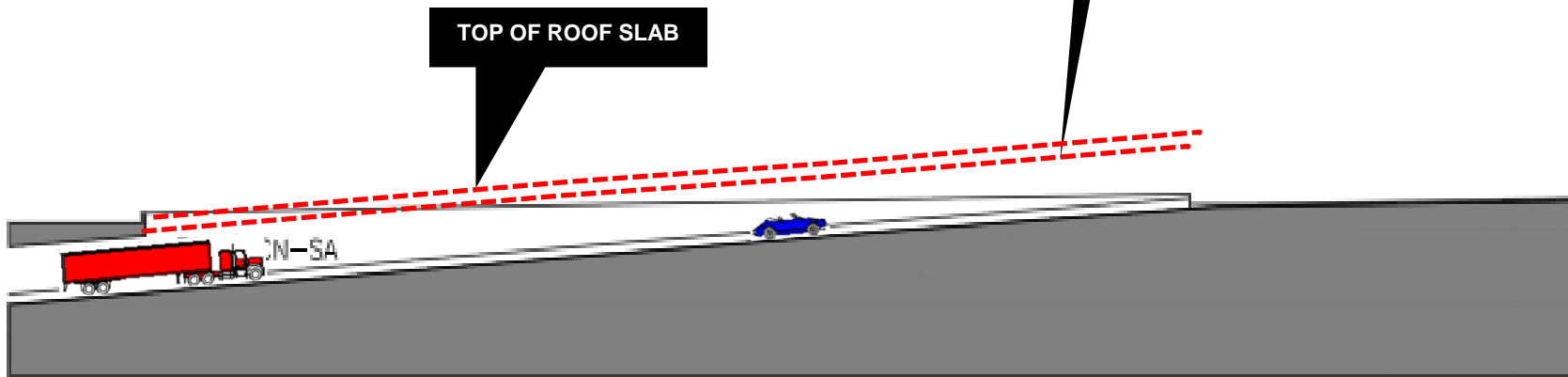
Typical Ramps – Parcel 12



Ramp Tunnel Profiles – Parcel 12

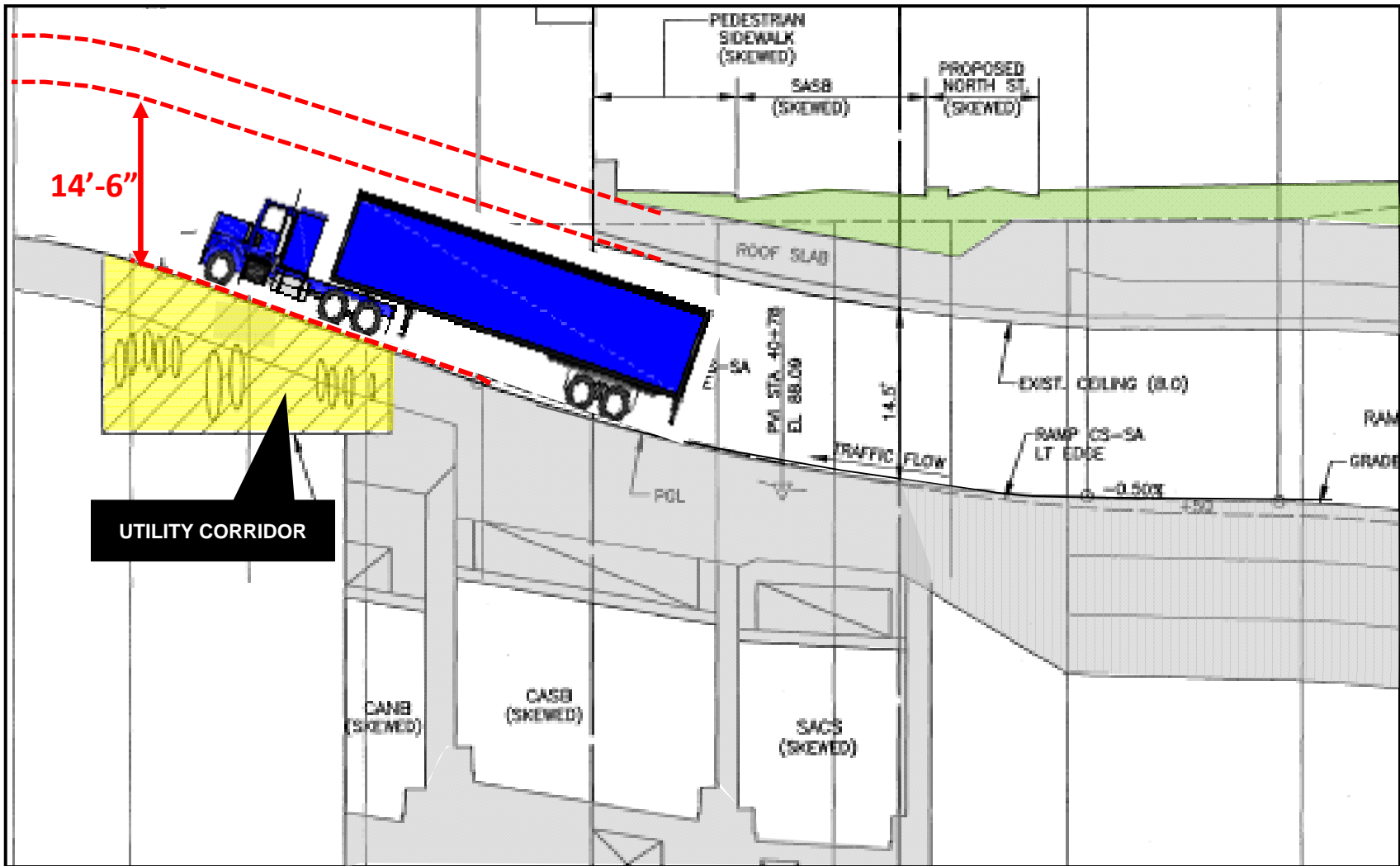


Longitudinal section through Ramp CS-SA (SB-off).
Looking west.



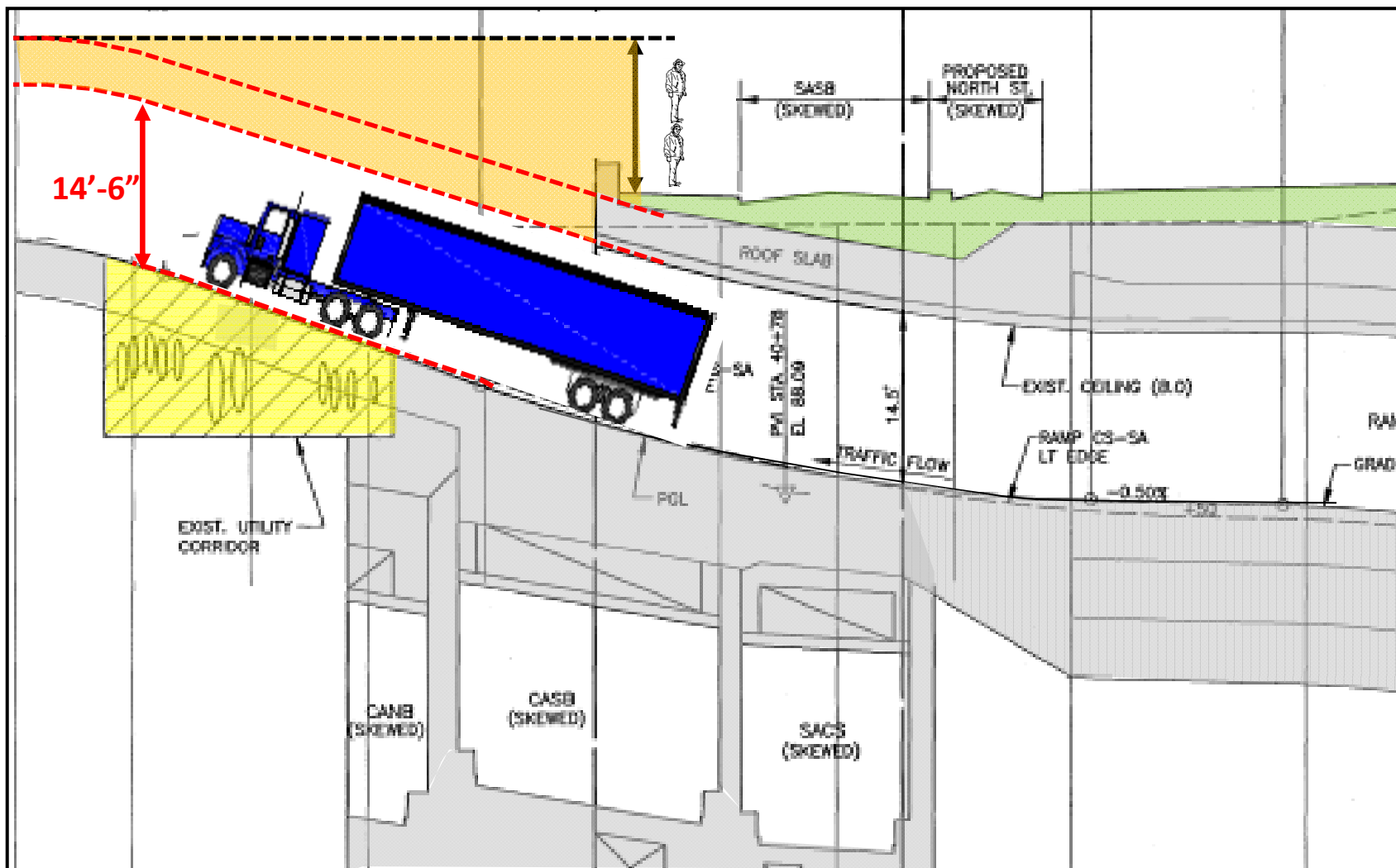
Longitudinal section through Ramp CN-SA (NB-off).
Looking east.

Ramp Tunnel Profiles – Parcel 12



Longitudinal section through Ramp CS-SA (SB-off) Looking west.

Ramp Tunnel Profiles – Parcel 12

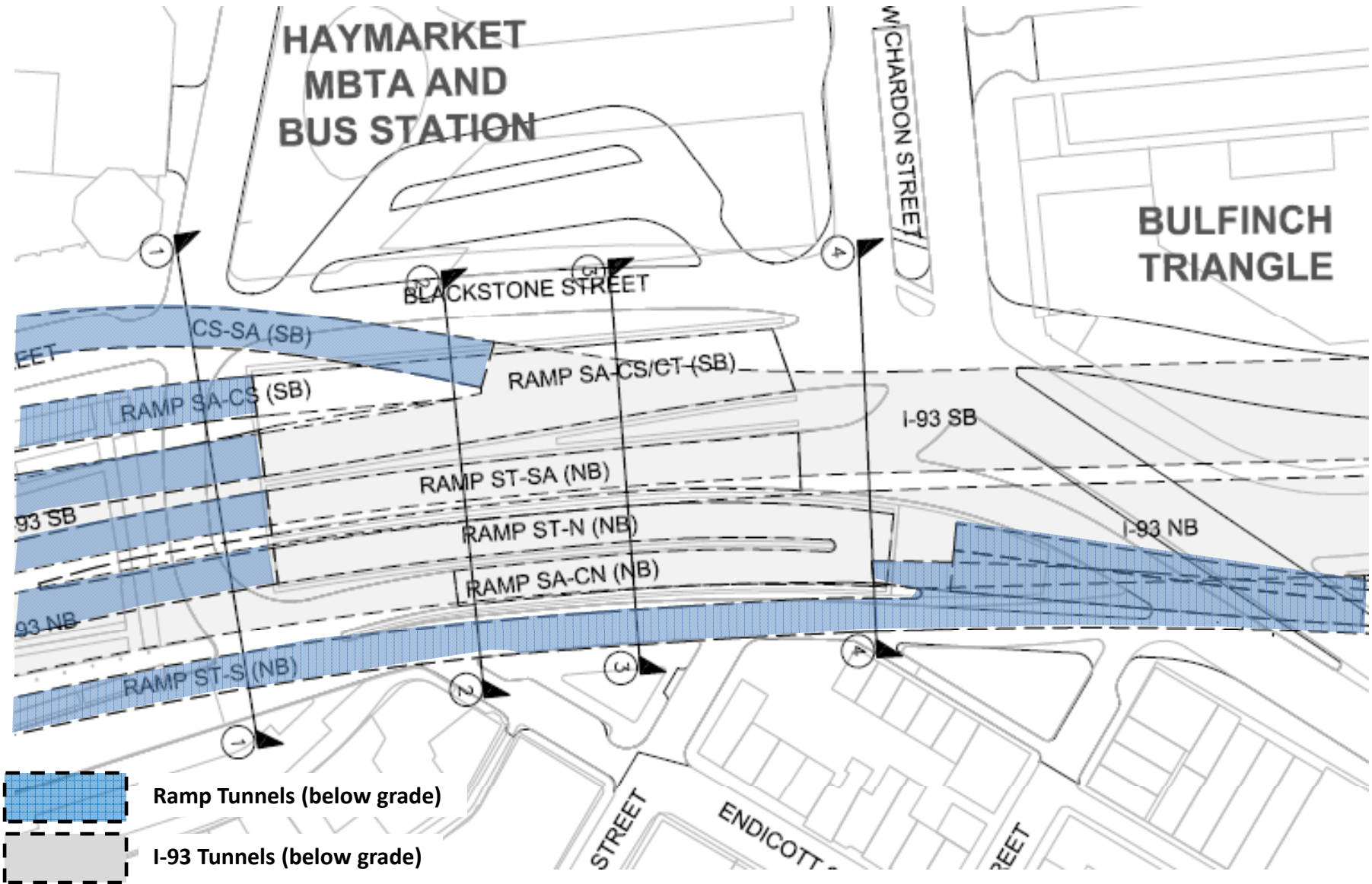


Longitudinal section through Ramp CS-SA (SB-off) Looking west.

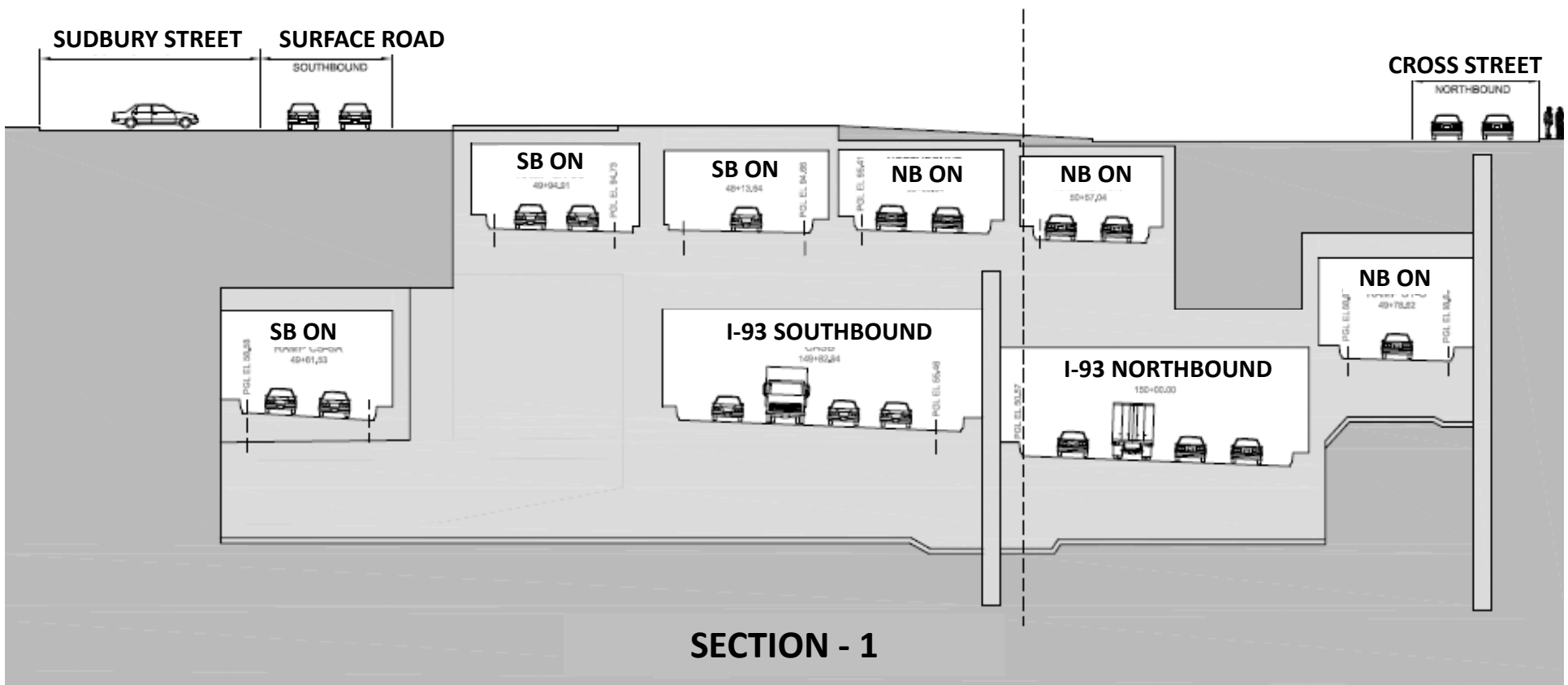
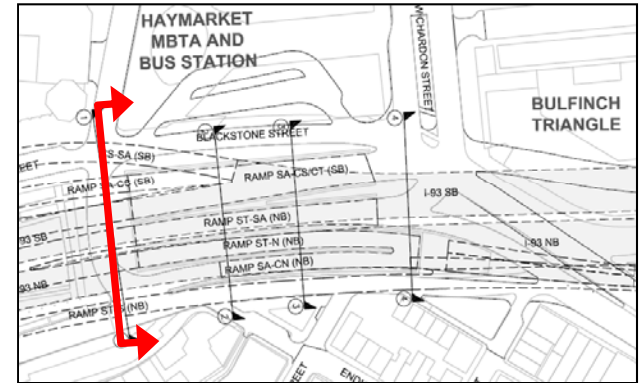
Surface Artery Configuration - *Parcel 6*



Tunnel & Ramp Configuration - Parcel 6

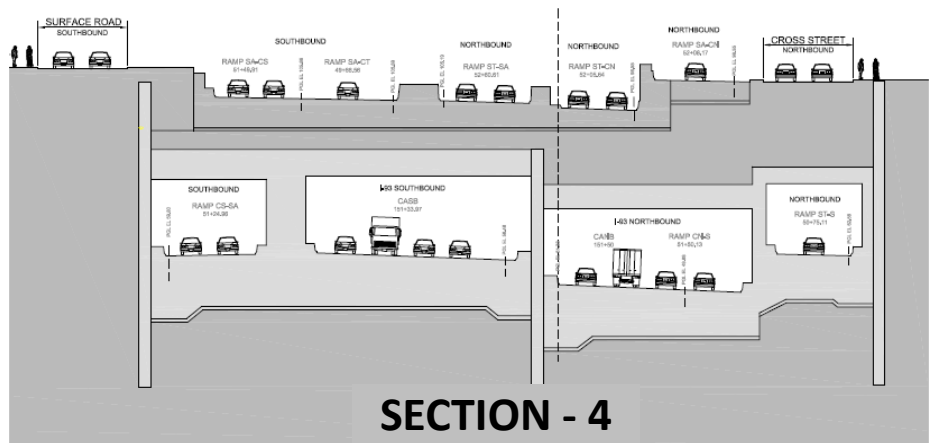
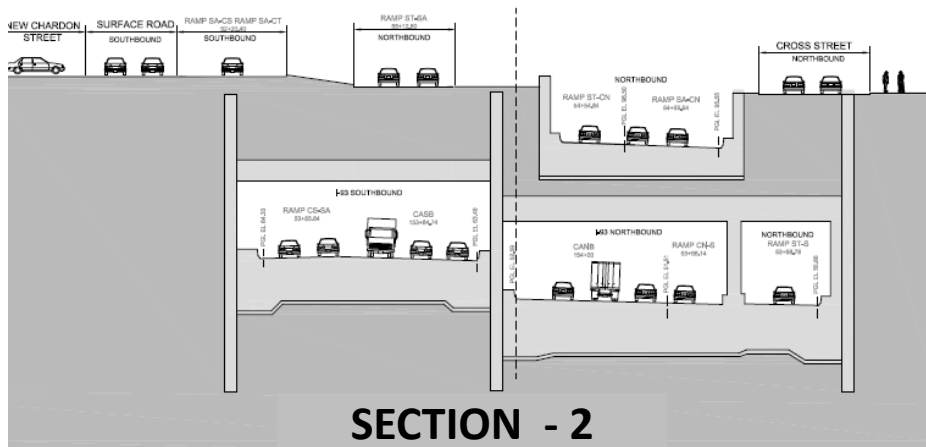
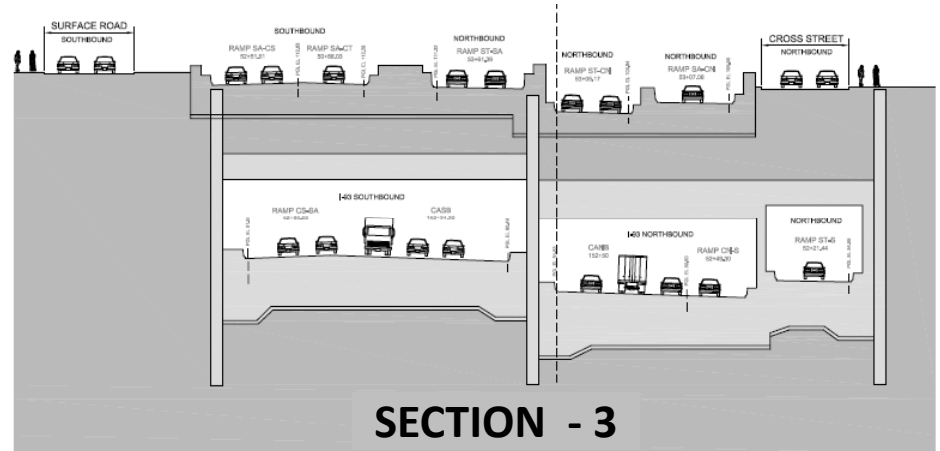
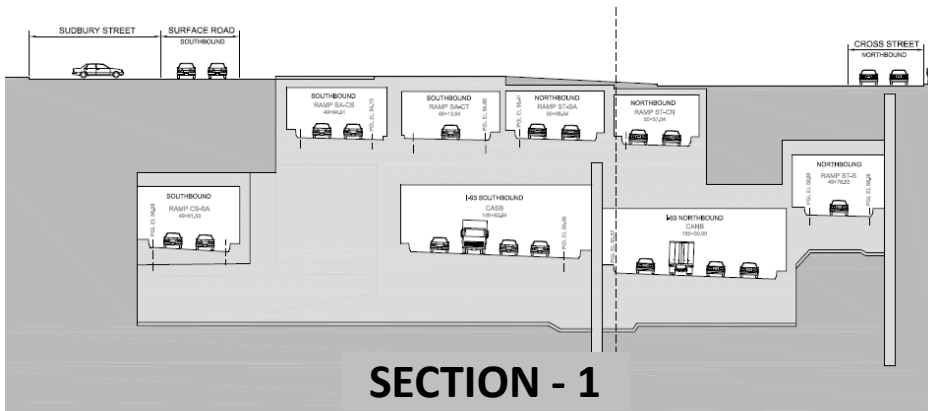
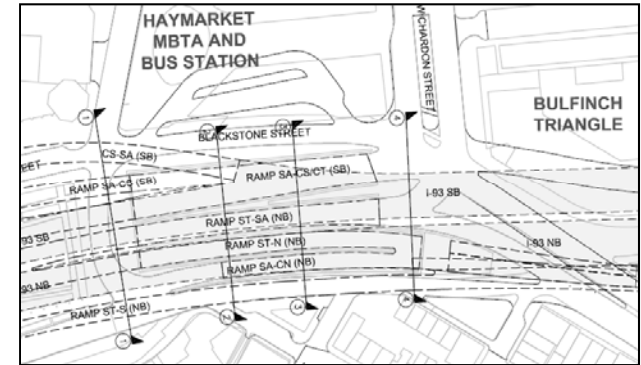


Tunnel Sections – Parcel 6

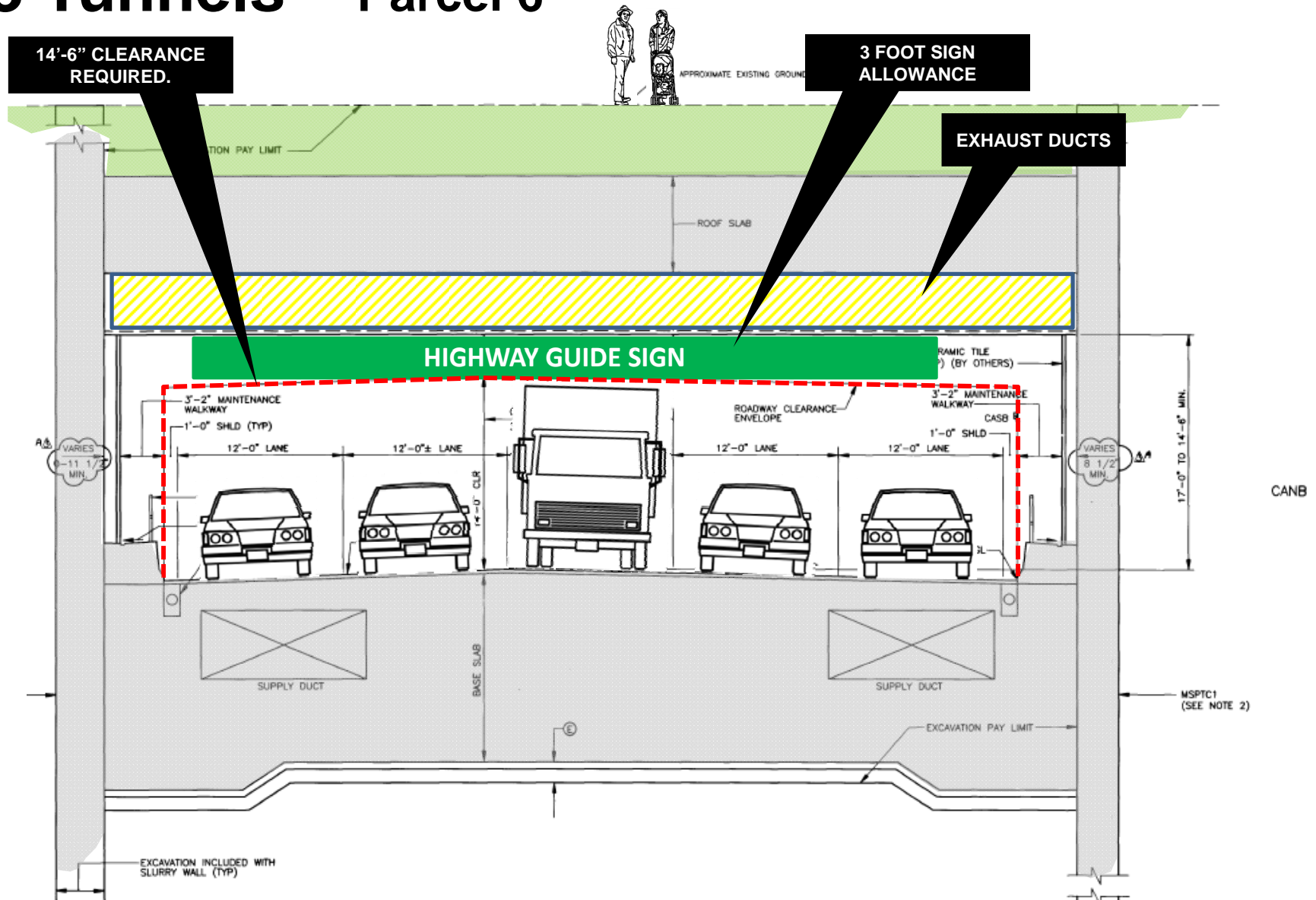


General Design Elements

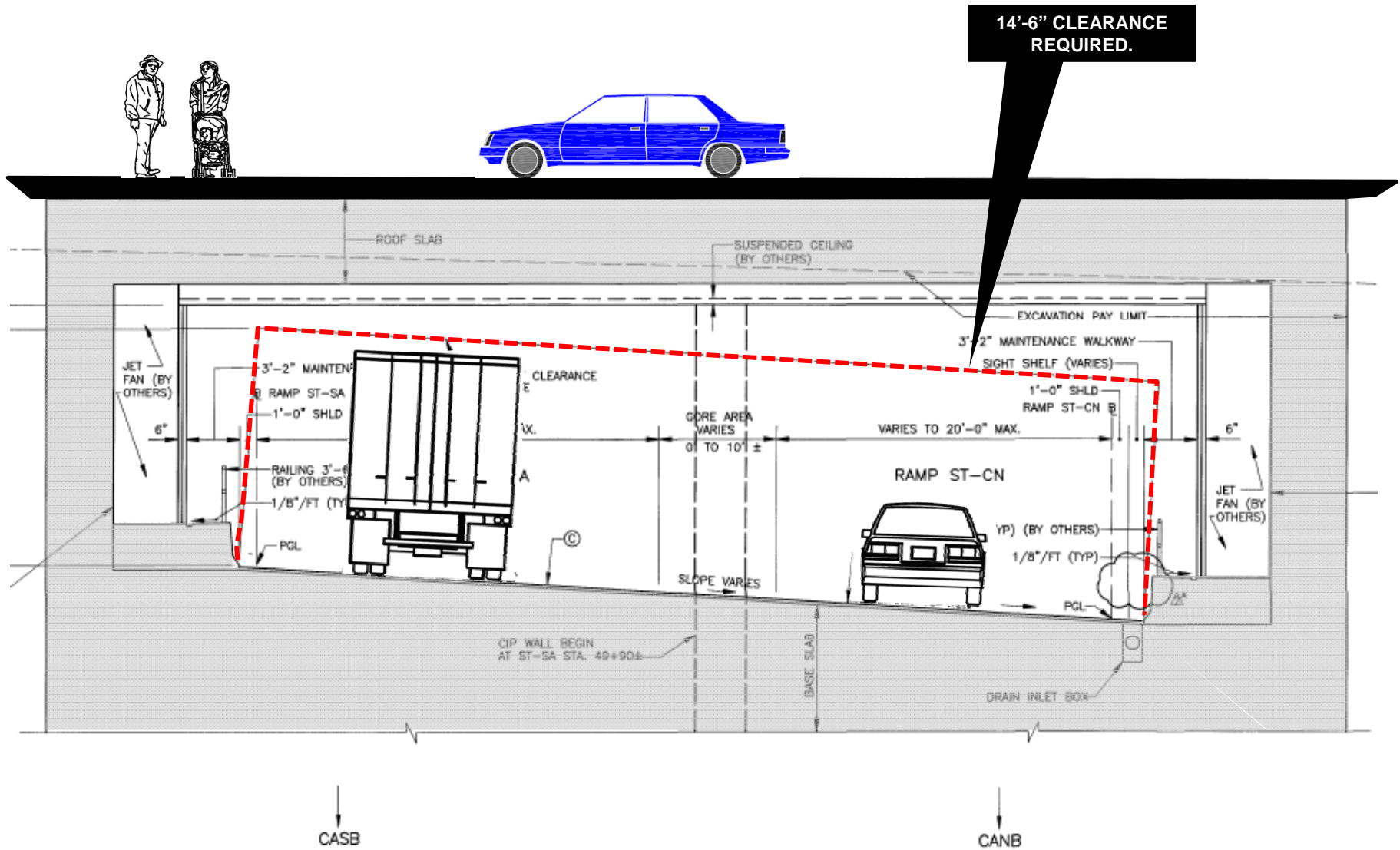
Tunnel Sections – Parcel 6



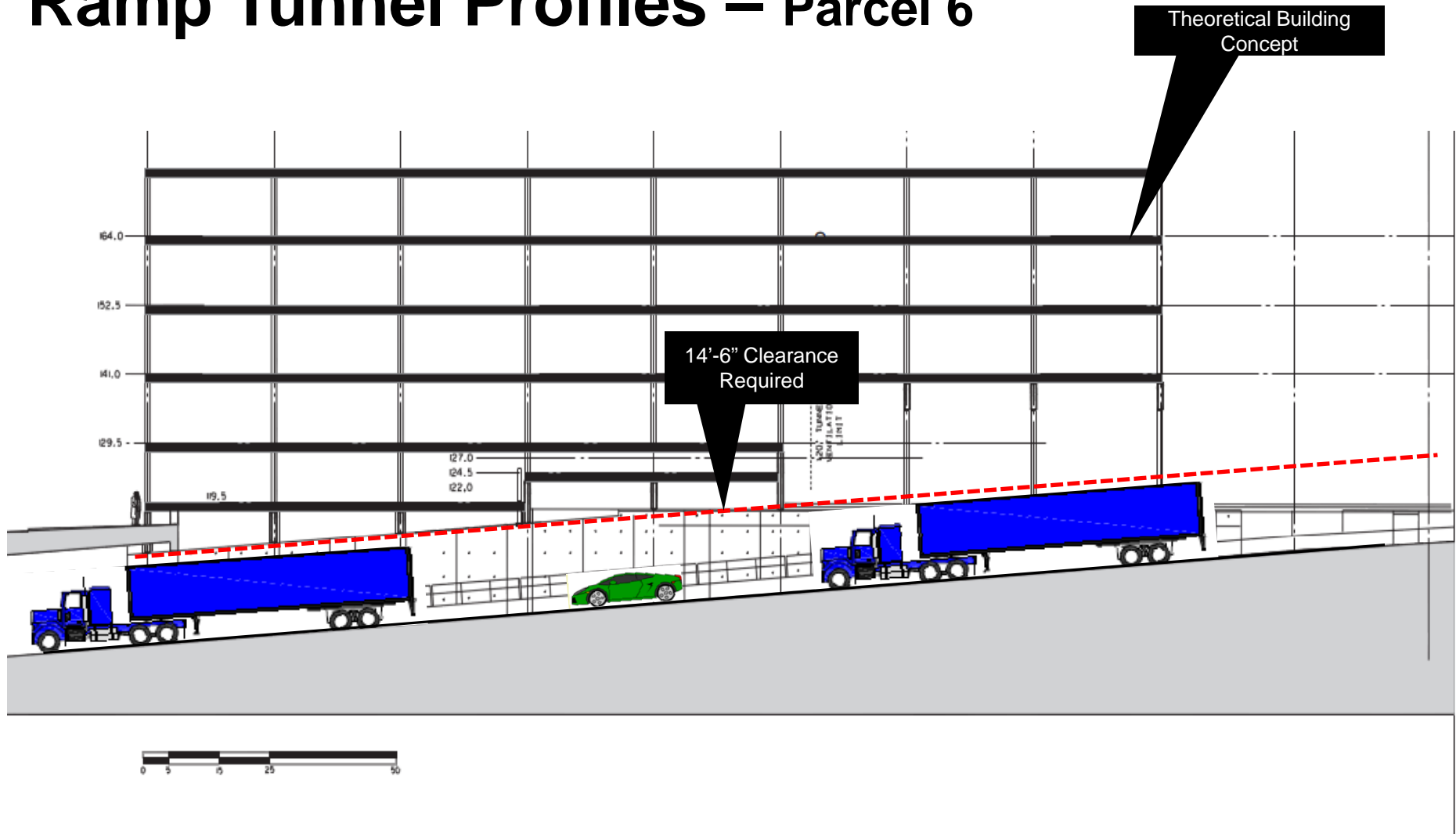
I-93 Tunnels – Parcel 6



Typical Ramps – Parcel 6

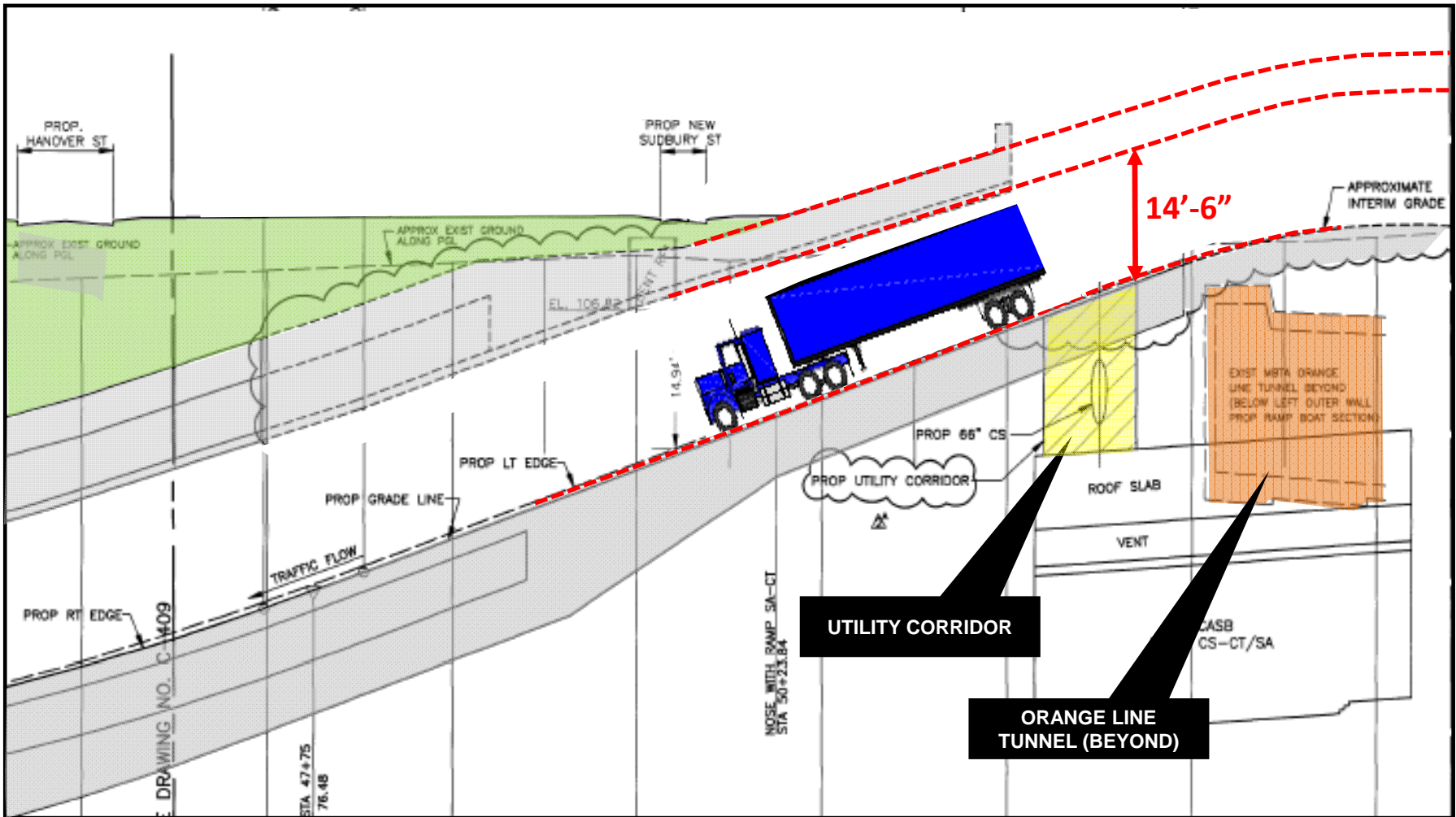


Ramp Tunnel Profiles – Parcel 6



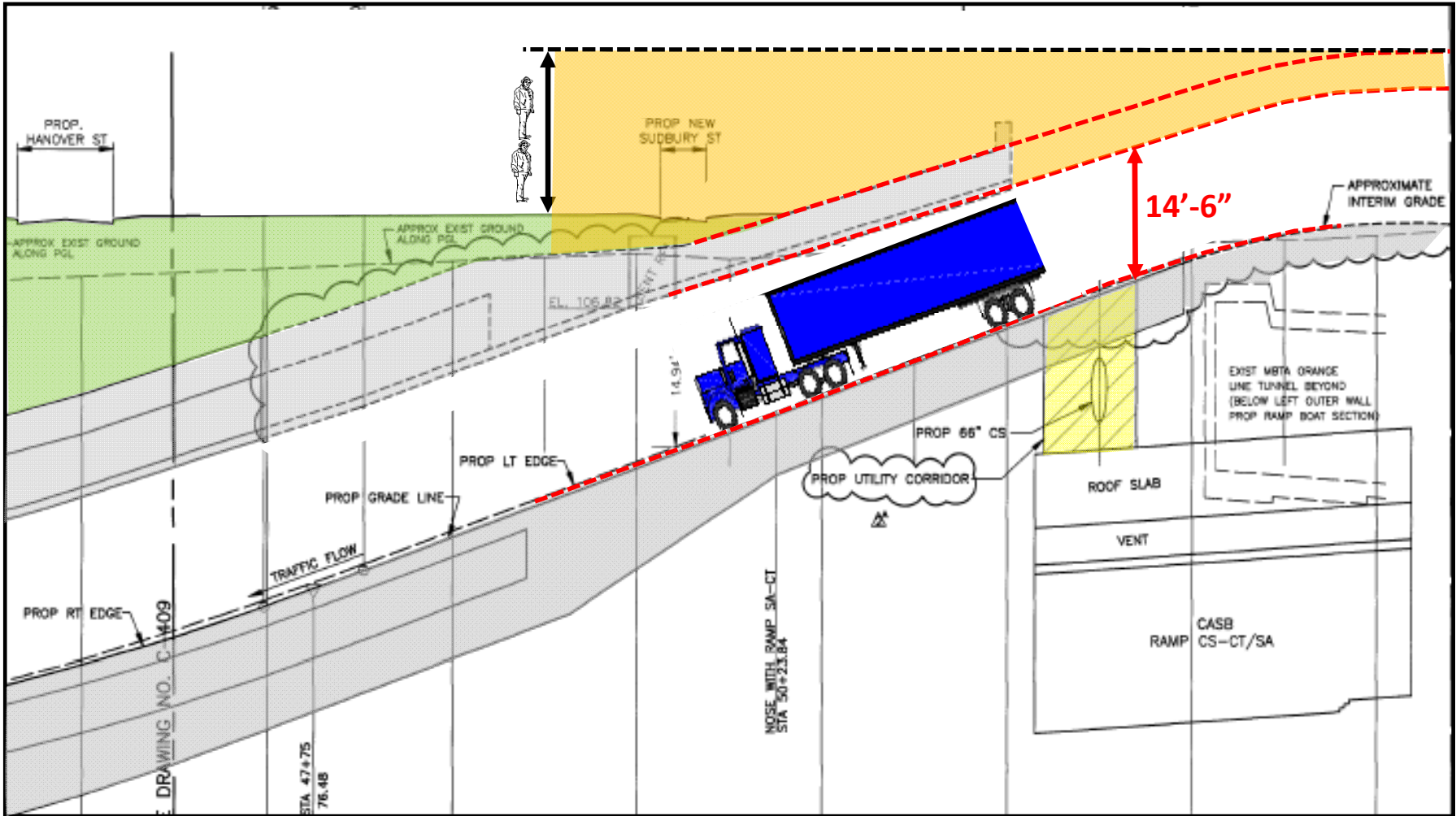
Longitudinal Section through Ramp SA-CS (SC), looking west.
(With theoretical 5-story building concept)

Ramp Tunnel Profiles – Parcel 6



Longitudinal Section through Ramp SA-CS (SC), looking west.

Ramp Tunnel Profiles – Parcel 6

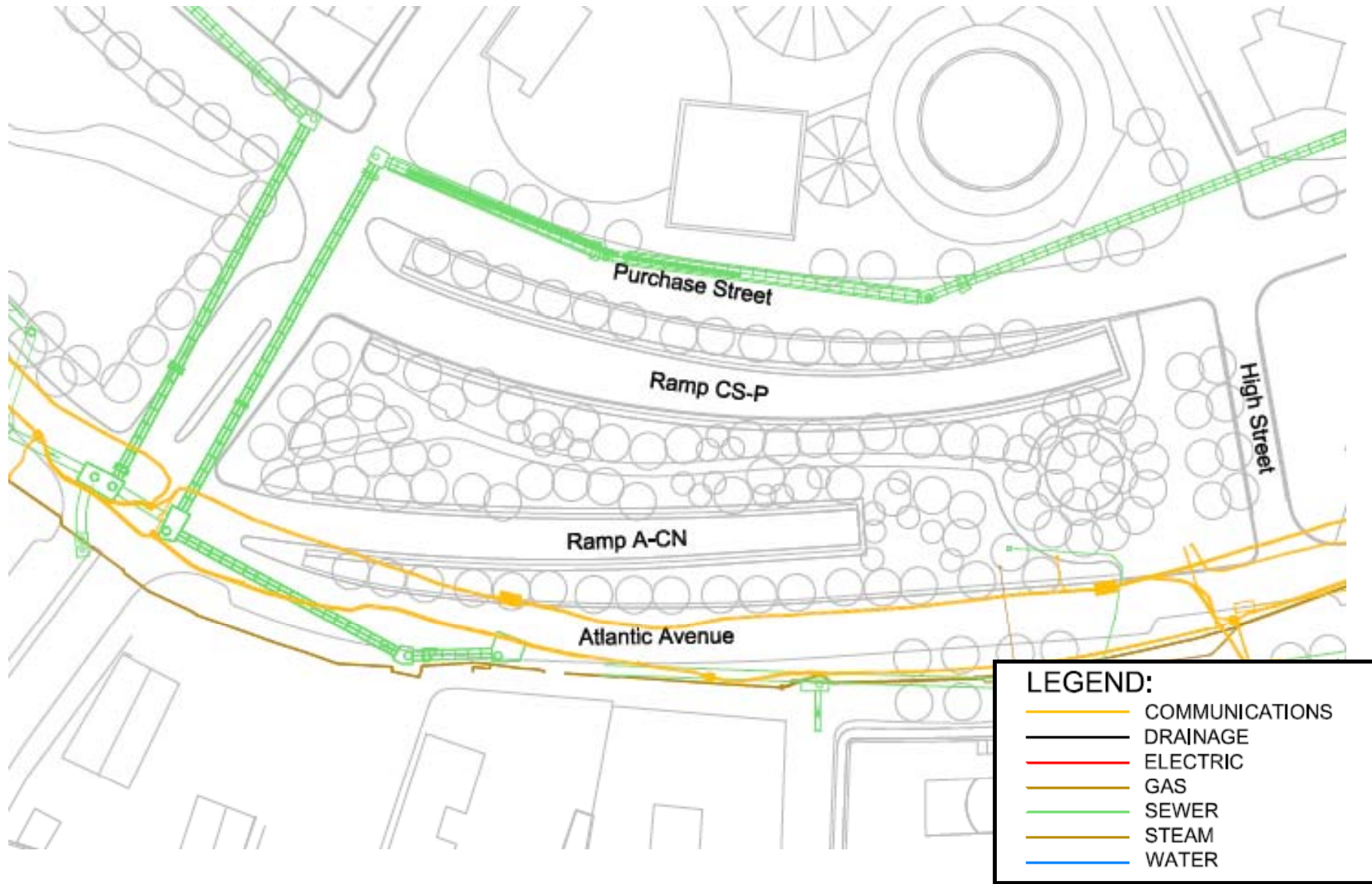


Longitudinal Section through Ramp SA-CS (SC), looking west.

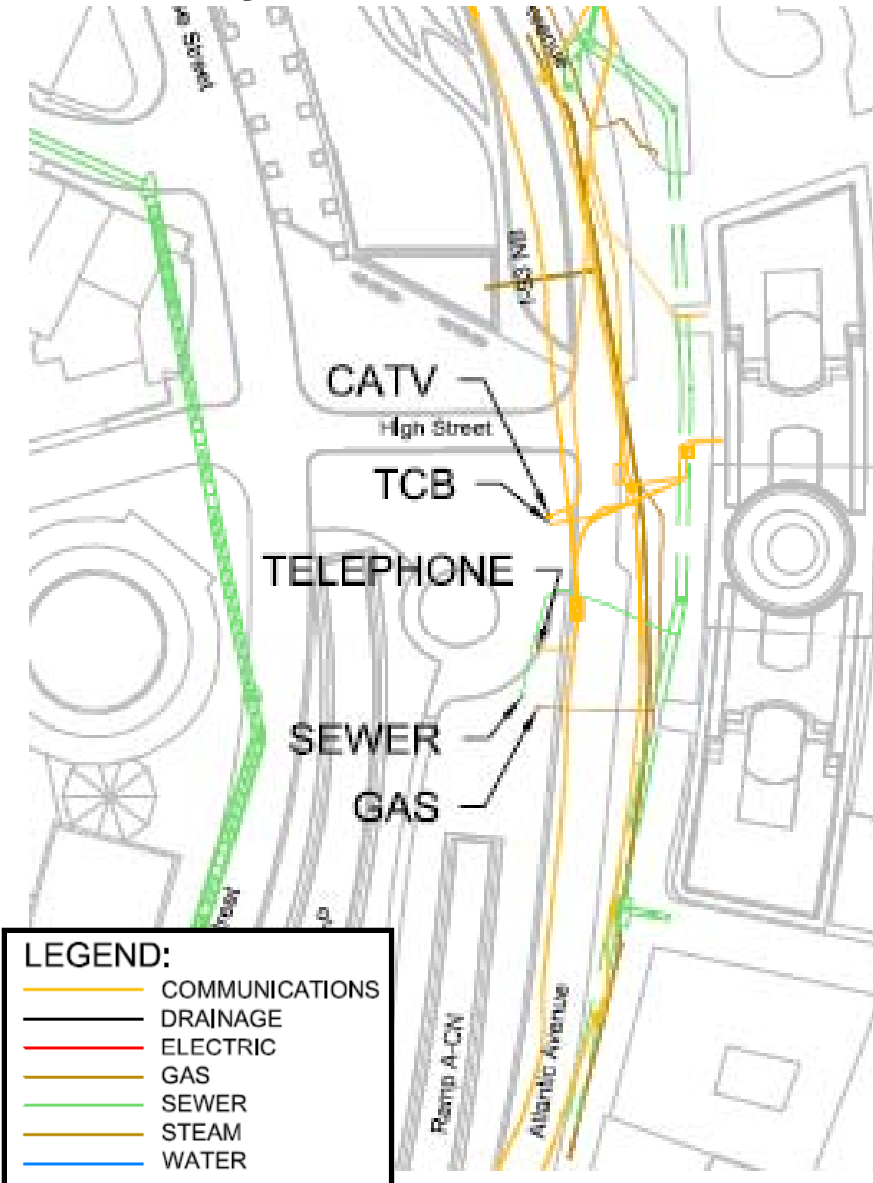
General Design Elements

Underground Utilities

Utility Corridors – Parcel 18

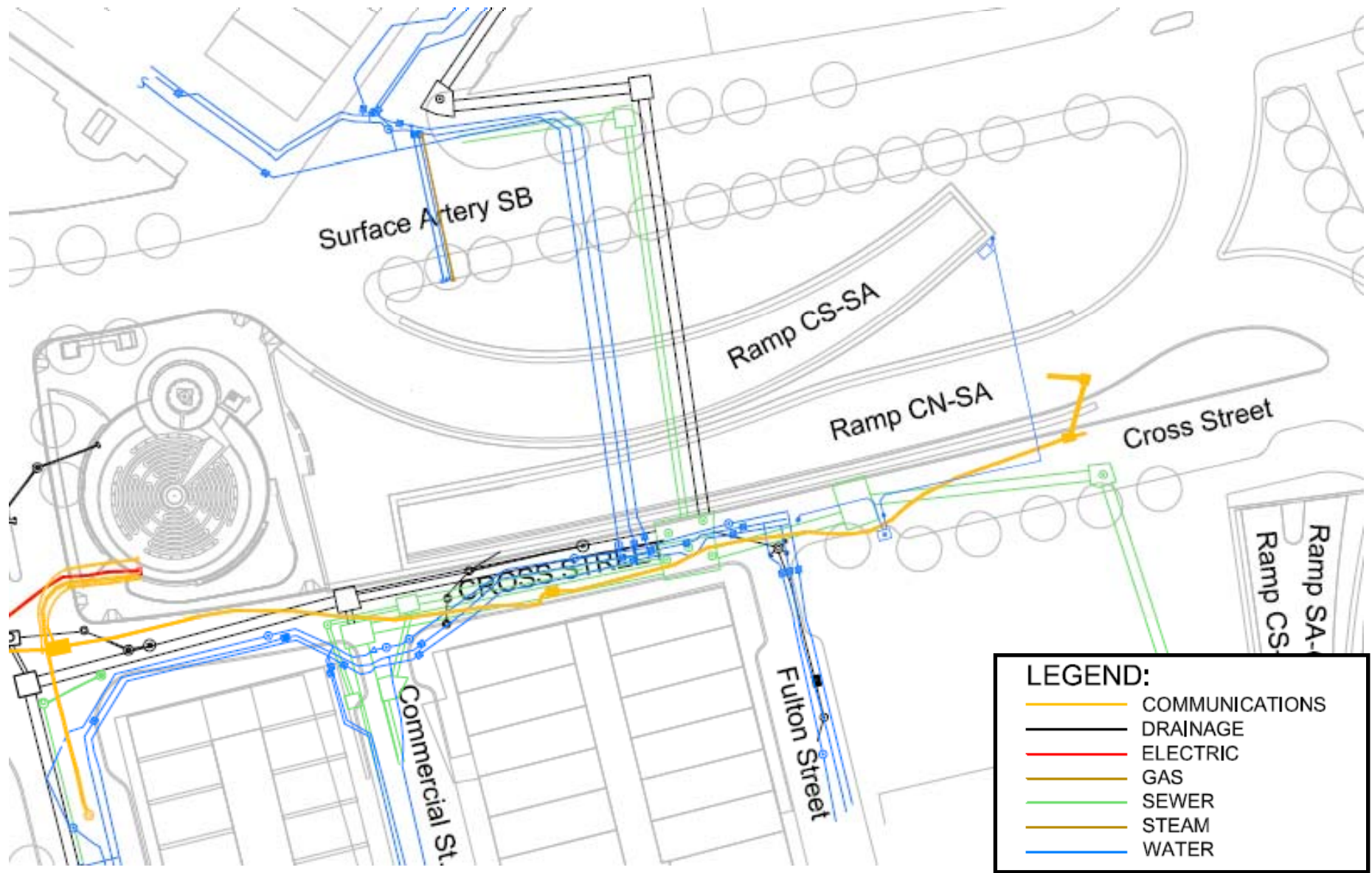


Utility Service Connections – Parcel 18

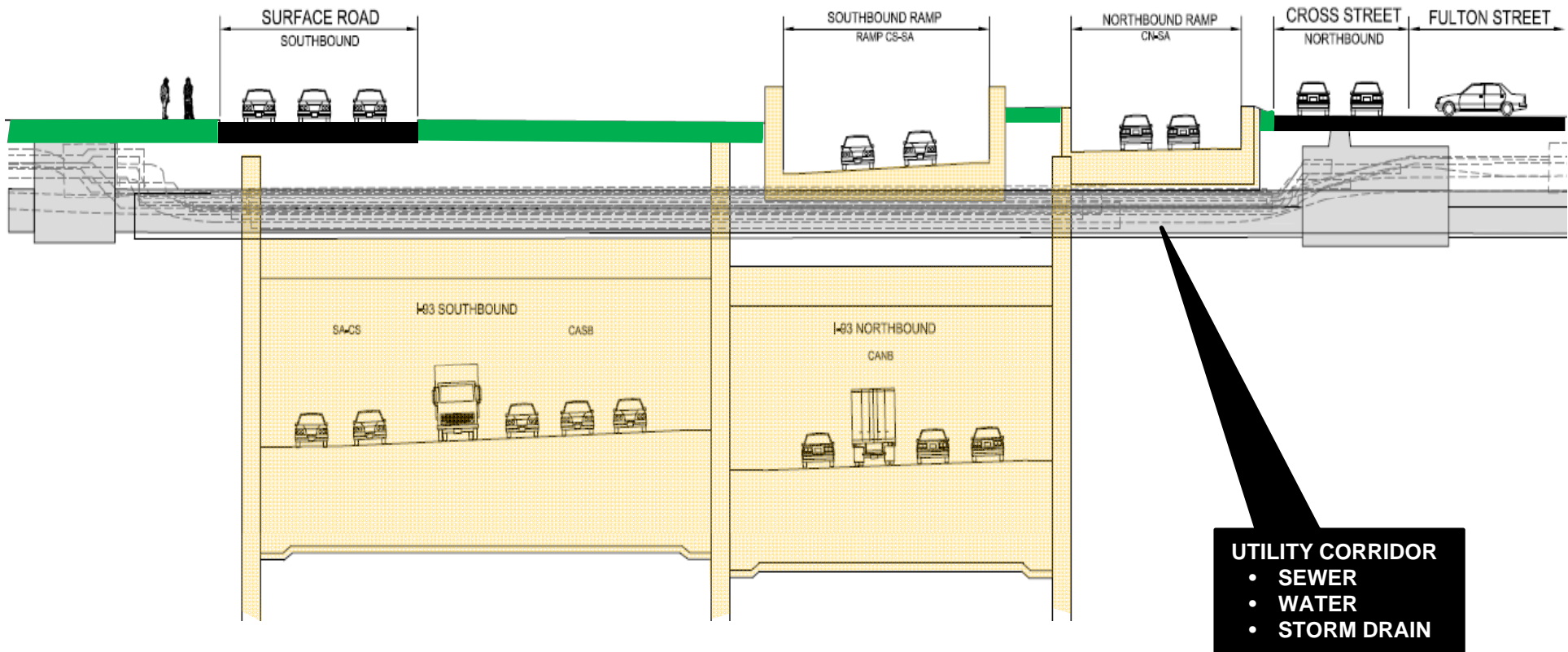


Utility	Description	Remark
Drainage	N/A	No stub provided.
Electric	N/A	No stub provided.
Gas	4"	Gas stub located under NE area of the parcel, along Atlantic Ave.
Sanitary Sewer	8" DIP	Capped in NE corner of parcel adjacent to Atlantic Ave.
Telecomm.	2-4" CATV	Ducts capped under NE area of the site.
	2-4" TCB	Ducts capped under NE area of the site.
	2-4" TE	Ducts capped under NE area of the site.
Water	N/A	No stub provided.

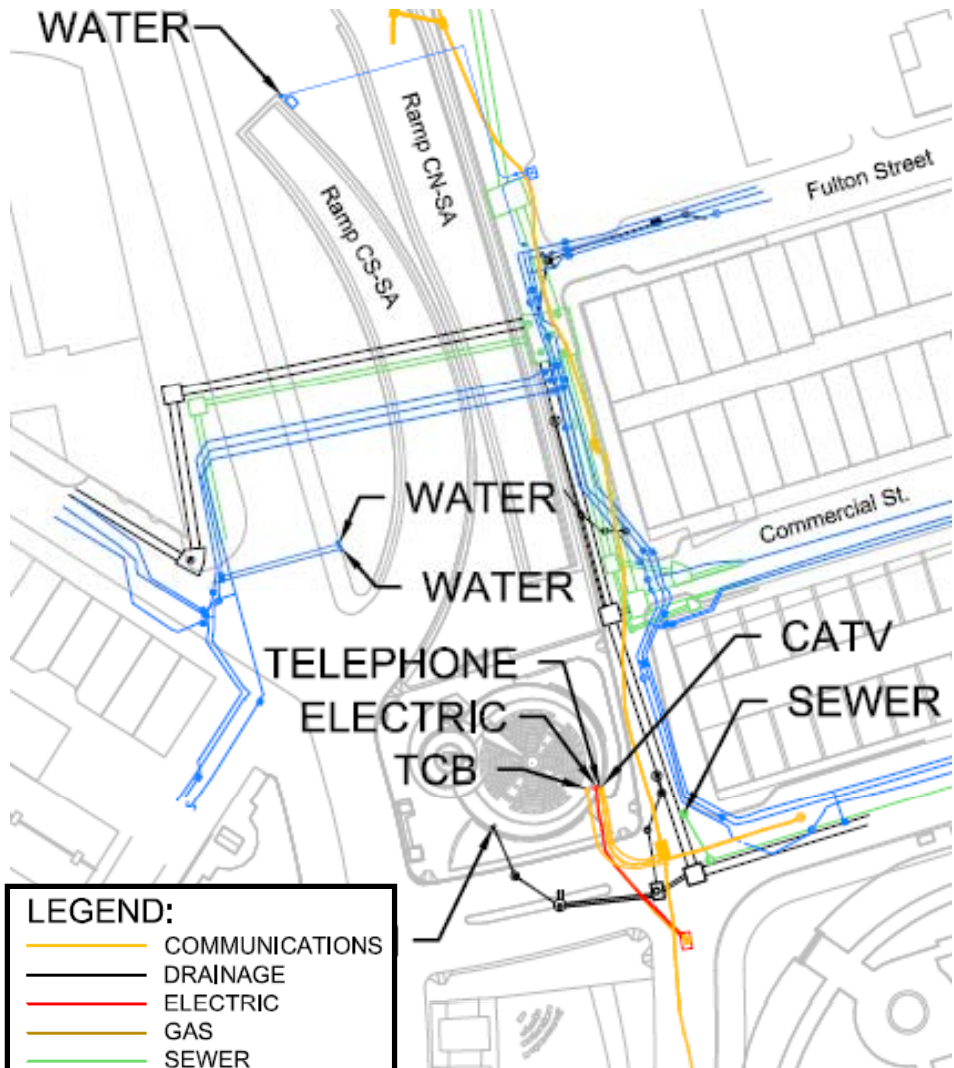
Utility Corridors – Parcel 12



Utility Corridors – Parcel 12



Utility Service Connections – Parcel 12

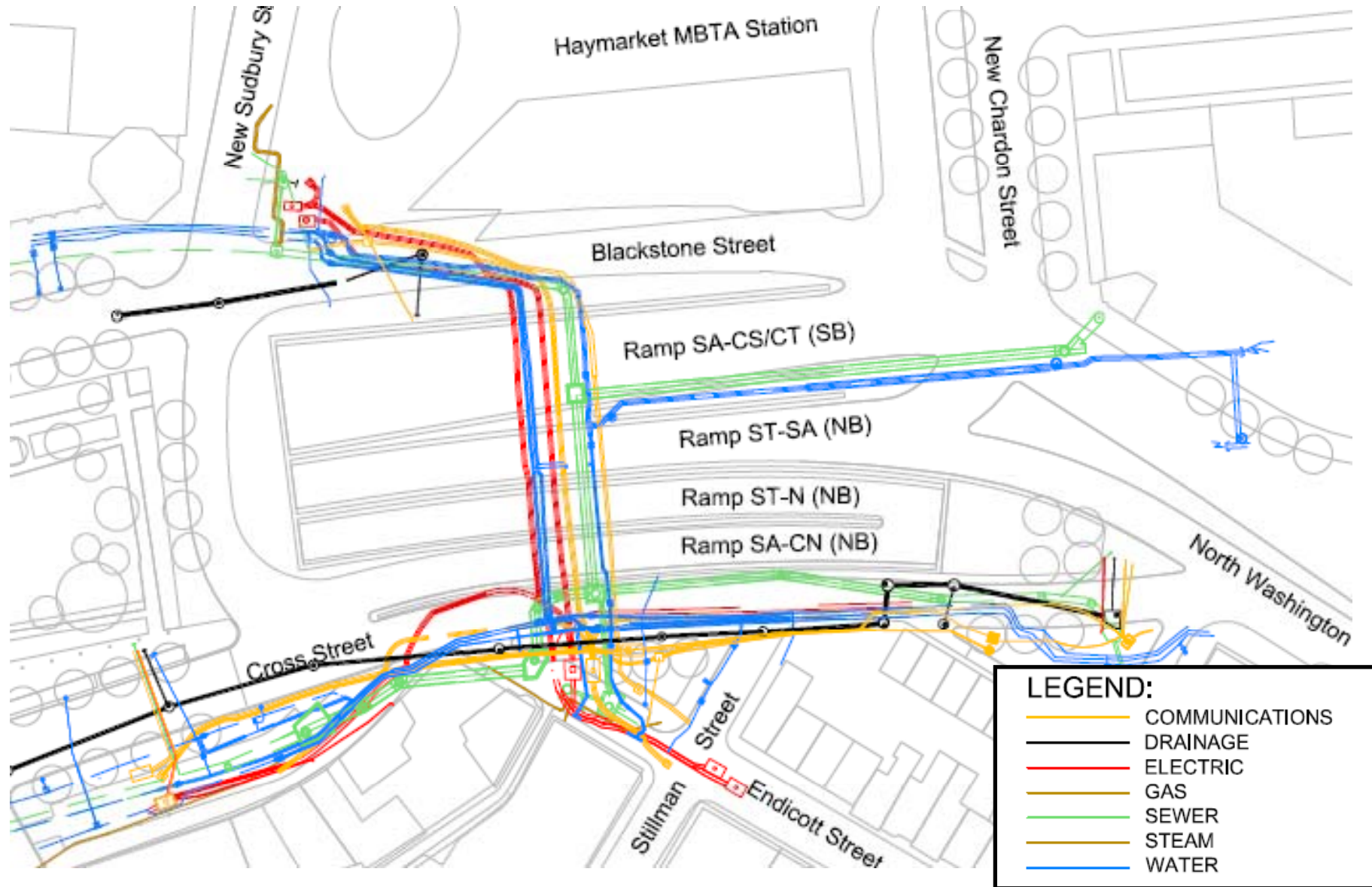


Utility	Description	Remark
Drainage	15" RCP	Capped at the southern end of the parcel.
Electric	8-5" ducts	Capped ducts provided under SE corner of parcel.
Gas	N/A	No stub provided.
Sanitary Sewer	10" PVC	Stubbed for future use under Atlantic Ave./Cross St.
Telecomm	2-4" CATV	Ducts capped under SE area of the site.
	2-4" TCB	Ducts capped under SE area of the site.
	2-4" TE	Ducts capped under SE area of the site.
Water	8" HS	Capped for future use on west side of parcel.
	8" LS	Capped for future use on west side of parcel.
	4" LS	For irrigation

LEGEND:

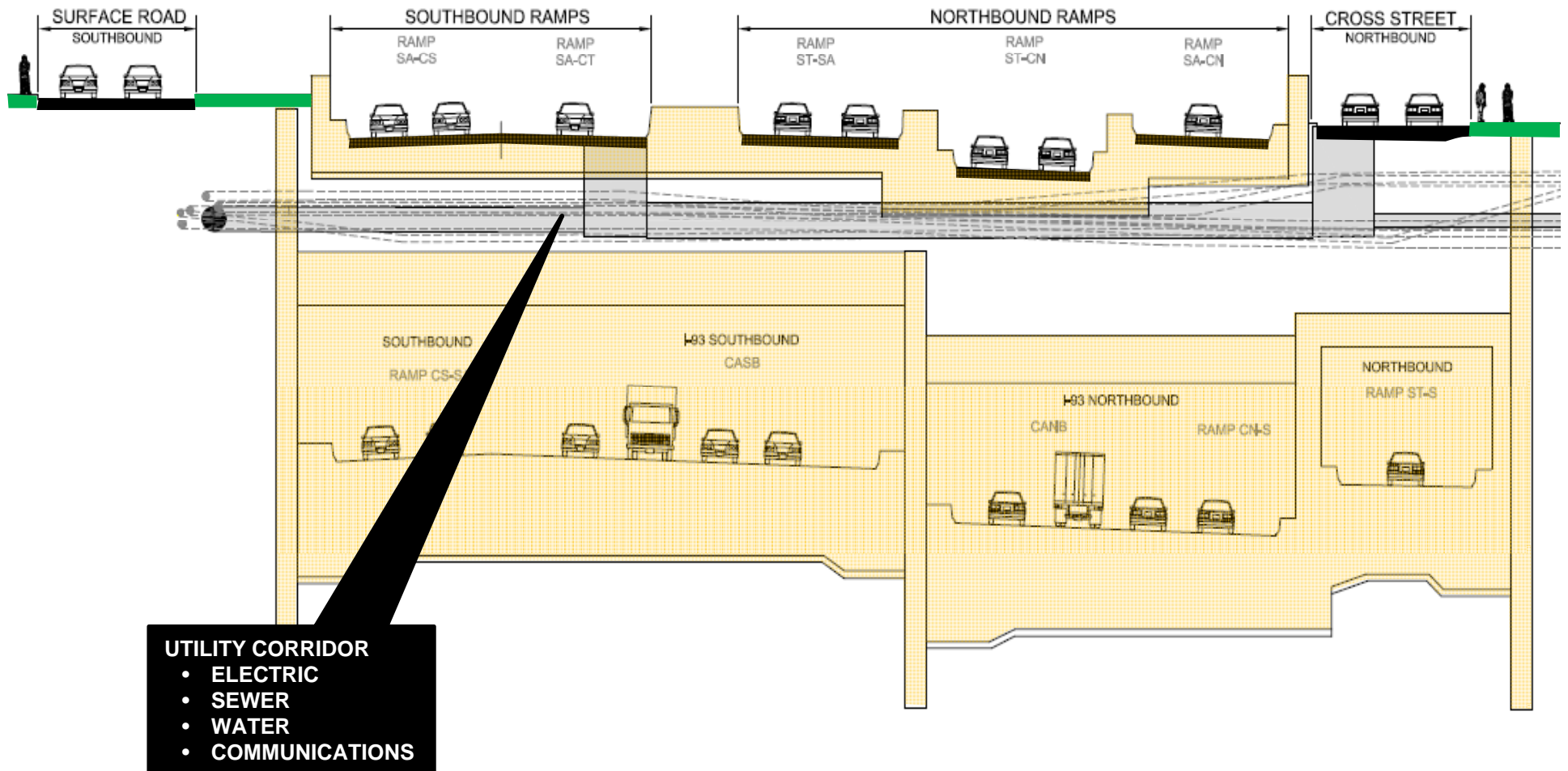
- COMMUNICATIONS
- DRAINAGE
- ELECTRIC
- GAS
- SEWER
- STEAM
- WATER

Utility Corridors - Parcel 6

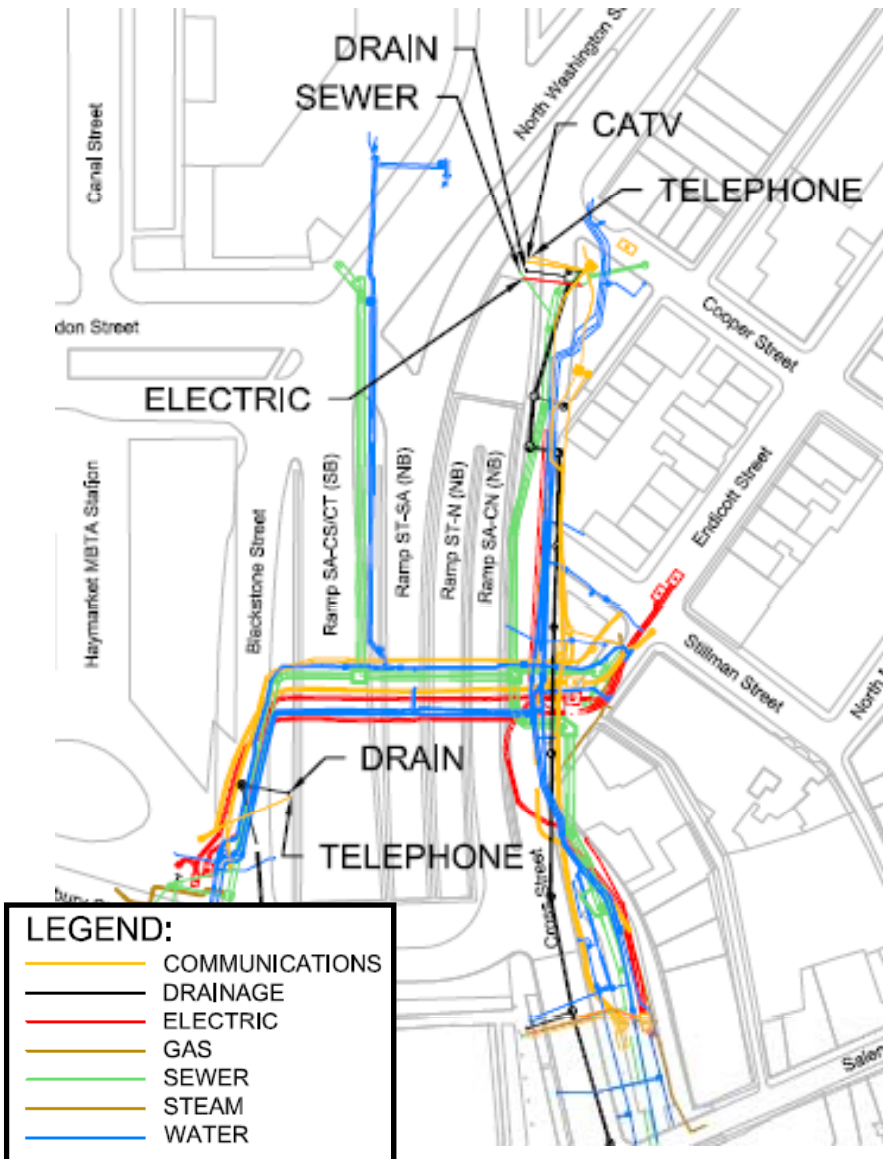


LEGEND:	
	COMMUNICATIONS
	DRAINAGE
	ELECTRIC
	GAS
	SEWER
	STEAM
	WATER

Utility Corridors - Parcel 6



Utility Service Connections - Parcel 6



Utility	Description	Remark
Drainage	16" DIP	Located on the west side of the parcel adjacent to Blackstone Street.
	6" SD	Capped under the NE corner of the site
Electric	2-5" ducts	Capped under the NE corner of the site.
Gas	N/A	No stub provided.
Sanitary Sewer	6" SS	Capped under the NE corner of the site.
Telecomm.	2-4" CATV	Ducts capped under NE area of the site.
	2-4" TE	Ducts capped under NE area of the site.
	2-4" TE	Ducts capped under NE area of the site.
Water	N/A	No stub provided.

General Design Elements

Structural Design Considerations

Design Phase Studies

Prototype Study (1990):

Defined Needed Analysis to Support Building Development

Base Case Study (1990):

Defined allowable Building Loads (with no tunnel modifications)

1991 Joint Development Parcel Study:

Defined Structural Modifications & Costs to support allowable Building Types

Parcel 6 Cover Study (1998):

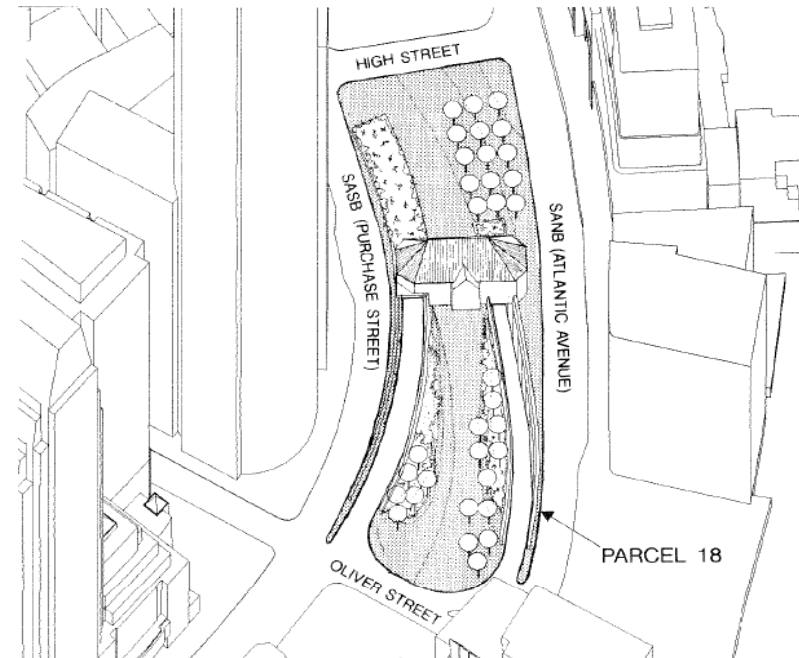
Defined Specific Building and Cover Loading Conditions for potential Parcel 6 Developments

Structural Design Considerations

Parcel Development- Design Accommodations Parcel 18

- Parcel Area: 85,000 SF +/-
- *Joint Development Study: Assumed 2-story pavilion with partial cover planned (35'h max/1200 sf)*
- Assumed loading on Tunnel walls (line loads) and ceilings (distributed loads)
- Allowable Tunnel Cover Limits:

Parcel 18 Ramp	Descr.	Allowable Cover
A-CN	NB-on	Not Studied
CS-P	SB-off	40'



1991 Joint Development Parcel Study



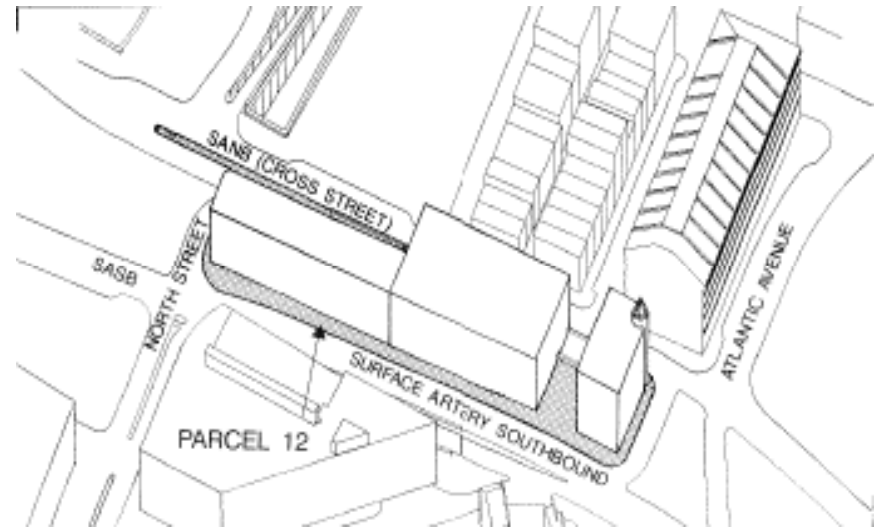
2003 RFQ - Center For the Arts

Parcel Development- Design Accommodations Parcel 12

- Parcel Area: 51,000 SF +/- (FAR 4)
- *Joint Development Study: Assumed 5-story building (55'h max/258k gsf)*
- Assumed loading on Tunnel walls (line loads) and ceilings (distributed loads)
- SB off-ramp walls not designed to accept building loads (next slide)
- Access to Utility corridor required.
- Allowable Tunnel Cover Limits:

Parcel 12 Ramp	Descr.	Allowable Cover
CS-SA	SB-off	300'
CN-SA	NB-off	360' *

**Ventilation Modifications May be Required.*



1991 Joint Development Parcel Study

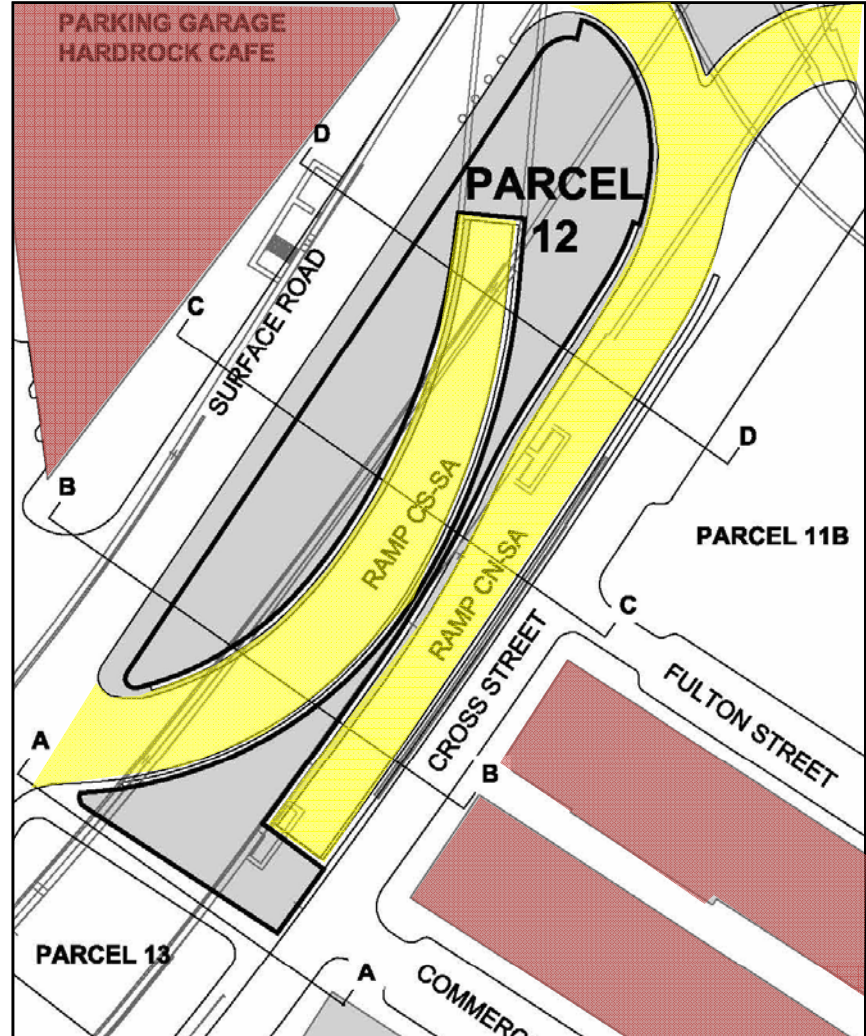


2004 RFQ - Boston Museum

Parcel Development-Design Accommodations – Parcel 12



Original SB On-Ramp Design

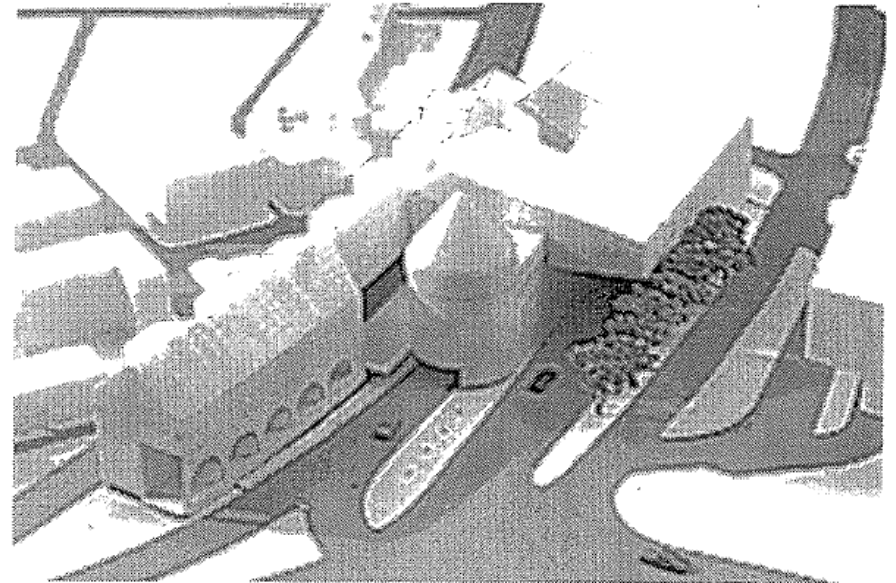


As-Built SB On-Ramp Design

Parcel Development- Design Accommodations Parcel 6

- Parcel Area: 40,000 SF +/- (FAR 4)
- *Parcel 6 Cover Study: Redesigned for total 5-story building (55'h max/140k gsf)*
- Assumed loading on Tunnel walls
- Allowable Tunnel Cover Limits:

Parcel 6 Ramp	Descr.	Allowable Cover
SA-CN	NB-on	75'
ST-CN	NB Thru (Sumner)	Entire Ramp
ST-SA	NB-off (Sumner)	265'
SA-CS/CT	SB-on (Callahan)	120'



1998 Parcel 6 Cover Study

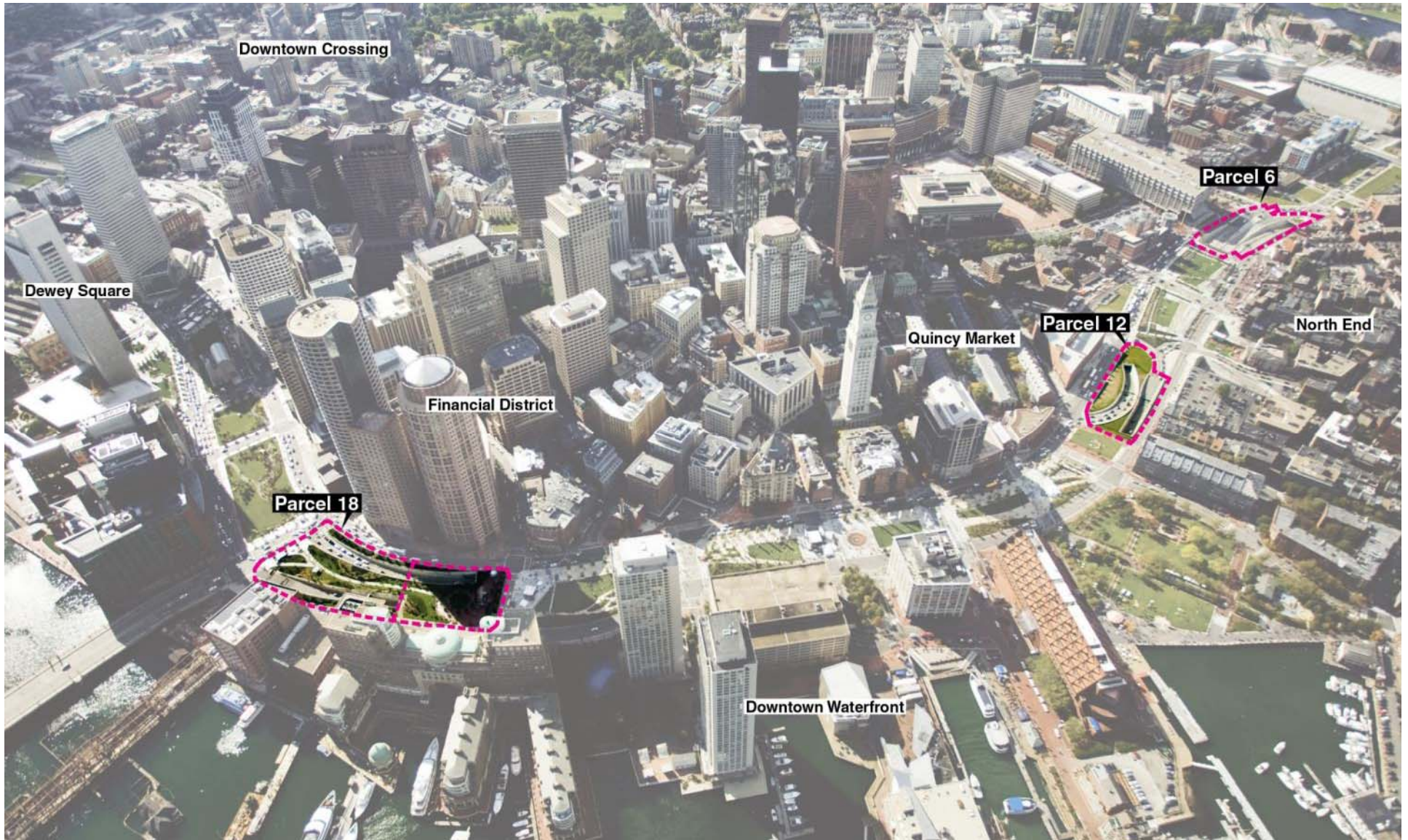


2003 RFQ - YMCA

Urban Design Analysis

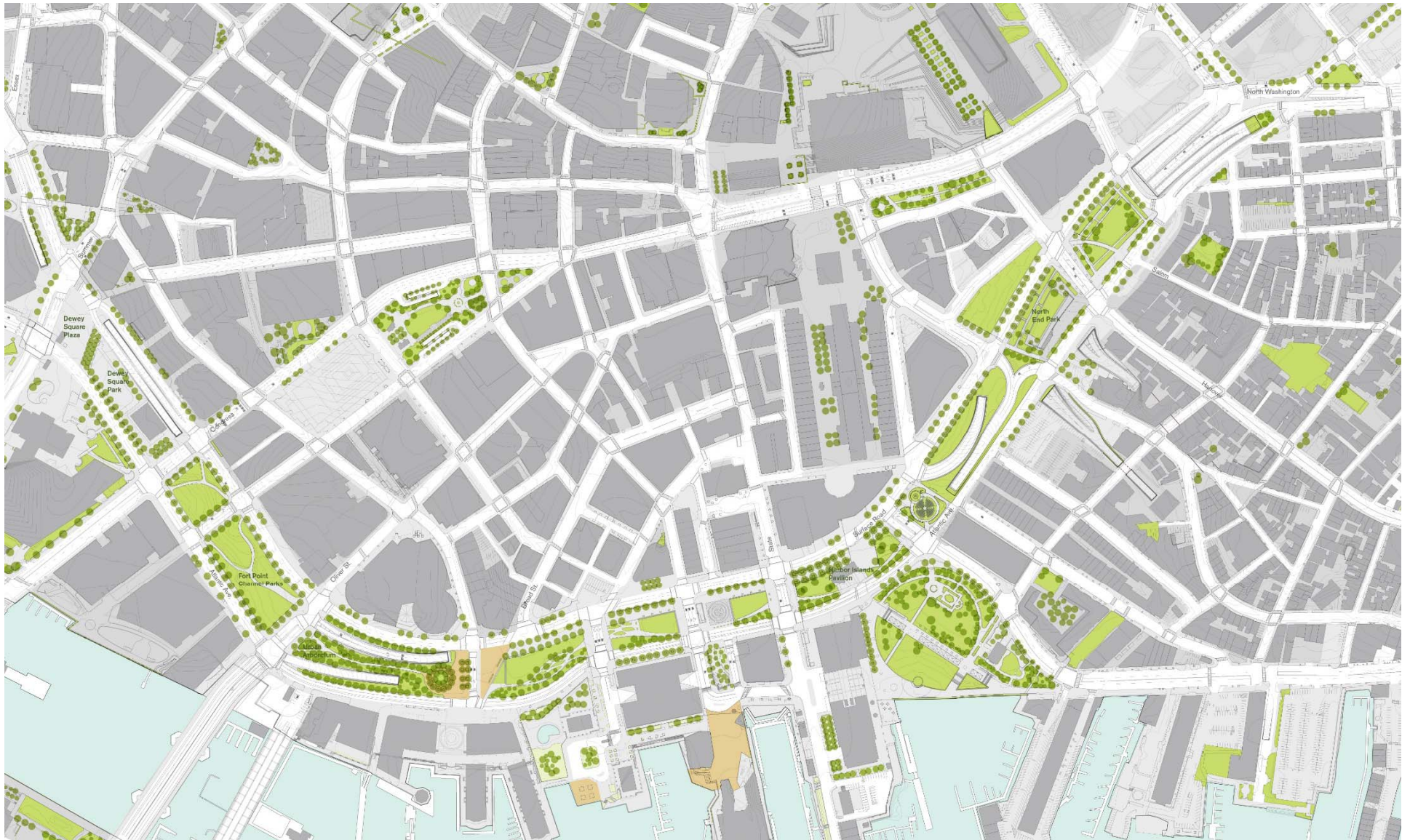
Purpose of the Study

Addressing the Ramp Parcels



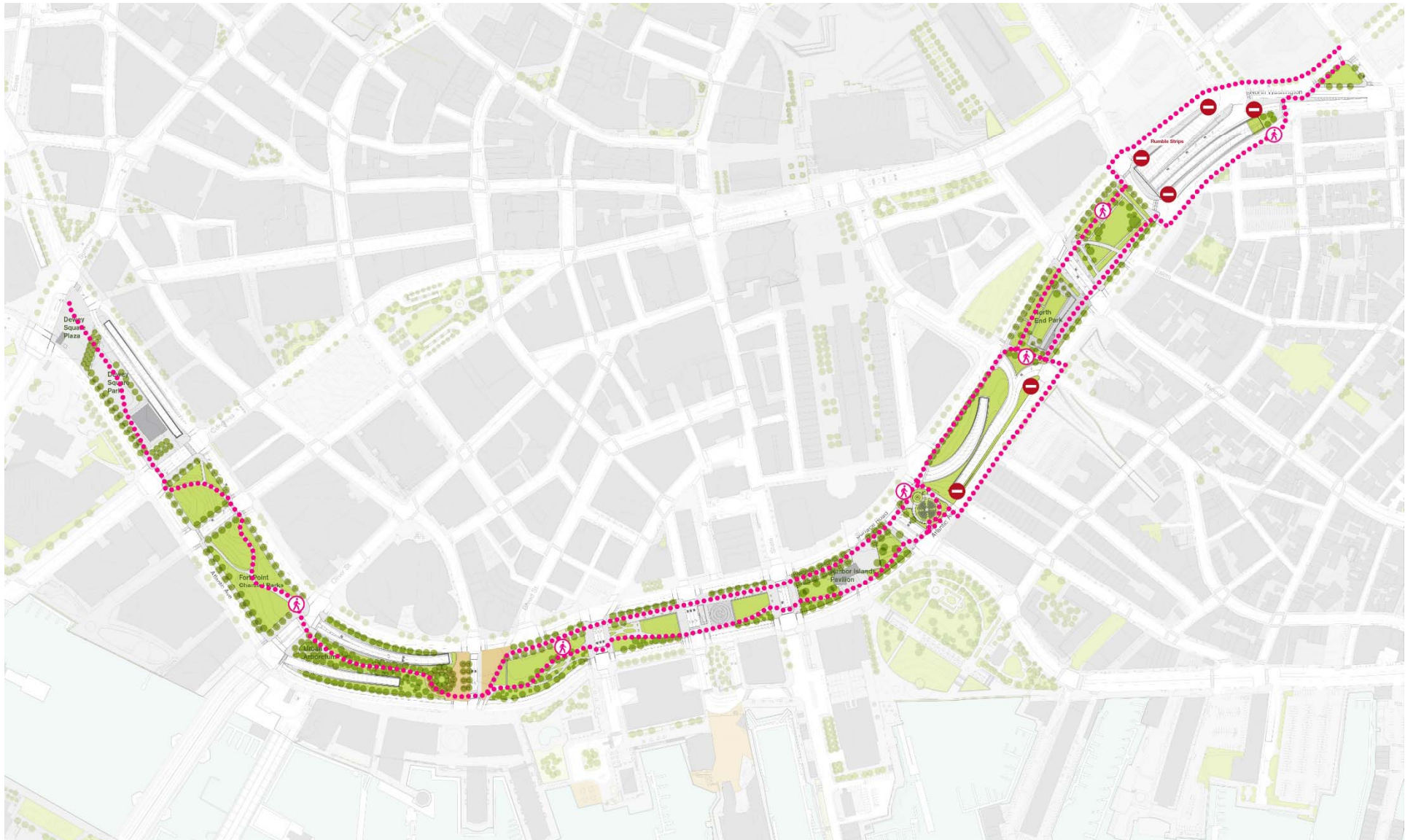
Purpose of the Study

Addressing the Ramp Parcels



Purpose of the Study

Continuity along Greenway



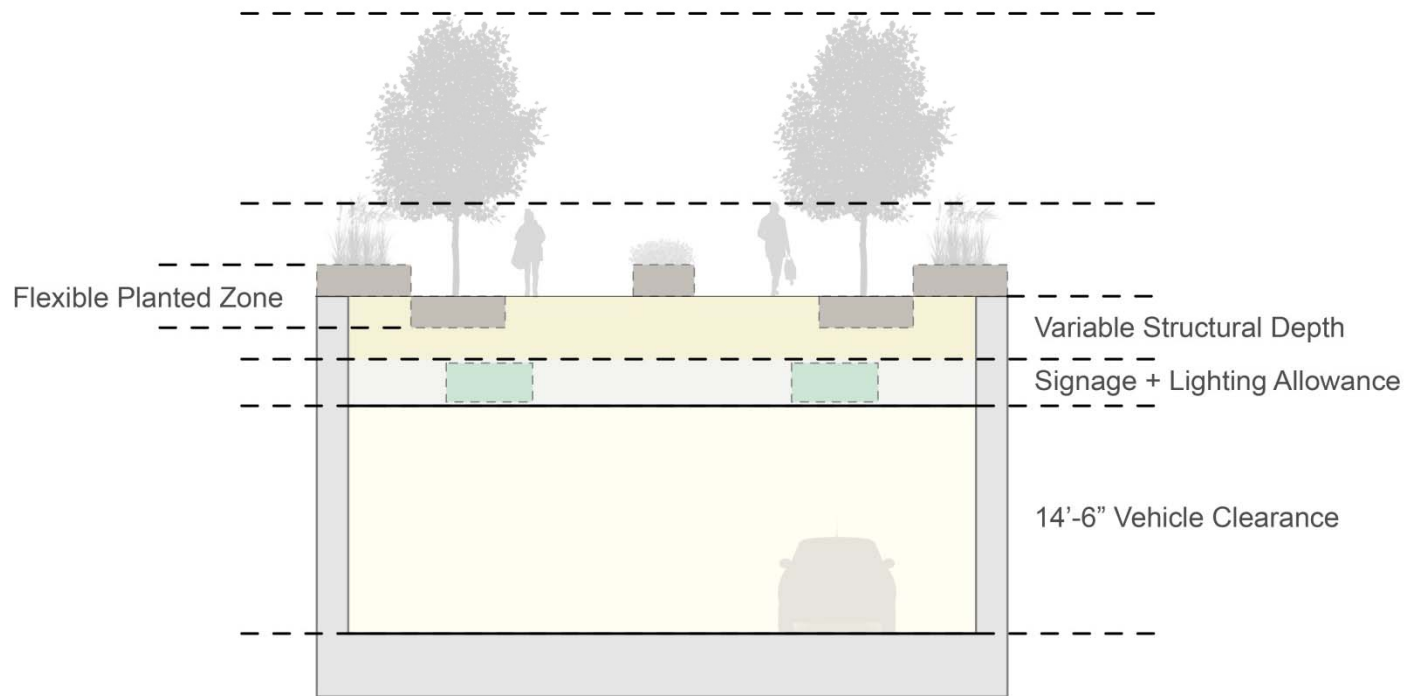
Purpose of the Study

Cross-Connections



Individual Ramp Parcels

Typical Ramp Design Parameters

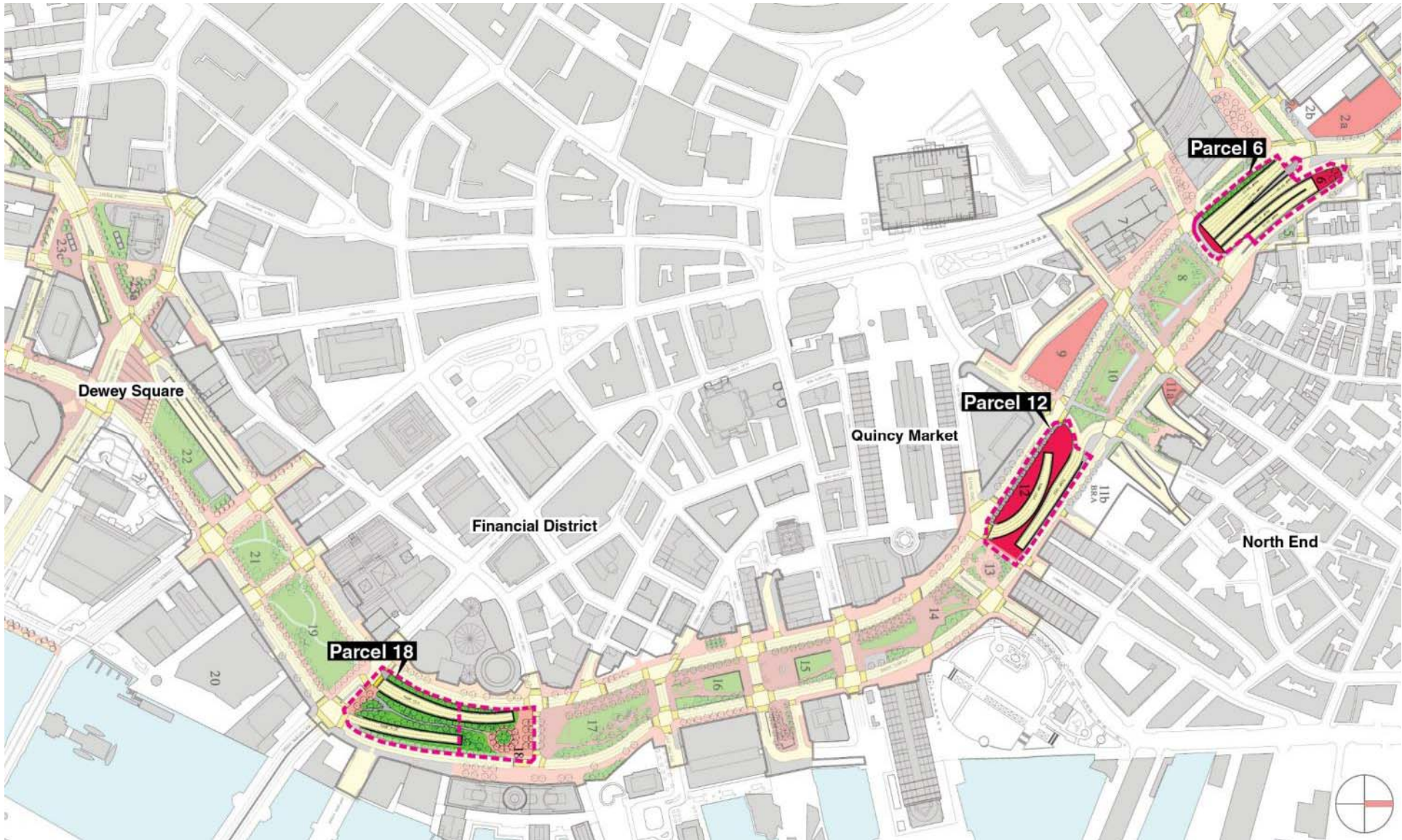


Methodology and Variations

- **Option A – *Screening (Vertical)***
 - Fencing
 - Vegetation
 - Art/mural
- **Option B – *Cover (Horizontal)***
 - Open air
 - Fully enclosed
 - Accessible deck
 - Bridge
 - Green roof
- **Option C – *Building Concept***
 - Pavilion/Kiosk/Vending
 - Building corresponding to zoning use

Purpose of the Study

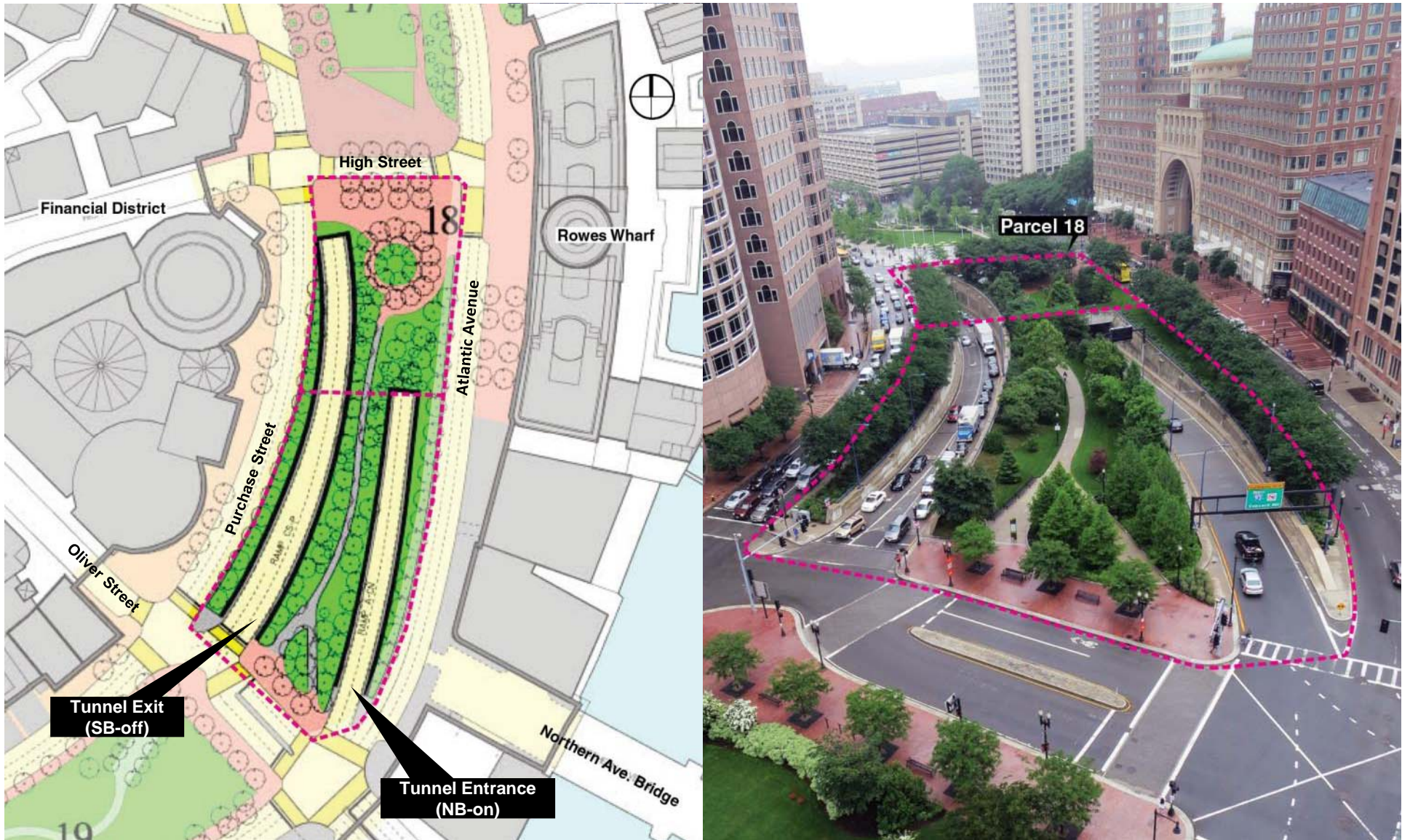
Addressing the Ramp Parcels



Individual Ramp Parcels

Parcel 18

Parcel 18



Parcel 18 Overall Character

- **Robust, inviting, and well-landscaped.**
- **Ramps are not visible from pedestrian walkways, but:**
 - **Additional screening could better shield the ramps.**
 - **Ramps are not well screened facing the street.**

Parcel 18 Uses

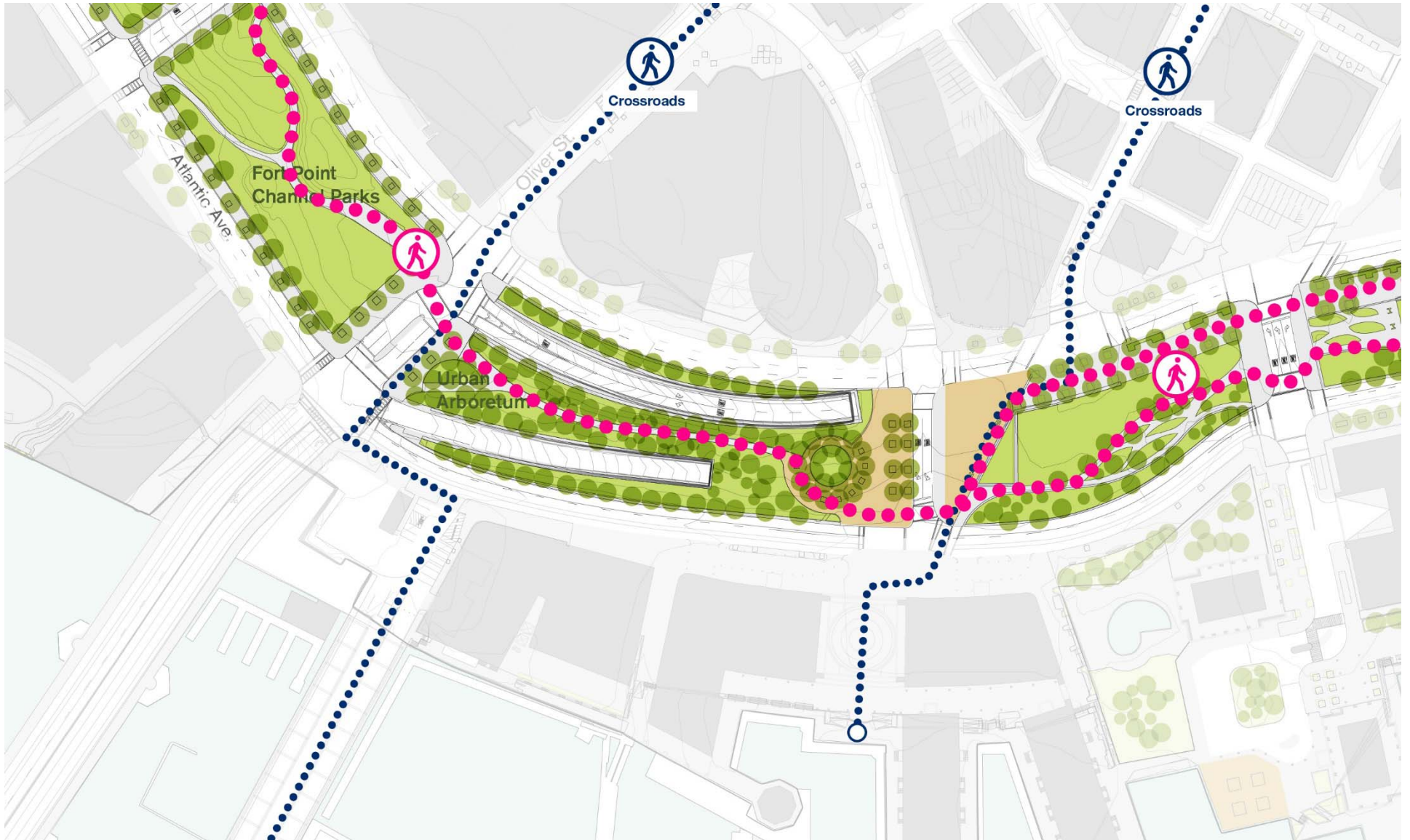




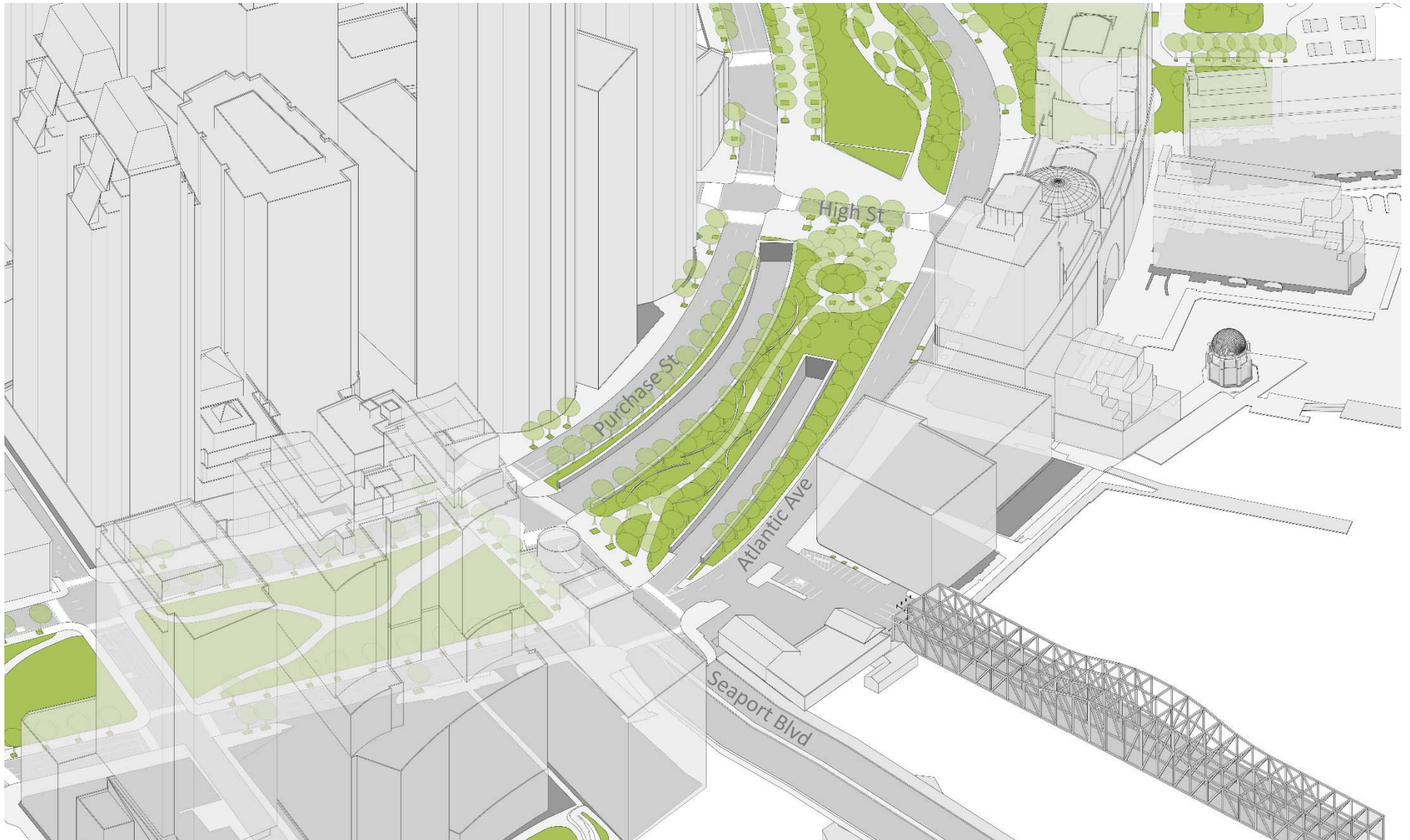
Parcel 18 Potential View Corridors



Parcel 18 Circulation

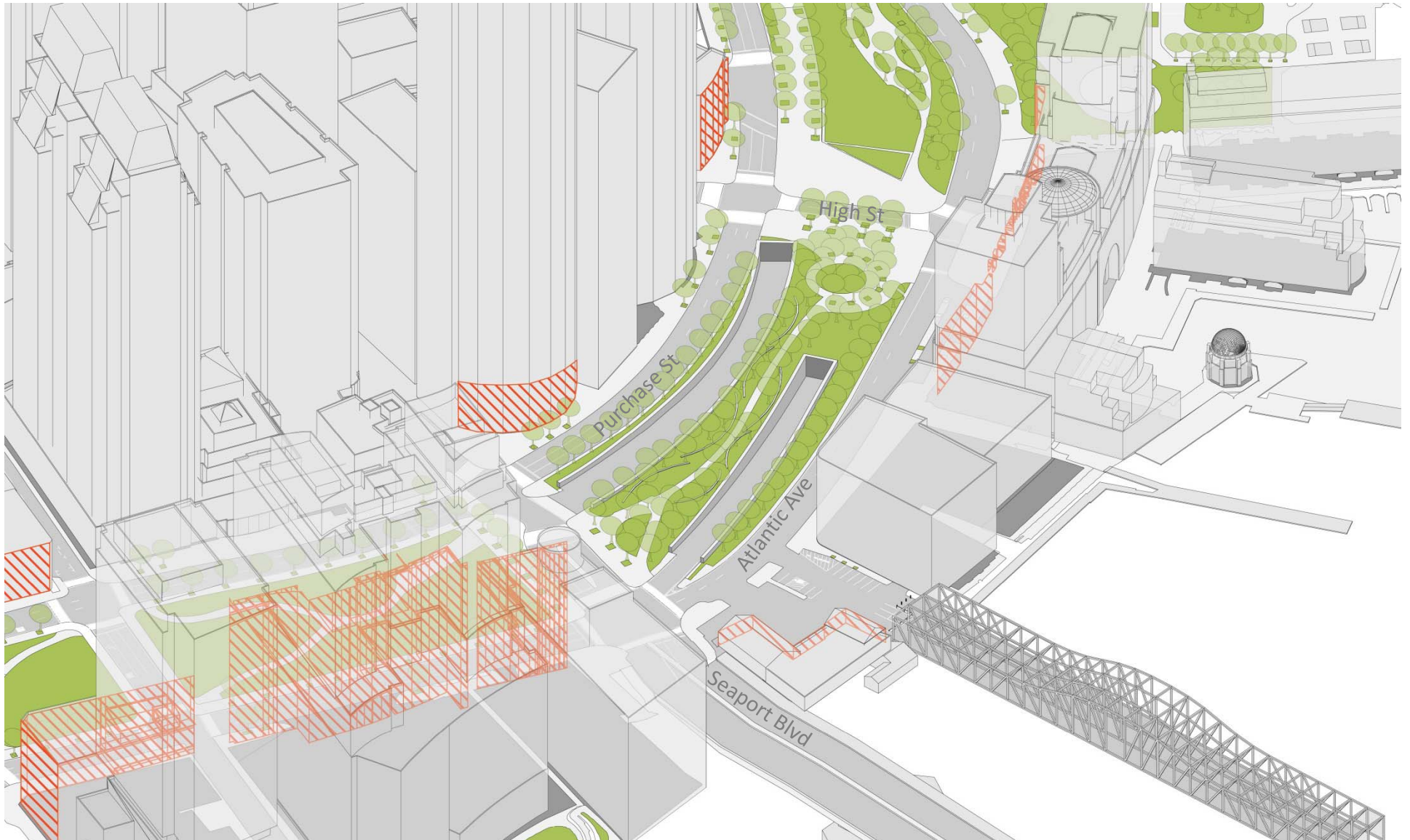


Parcel 18 Perspective



Parcel 18 Active Edges

Active Edges: Publicly accessible uses



Parcel 18 Perspective



Parcel 18 Perspective





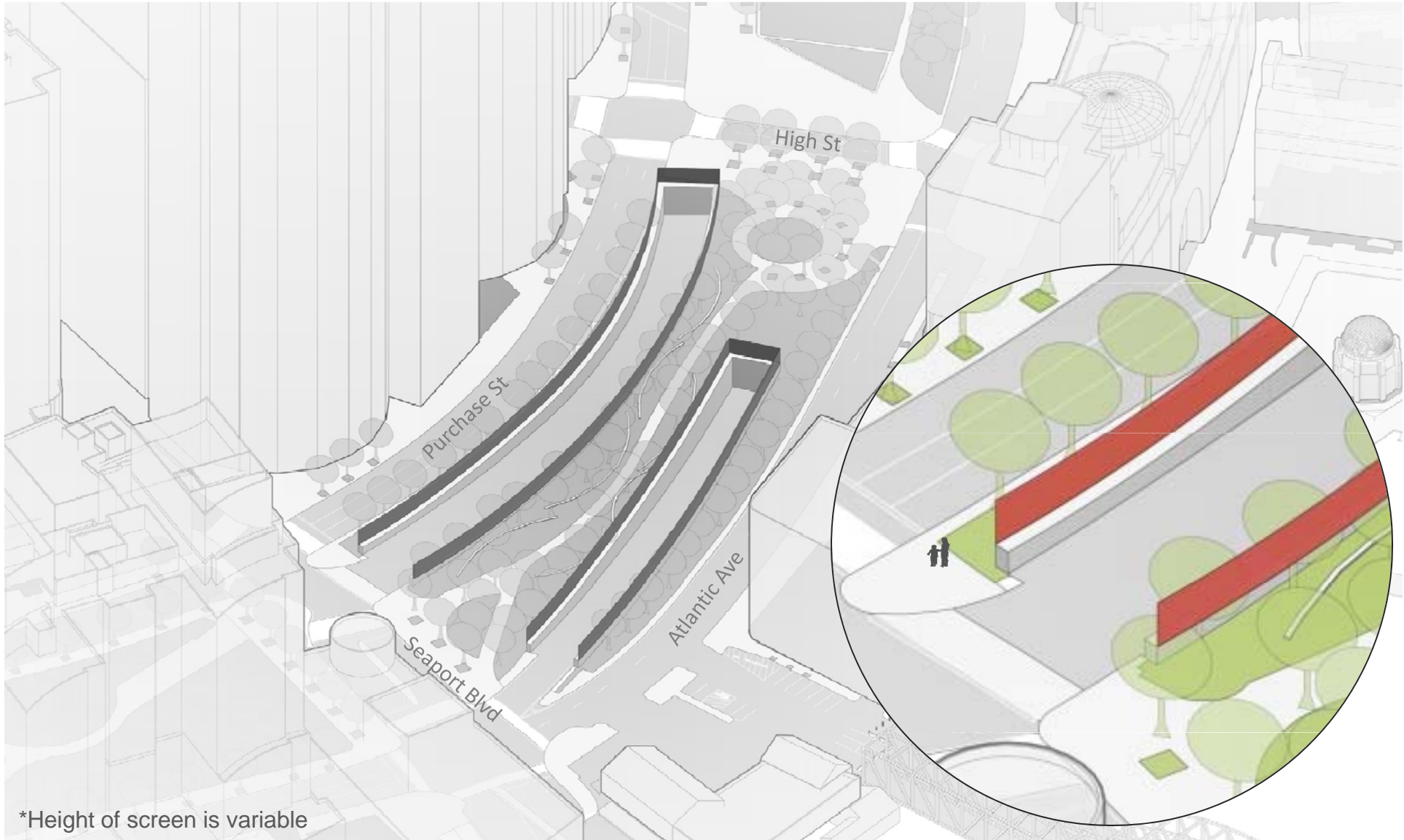
Parcel 18: Option A - Screening



*Height of screen is variable



Parcel 18: Option A - Screening



*Height of screen is variable

“Screening”: Examples

Trees and hedges



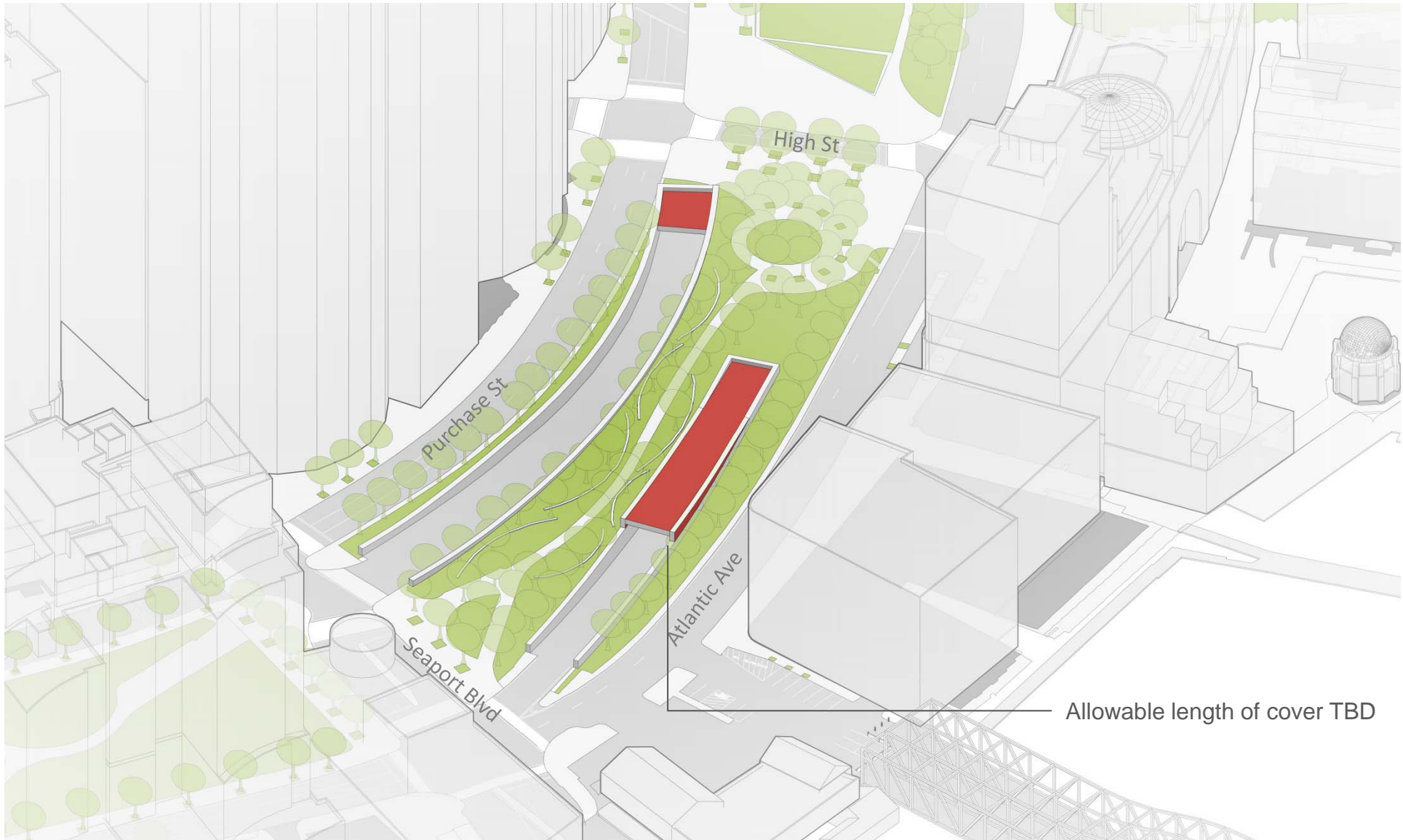
Fencing / Walls



Public Art

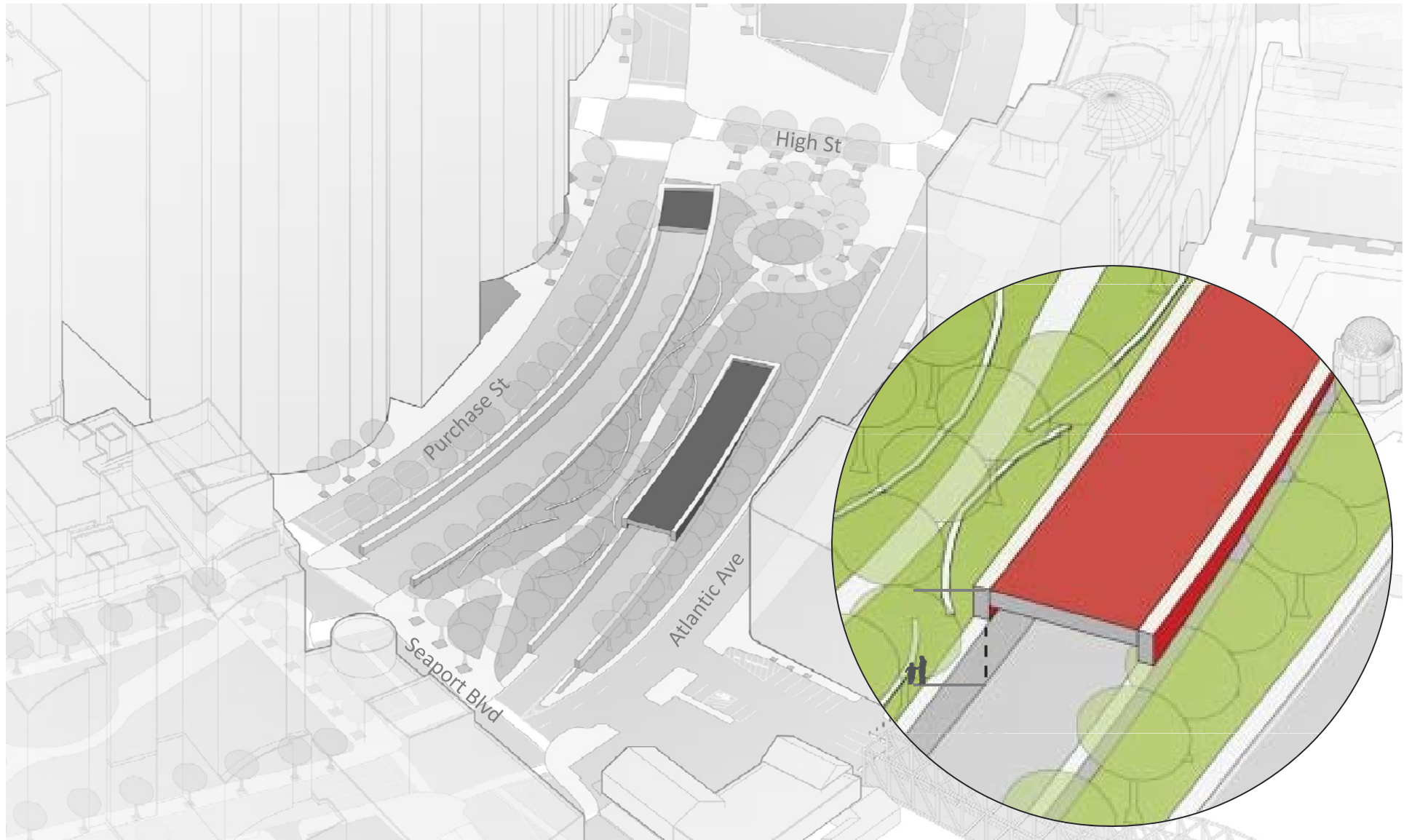


Parcel 18: Option B – Cover

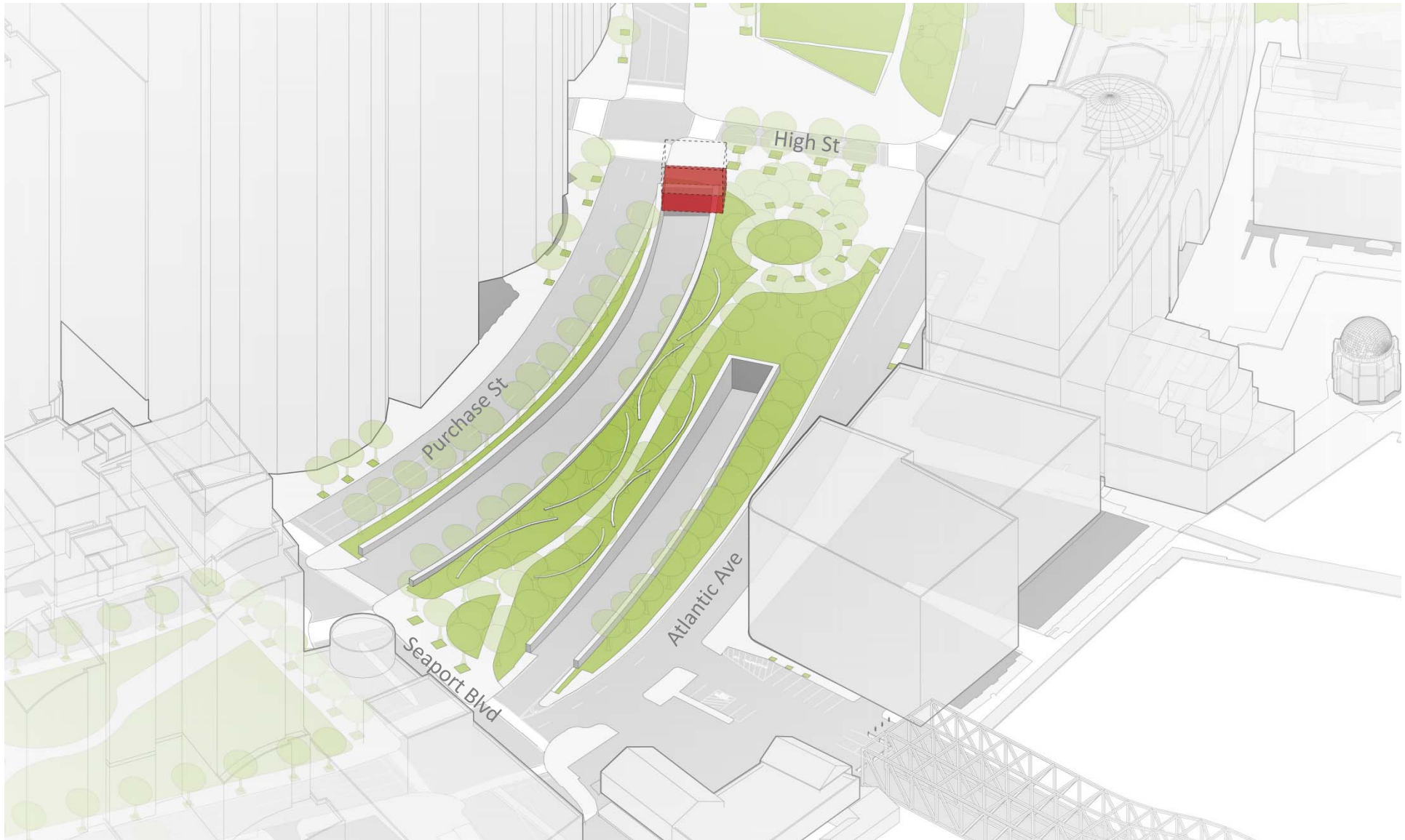


Allowable length of cover TBD

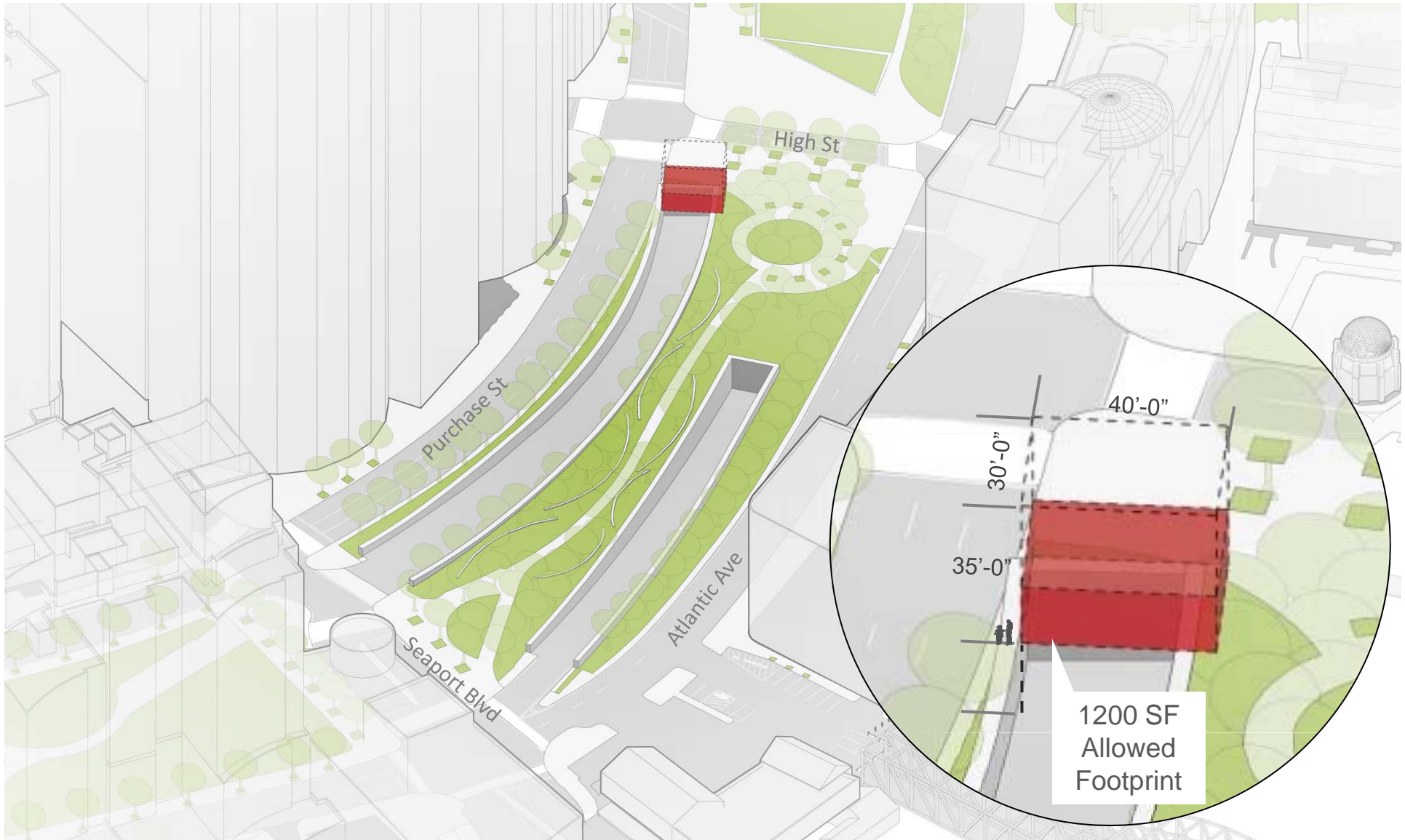
Parcel 18: Option B – Cover



Parcel 18: Option C – Building Concept



Parcel 18: Option C – Building Concept

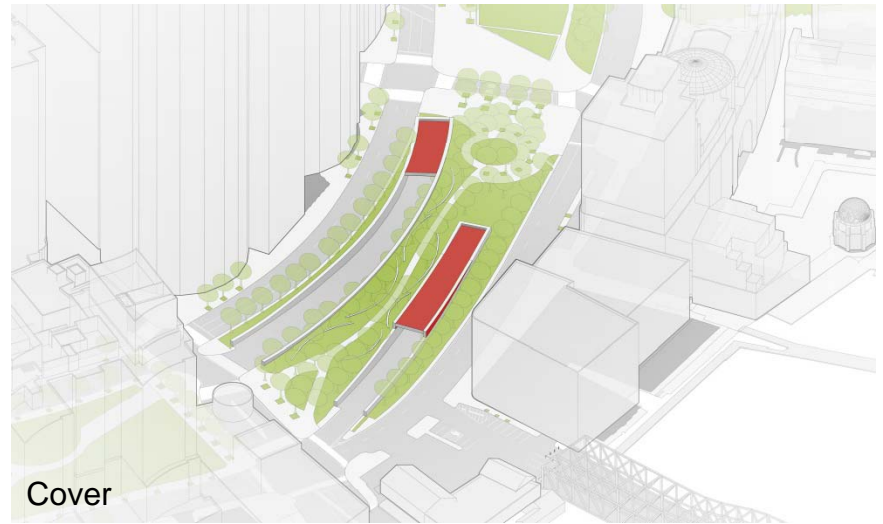




Parcel 18: Option D – No Alterations

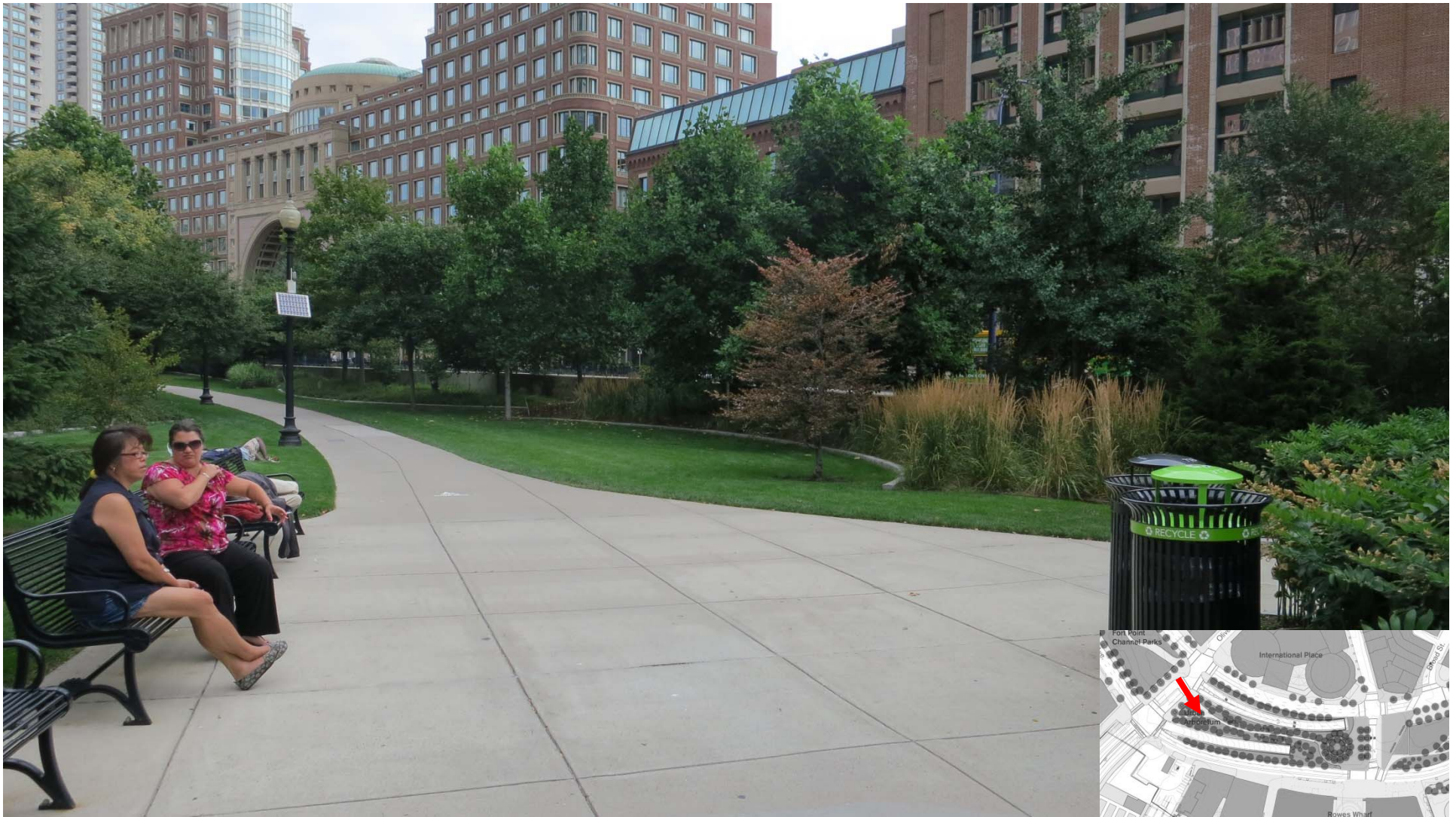


Parcel 18: Options



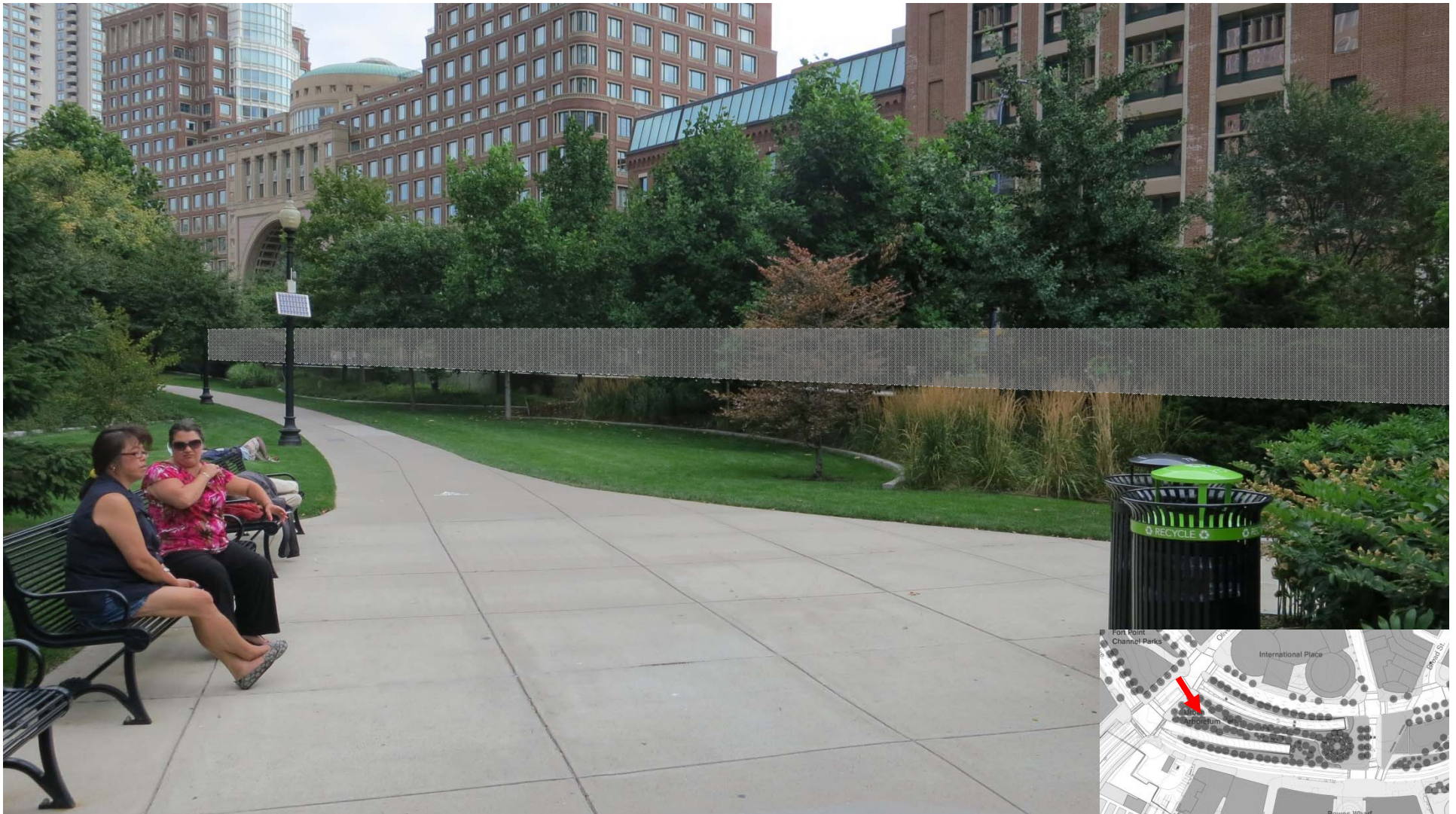
Individual Ramp Parcels

Parcel 18: Existing Eye-Level Perspective



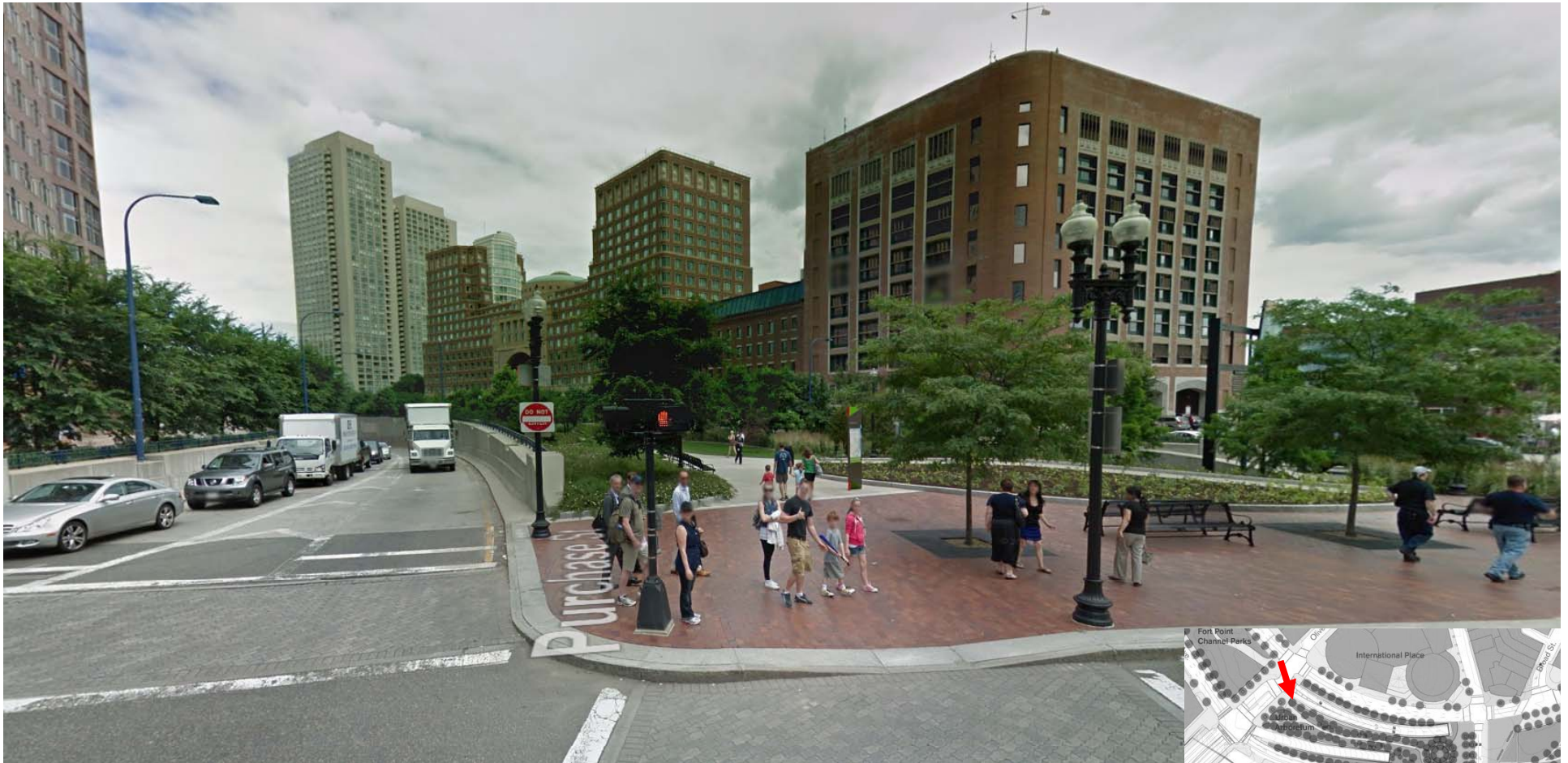
Individual Ramp Parcels

Parcel 18: Screening



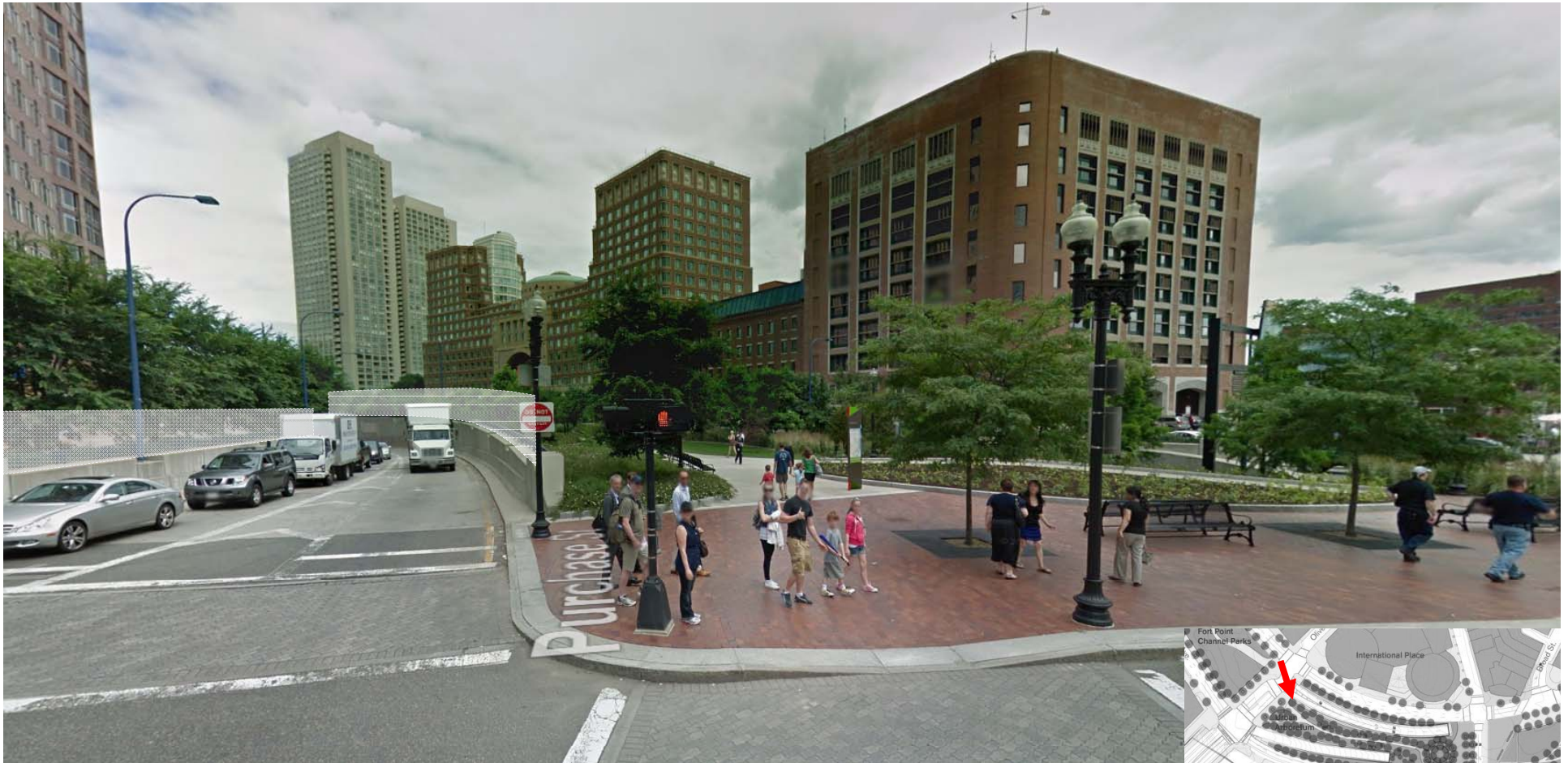
*Height of screen is variable

Parcel 18: Existing Perspective



Individual Ramp Parcels

Parcel 18: Screening



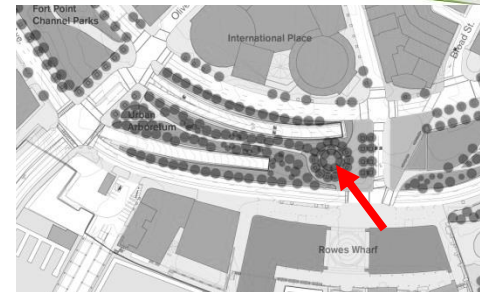
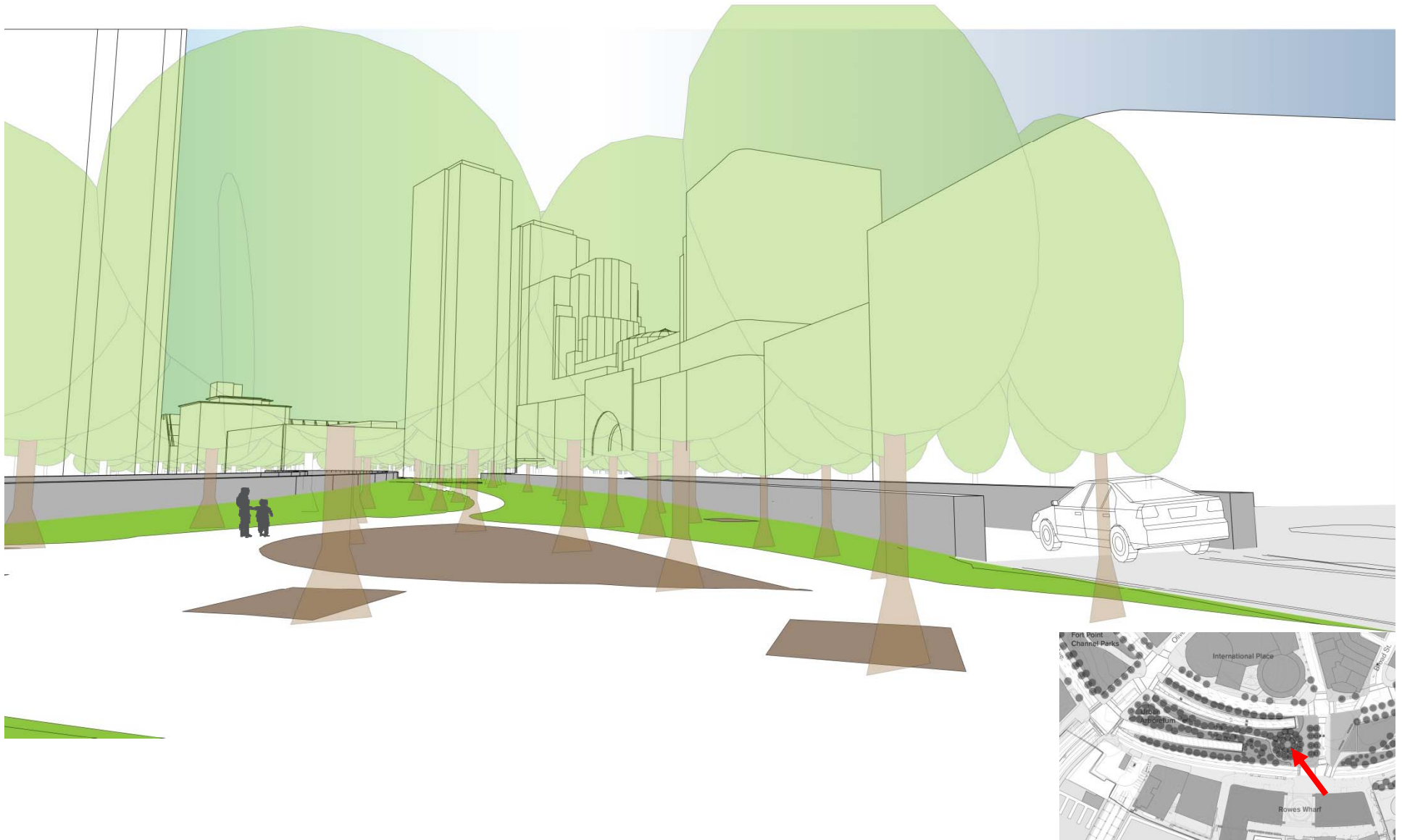
*Height of screen is variable

Individual Ramp Parcels

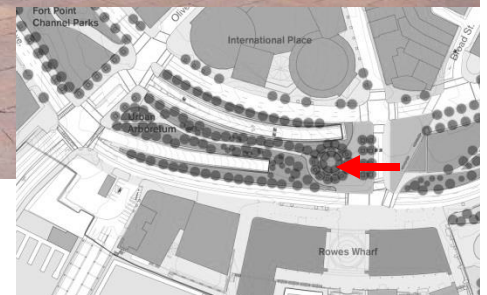
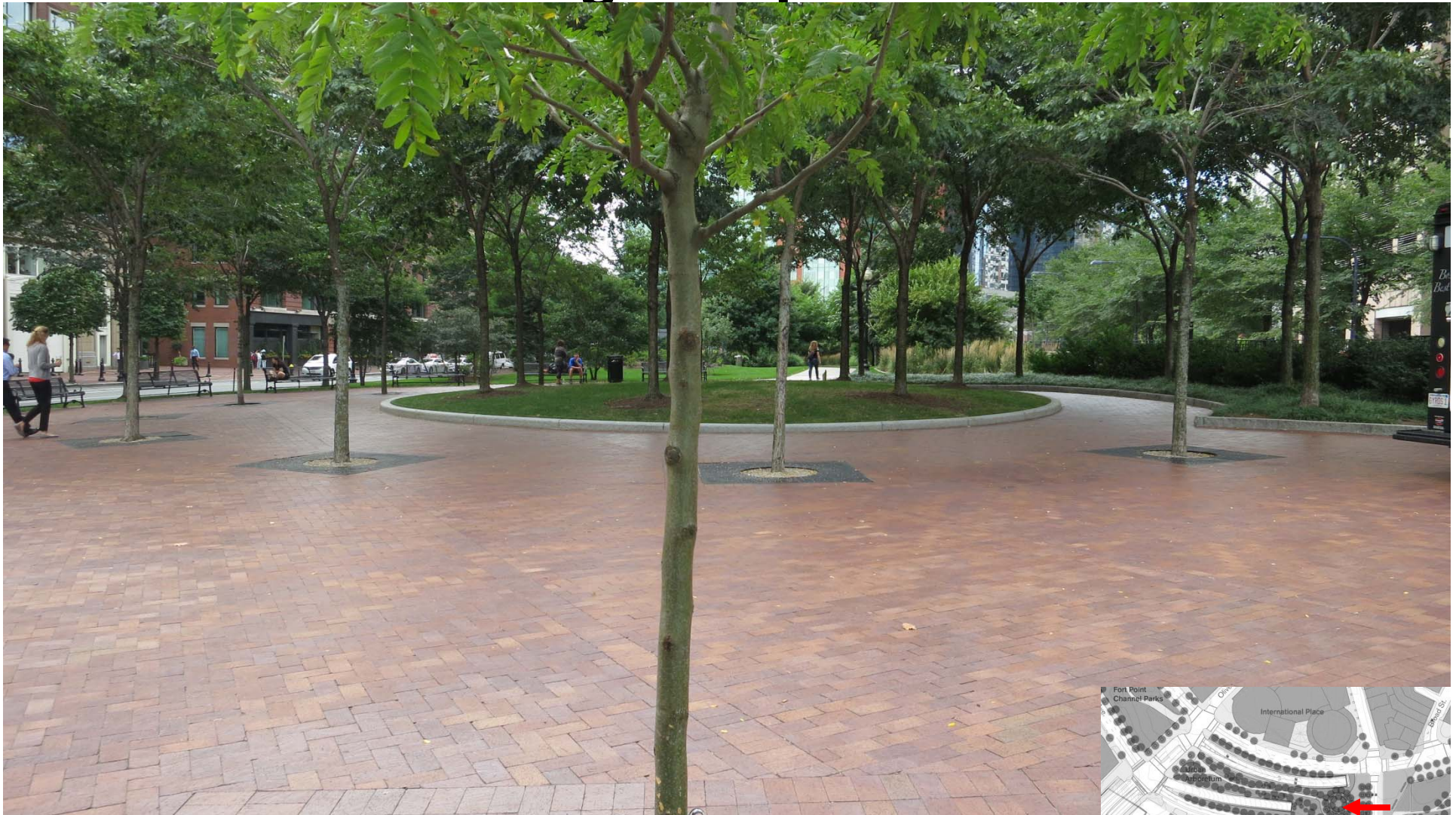
Parcel 18: Existing Perspective



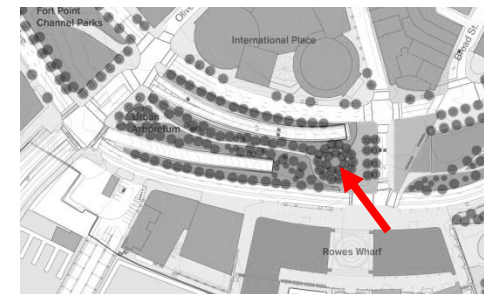
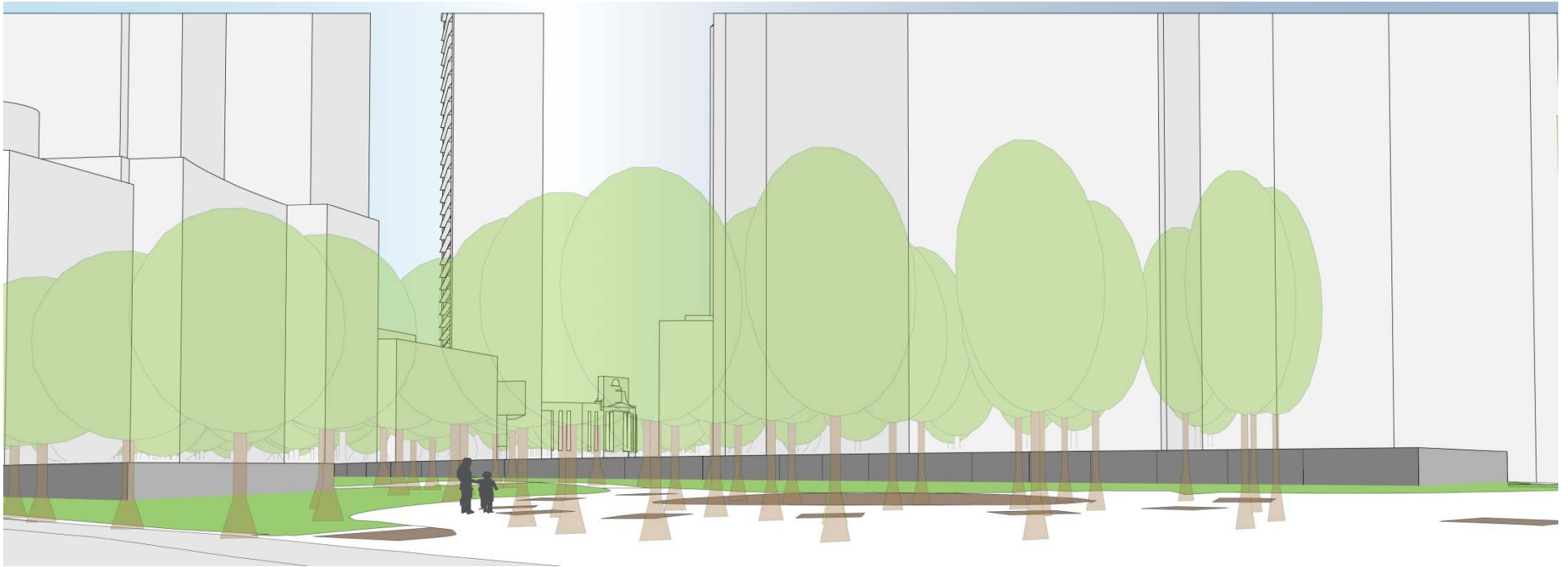
Parcel 18: Existing Perspective



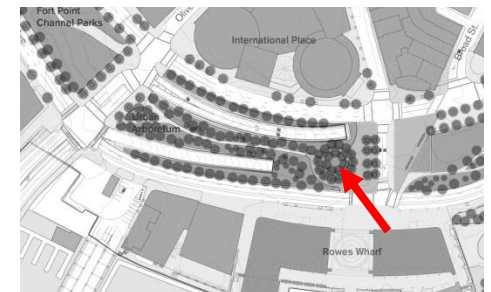
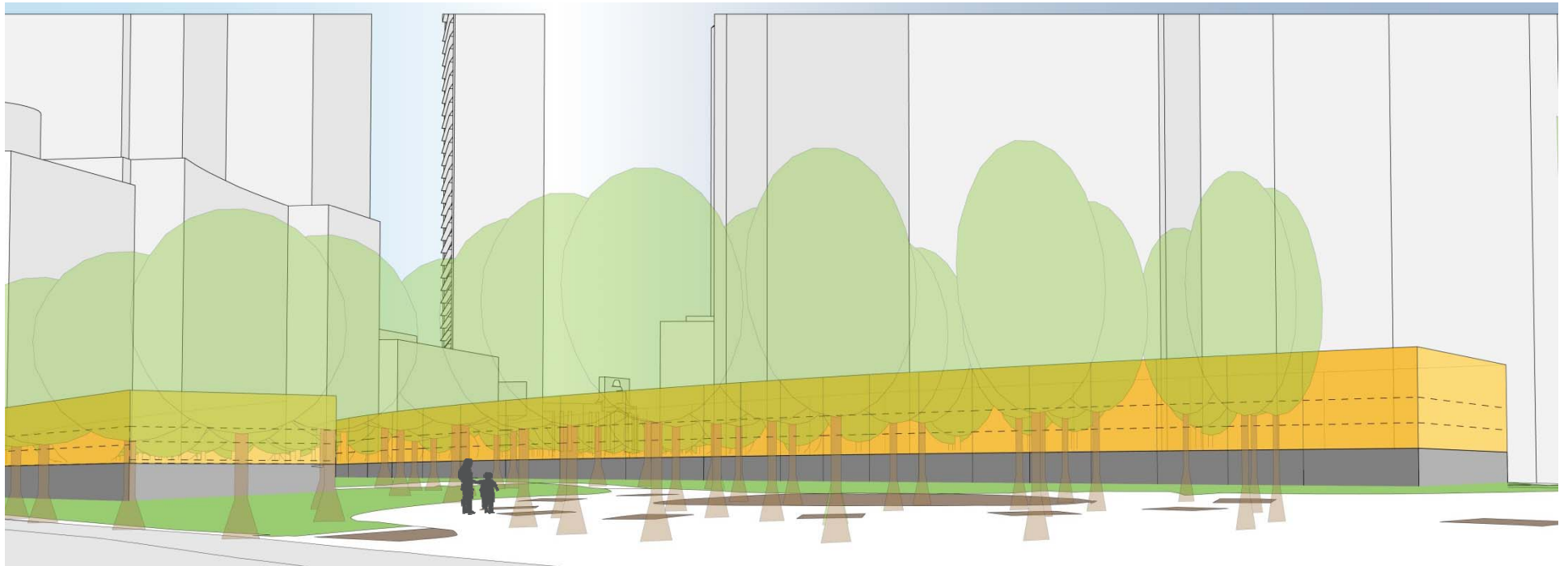
Parcel 18: Existing Perspective



Parcel 18: Existing Perspective

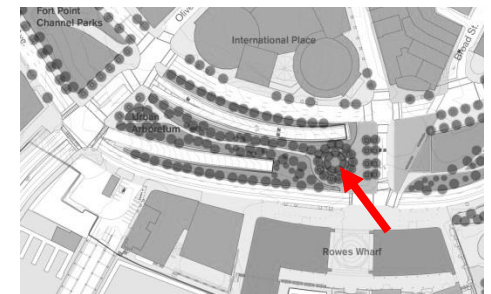
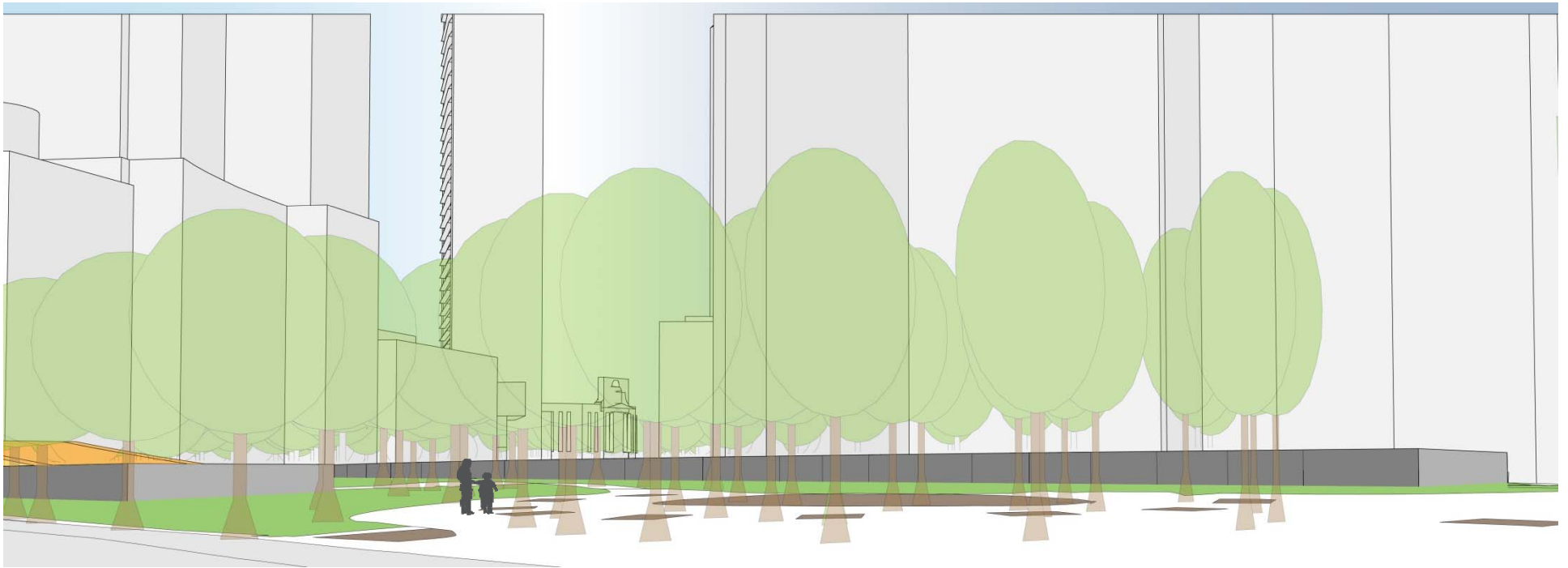


Parcel 18: Option A - Screening

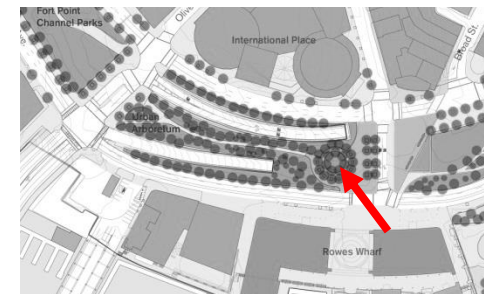
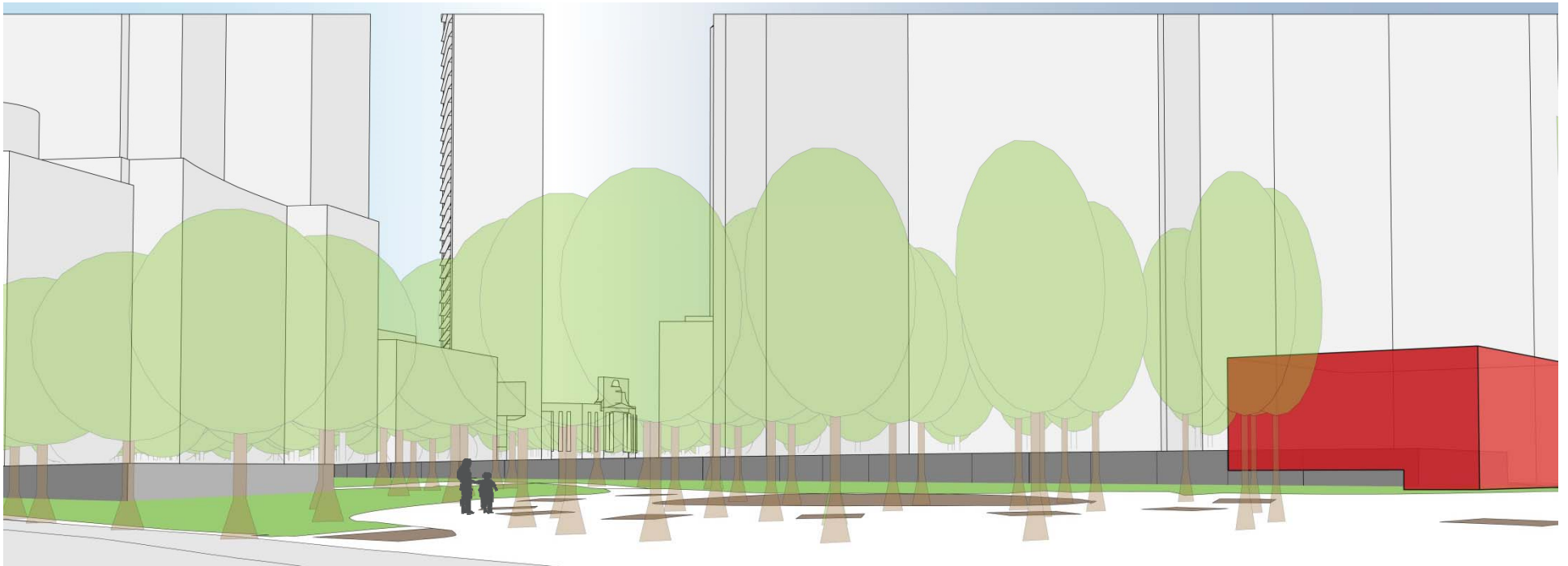


*Height of screen is variable

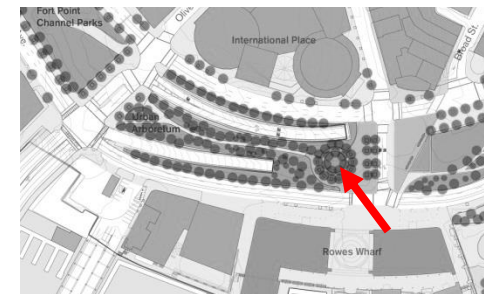
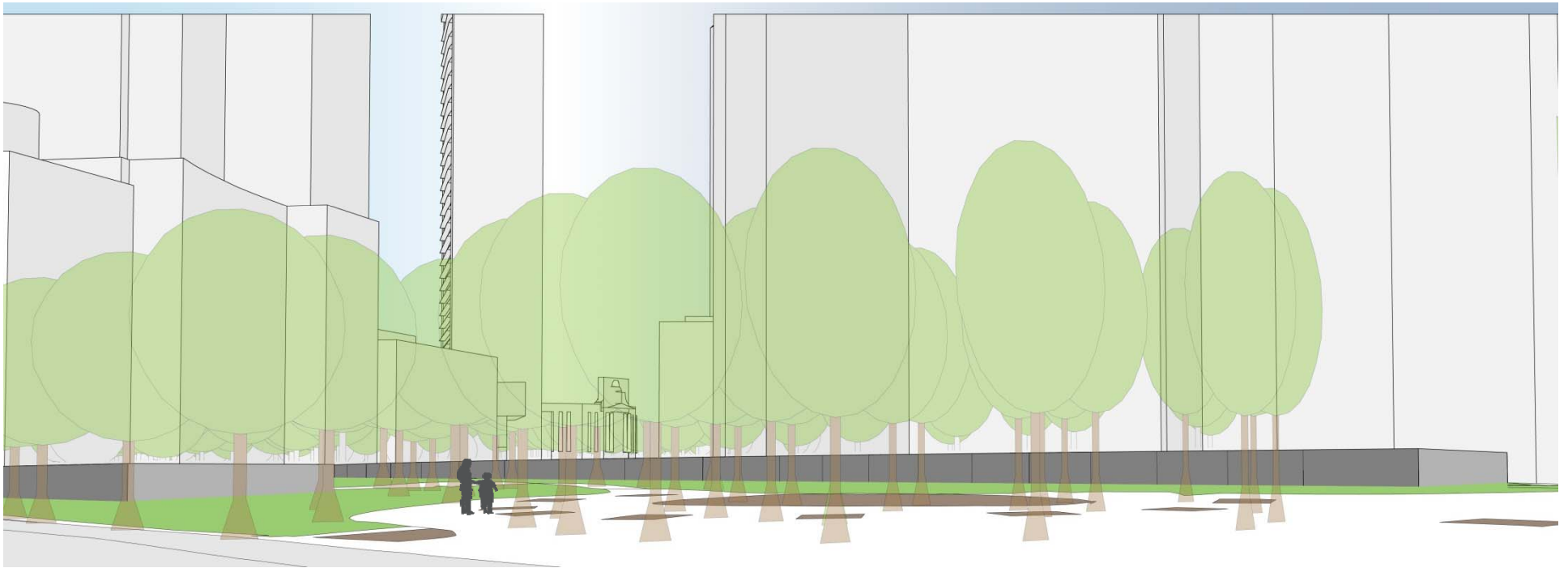
Parcel 18: Option B - Cover



Parcel 18: Option C - Building Concept



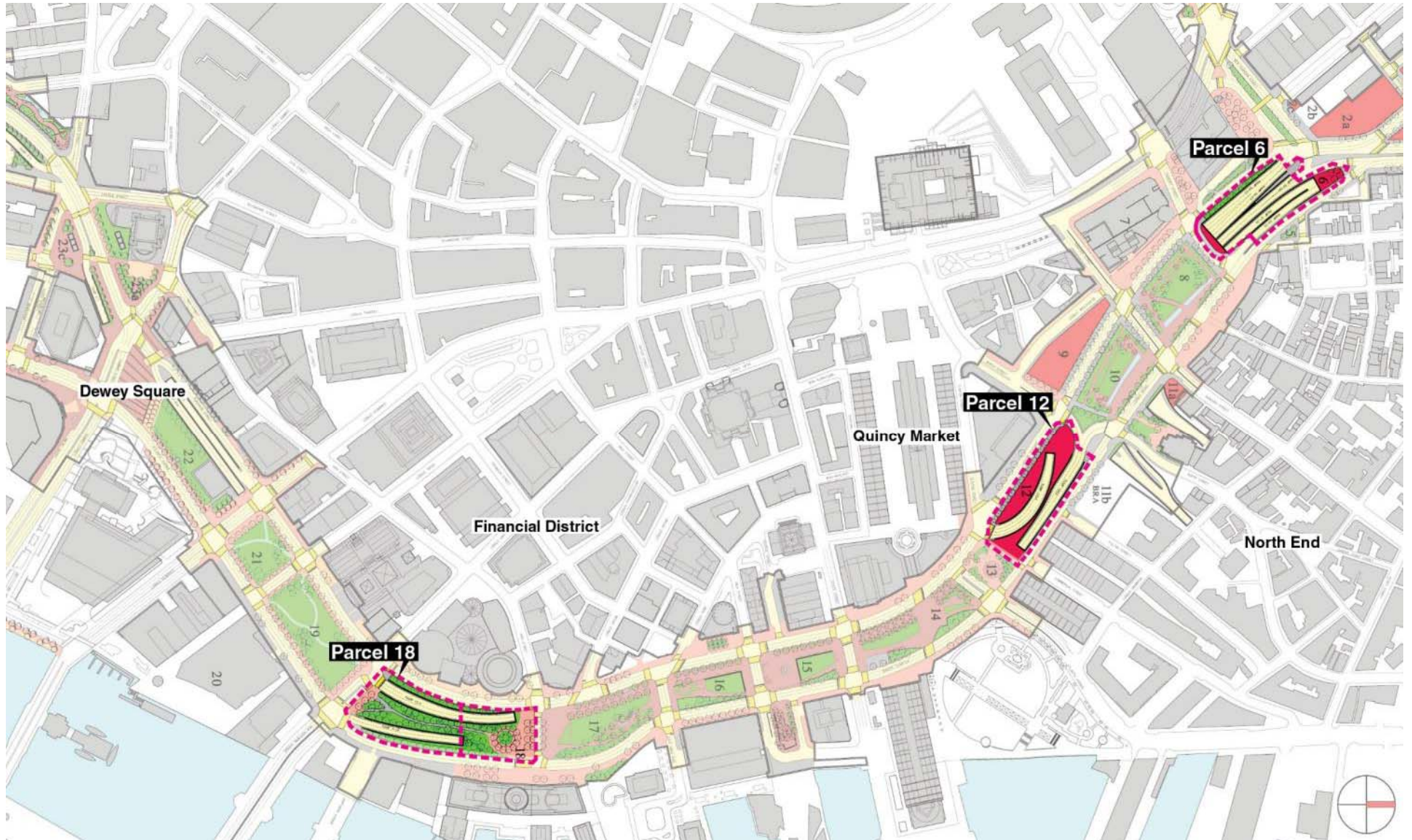
Parcel 18: Option D – As Is



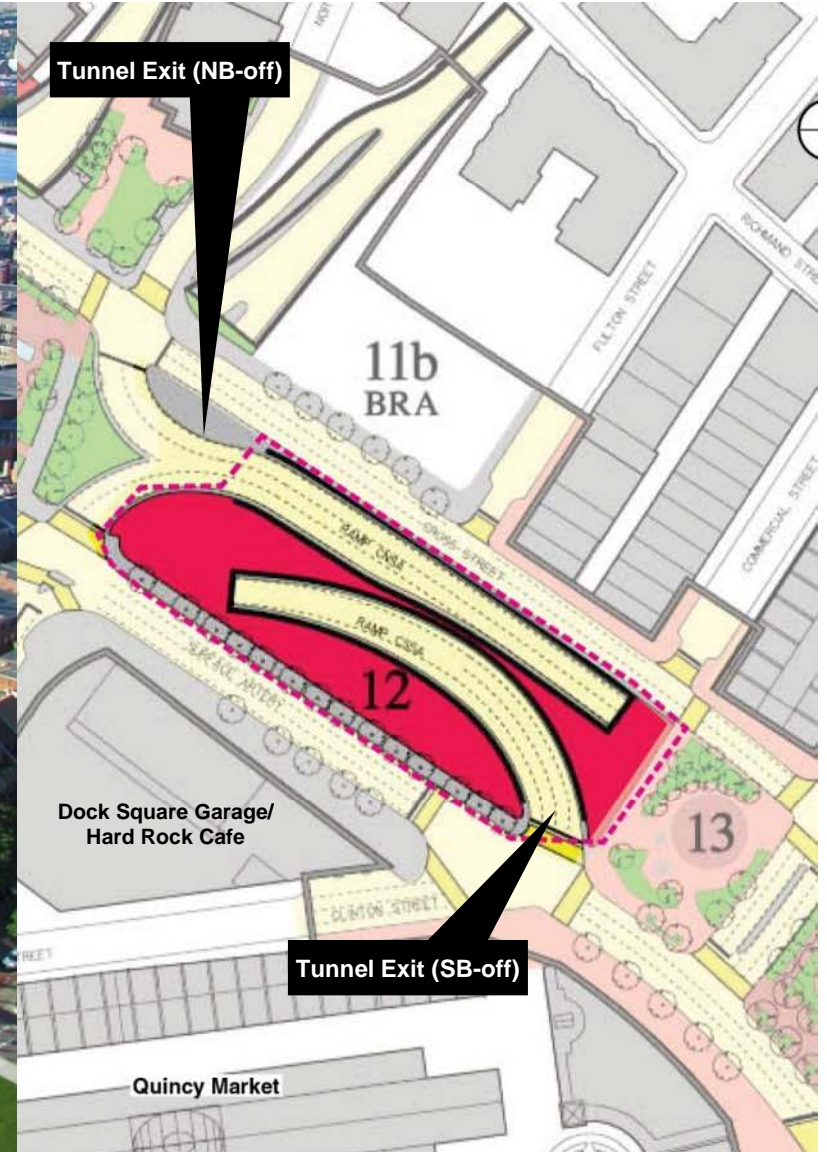
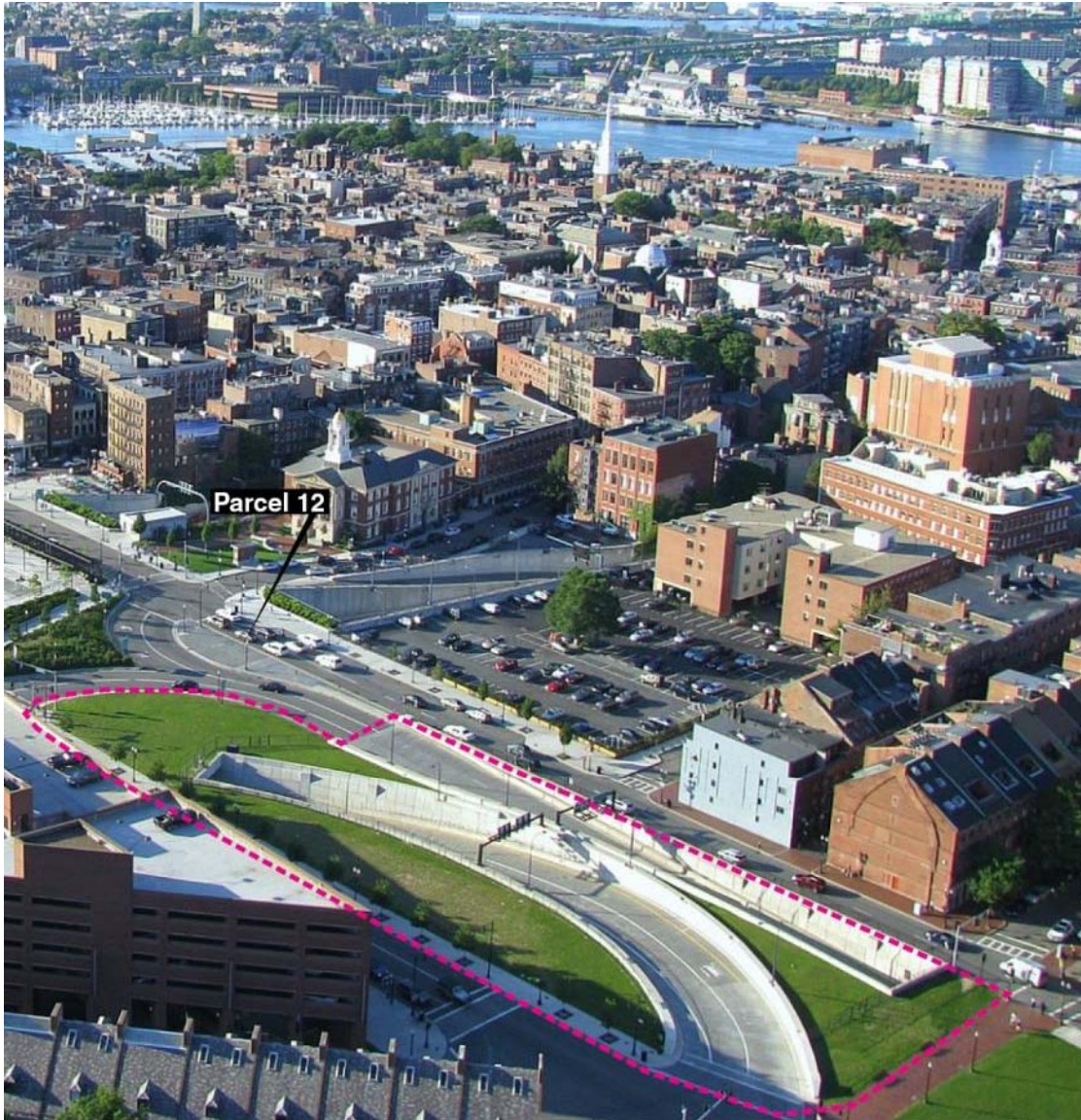
Individual Ramp Parcels

Parcel 12

Parcel 12



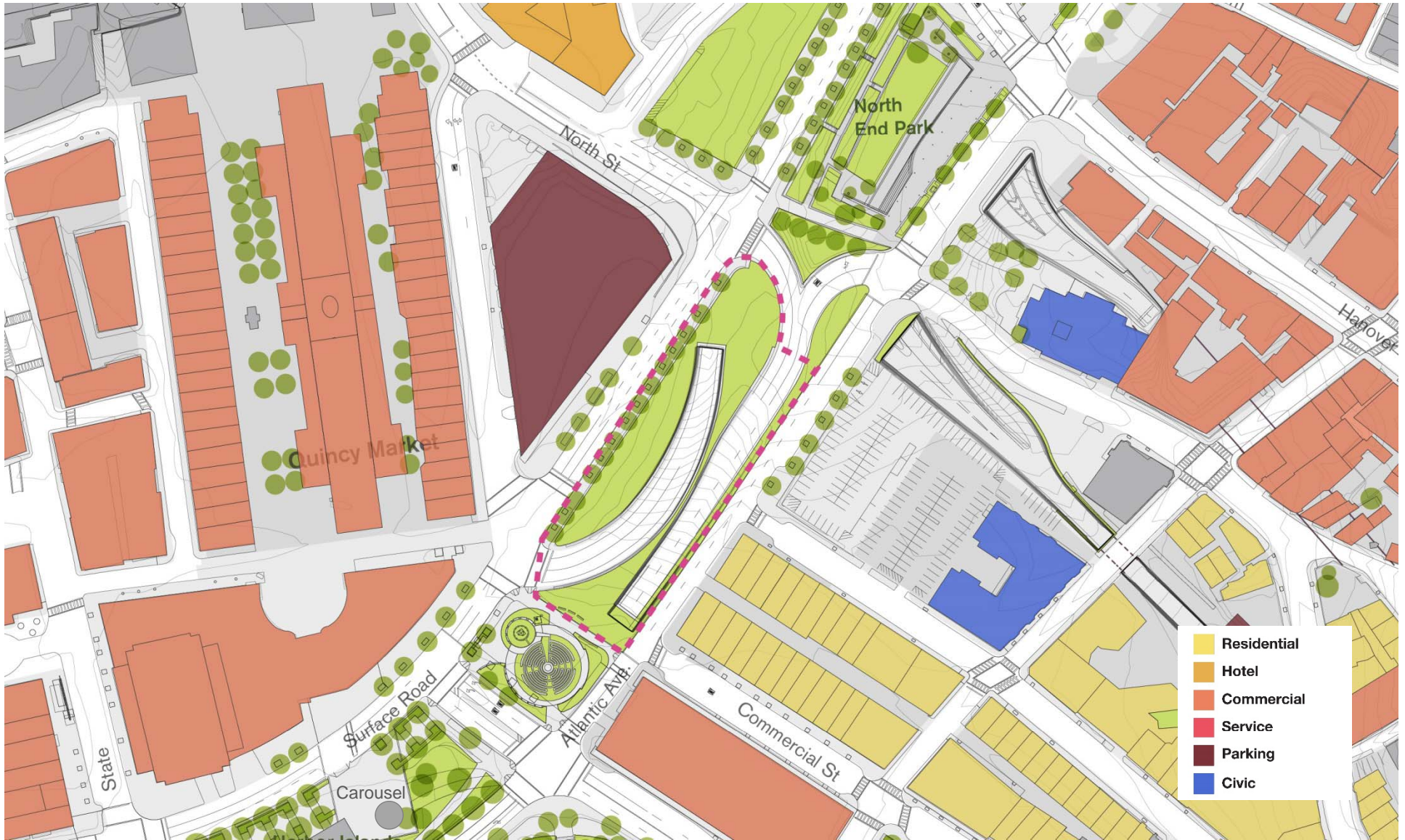
Parcel 12



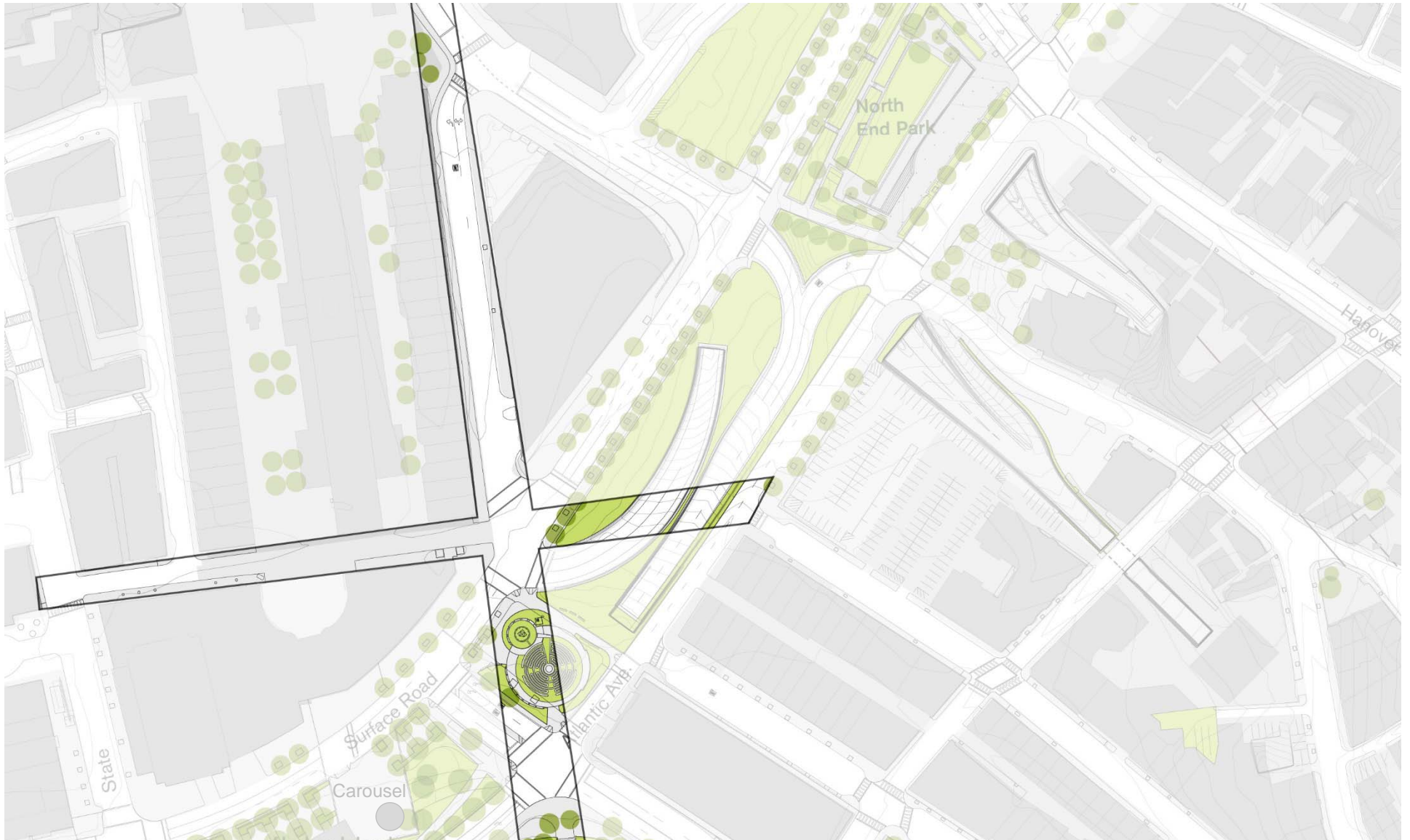
Parcel 12 Overall Character

- **Open space exists, but is neither inviting or landscaped.**
- **Ramps shunt pedestrians around the parcel.**

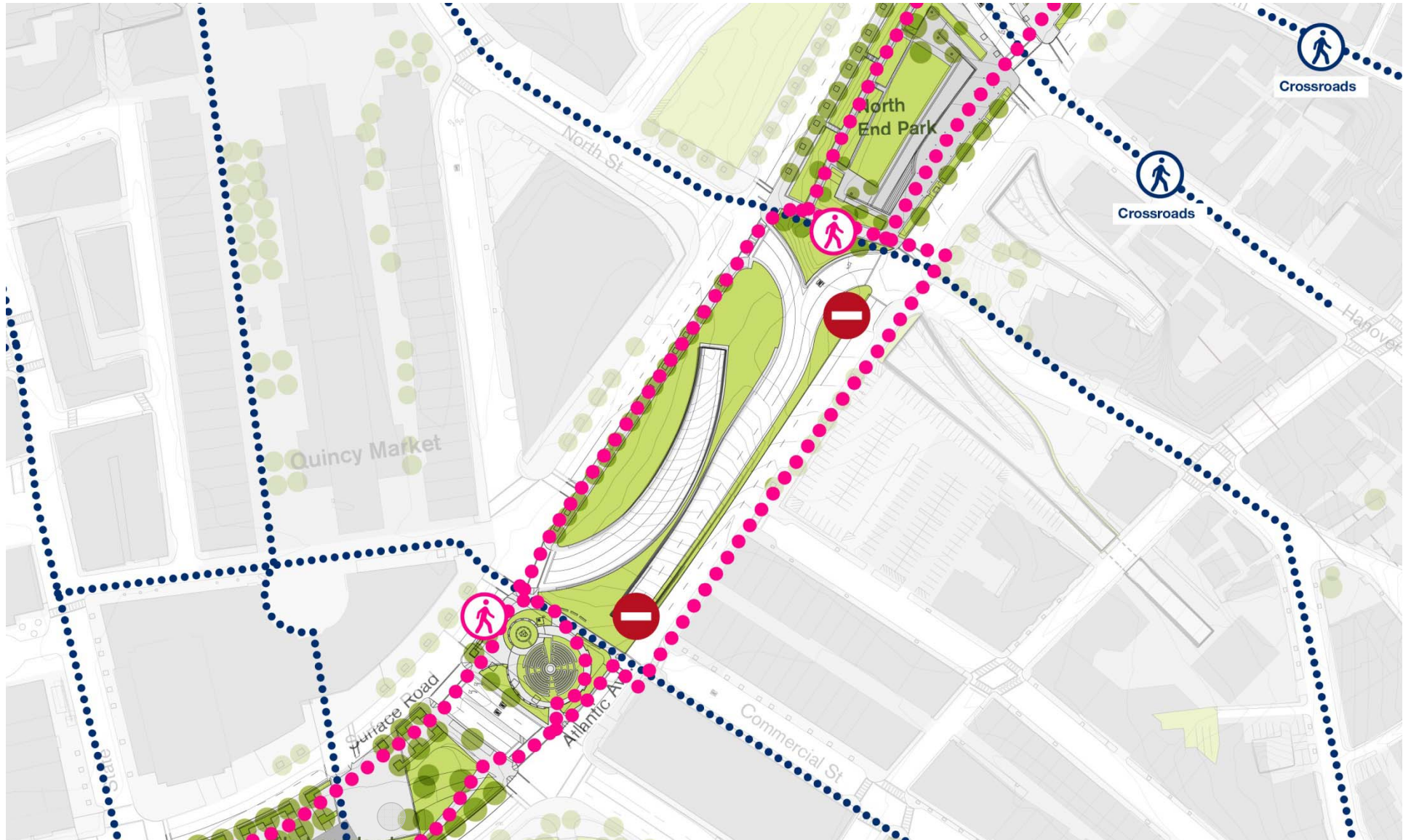
Parcel 12 Uses



Parcel 12 Potential View Corridors

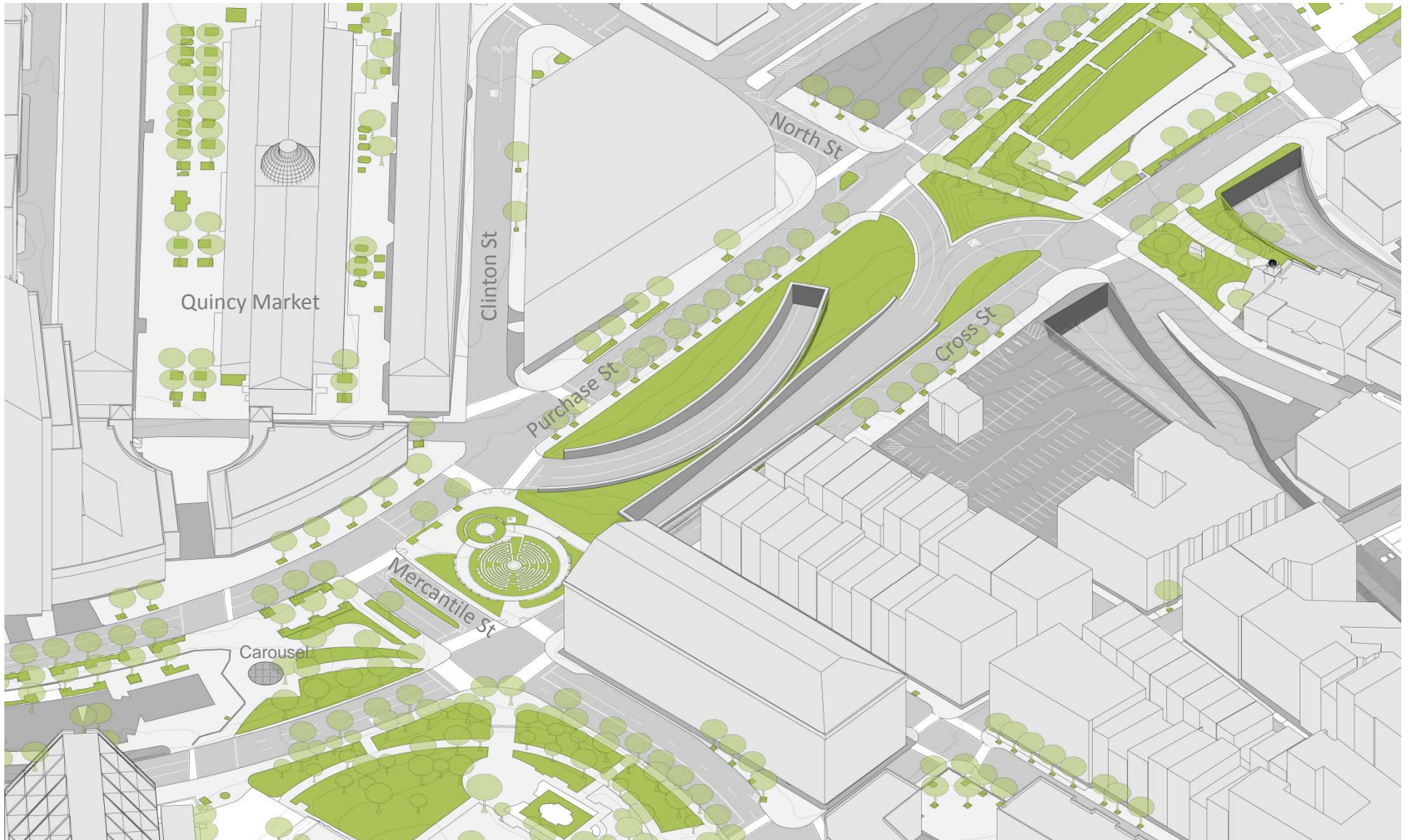
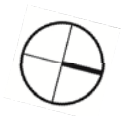


Parcel 12 Circulation



Overview of the Sites

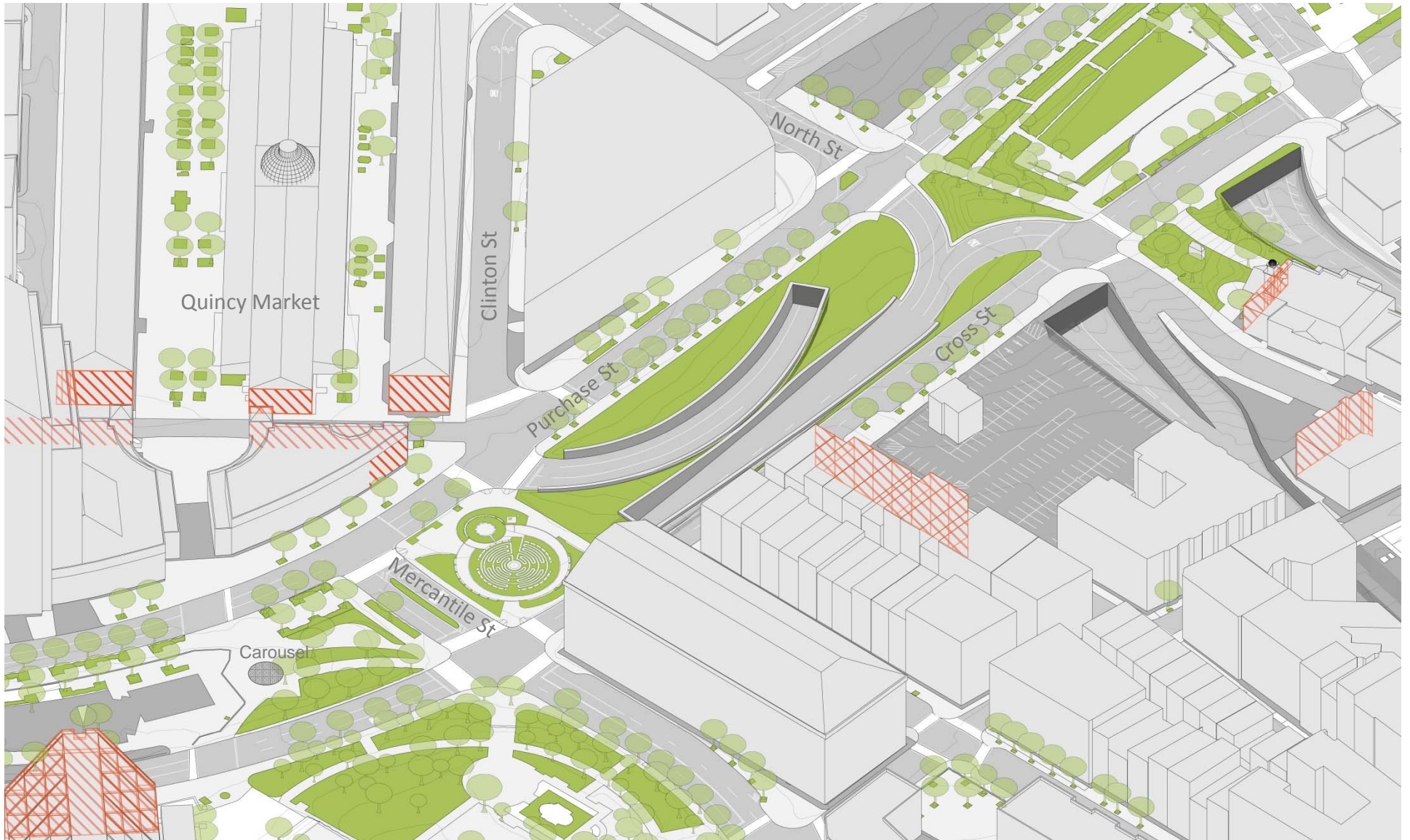
Parcel 12 Perspective



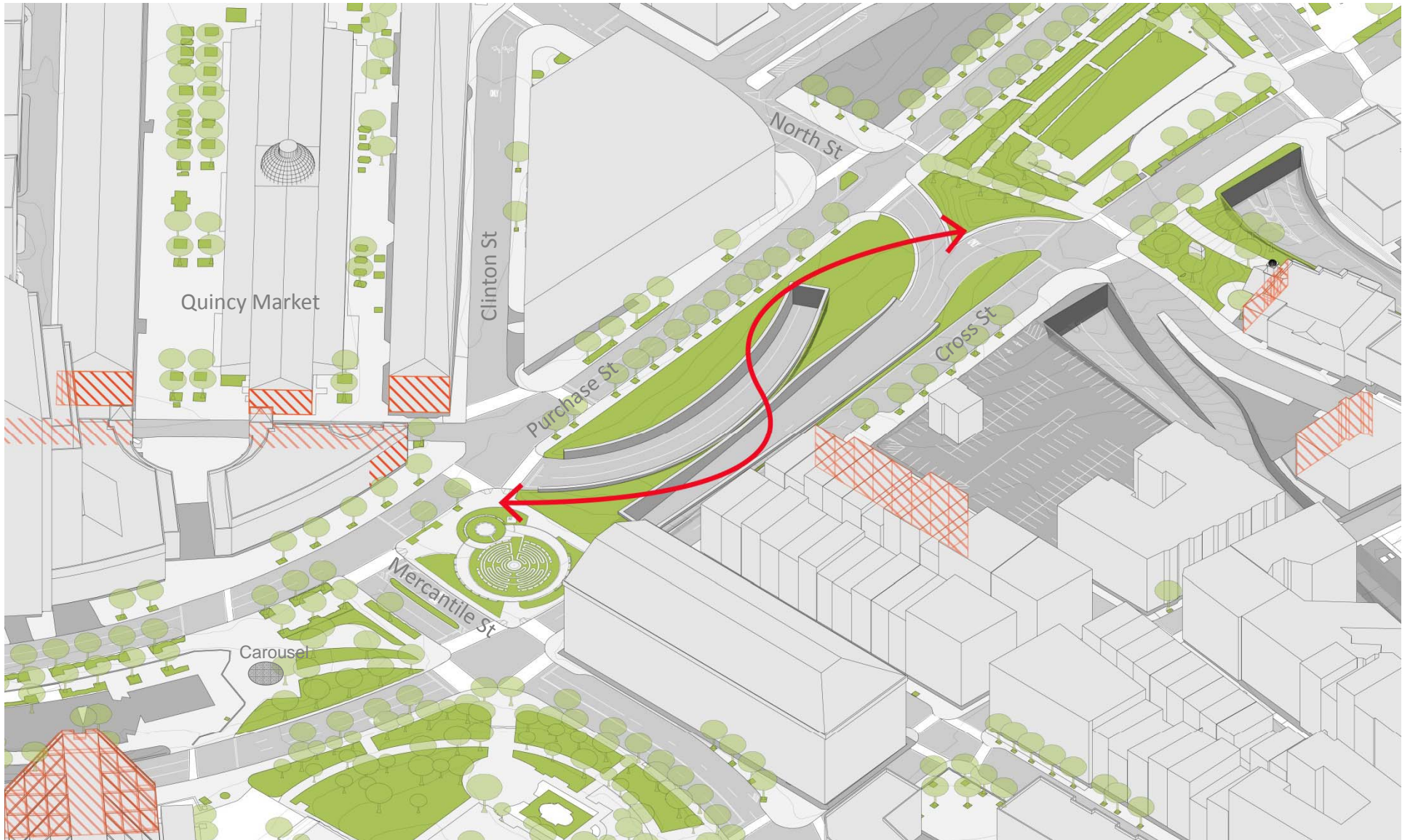
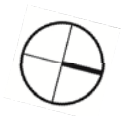
Overview of the Sites

Parcel 12 Active Edges

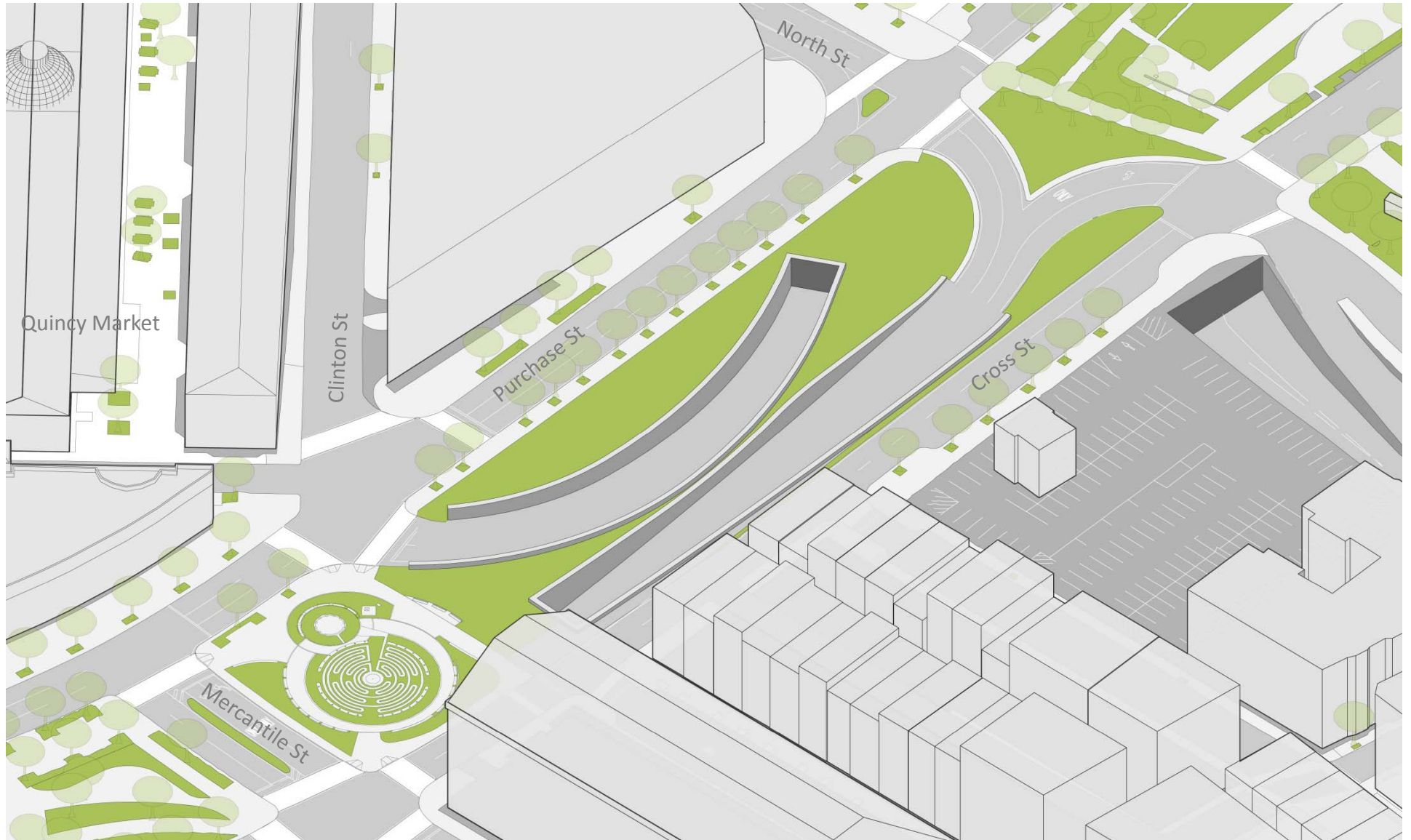
Active Edges: Publicly accessible uses



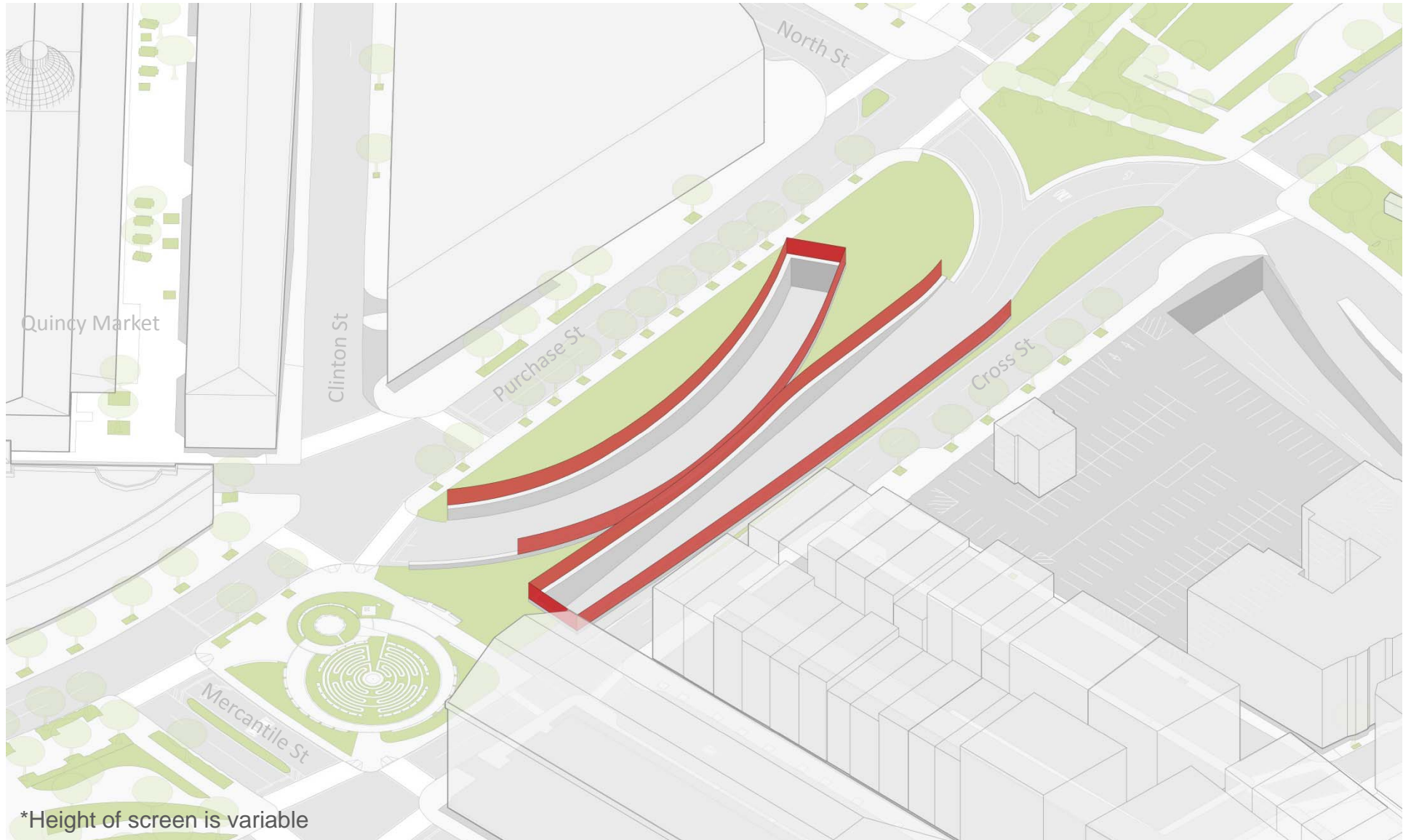
Parcel 12 Desire Line



Parcel 12 Perspective

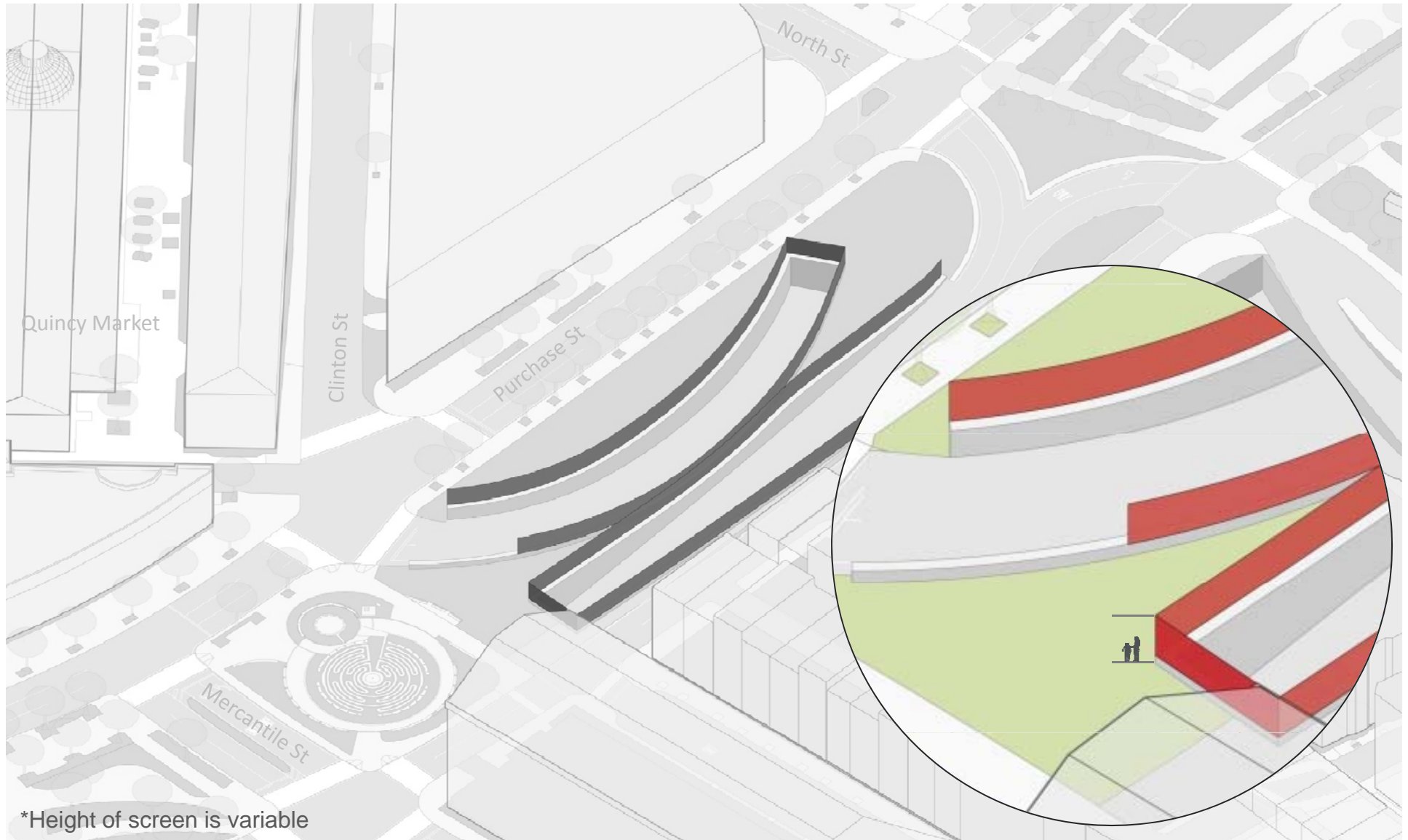


Parcel 12: Option A - Screening



*Height of screen is variable

Parcel 12: Option A - Screening



*Height of screen is variable

“Screening”: Examples

Trees and hedges



Fencing / Walls



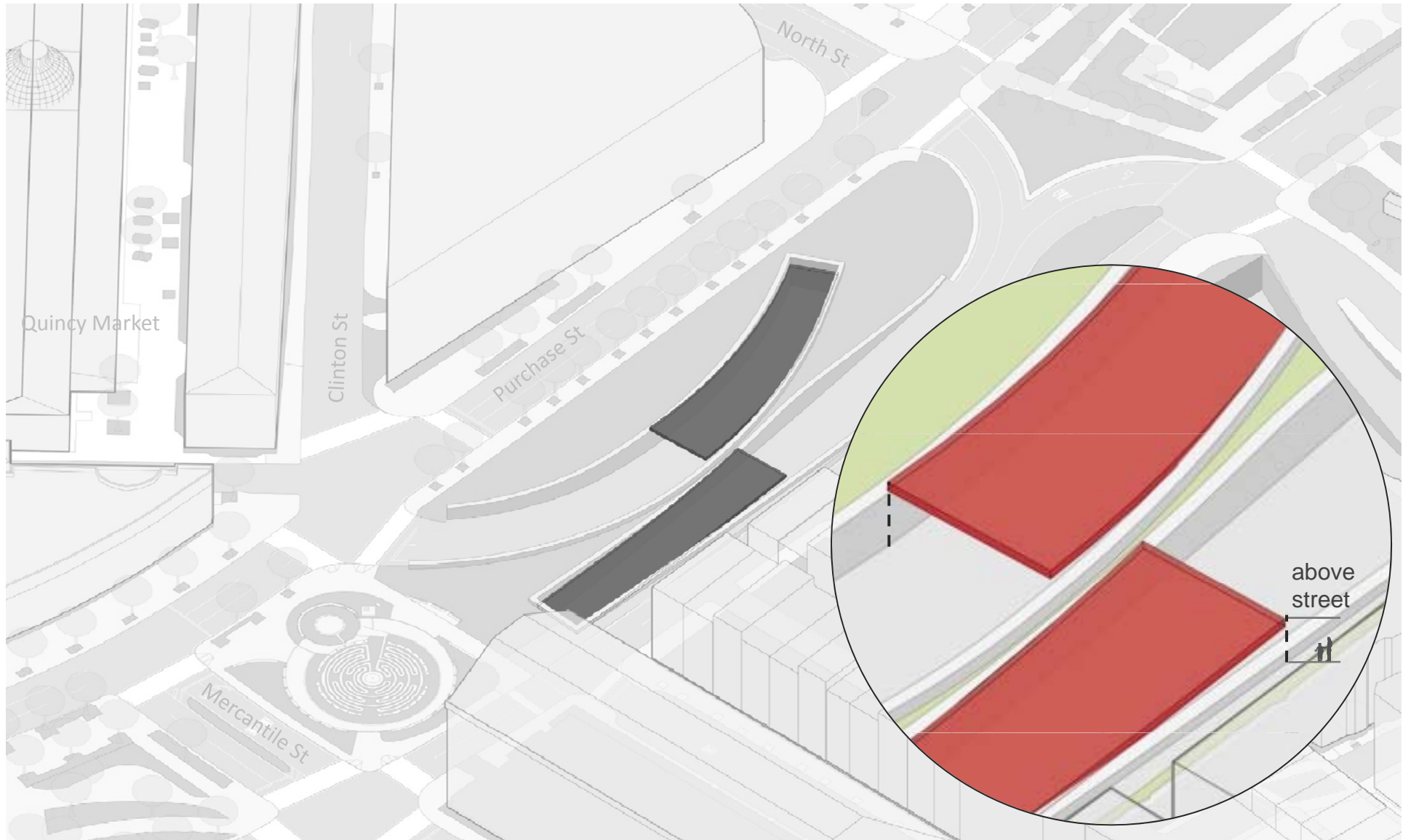
Public Art



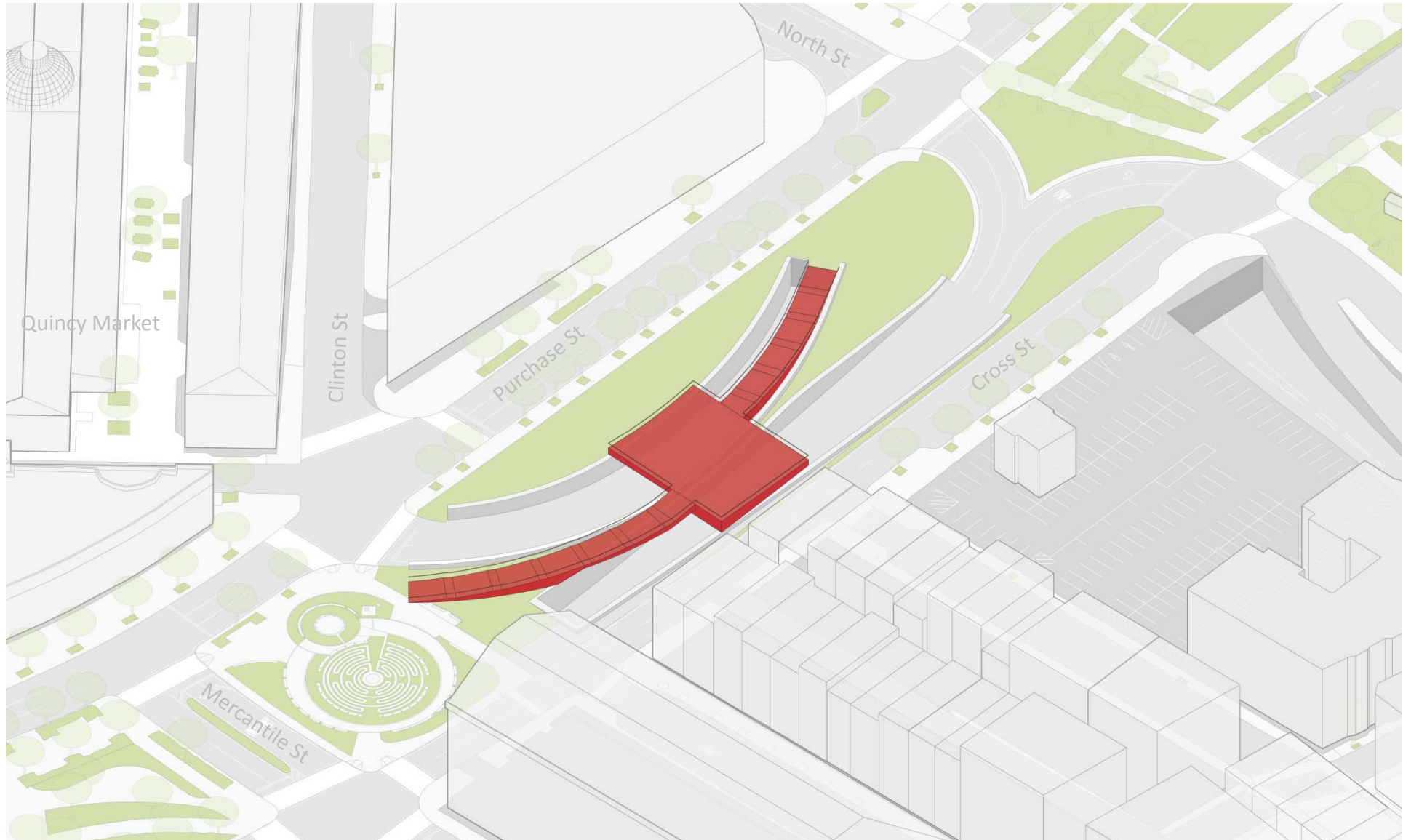
Parcel 12: Option B – Cover



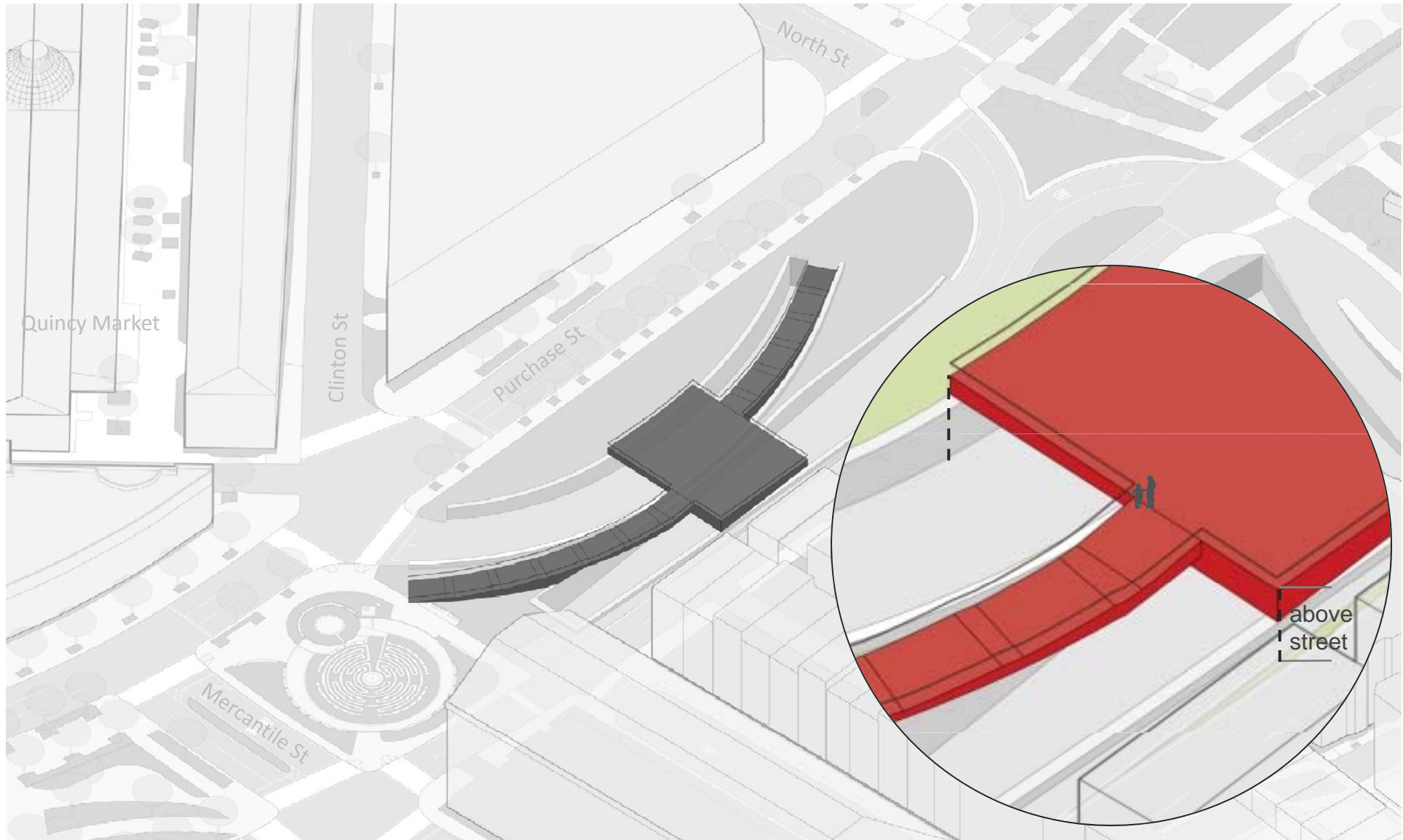
Parcel 12: Option B – Cover



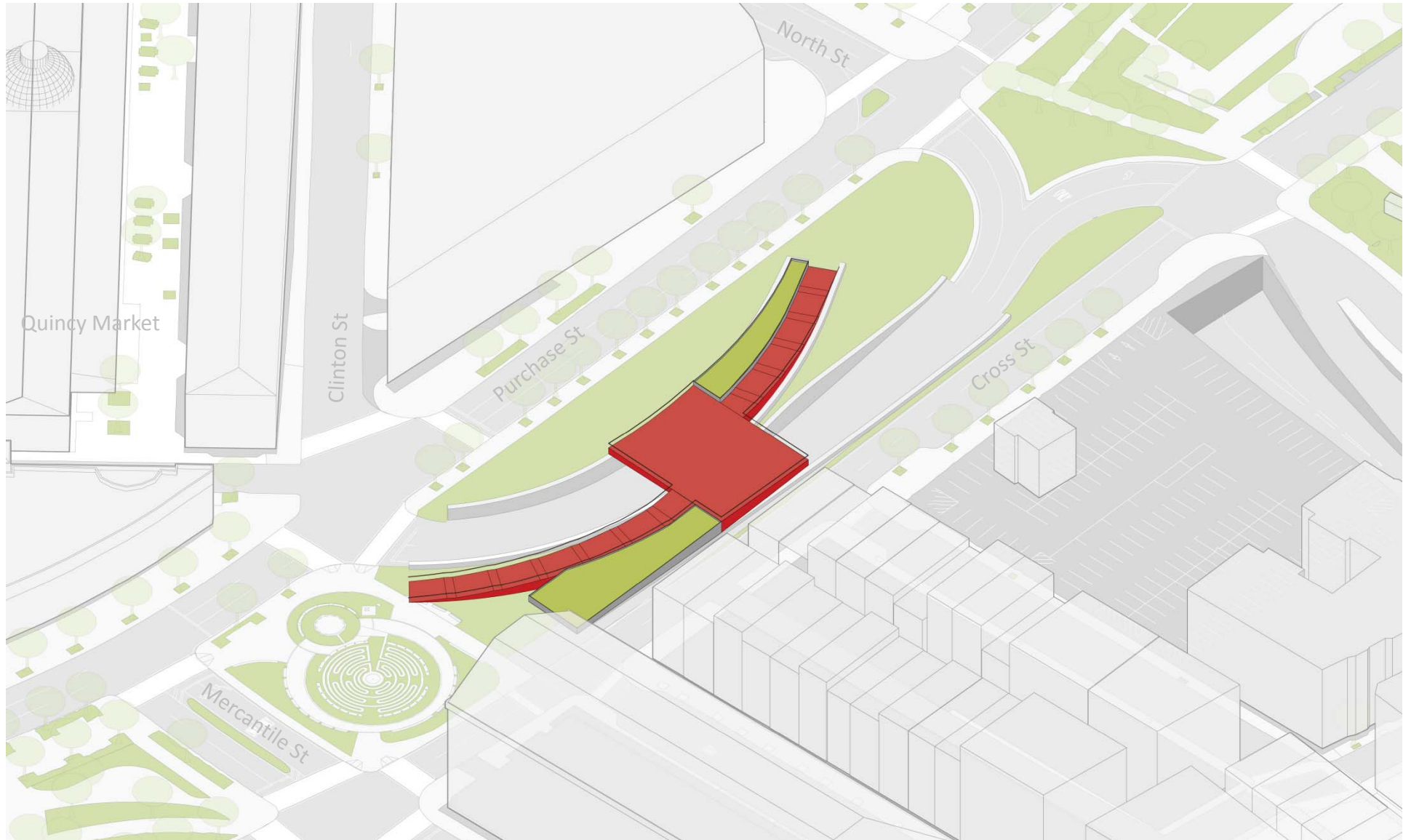
Parcel 12: Option B – Cover



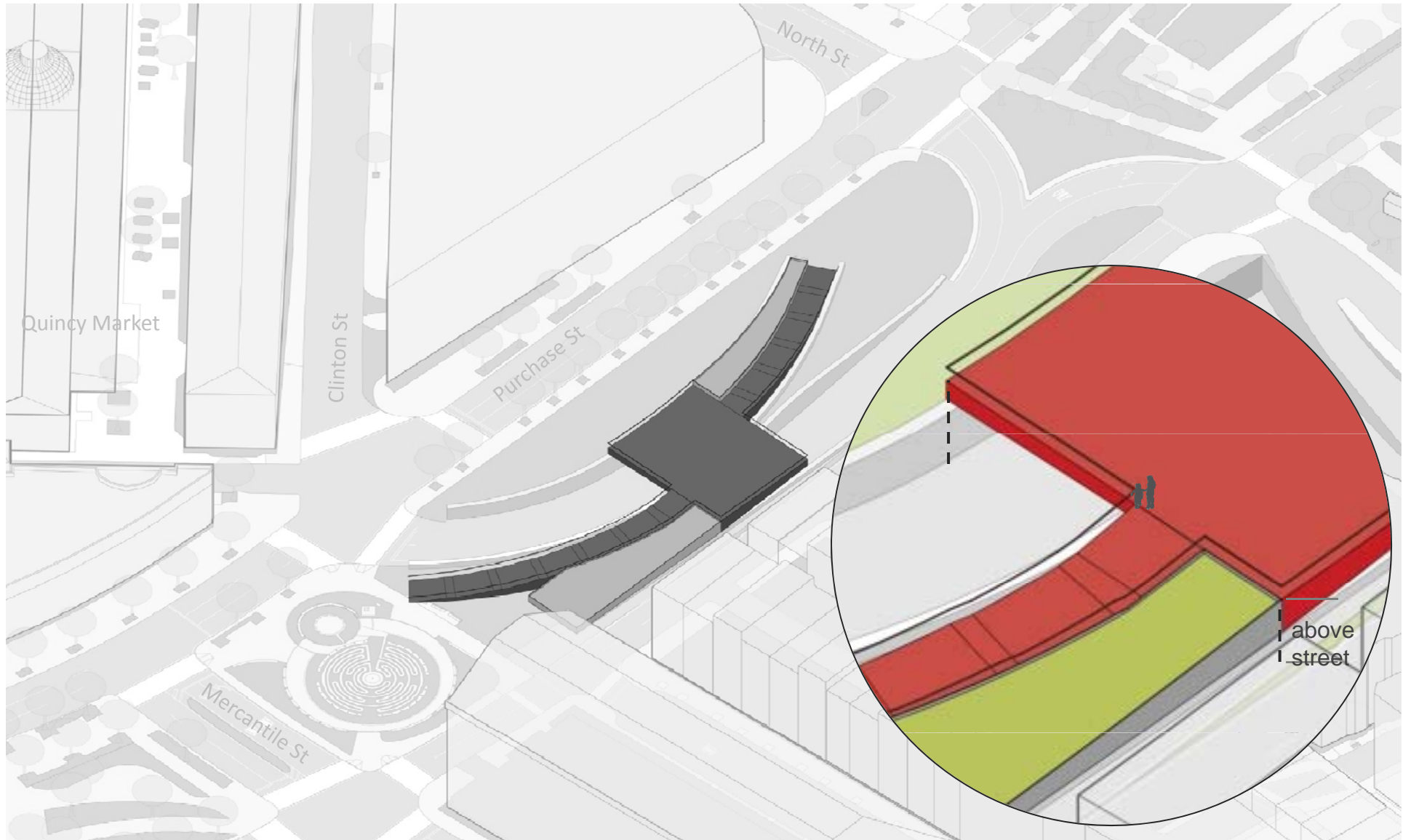
Parcel 12: Option B – Cover



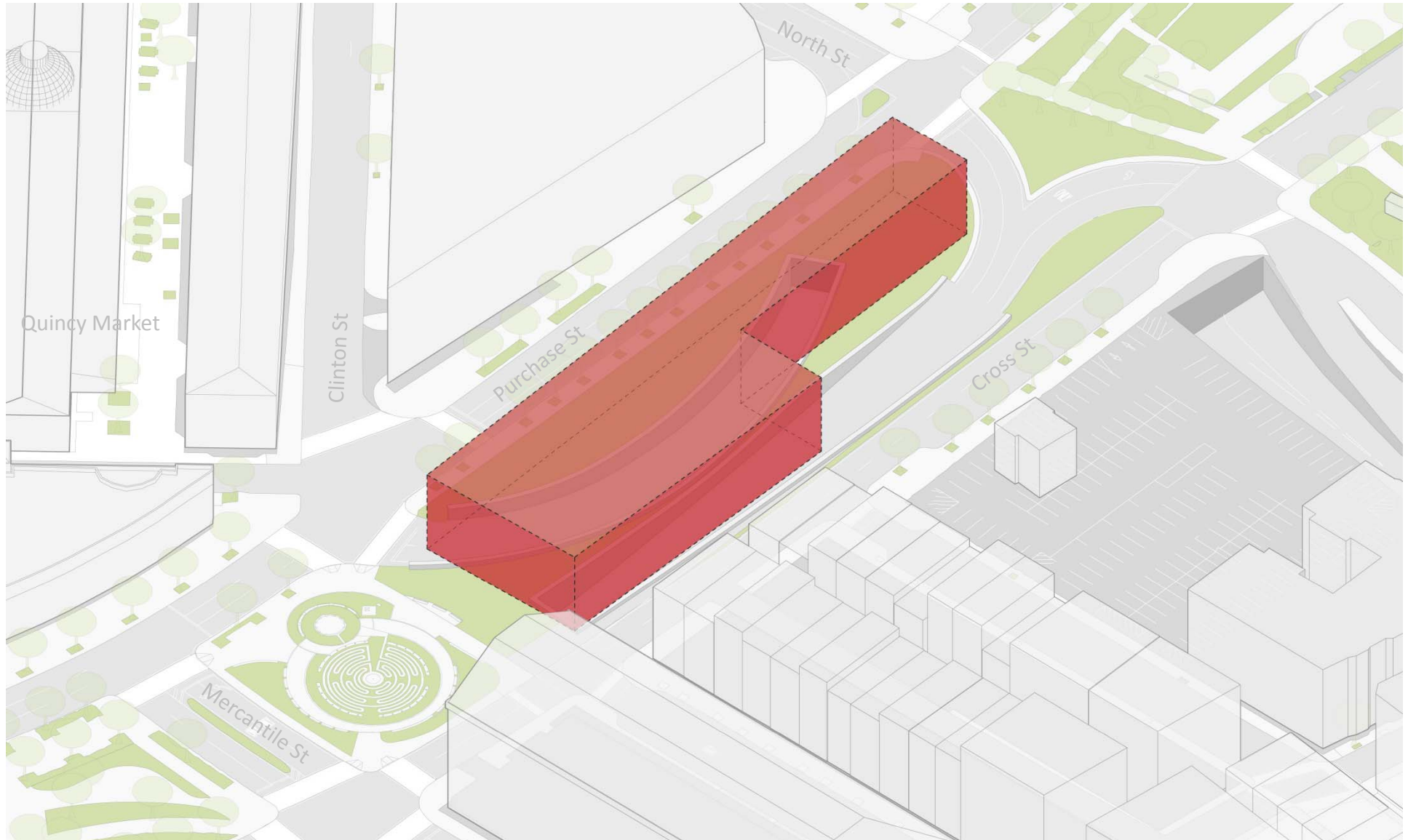
Parcel 12: Option B – Cover



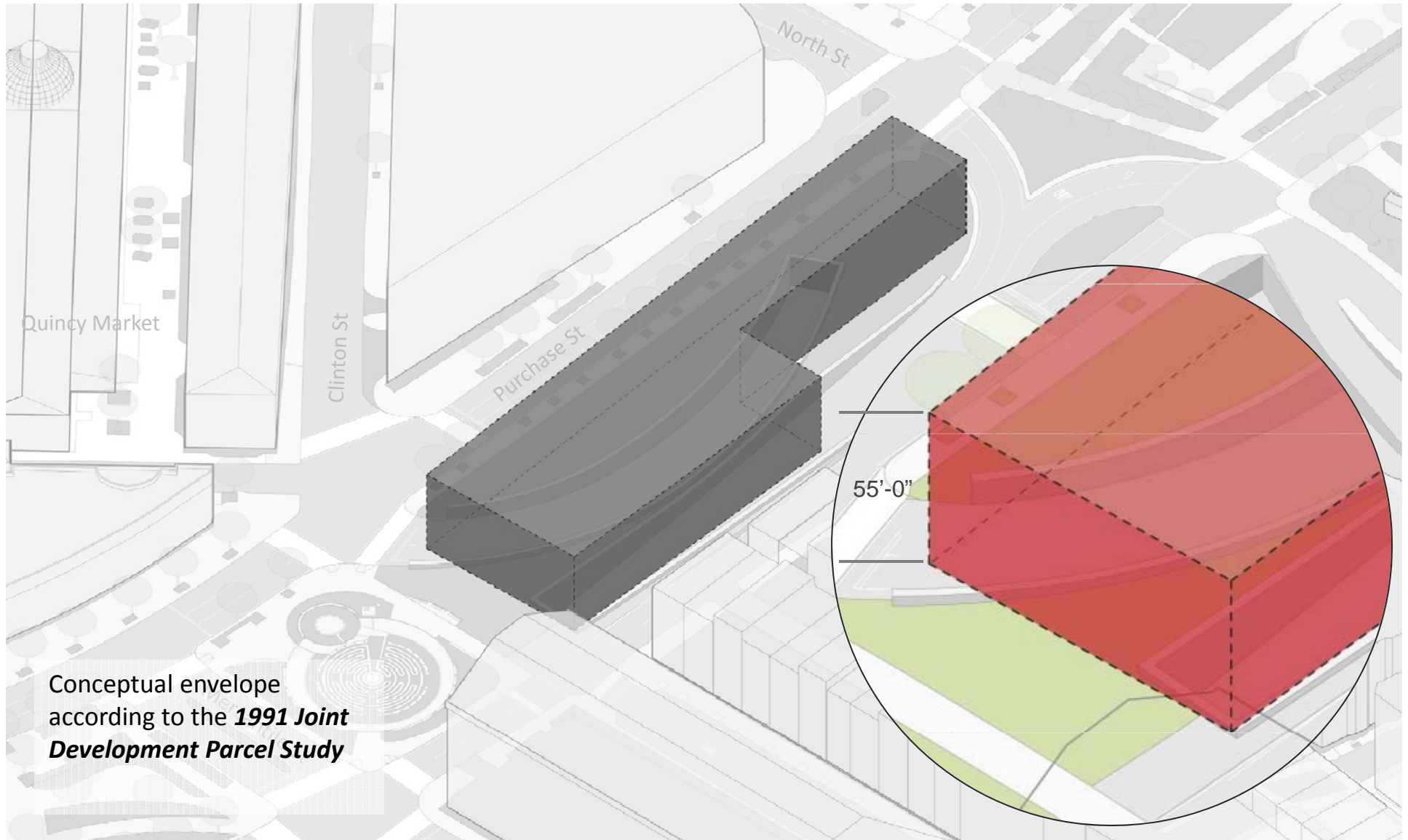
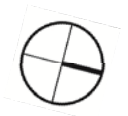
Parcel 12: Option B – Cover



Parcel 12: Option C – Building Concept

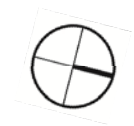


Parcel 12: Option C – Building Concept



Conceptual envelope according to the **1991 Joint Development Parcel Study**

Parcel 12: Options



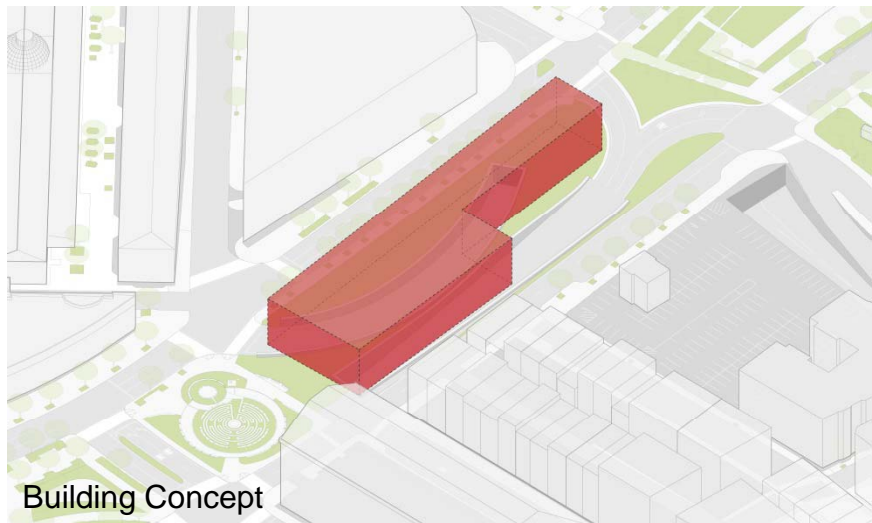
Screening



Cover - Accessible



Cover



Building Concept

Parcel 12 Eye-Level Perspective



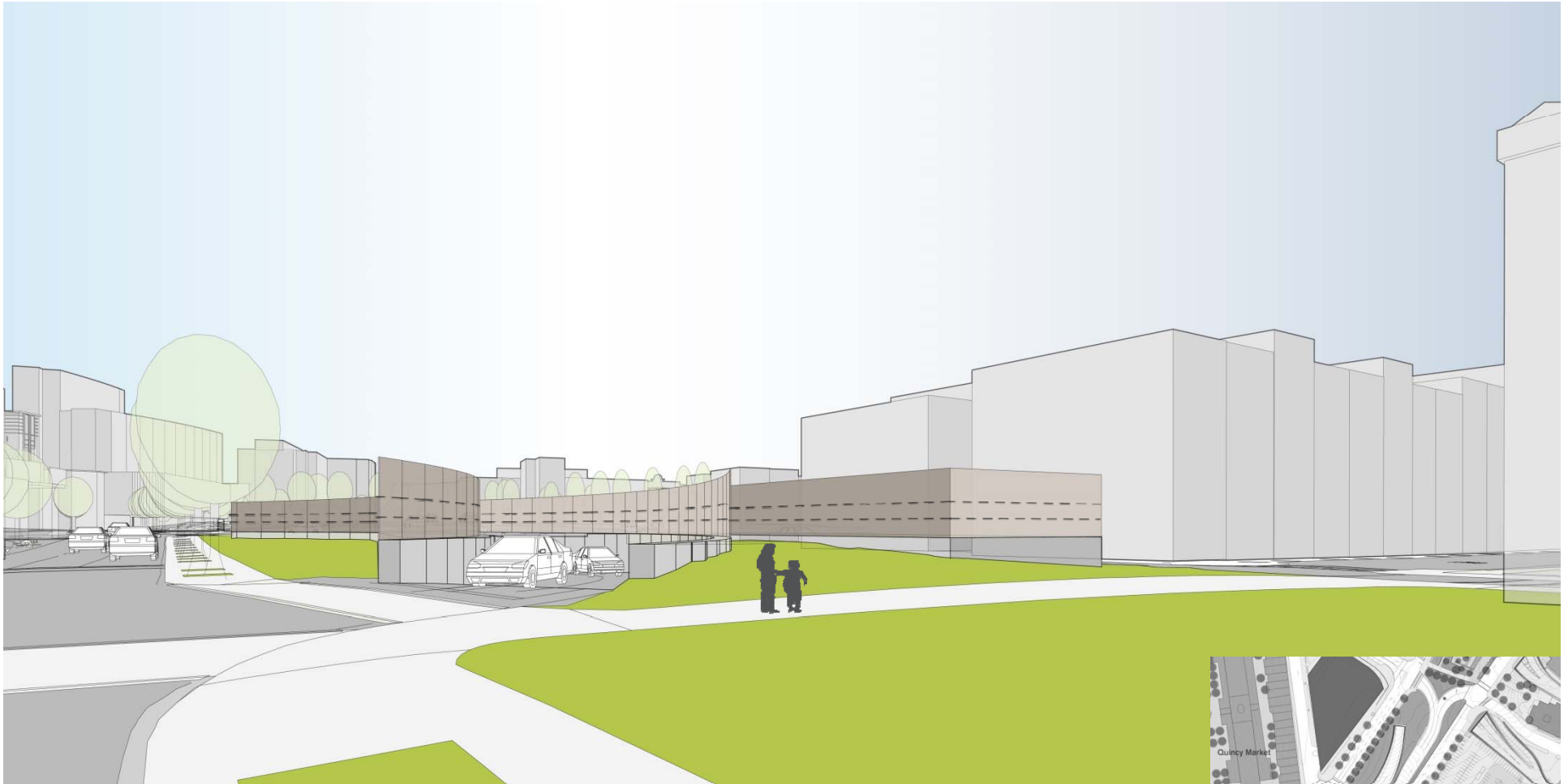
Overview of the Sites

Parcel 12 Existing Eye-Level Perspective



Overview of the Sites

Parcel 12: Option A - Screening



*Height of screen is variable

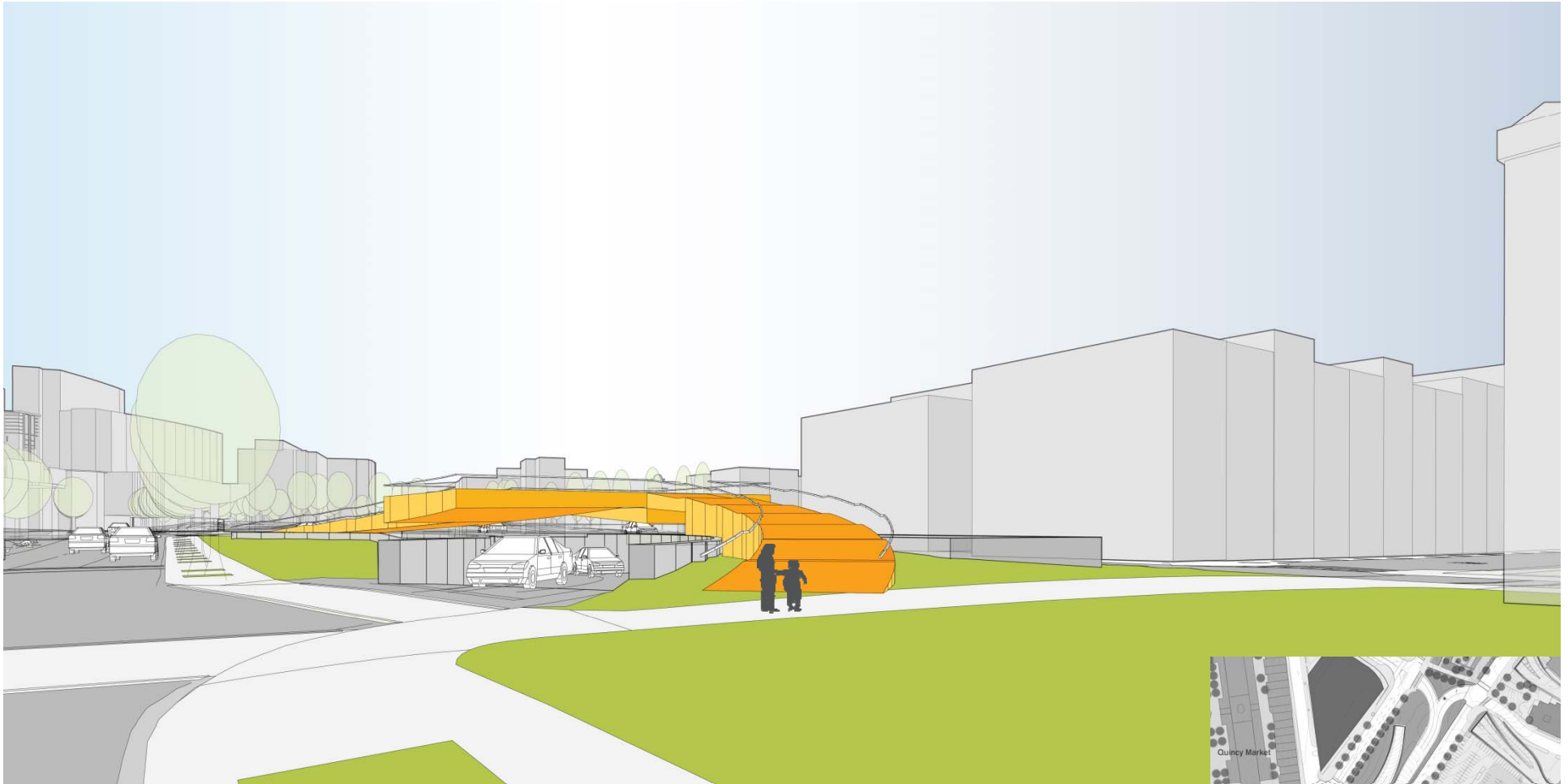
Overview of the Sites

Parcel 12: Option B - Cover



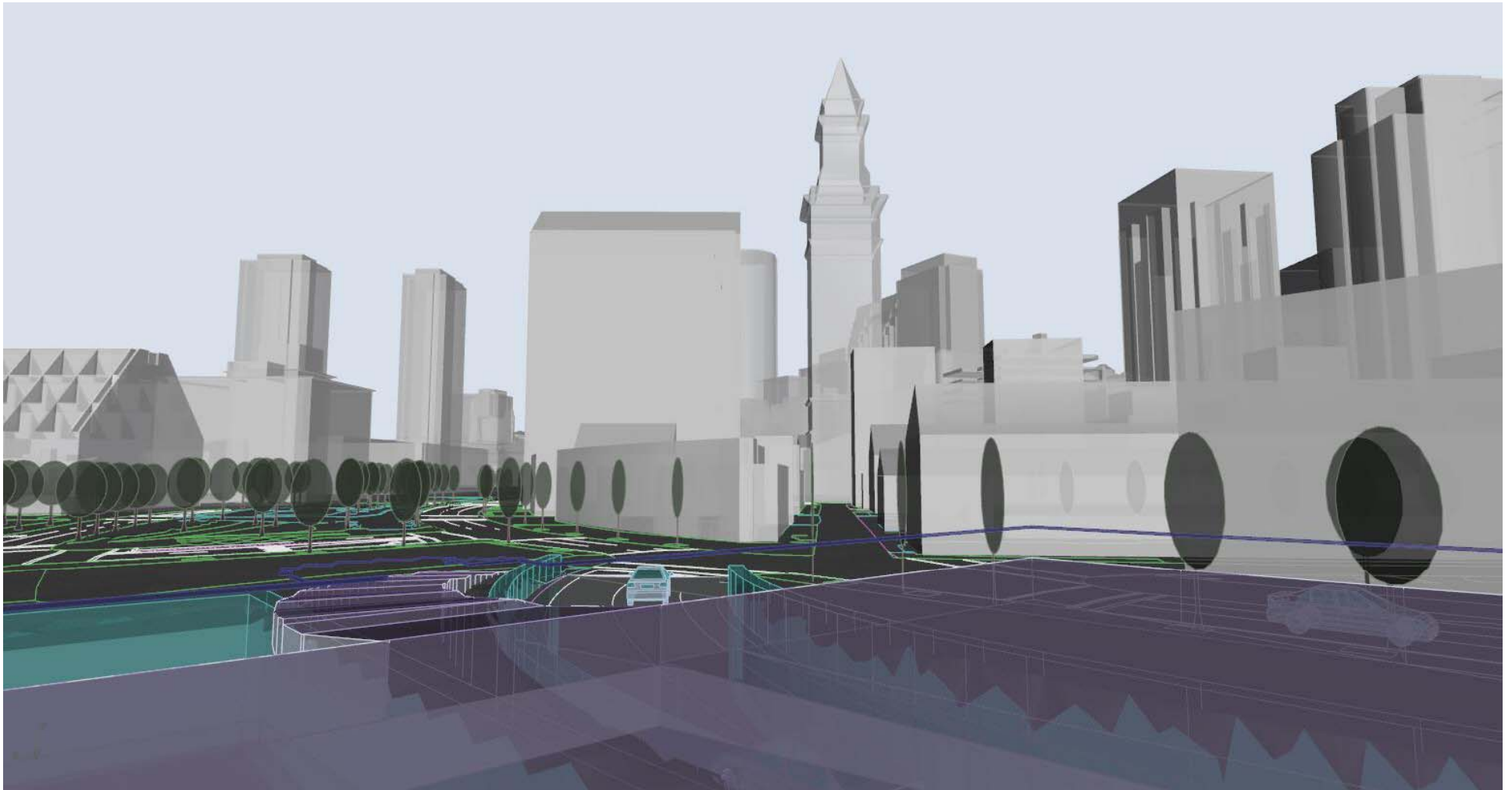
Overview of the Sites

Parcel 12: Option B – Cover Accessible



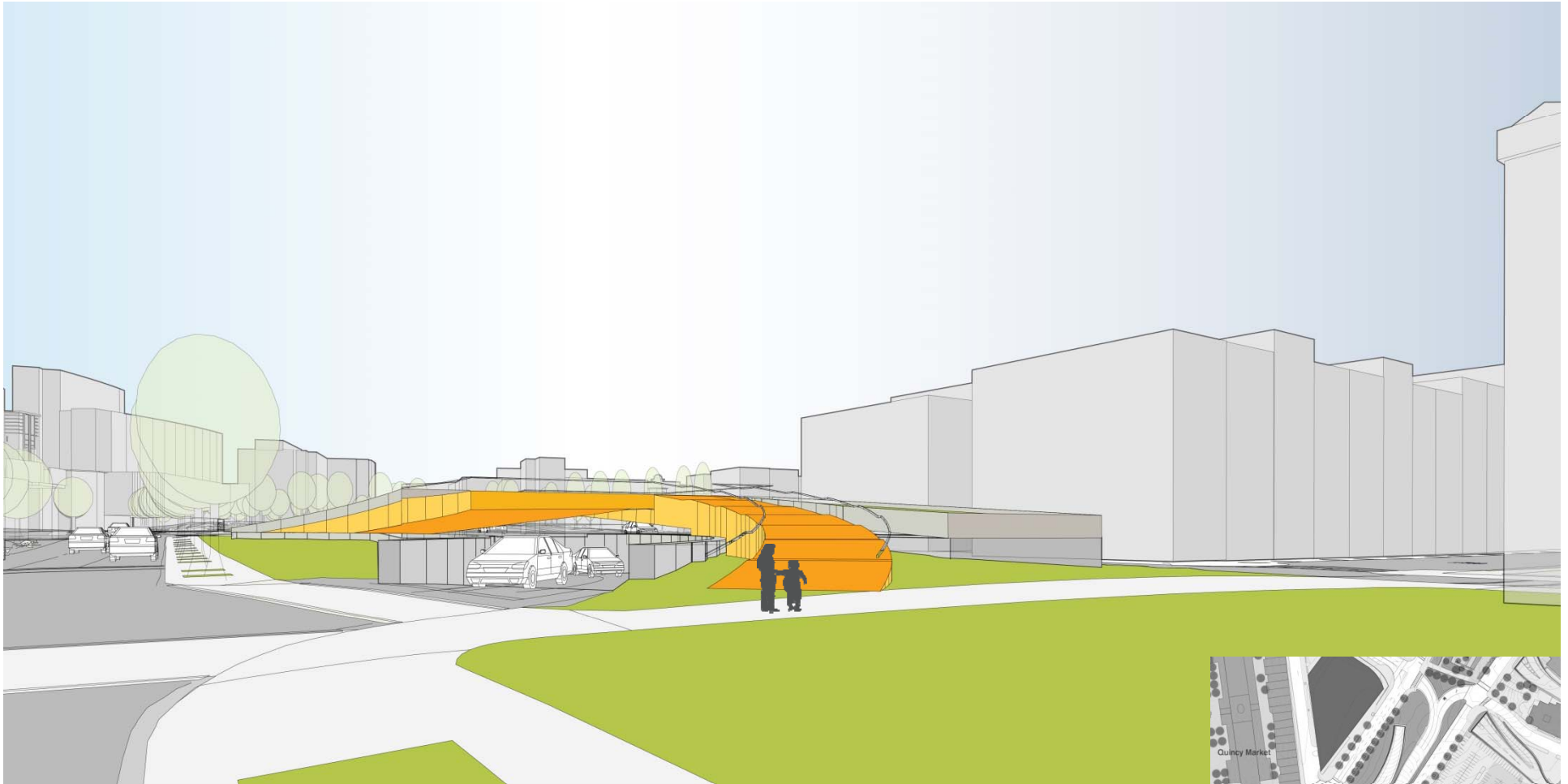
Overview of the Sites

Parcel 12: Option B (Looking South)

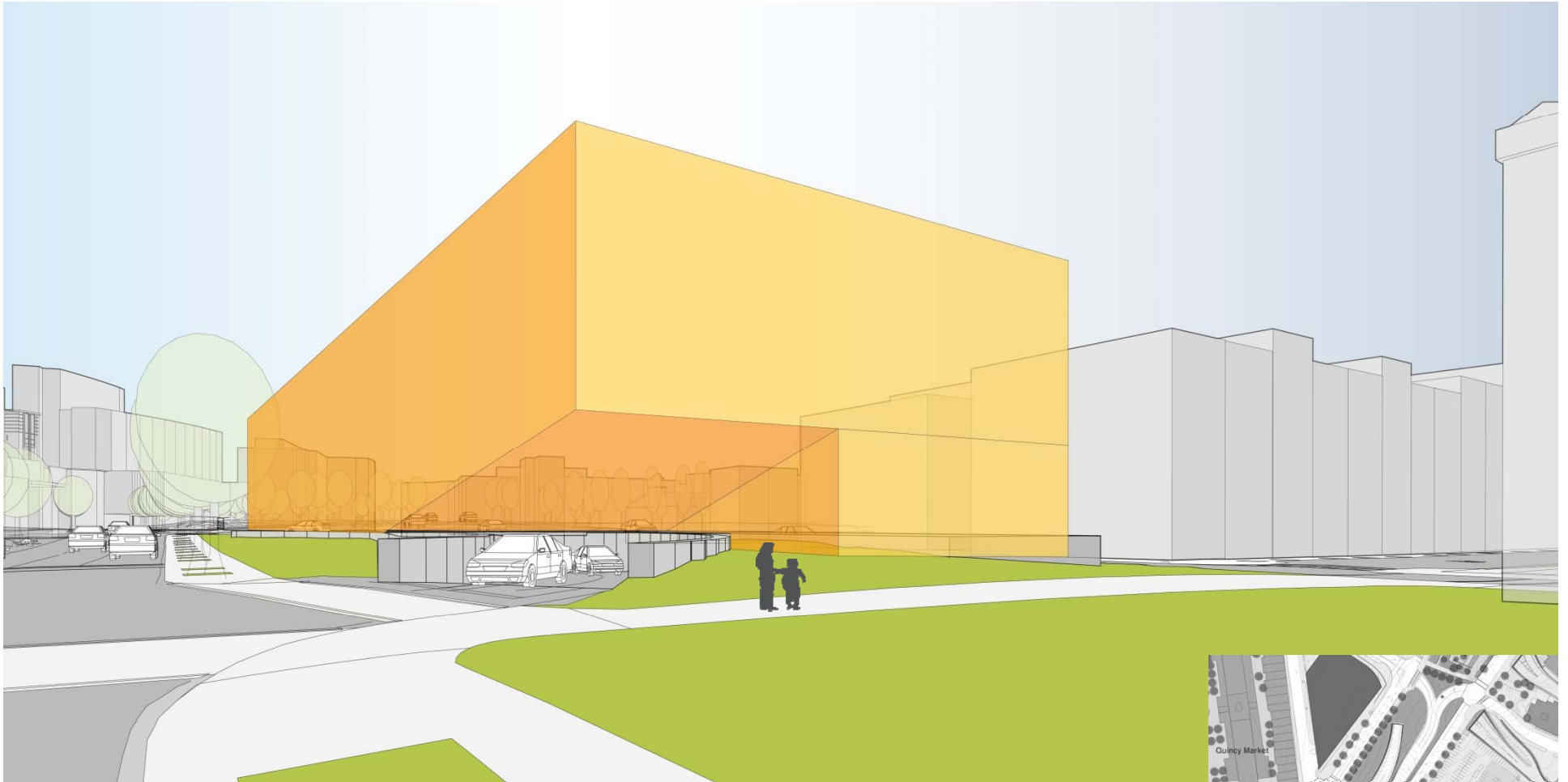


Overview of the Sites

Parcel 12: Option B – Cover Accessible



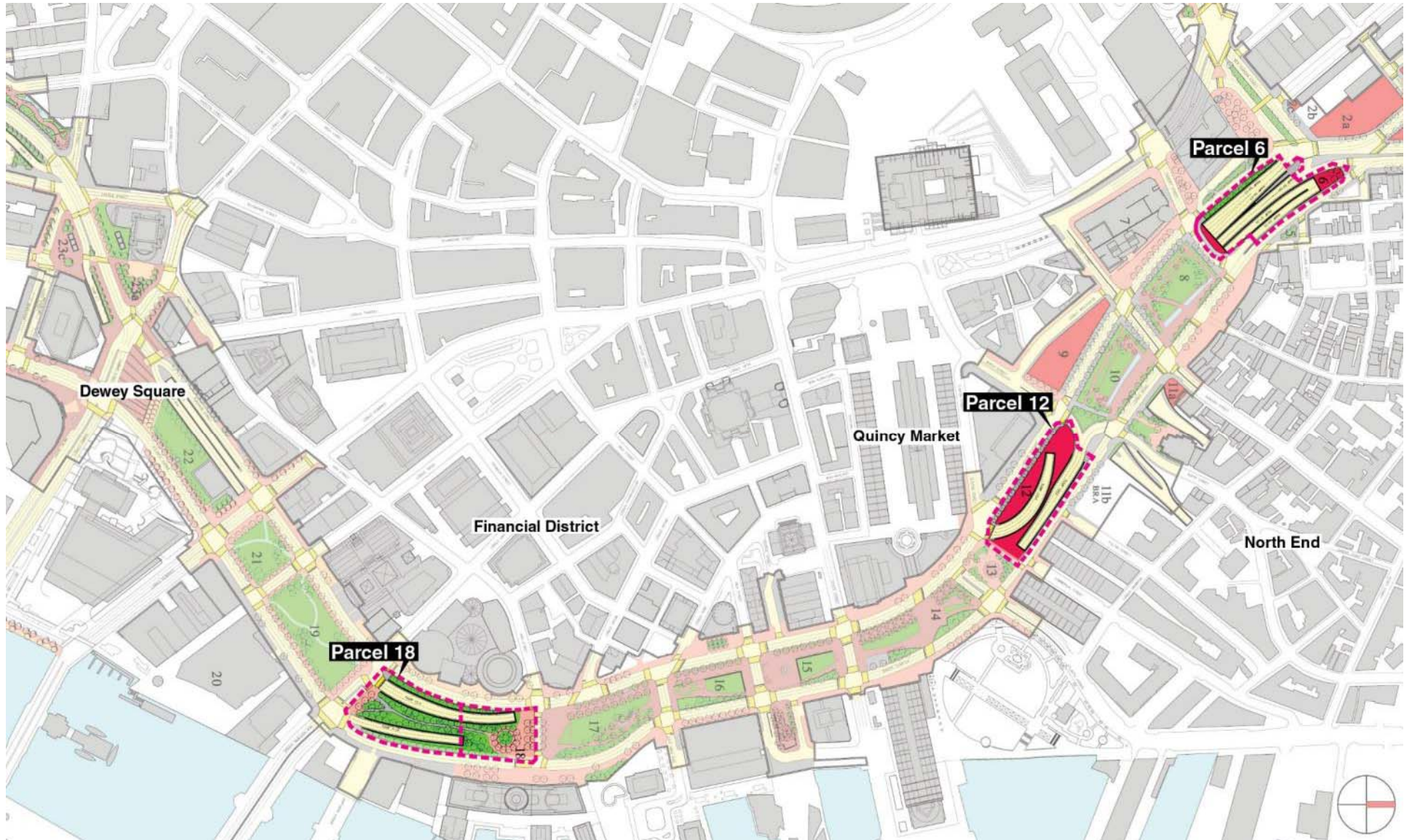
Parcel 12: Option C – Building Concept



Individual Ramp Parcels

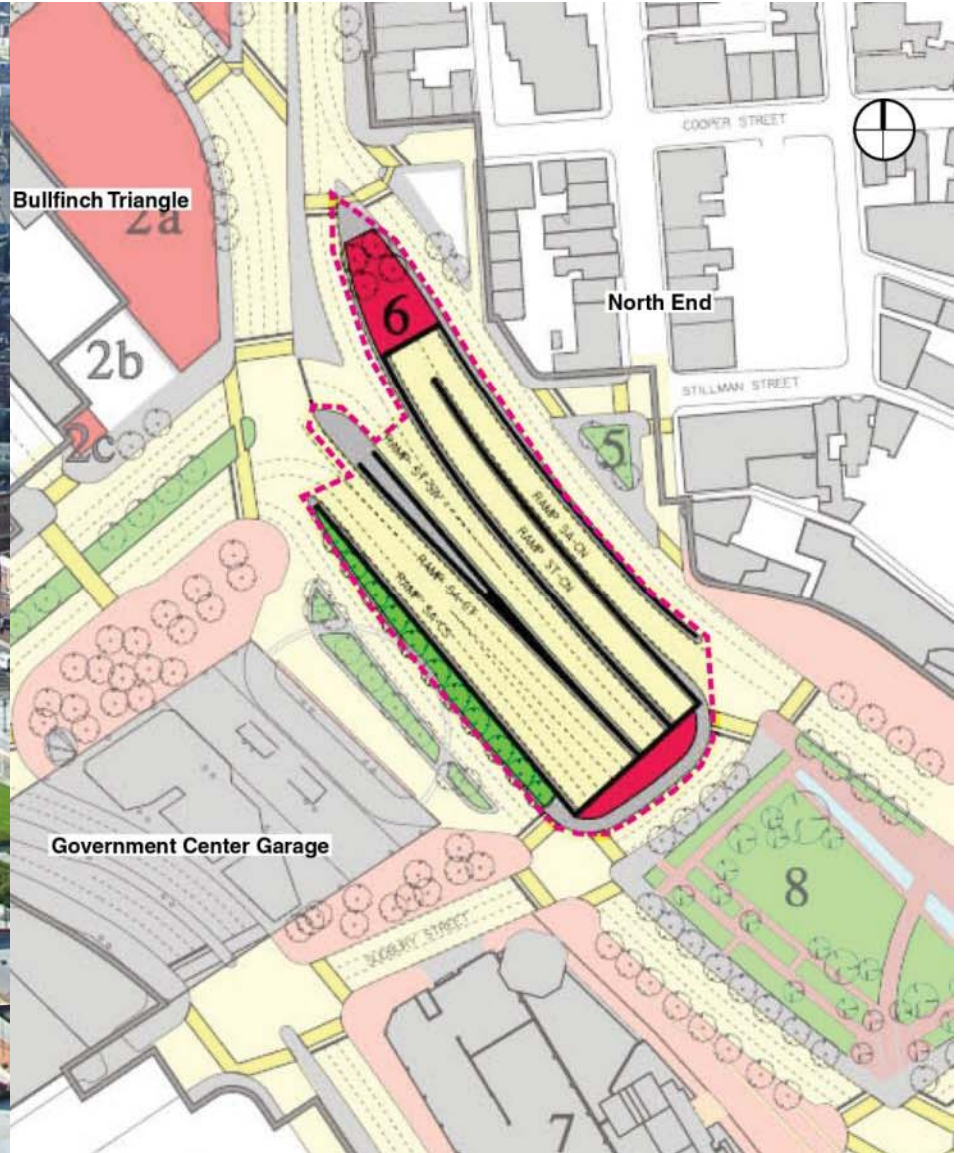
Parcel 6

Parcel 6



Overview of the Sites

Parcel 6



Parcel 6 Overall Character

- **Parcel is almost entirely taken up by ramps.**
- **The parcel feels like (and is) a highway overpass.**
- **Any pedestrian motion will require new spanning structures.**

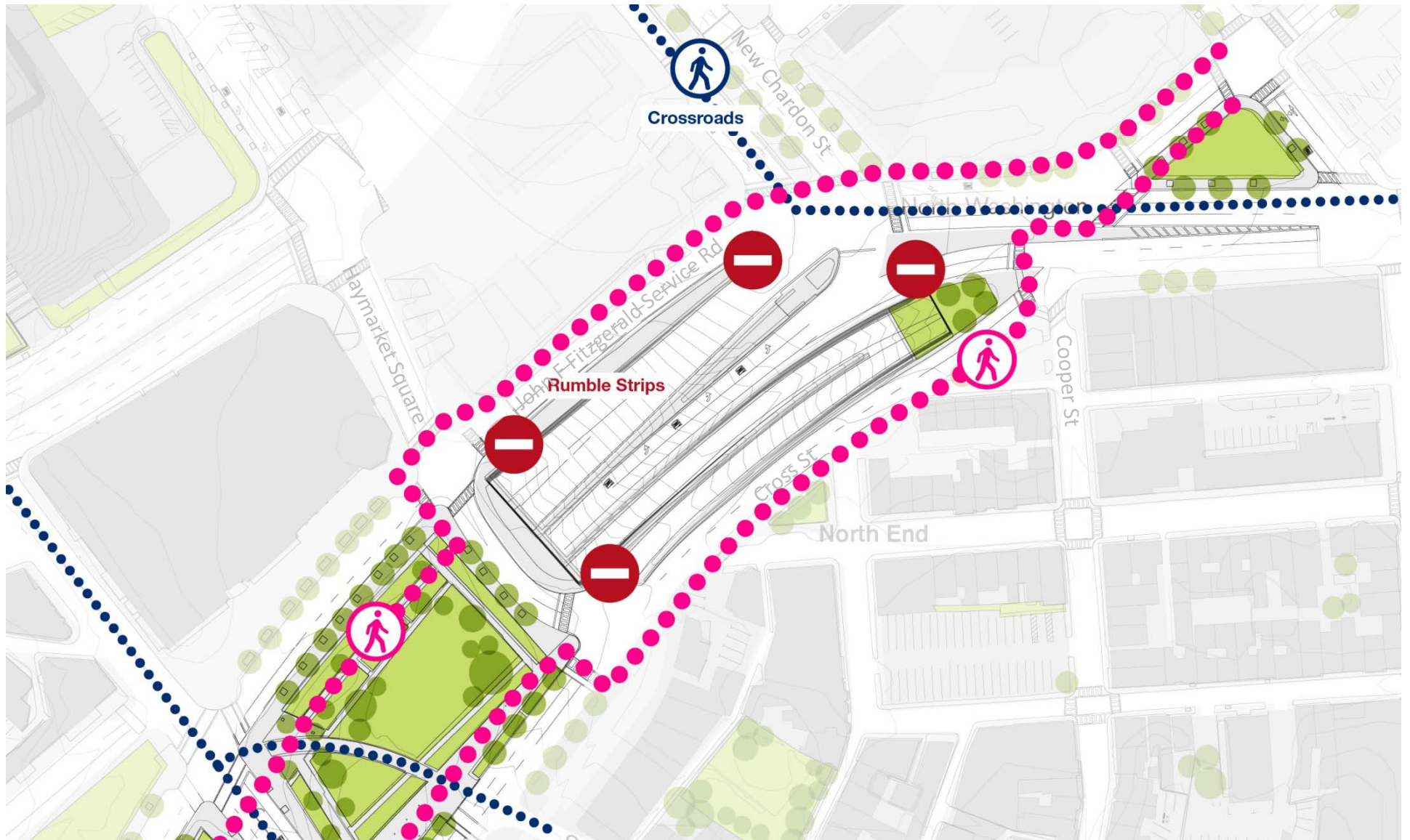
Parcel 6 Uses



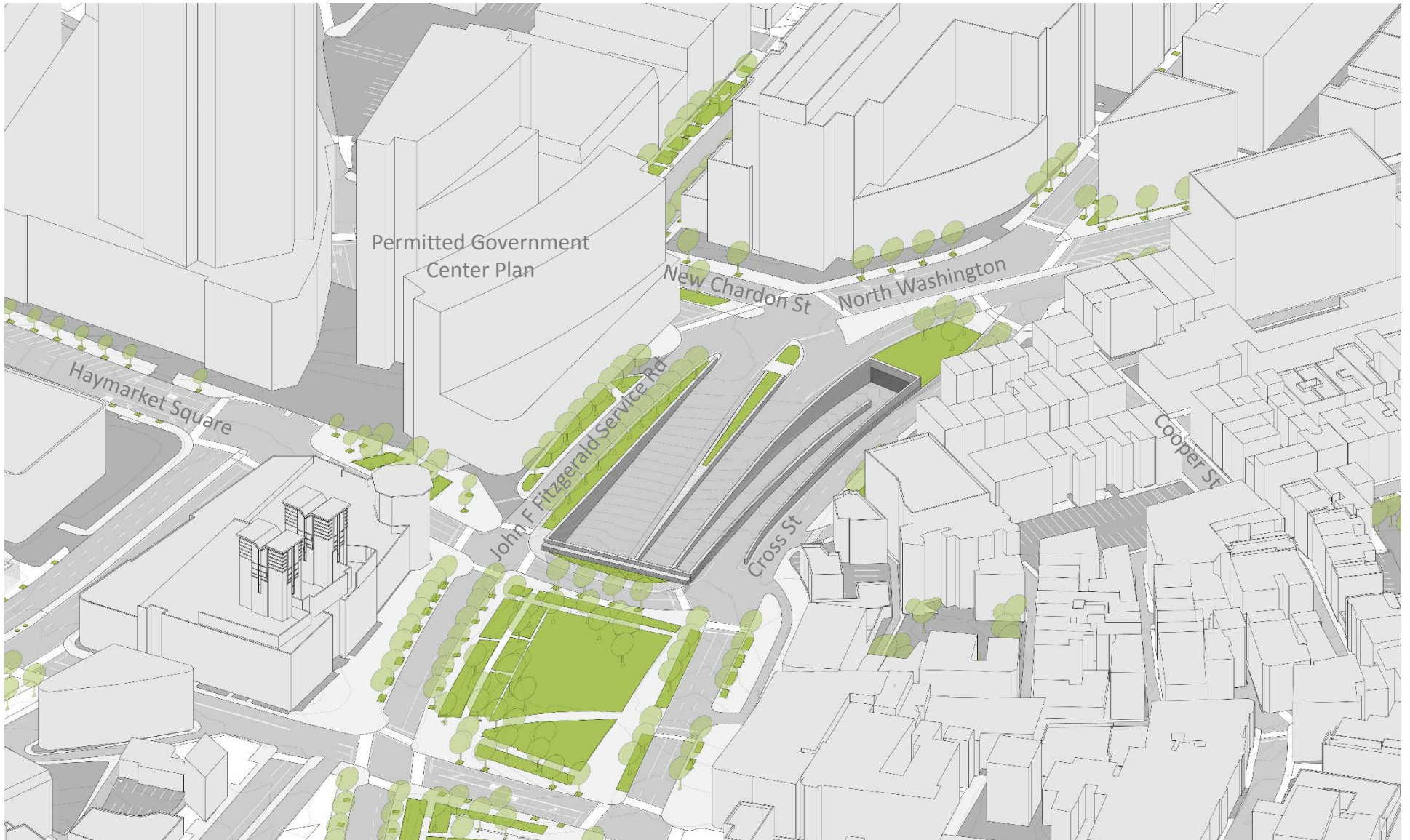
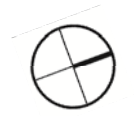
Parcel 6 Potential View Corridors



Parcel 6 Circulation

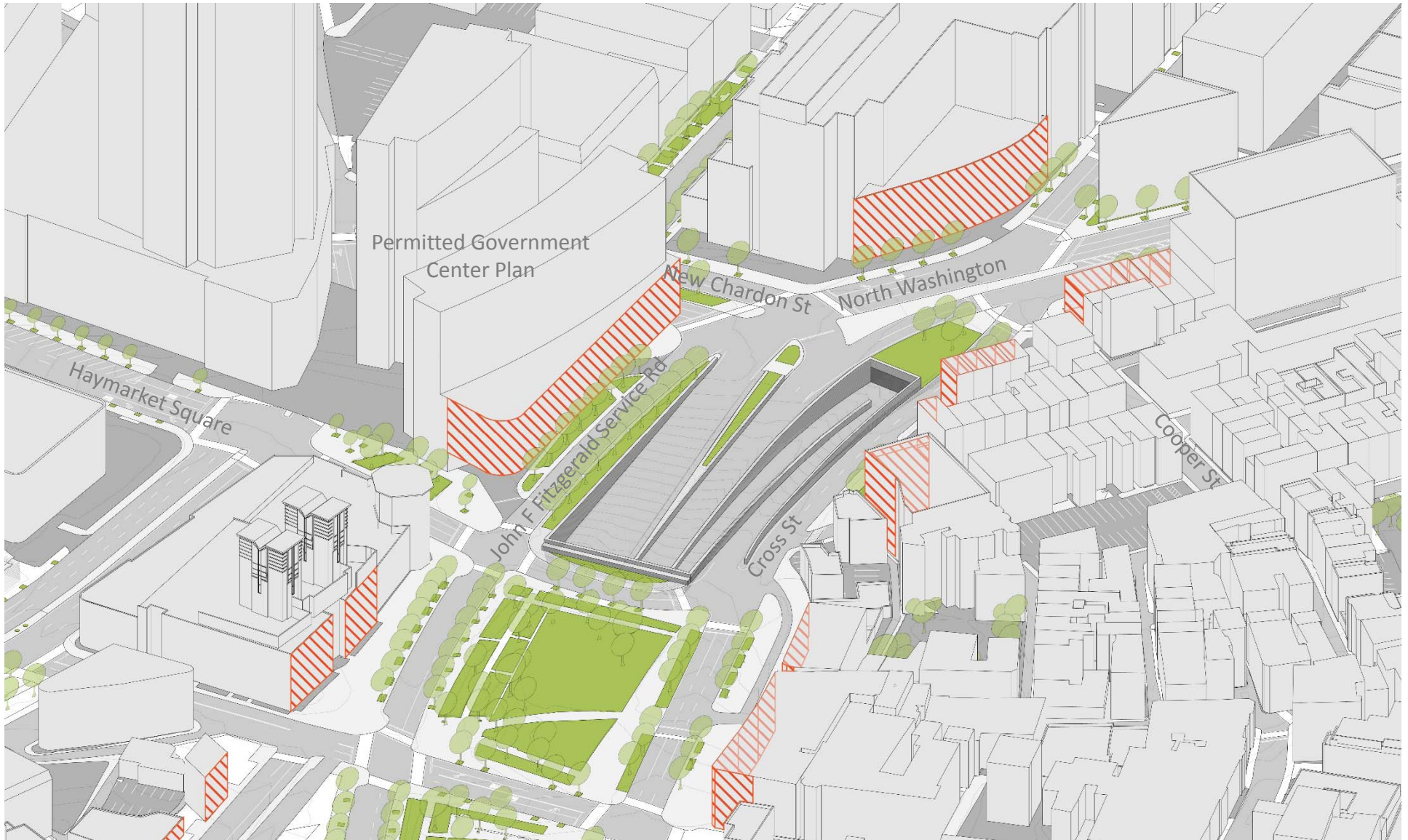
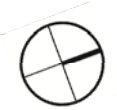


Parcel 6 Perspective

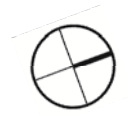


Parcel 6 Active Edges

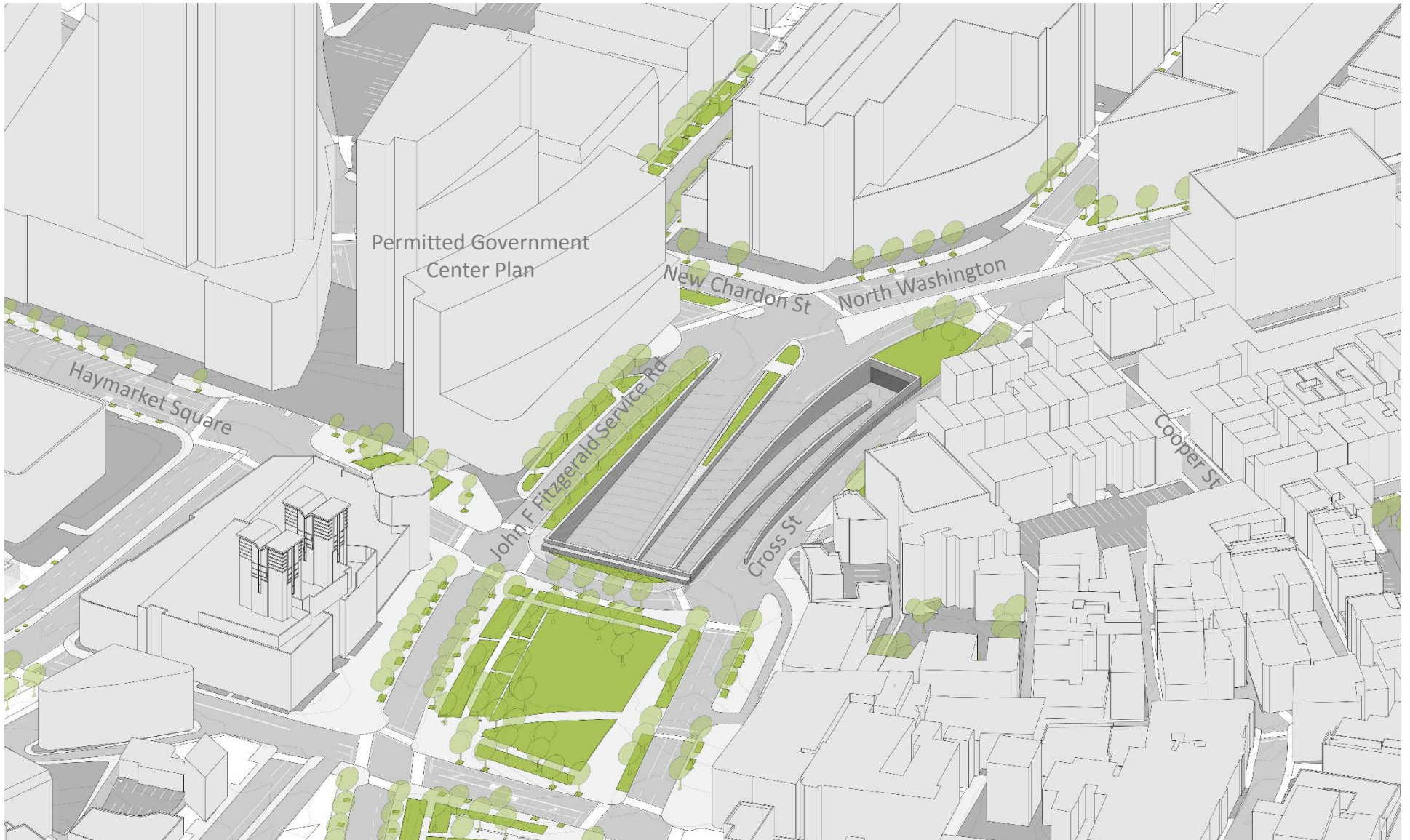
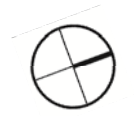
Active Edges: Publicly accessible uses



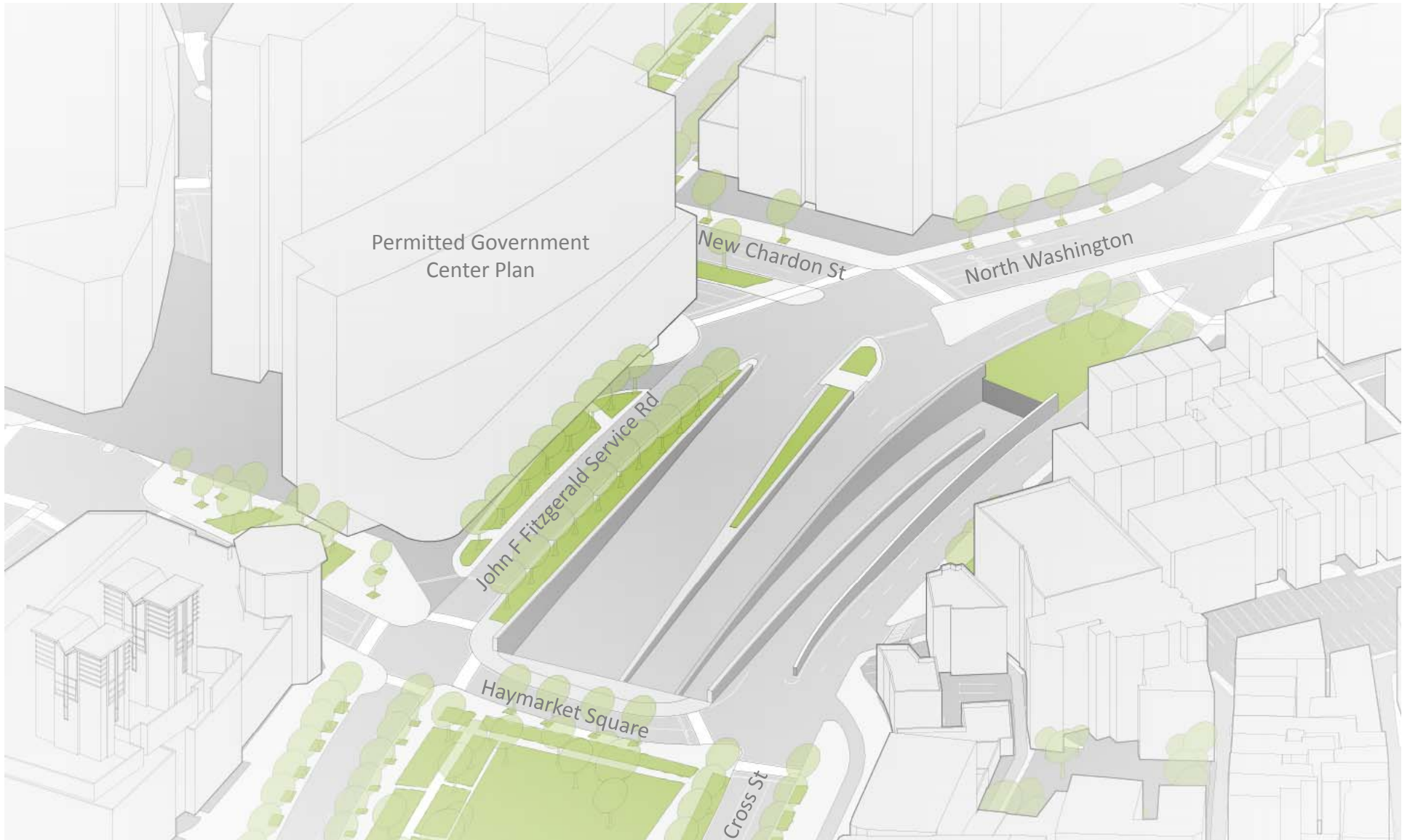
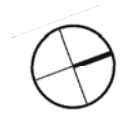
Parcel 6 Desire Line



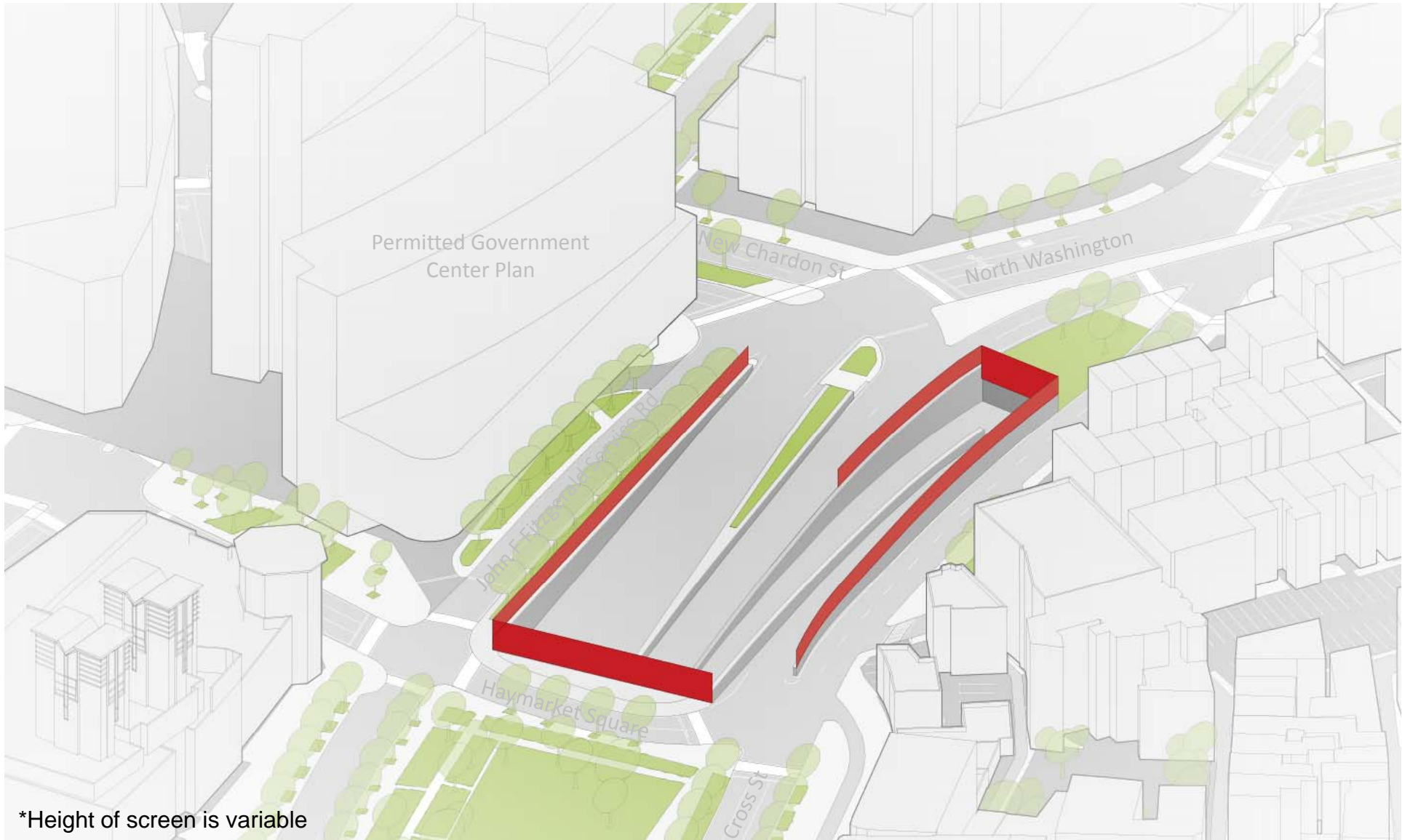
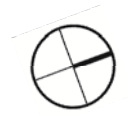
Parcel 6 Perspective



Parcel 6 Perspective

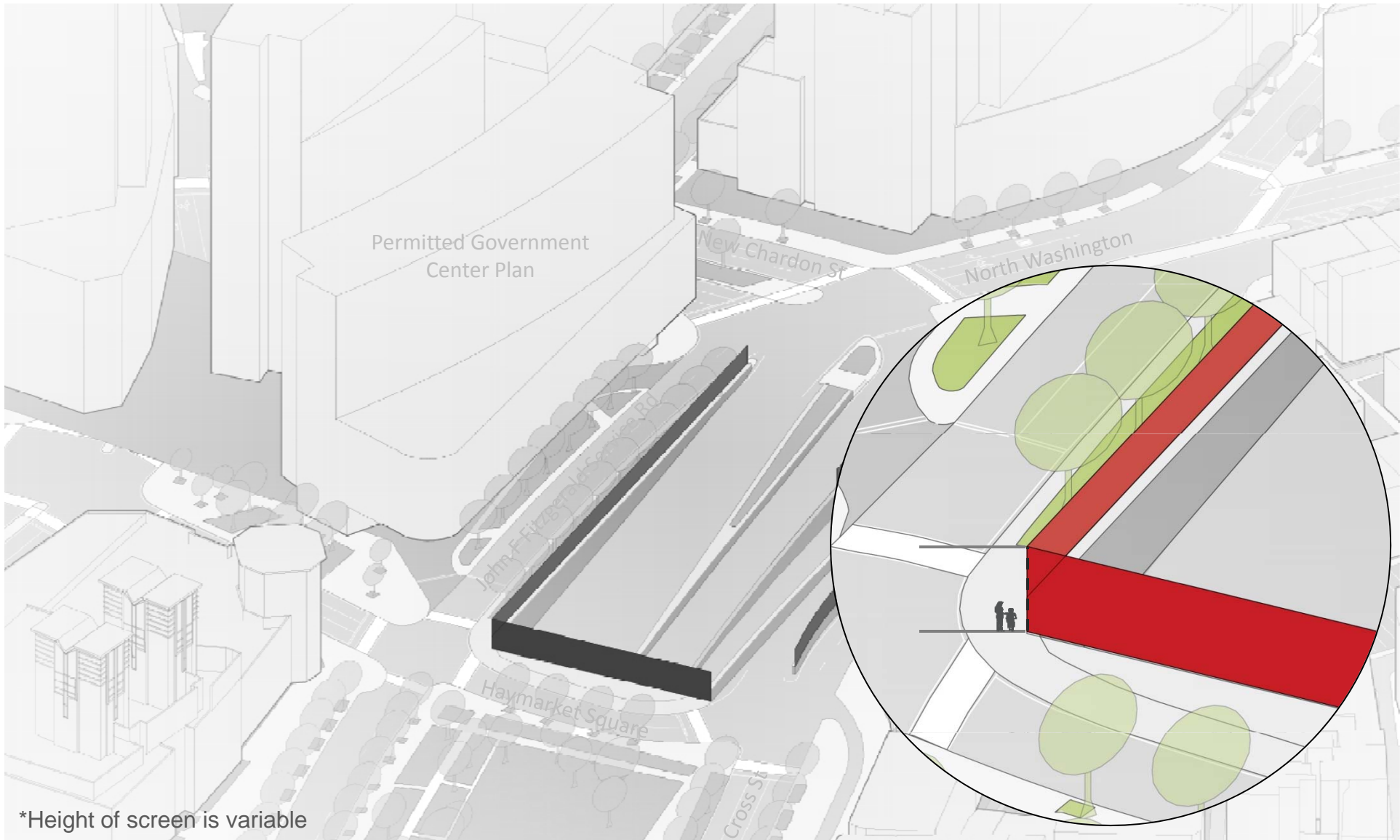
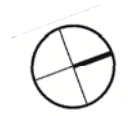


Parcel 6: Option A - Screening



*Height of screen is variable

Parcel 6: Option A - Screening



*Height of screen is variable

“Screening”: Examples

Trees and hedges



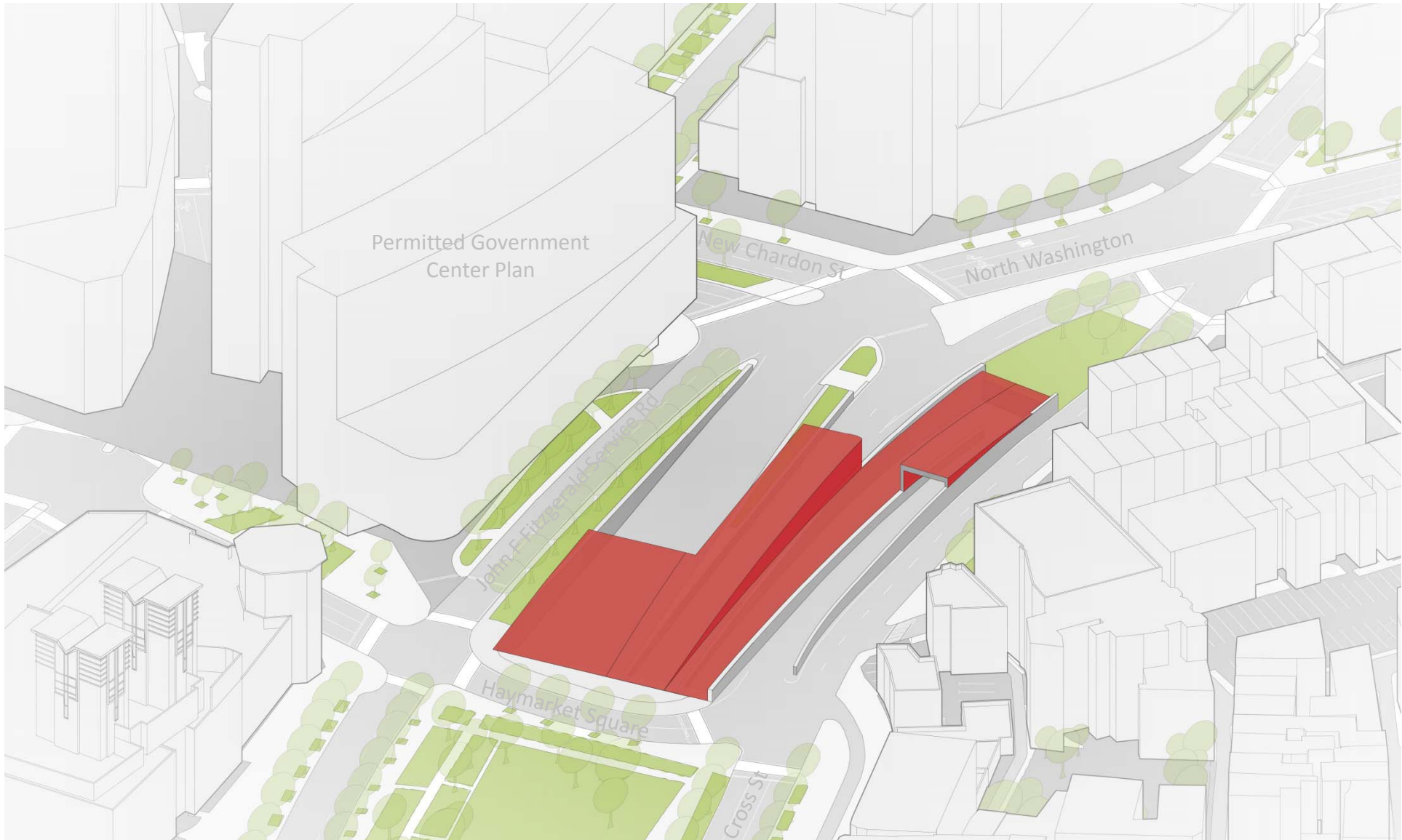
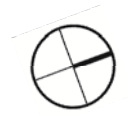
Fencing / Walls



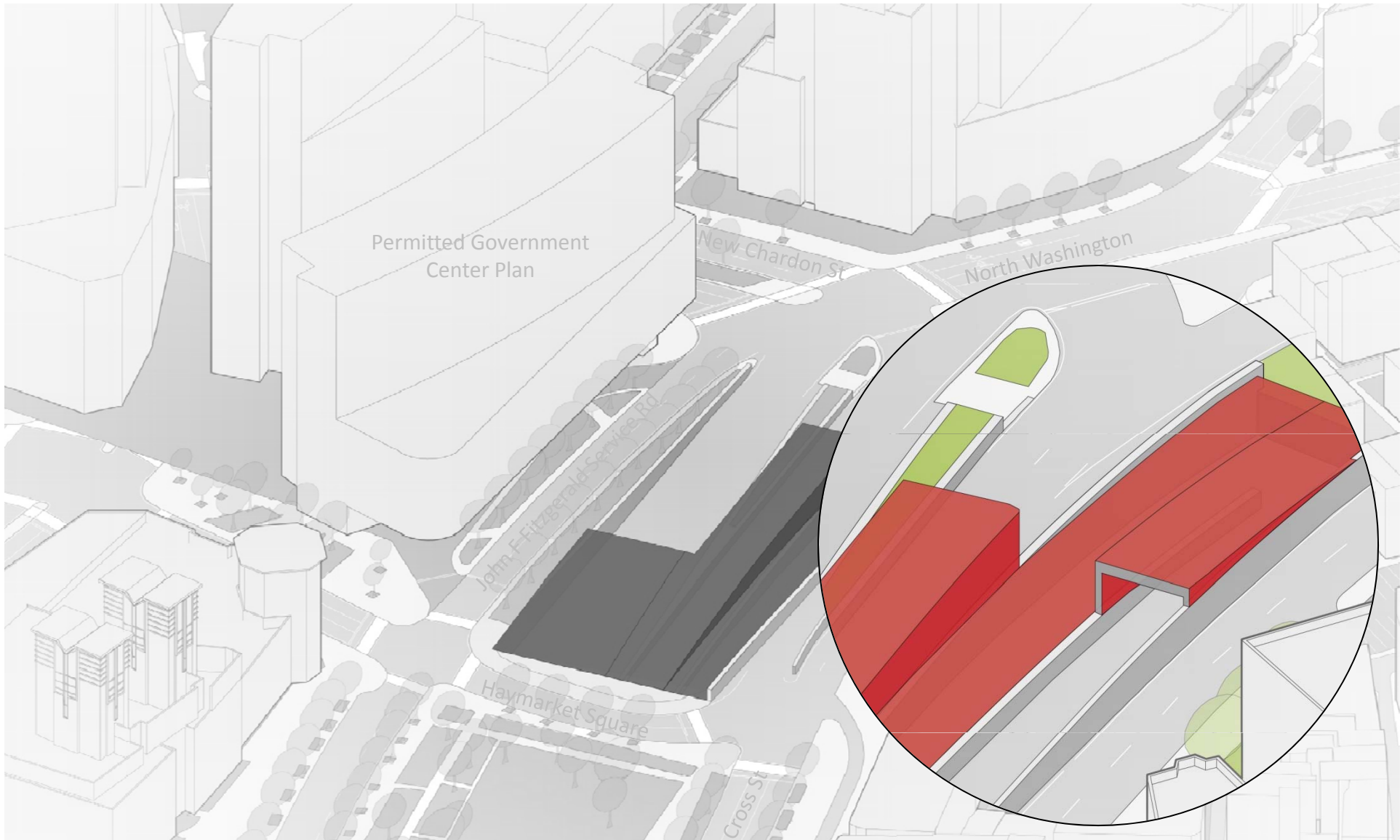
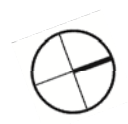
Public Art



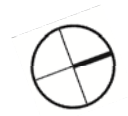
Parcel 6: Option B – Cover



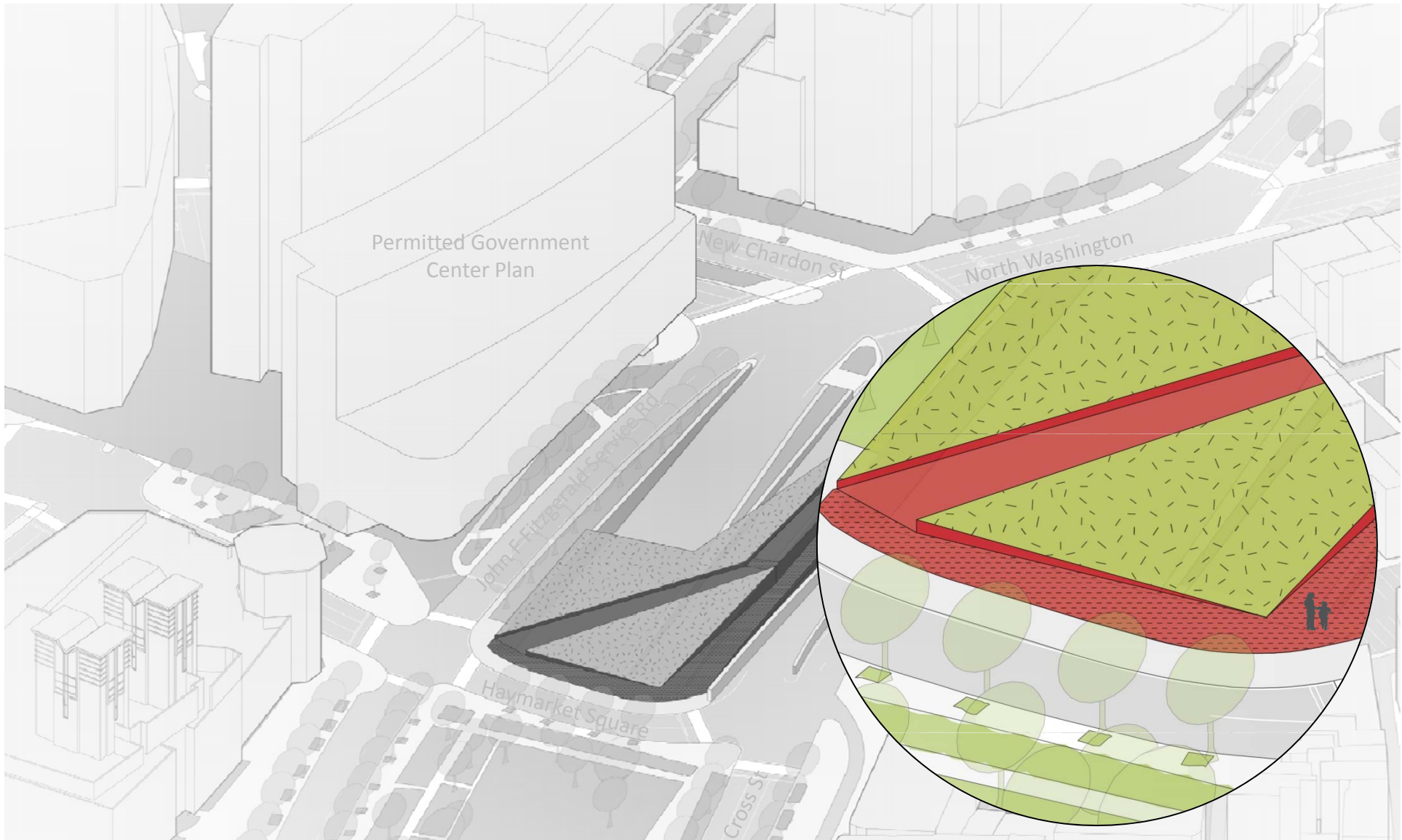
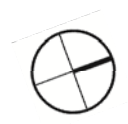
Parcel 6: Option B – Cover



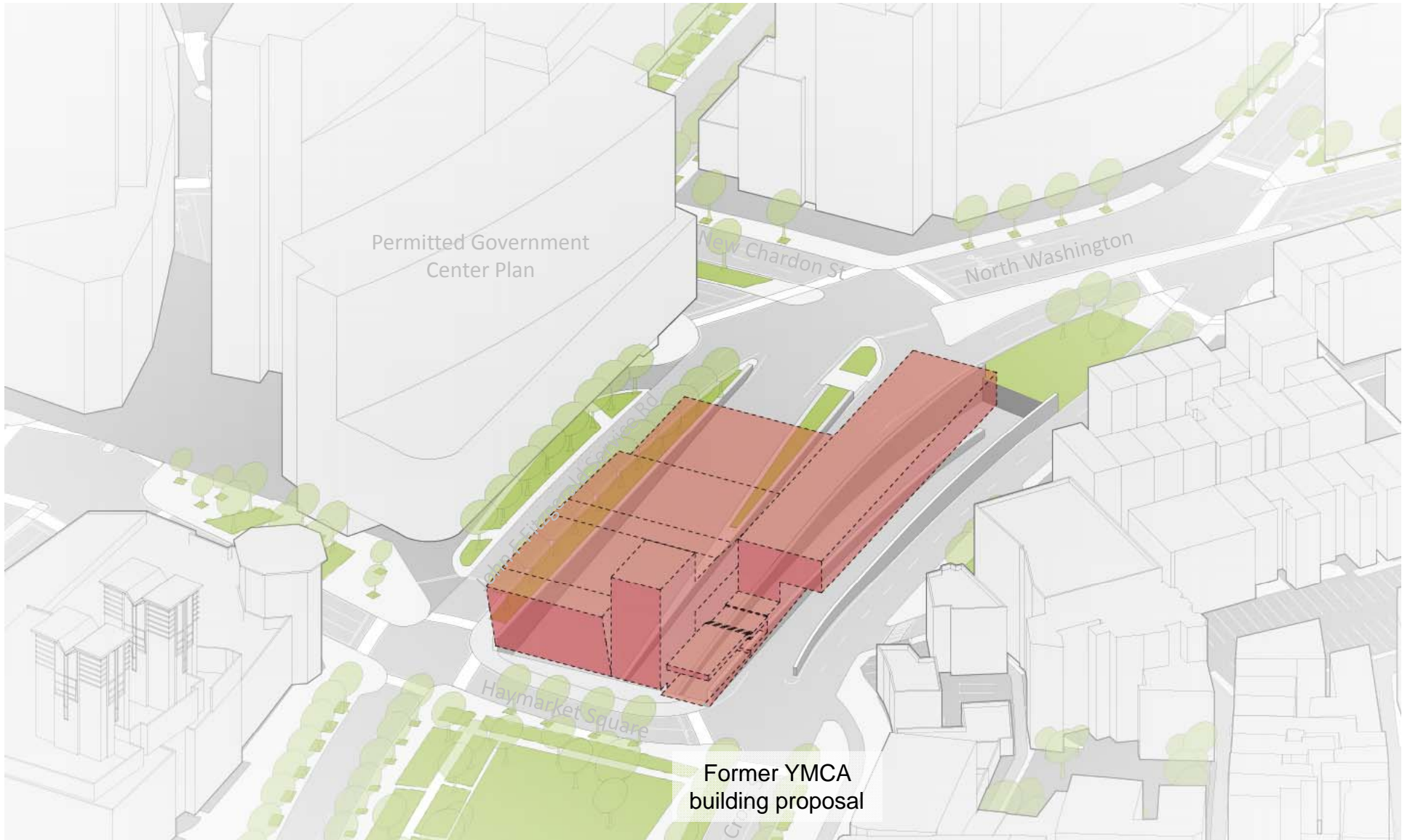
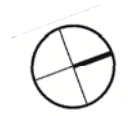
Parcel 6: Option B – Cover



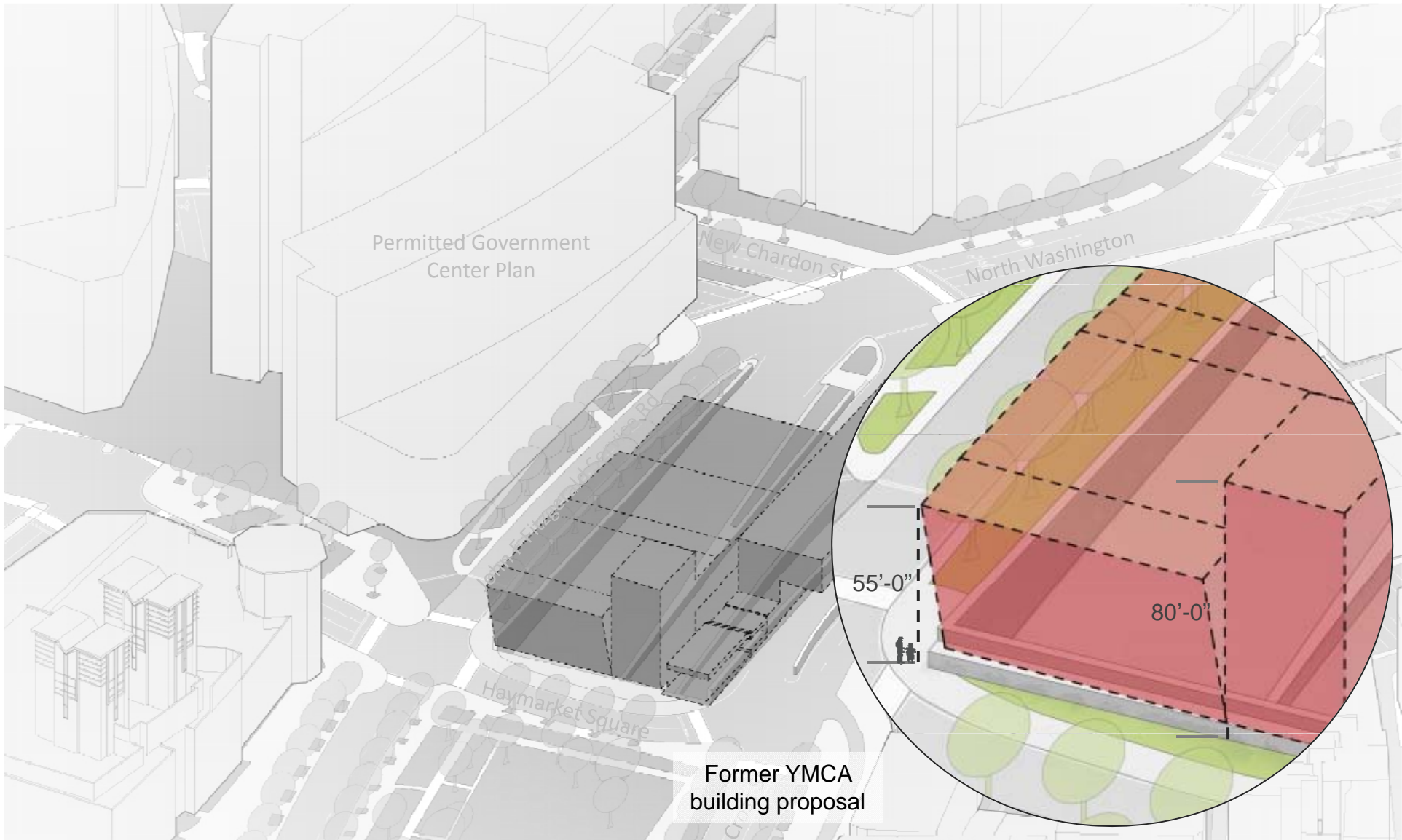
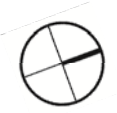
Parcel 6: Option B – Cover



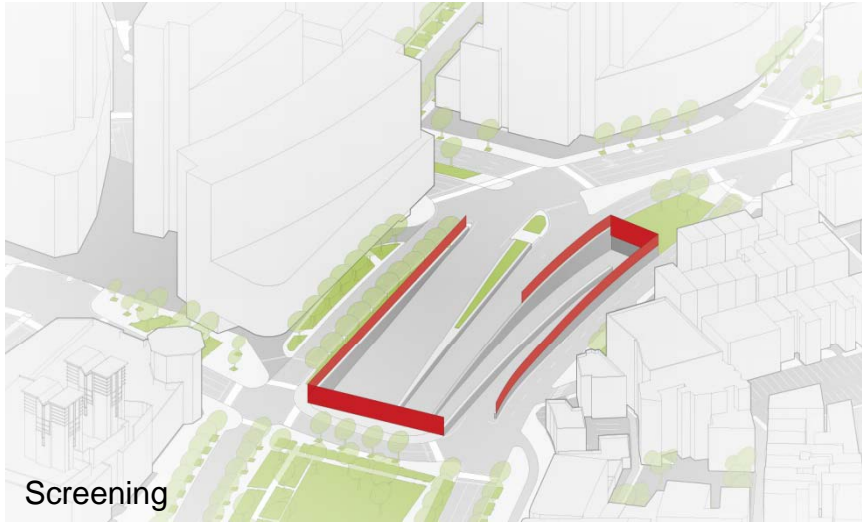
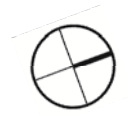
Parcel 6: Option C – Building Concept



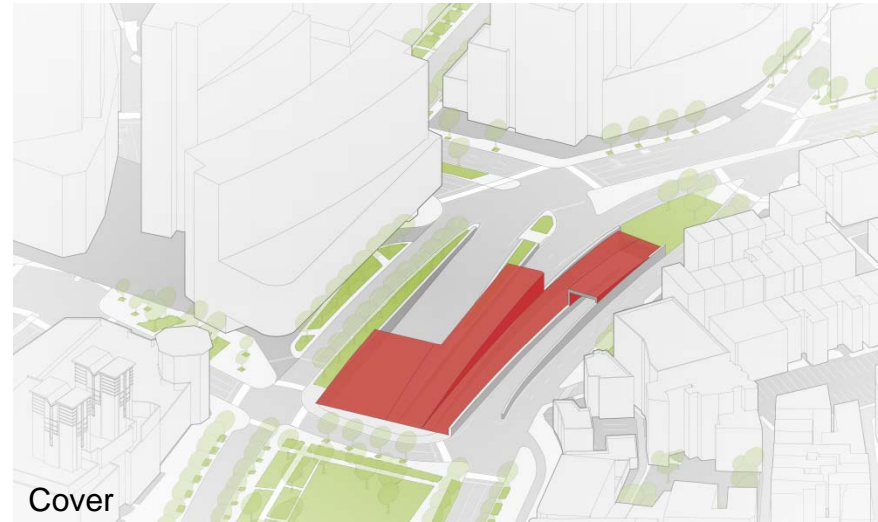
Parcel 6: Option C – Building Concept



Parcel 6: Options



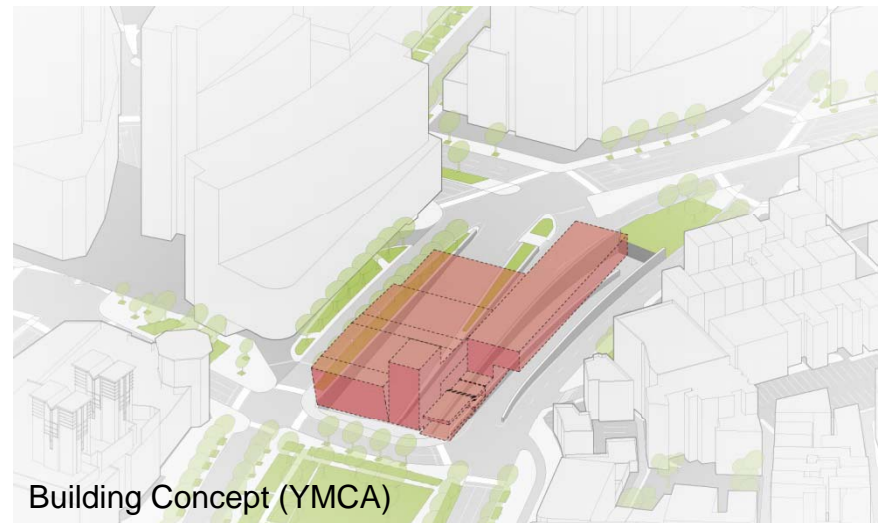
Screening



Cover



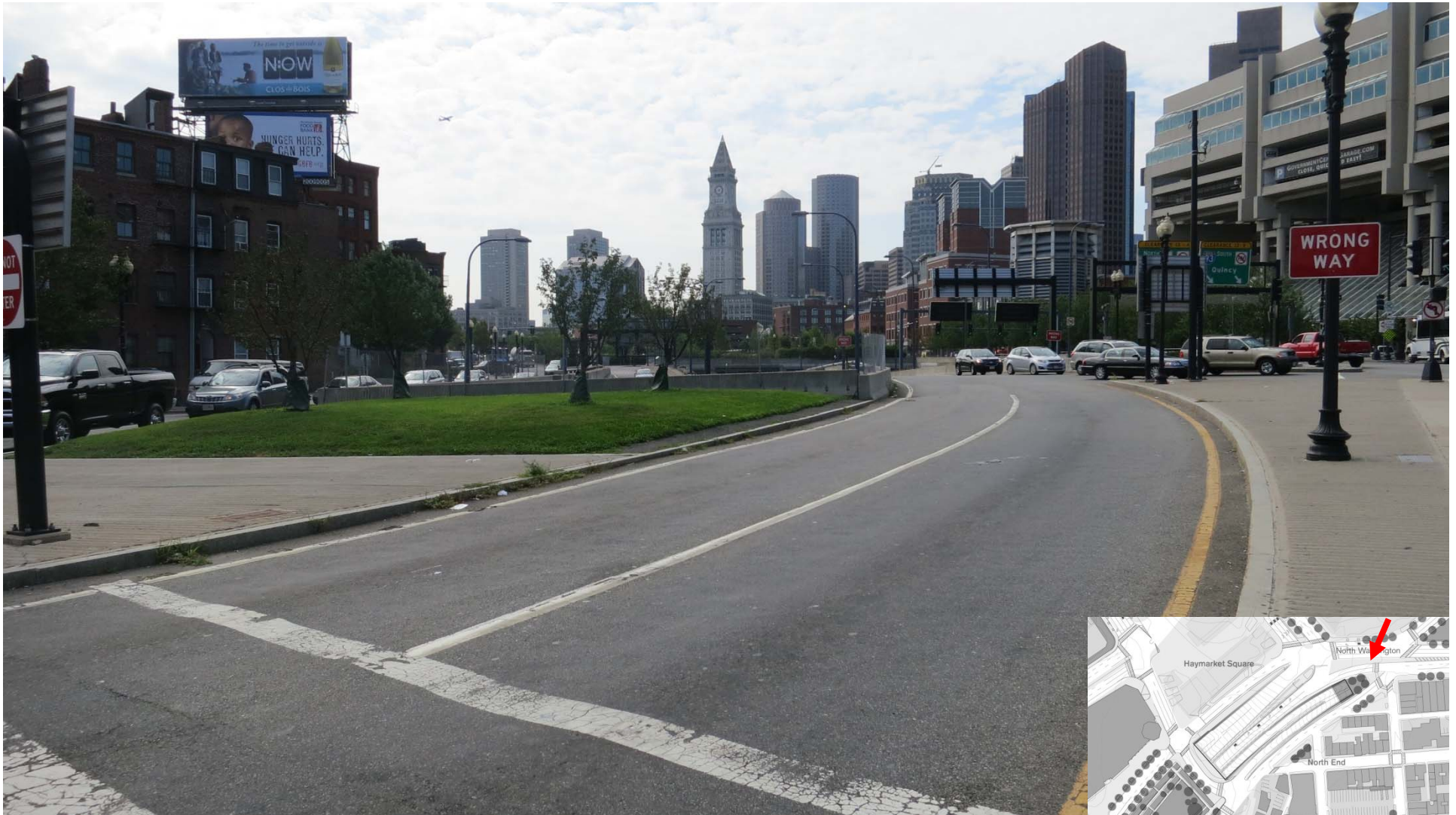
Cover



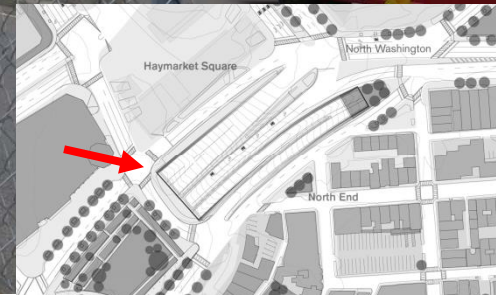
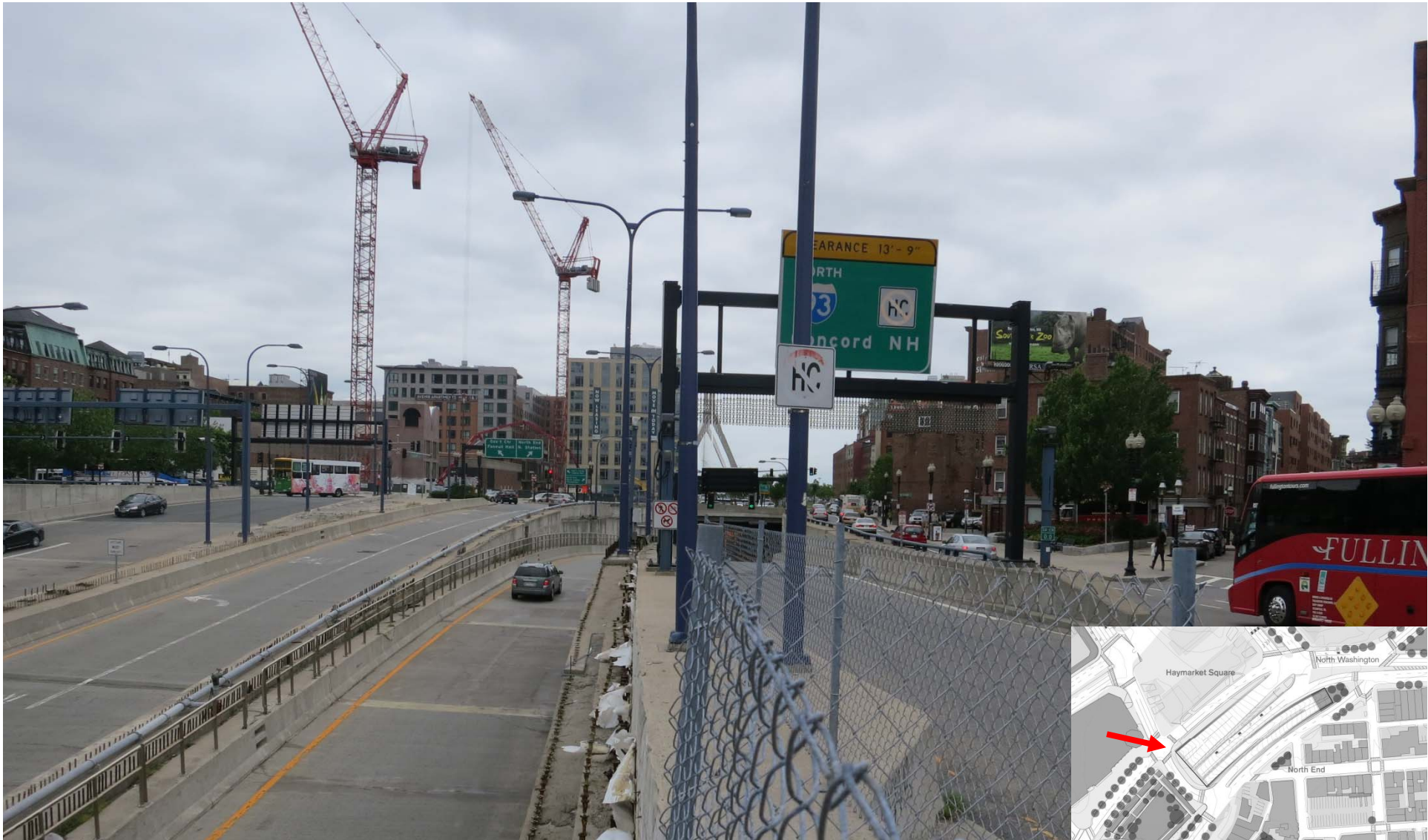
Building Concept (YMCA)

Individual Ramp Parcels

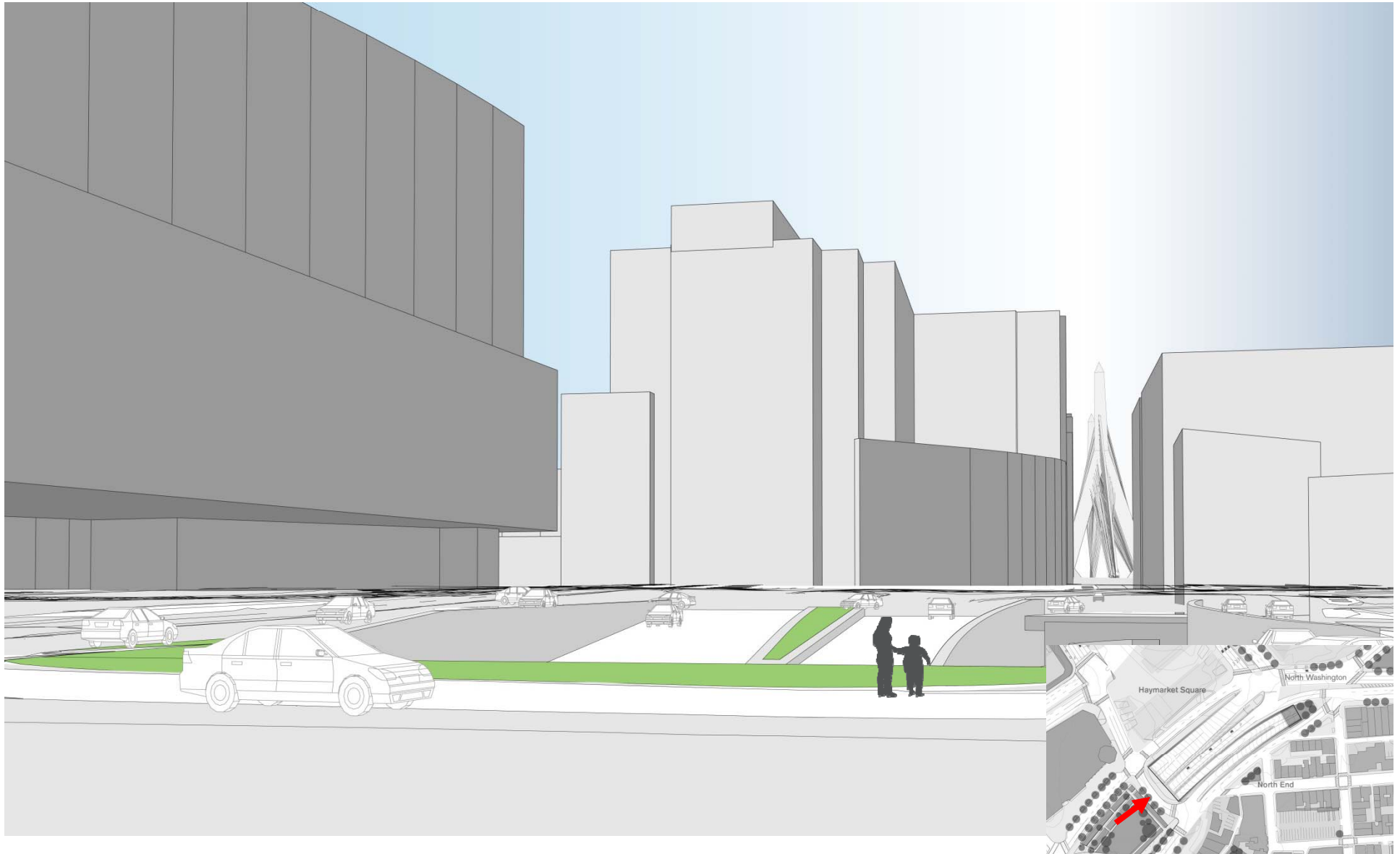
Parcel 6: Existing Perspective



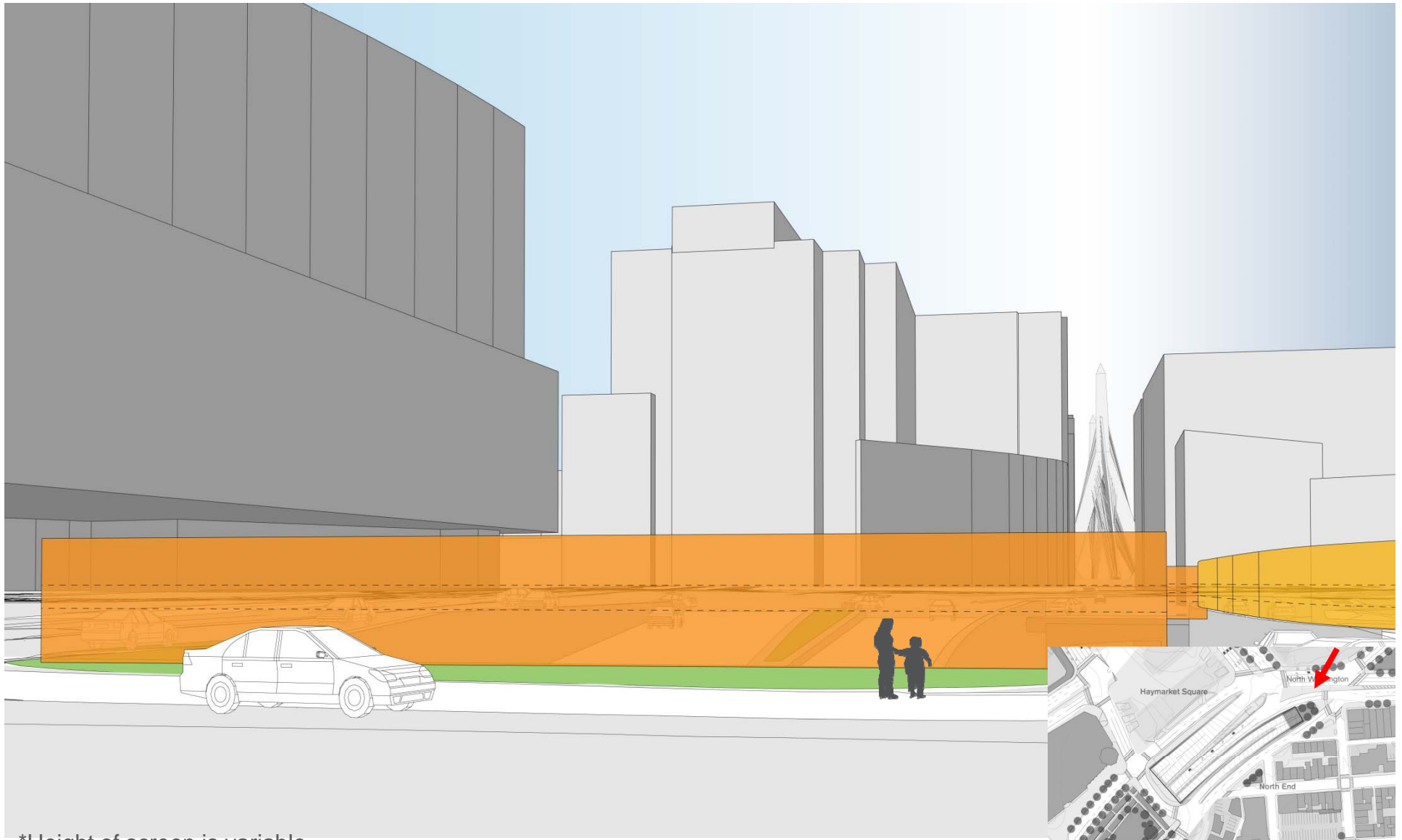
Parcel 6: Existing Perspective



Parcel 6: Existing Perspective

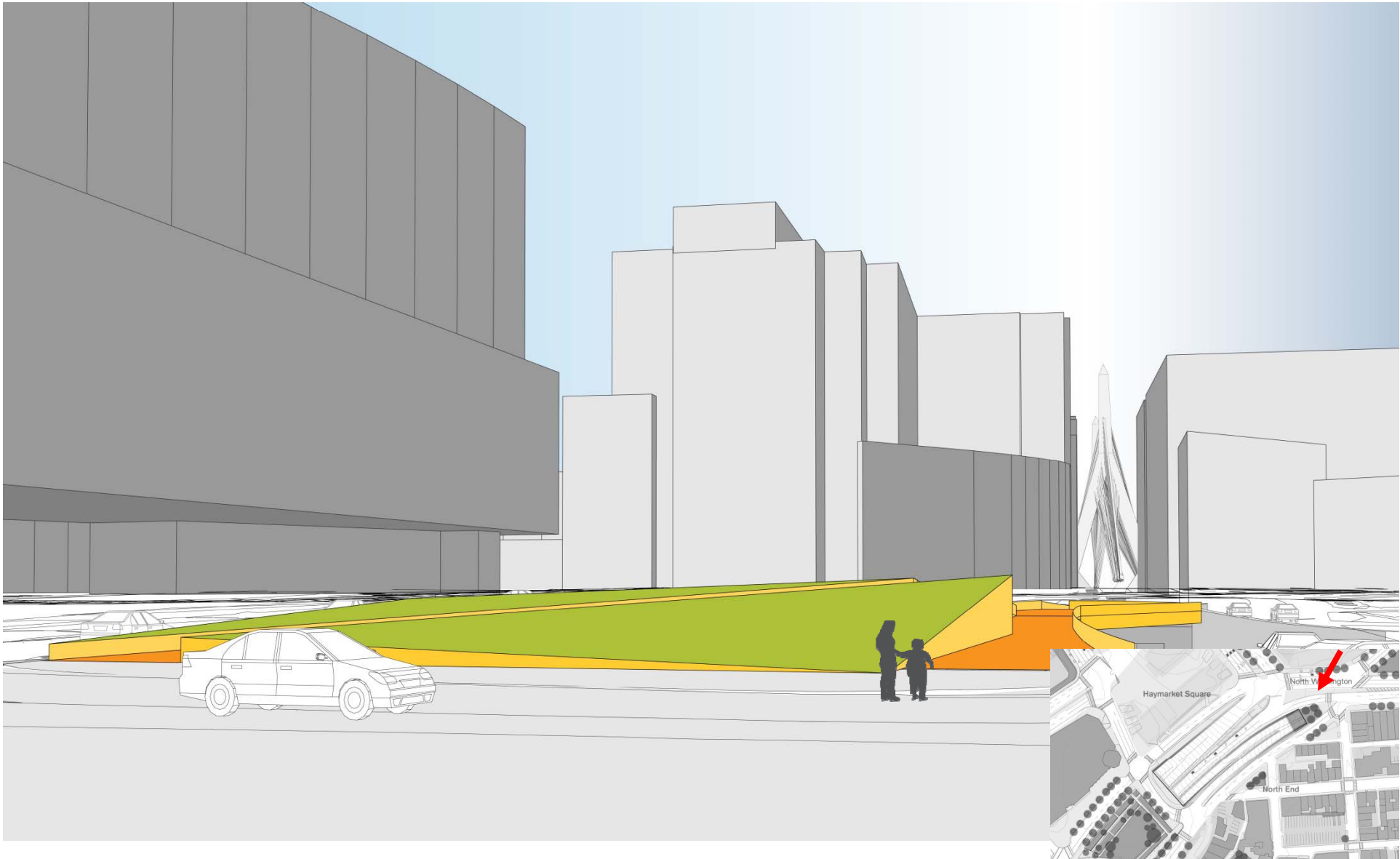


Parcel 6: Option A - Screening

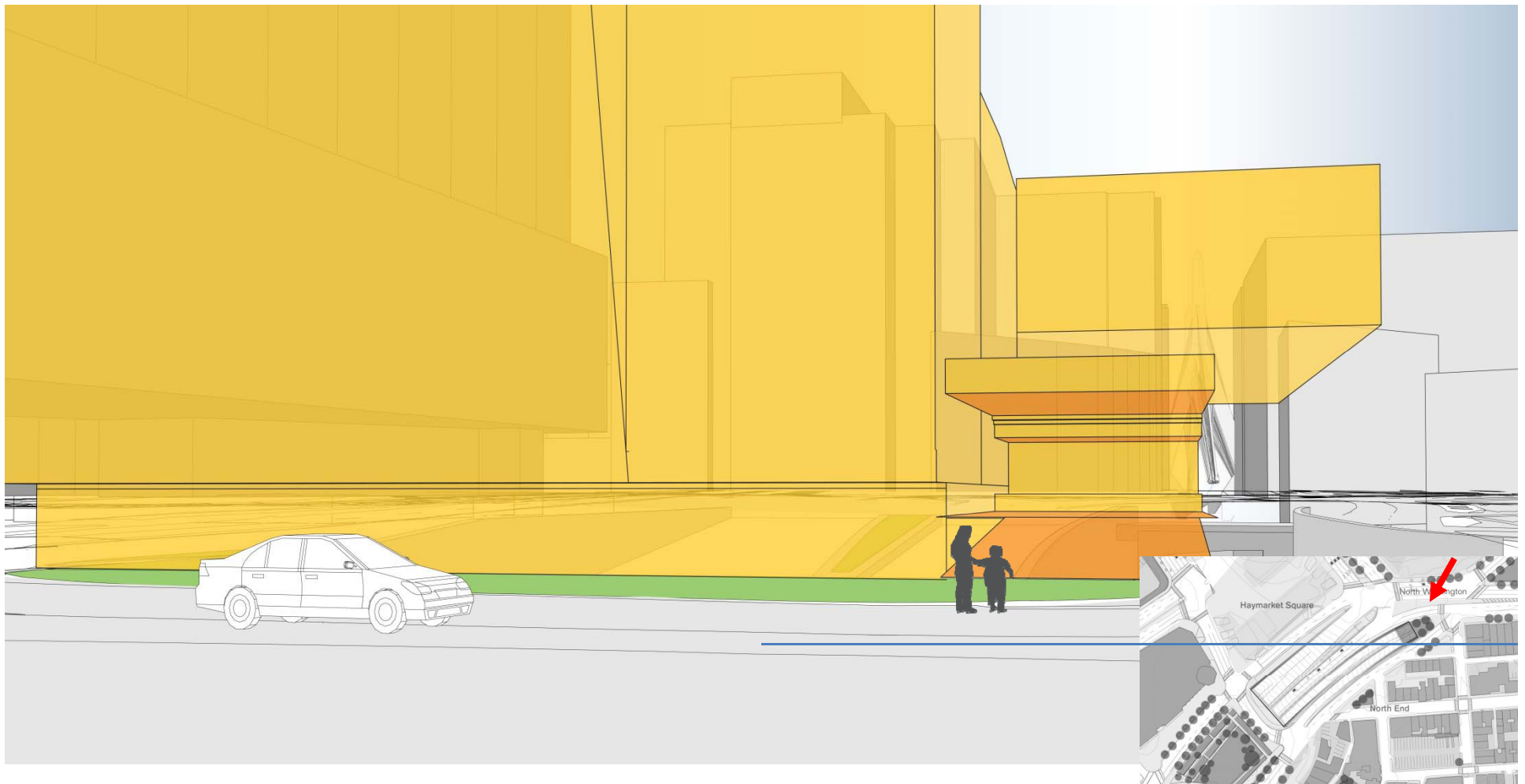


*Height of screen is variable

Parcel 6: Option B – Cover (Looking South)



Parcel 6: Option C – Built Concept (YMCA)



Corridor Fly Through Model Demonstration

Schedule

Our Timeline

Upcoming scheduled public meetings:

October 29, 2014

BRA Board Room

January 8, 2015

BRA Board Room

Public Comments & Discussion

Thank you!

Keep in touch by checking

<http://www.bostonredevelopmentauthority.org/planning/planning-initiatives/greenway-ramp-parcel-study>
(or <http://tiny.cc/RampParcelStudy>)

Send comments to

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Lauren Shurtleff, lauren.shurtleff@boston.gov