I-90 ALLSTON INTERCHANGE

A MULTIMODAL TRANSPORTATION PROJECT

TASK FORCE MEETING

APRIL 7, 2016– FIORENTINO COMMUNITY CENTER

Meeting Agenda

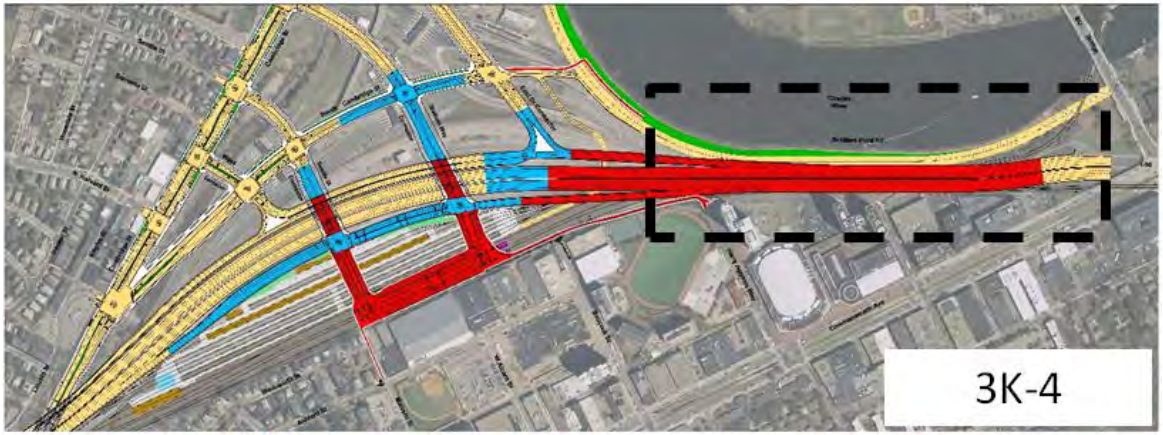
- Welcome & Introductions
- Update on Shading Analysis
- Update on Noise Study
- Design Alternative Matrix

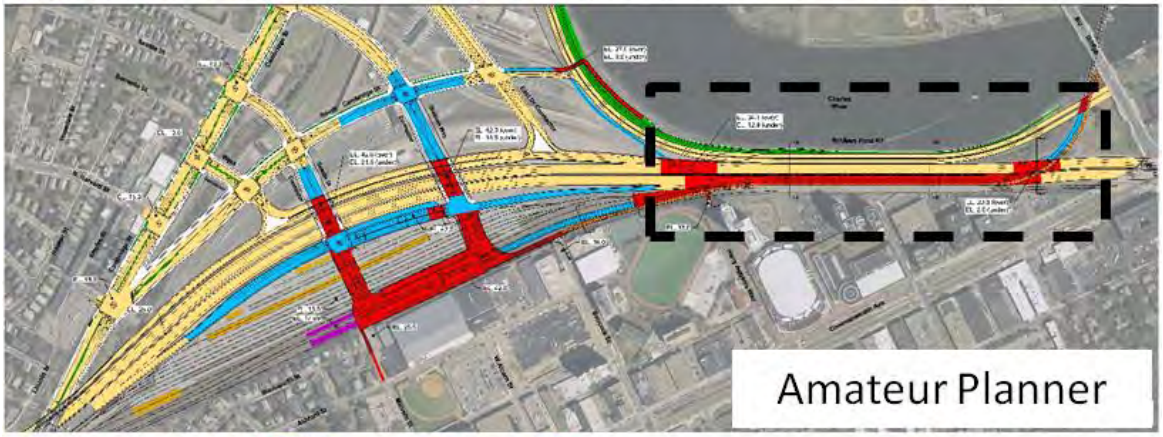
Meeting Agenda

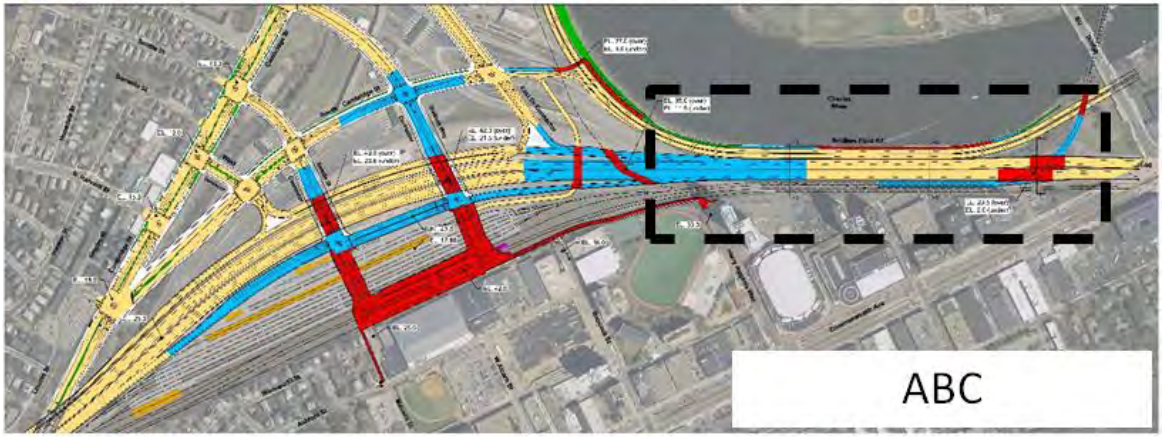
- Welcome & Introductions
- Update on Shading Analysis

Shadow Study Comparison
Partial Study, Parkland only

- Assumptions made for the study include:
  - Shadow information is based on schematic level design work available for each concept.
  - Shadow information is based on roadway elevations and does not include barriers, railings, snow fences, possible noise walls or other elements (not yet available for any of the concepts).
  - Shadow information does not include any future real estate development.
  - Shadows from existing buildings are comparable for all concepts.
  - Shadow information is for parkland at Charles River edge only ("the throat", see locus plans, next 2 slides).





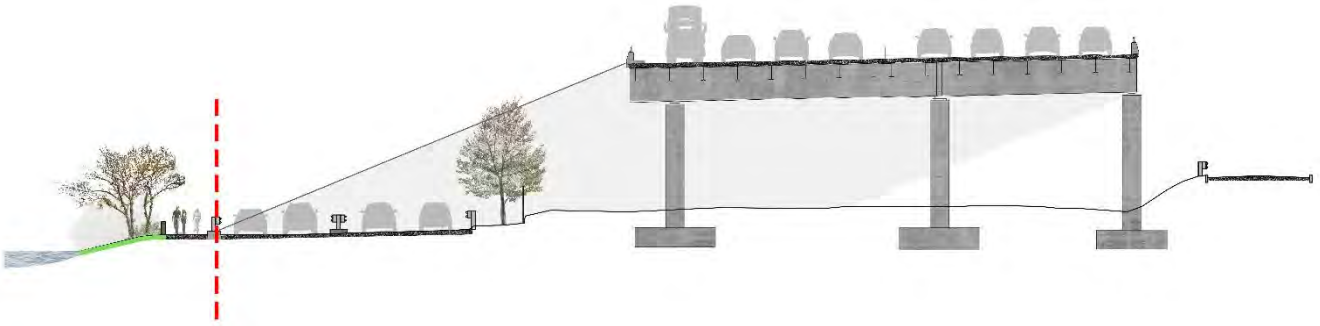


Shadow impacts on parkland study focuses on the throat area of the three concepts (the only area where parkland is affected by the highway).

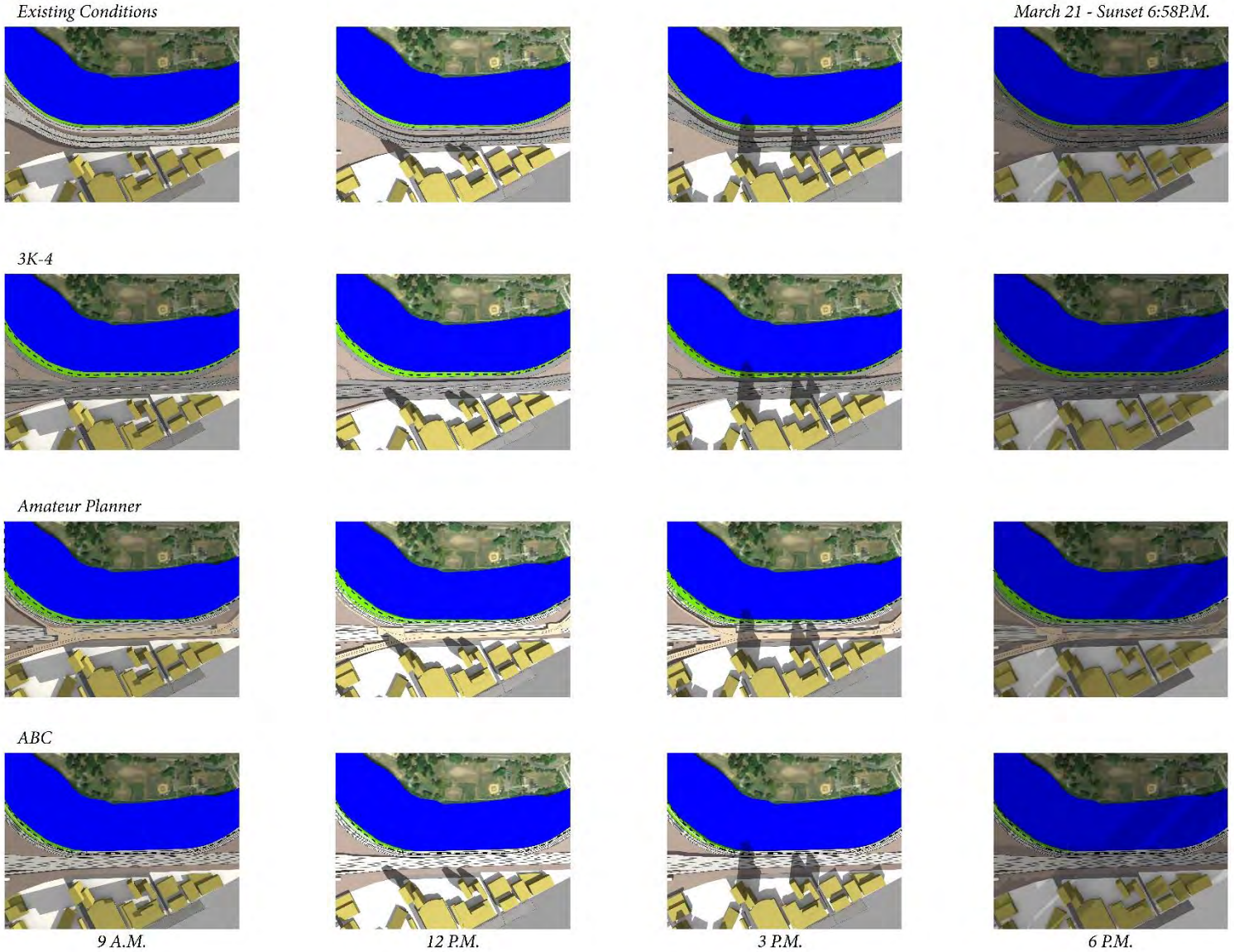
Studies:
March 21, June 21, Sept. 21 and Dec. 21

9 A.M., 12 P.M., 3 P.M. and 6 P.M.

Area of study with existing parkland edge

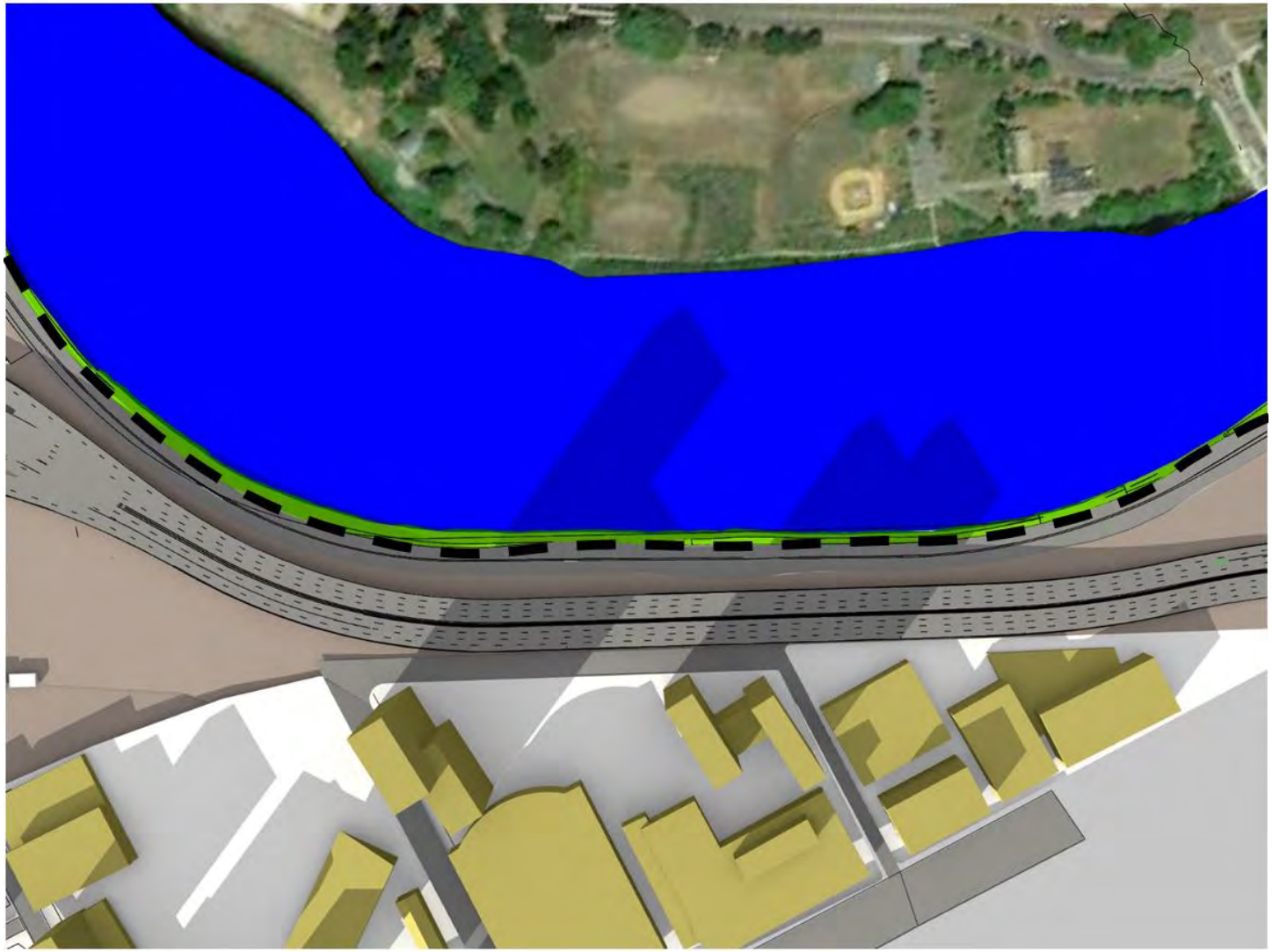


Section diagram of existing viaduct shadow cast to existing parkland edge



Impacts in March are in the late afternoon.

Existing – March 21



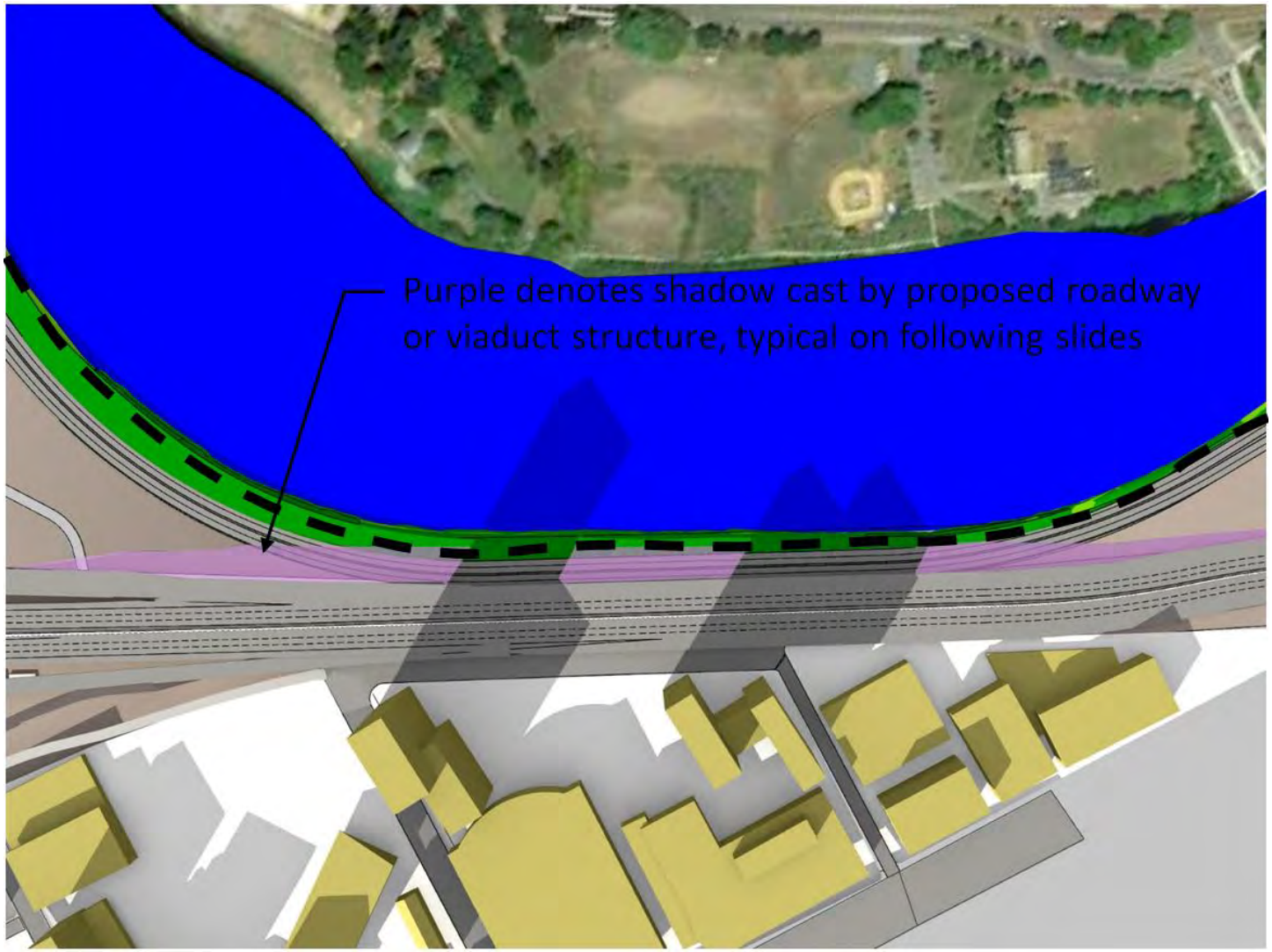
5:15 P.M.

Existing building shadow reaches edge of existing parkland at the throat at 2:00 P.M.

Existing viaduct shadow reaches edge of existing parkland at the throat at 5:15 P.M.

Sunset: 6:58 P.M.

3K-4 – March 21



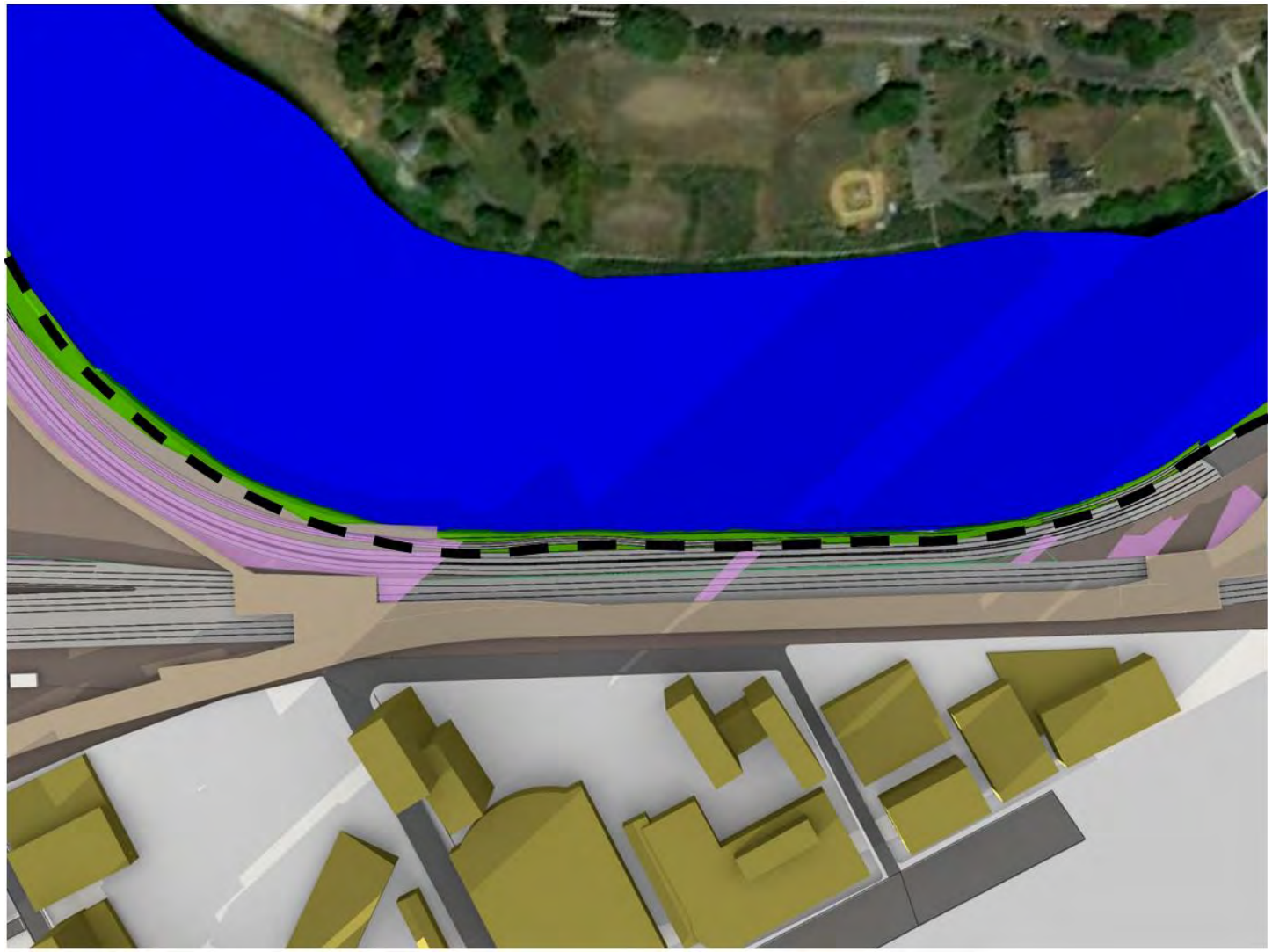
4:40 P.M.

Existing building shadow reaches existing parkland at: 2:00 P.M.

3K-4 viaduct shadow reaches edge of existing parkland at the throat at 4:40 P.M.

35 minutes more shadow in the late afternoon in the throat area compared to existing (only in area not in shadow from buildings).

Amateur Planner – March 21



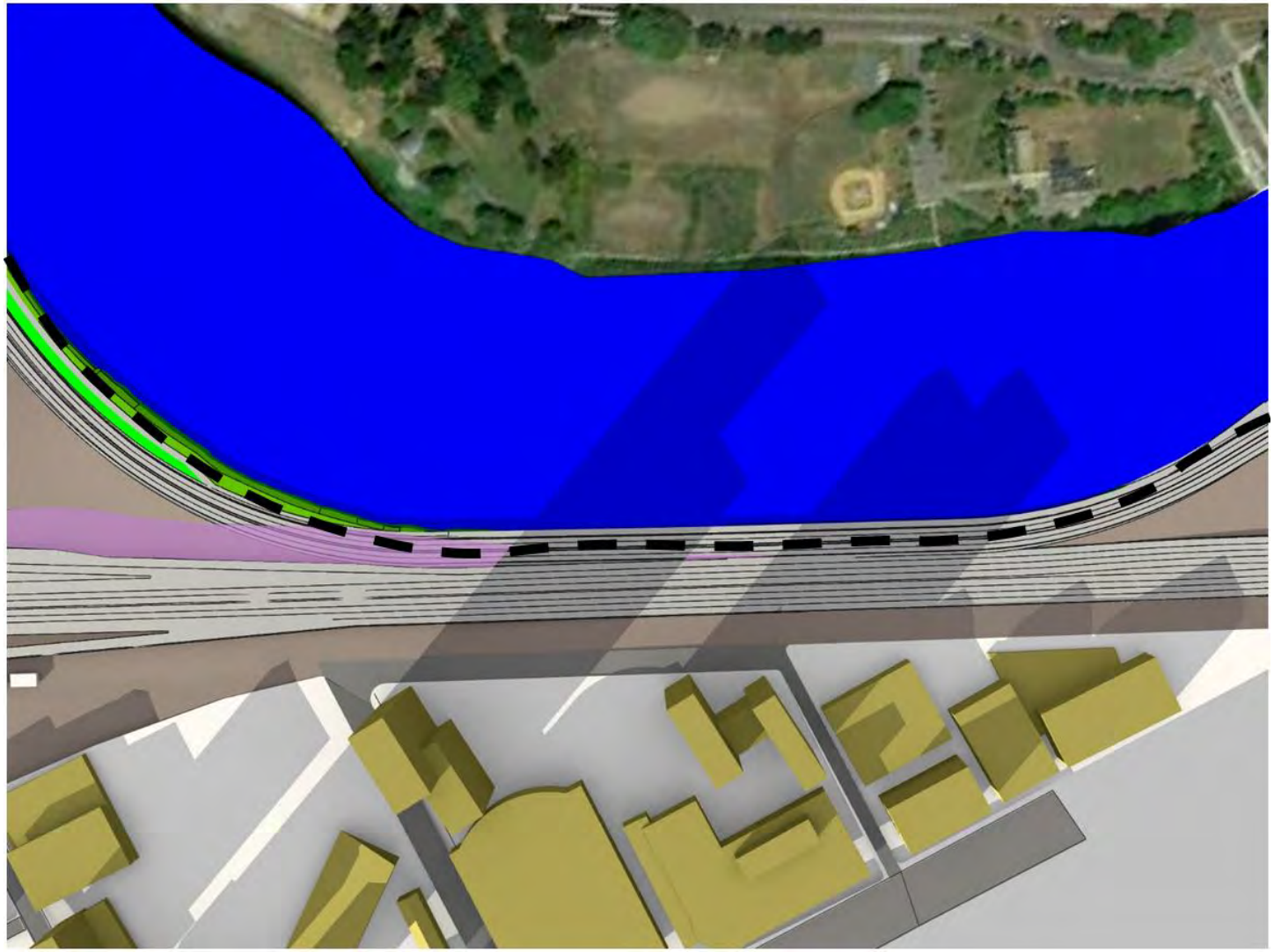
6:10 P.M.

Existing building shadow reaches existing parkland at 2:00 P.M.

Viaduct shadow reaches edge of existing parkland at the throat at 6:10 P.M.

55 minutes less shadow impact in the throat area as compared to existing (only in area not in shadow from buildings).

ABC – March 21

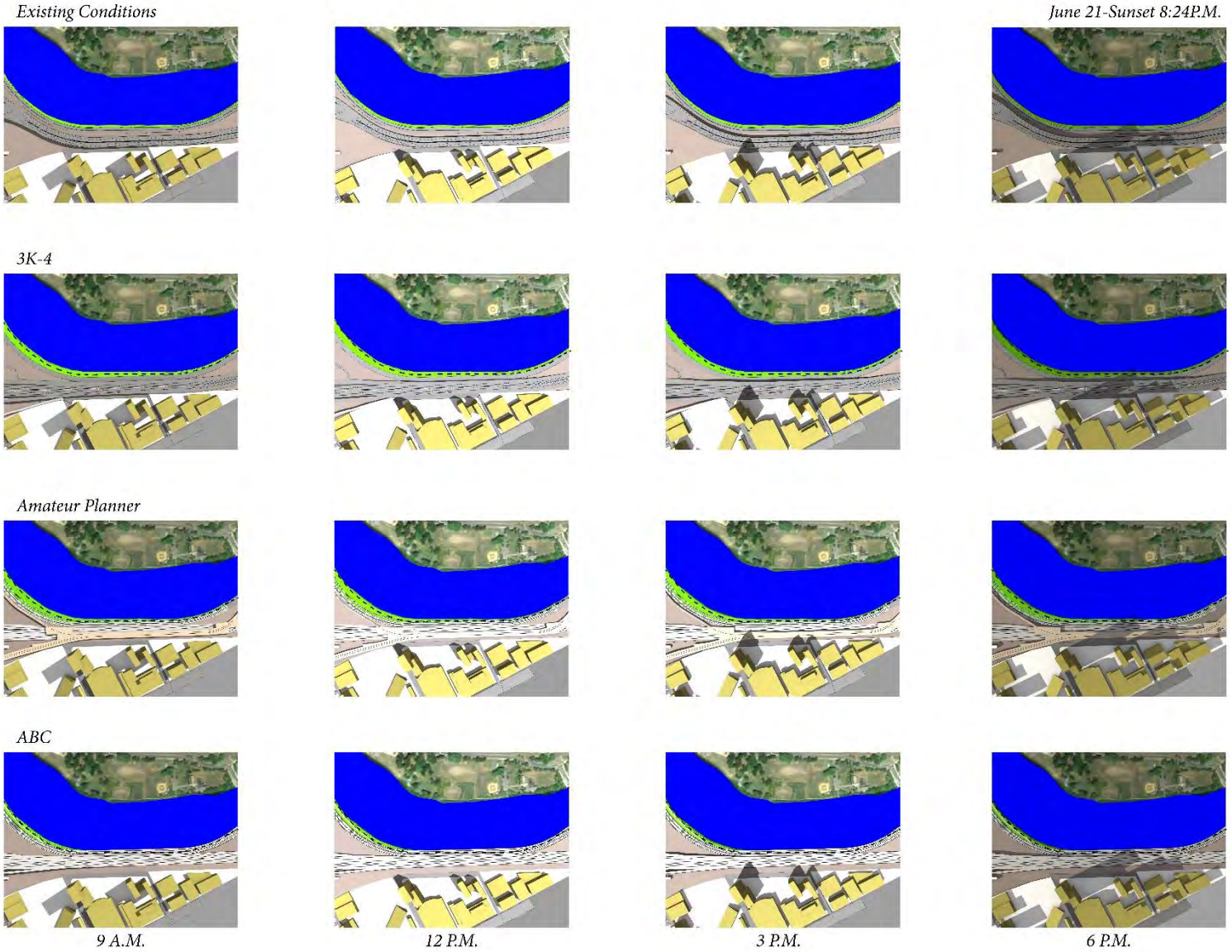


5:30 P.M.

Existing building shadow reaches existing parkland at 2:00 P.M.

Roadway shadow reaches edge of existing parkland at the throat at 5:30 P.M.

15 minutes less shadow impact in the throat area as compared to existing (west). 1 hour and 45 minutes less impact to the east (only in area not in shadow from buildings).



Sunset: 8:24 P.M.

No additional shadow impact to parkland in the throat area as compared to existing – all concepts.

Existing Conditions

September 21-Sunset 6:42P.M.



3K-4



Amateur Planner



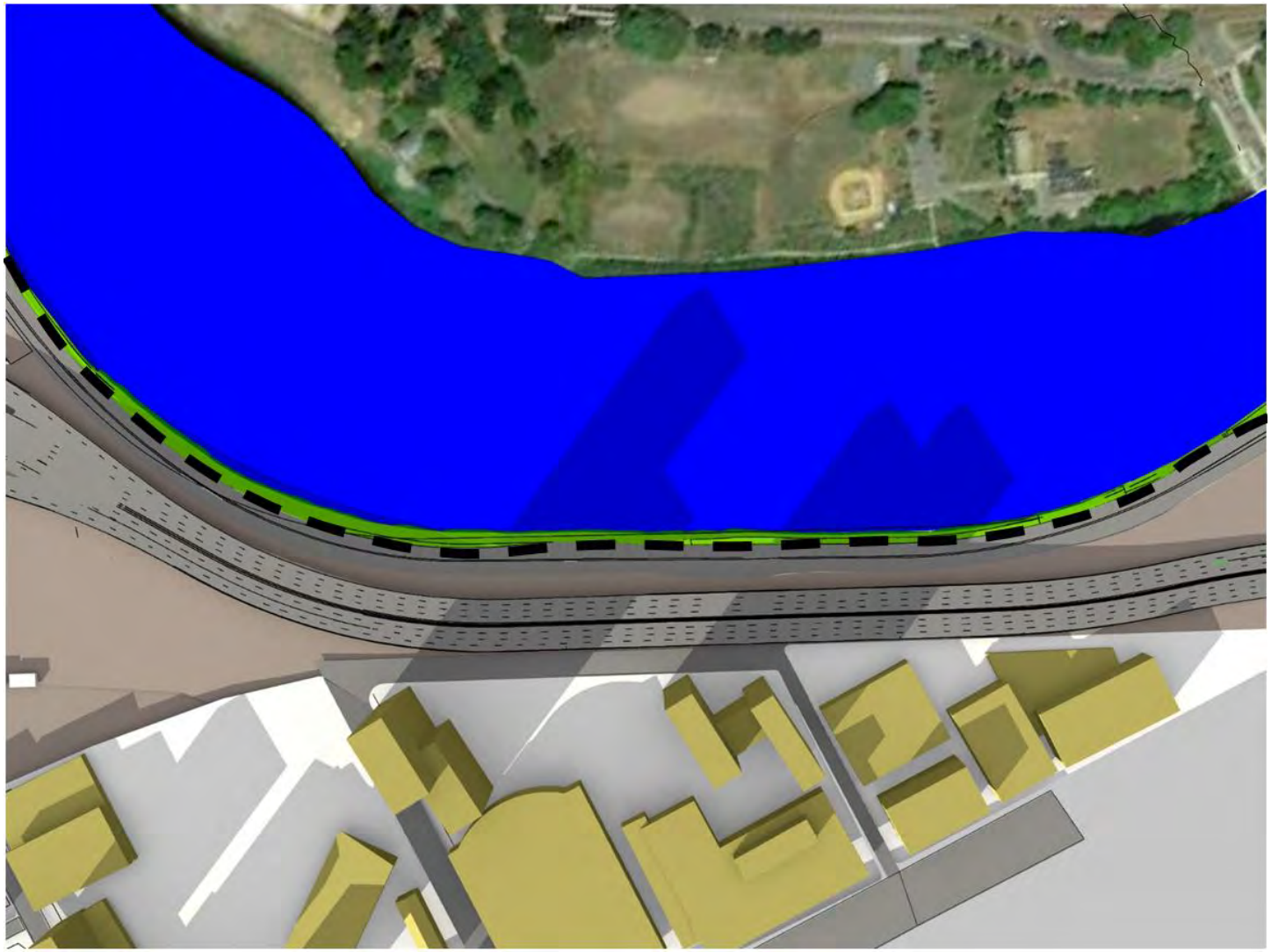
ABC



9 A.M. *12 P.M.* *3 P.M.*

Impacts in September are in the late afternoon.

Existing – September 21



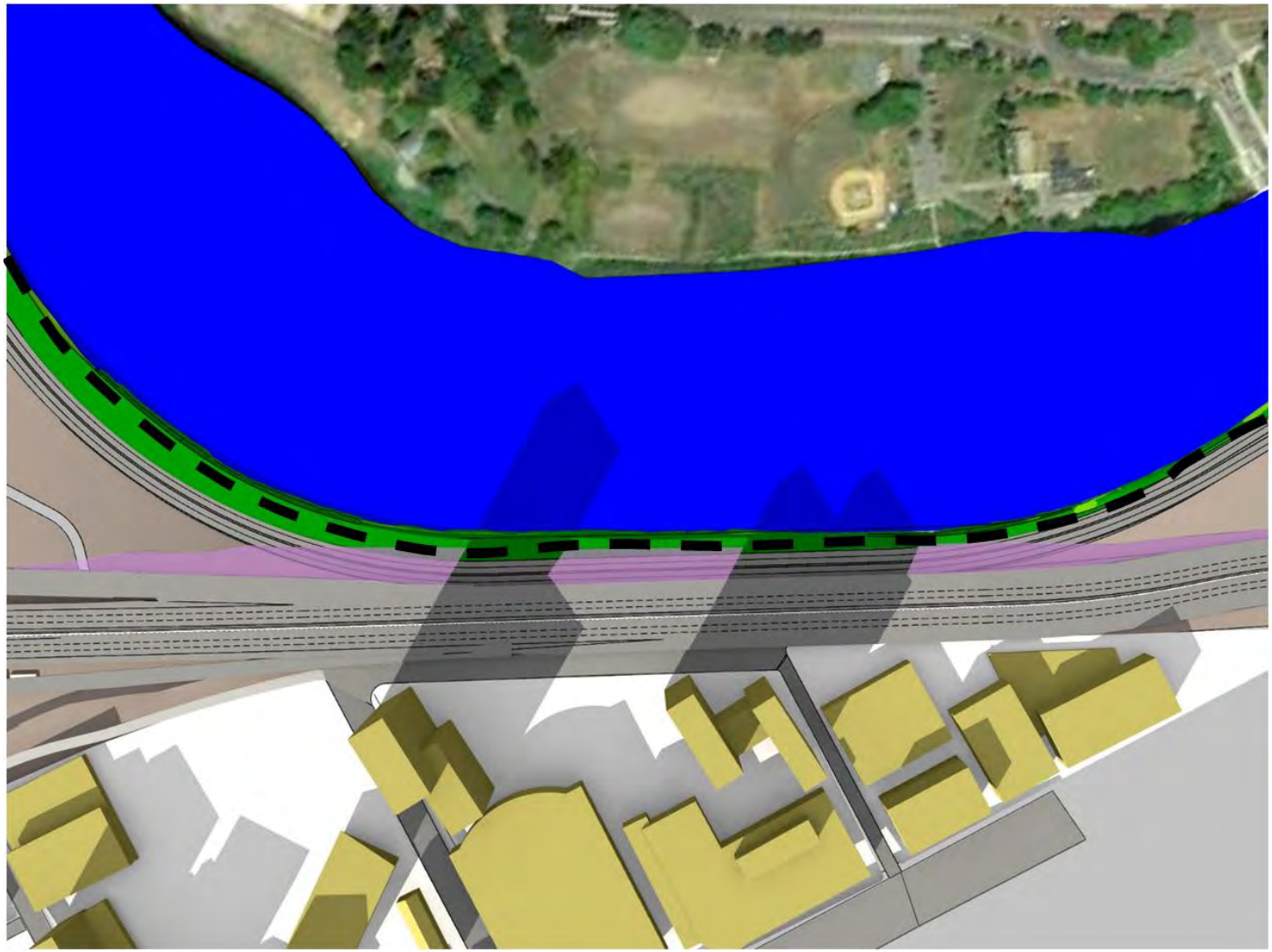
5:00 P.M.

Existing building shadow reaches edge of existing parkland at the throat at 1:40 P.M.

Existing viaduct shadow reaches edge of existing parkland at the throat at 5:00 P.M.

Sunset: 6:58 P.M.

3K-4 – September 21



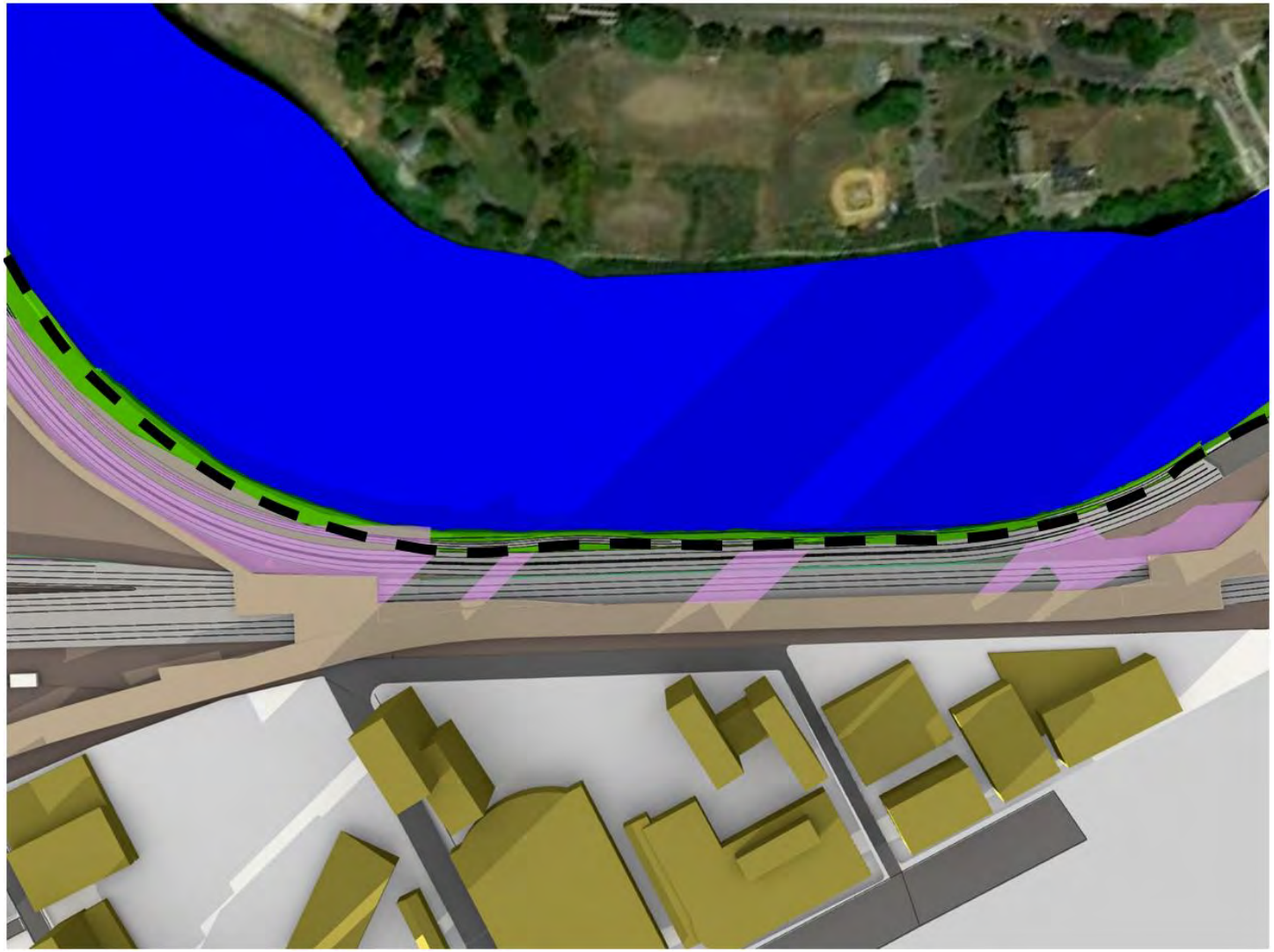
4:20 P.M.

Existing building shadow reaches existing parkland at 1:40 P.M.

3K-4 viaduct shadow reaches edge of existing parkland at the throat at 4:20 P.M.

40 minutes more shadow in the late afternoon in the throat area compared to existing (only in area not in shadow from buildings).

Amateur Planner – September 21



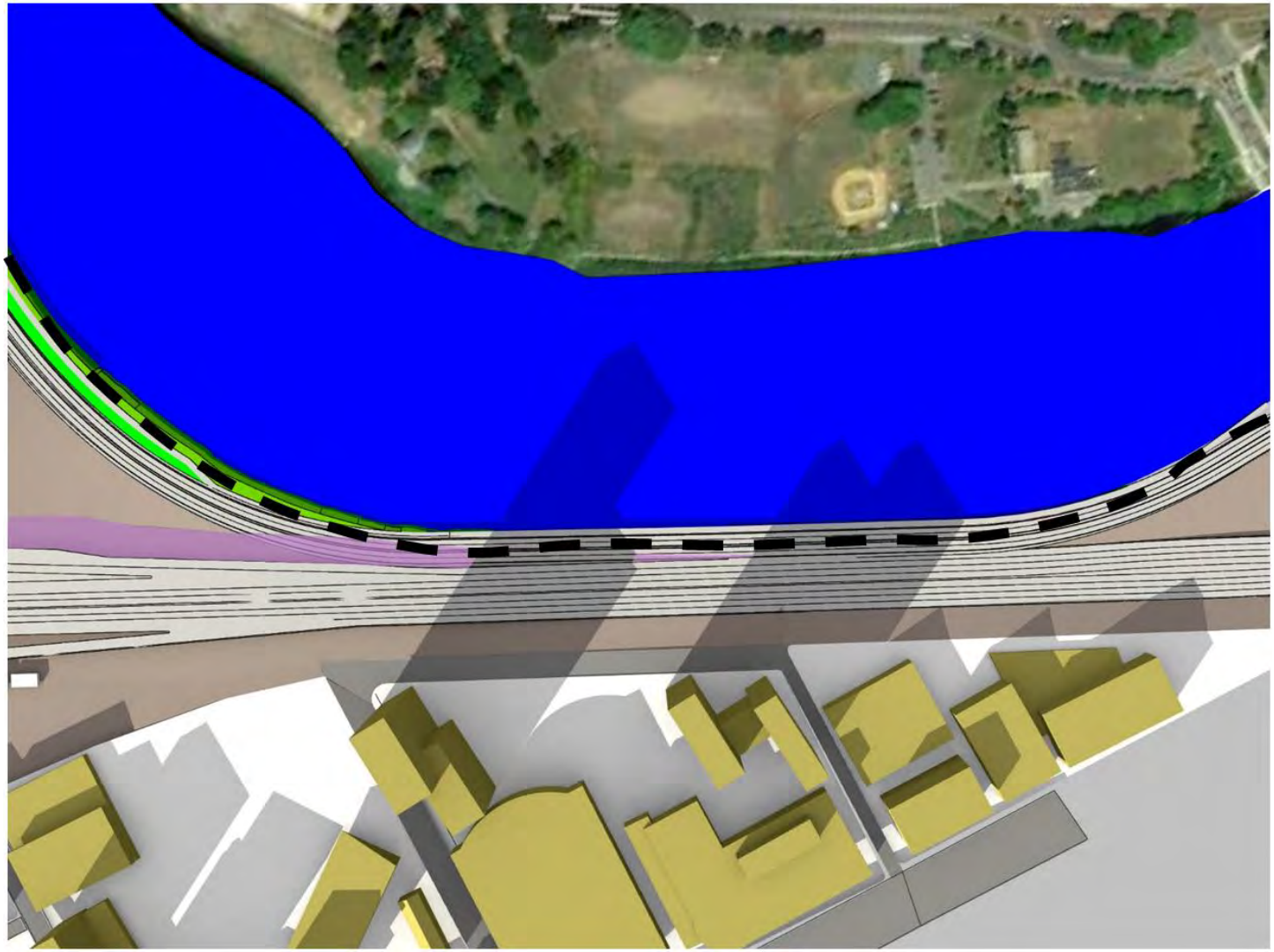
5:40 P.M.

Existing building shadow reaches existing parkland at 1:40 P.M.

Viaduct shadow reaches edge of existing parkland at the throat at 5:40 P.M.

40 minutes less shadow impact in the throat area as compared to existing (only in area not in shadow from buildings).

ABC – September 21



4:40 P.M.

Existing building shadow reaches existing parkland at 1:40 P.M.

Roadway shadow reaches edge of existing parkland at the throat at 4:40 P.M.

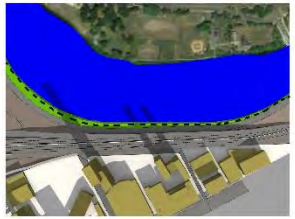
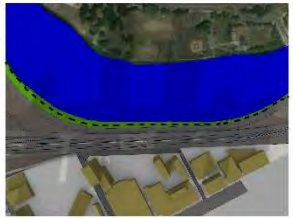
20 minutes more shadow impact in the throat area as compared to existing (west). 2 hours less impact to the east (only in area not in shadow from buildings).

Existing Conditions

December 21-Sunset 4:14P.M.



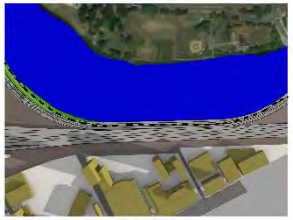
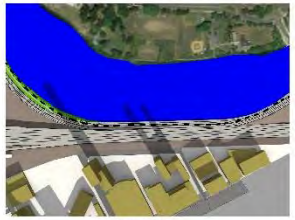
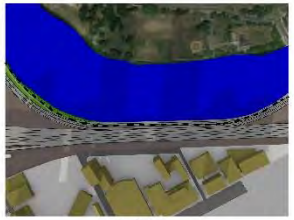
3K-4

Amateur Planner



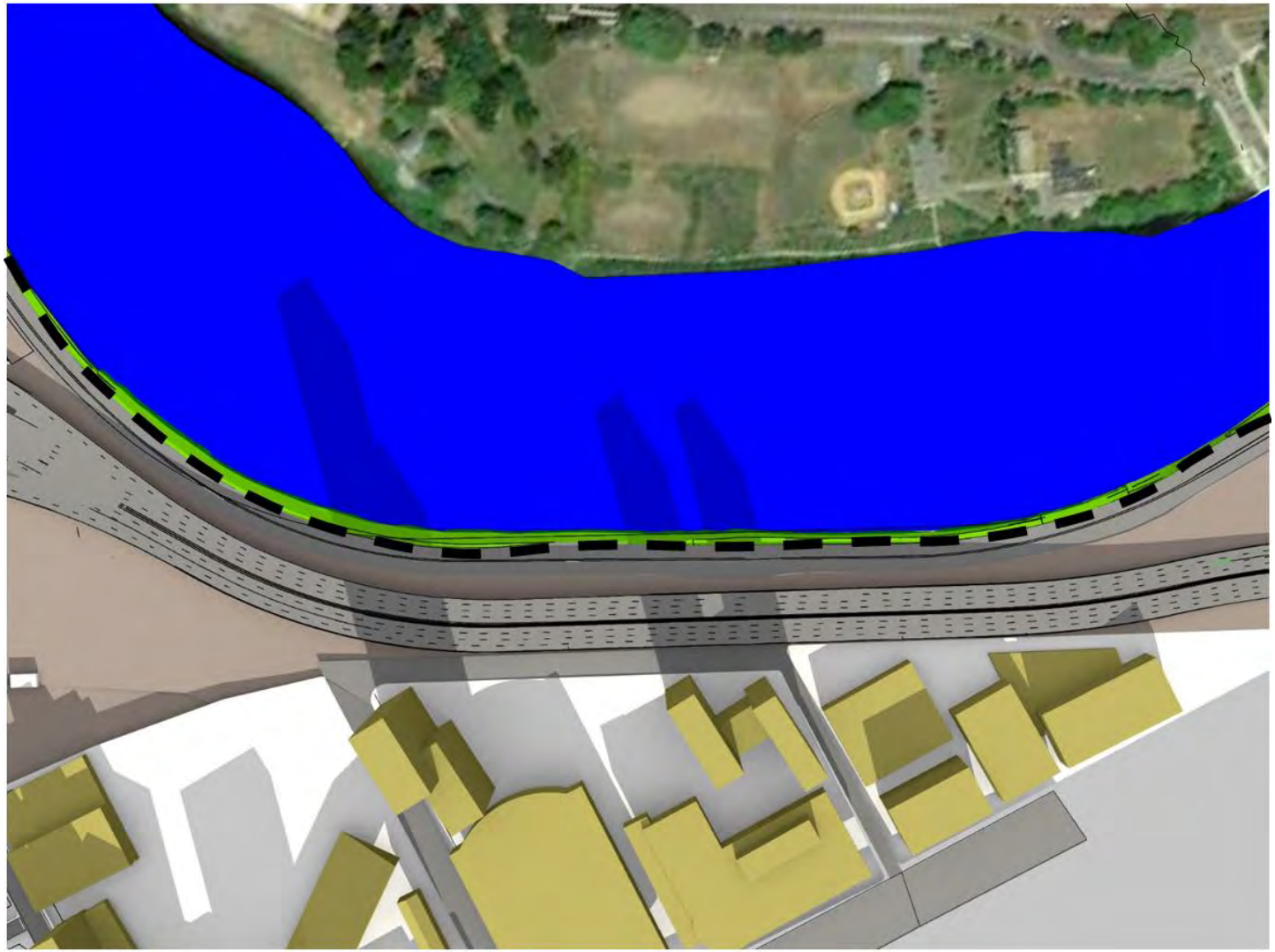
ABC

9 A.M. *12 P.M.* *3 P.M.*

Impacts in December are from the early afternoon on.

Existing – December 21



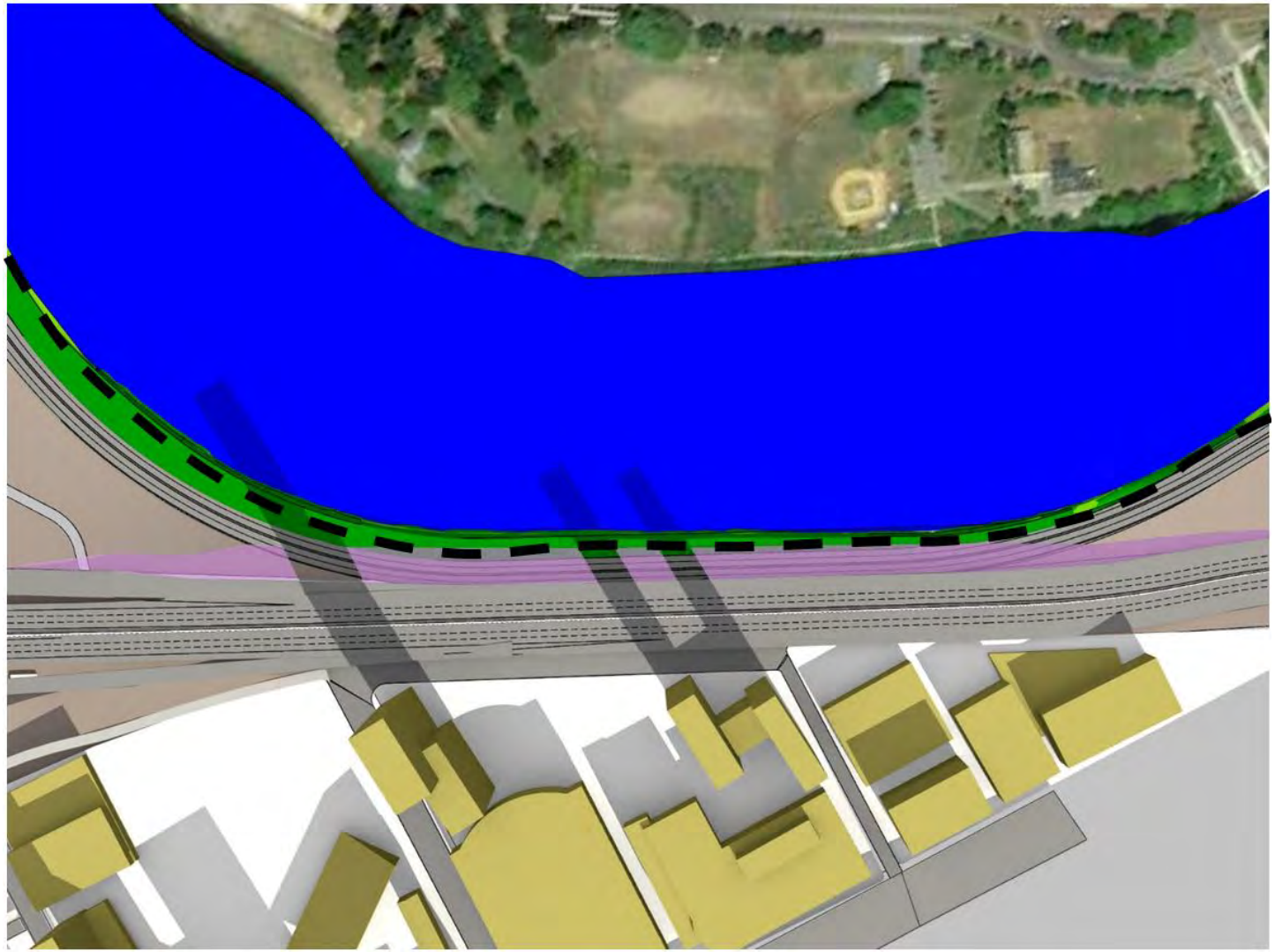
1:15 P.M.

Existing building shadow reaches edge of existing parkland at the throat at 9:40 A.M.

Existing viaduct shadow reaches edge of existing parkland at the throat at 1:15 P.M.

Sunset: 4:14 P.M.

3K-4 – December 21



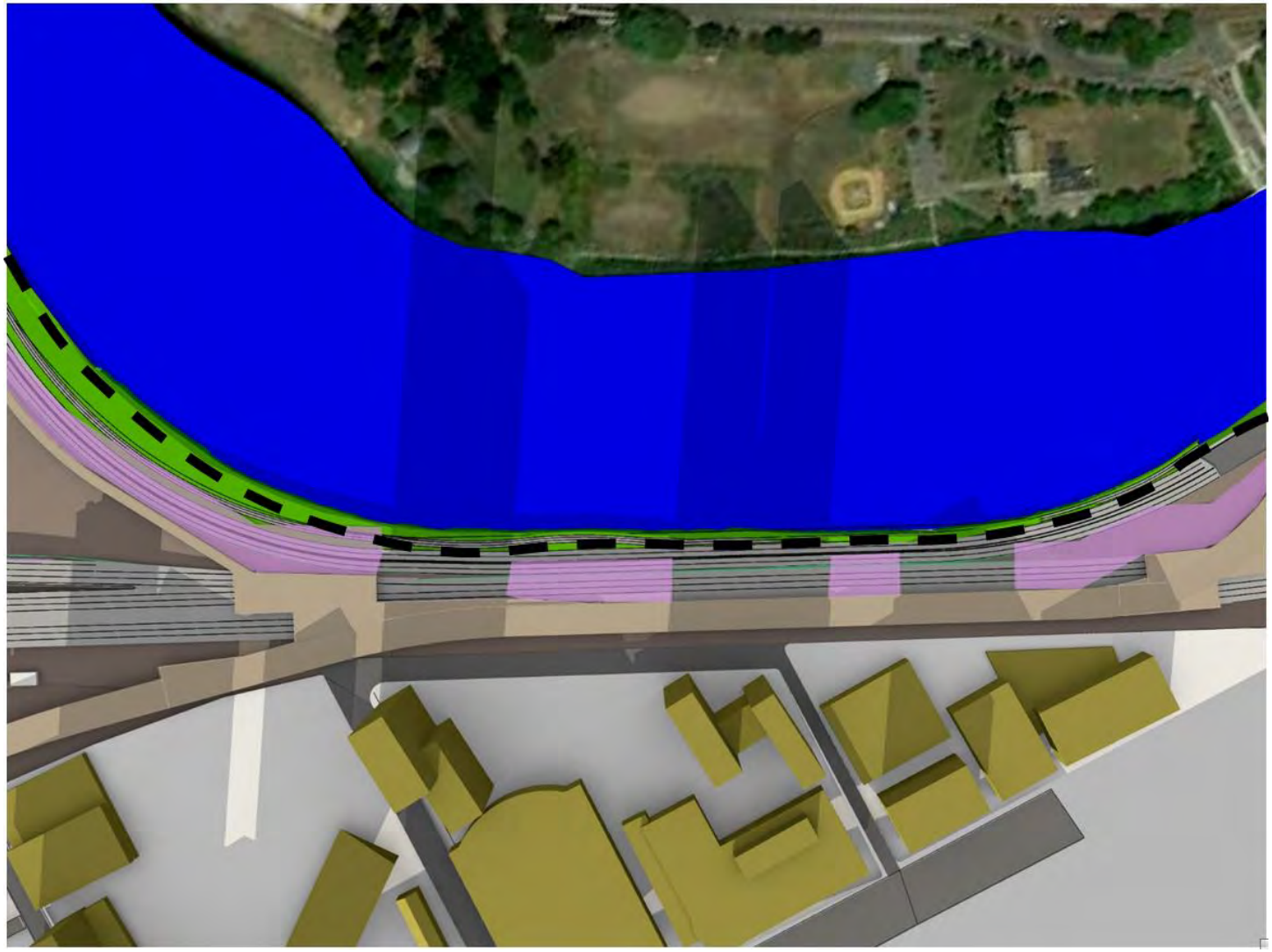
12:15 P.M.

Existing building shadow reaches existing parkland at 9:40 A.M.

3K-4 viaduct shadow reaches edge of existing parkland at the throat at 12:15 P.M.

1 hour more shadow in the afternoon in the throat area compared to existing (only in area not in shadow from buildings).

Amateur Planner – December 21



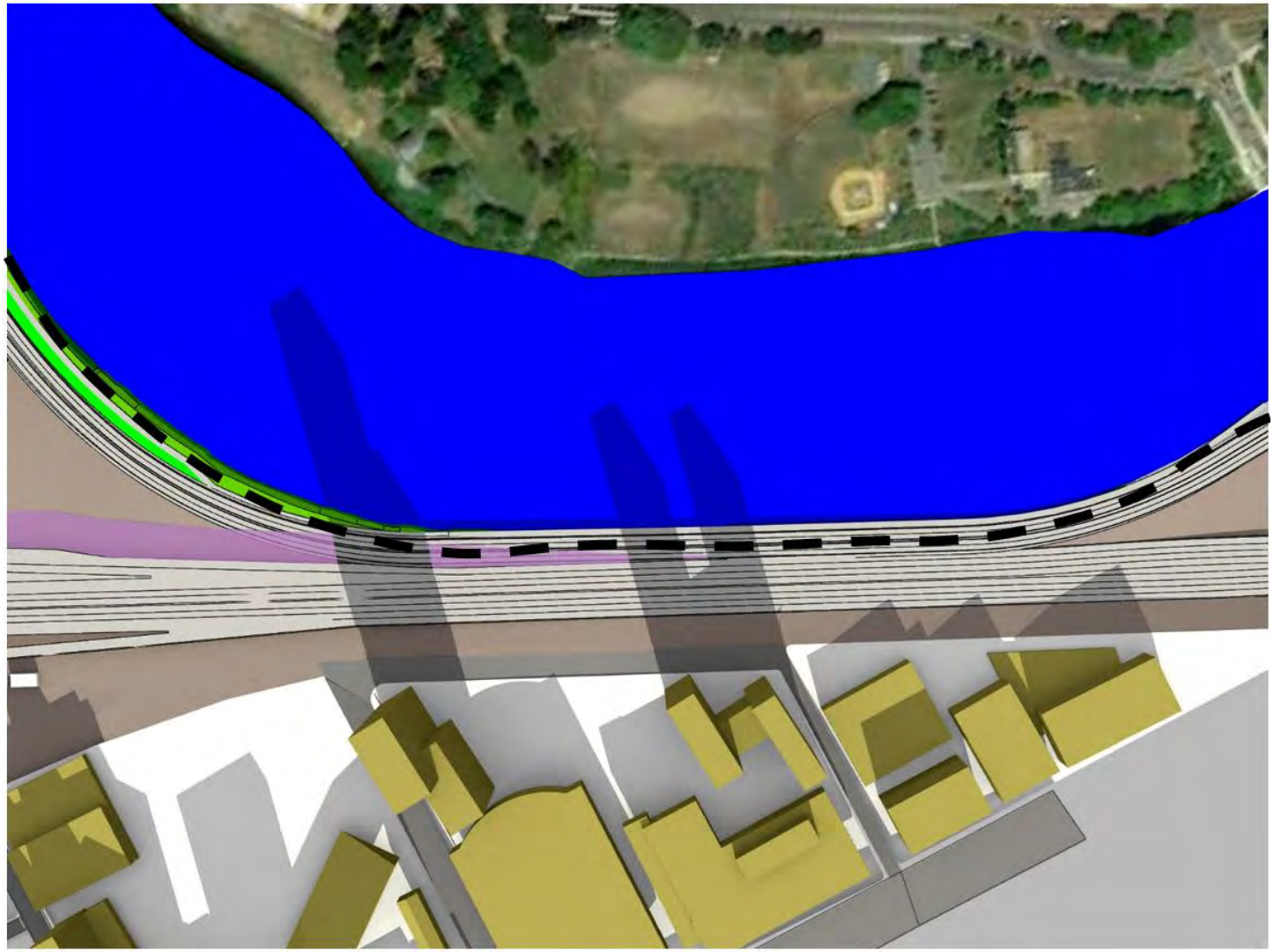
2:40 P.M.

Existing building shadow reaches existing parkland at 9:40 A.M.

Viaduct shadow reaches edge of existing parkland at the throat at 2:40 P.M.

1 hour 25 minutes less shadow in the afternoon in the throat area compared to existing (only in area not in shadow from buildings).

ABC – December 21



1:10 P.M.

Existing building shadow reaches existing parkland at 9:40 A.M.

Roadway shadow reaches edge of existing parkland at the throat at 1:10 P.M.

5 minutes less shadow impact in the throat area as compared to existing (west).
3 hours less shadow impact to the east (only in area not in shadow from buildings).

Summary

March 21 –Shadow from existing buildings reaches existing parkland at 2:00 PM. Shadow from existing viaduct reaches parkland at 5:15PM

- 3K-4: 35 minutes of additional shadow impact in the late afternoon
- Amateur Planner: 55 minutes less shadow impact in the late afternoon
- A Better City: 15 minutes less shadow impact in the late afternoon (west)
  1 hour and 45 minutes less shadow impact to the east (only in area not in shadow from buildings)

June 21 – No additional Shadow impacts from any concept

Summary

Sept 21 – Shadow from existing buildings reaches existing parkland at 1:40 PM. Shadow from existing viaduct reaches parkland at 5:00PM

- 3K-4: 40 minutes of additional shadow impact in the late afternoon
- Amateur Planner: 40 minutes less shadow impact in the late afternoon
- A Better City: 20 minutes less shadow impact in the late afternoon (west)

  2 hours less shadow impact to the east (only in area now in shadow from buildings).

Dec 21 – Shadow from existing buildings reaches existing parkland at 9:40 A.M. Shadow from existing viaduct reaches parkland at 1:15PM

- 3K-4: 60 minutes of additional shadow impact in the afternoon
- Amateur Planner: 1 hour and 25 minutes less shadow impact in the afternoon
- A Better City: 5 minutes less shadow impact in the afternoon (West)

  3 hours less shadow impact to the east (only in area not in shadow from buildings).

Meeting Agenda

- Welcome & Introductions
- Update on Shading Analysis
- **Update on Noise Study**

Update on Noise Study

- Noise measurements have been conducted throughout the study area to characterize existing conditions and to validate the highway and rail noise modeling
- Noise impact will be assessed for future 2035 conditions for areas within the Type I project area (in progress)
- Type II barriers adjacent to Lincoln Street are being evaluated based on existing traffic conditions
- Noise is assessed receptors as categorized by FHWA / MassDOT
  - Residential
  - Schools
  - Section 4(F) Parks

Noise Impact Assessment and Mitigation

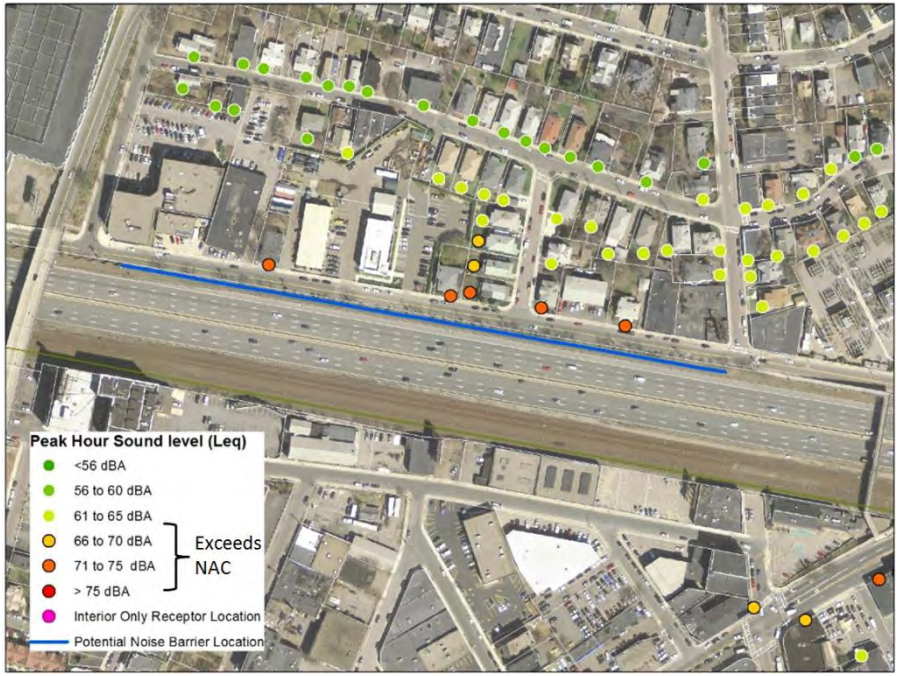
- Noise mitigation must be considered when noise levels exceed MassDOT's Noise Abatement Criteria (NAC)
- Noise barriers must be feasible and reasonable as defined by:
  - Constructability – must meet highway design specifications for safety, access and maintenance
  - Cost effectiveness criteria - which depends on barrier size/cost, noise reduction it provides and the number of receptors it benefits
  - Acoustical effectiveness – must provide a minimum of 5 dB noise reduction at the majority of impacted 1st row receptors
  - Property owners must be in favor of barrier – A public meeting would be held and voting survey mailed to property owners and residents

Lincoln Street – Market to Everett

- Type II Barrier Area
- Need for barrier has been previously prioritized by Mass Turnpike
- Noise Abatement Criteria exceeded at 1st and 2nd row receptors
- Noise barrier can be feasible and reasonable

Lincoln Street – Everett to Pedestrian Bridge

- Type II Barrier Area
- Need for barrier has been previously prioritized by Mass Turnpike
- Noise Abatement Criteria exceeded at 1st and 2nd row receptors
- Noise barrier can be feasible and reasonable

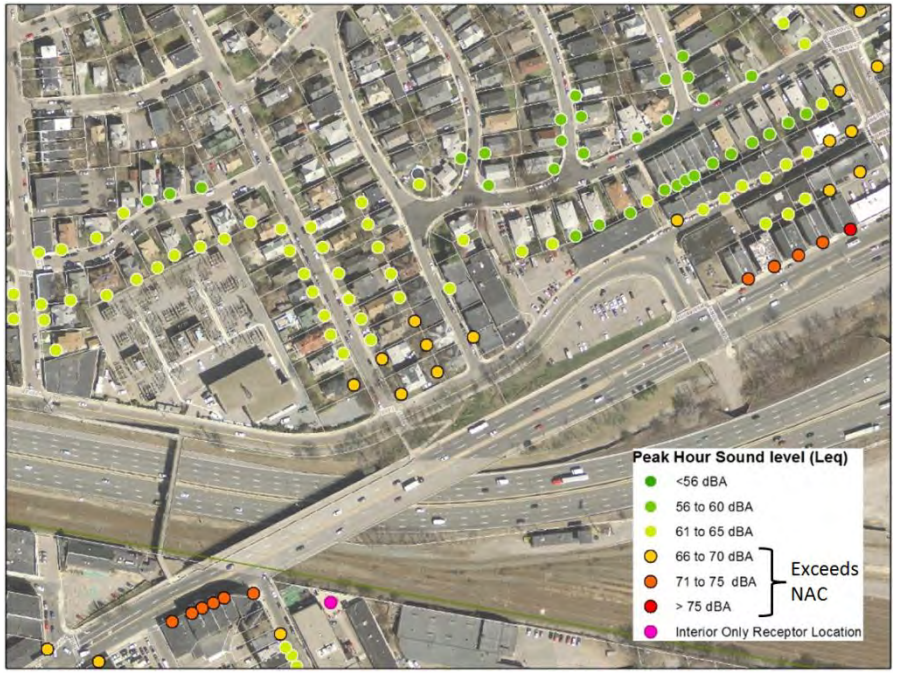


Cambridge Street Area

- Future 2035 build noise levels are expected to exceed NAC at 1st and 2nd row for all design options (similar to existing conditions) due primarily to contribution from Cambridge Street
- Barrier would not be constructible due to local access/curb cuts

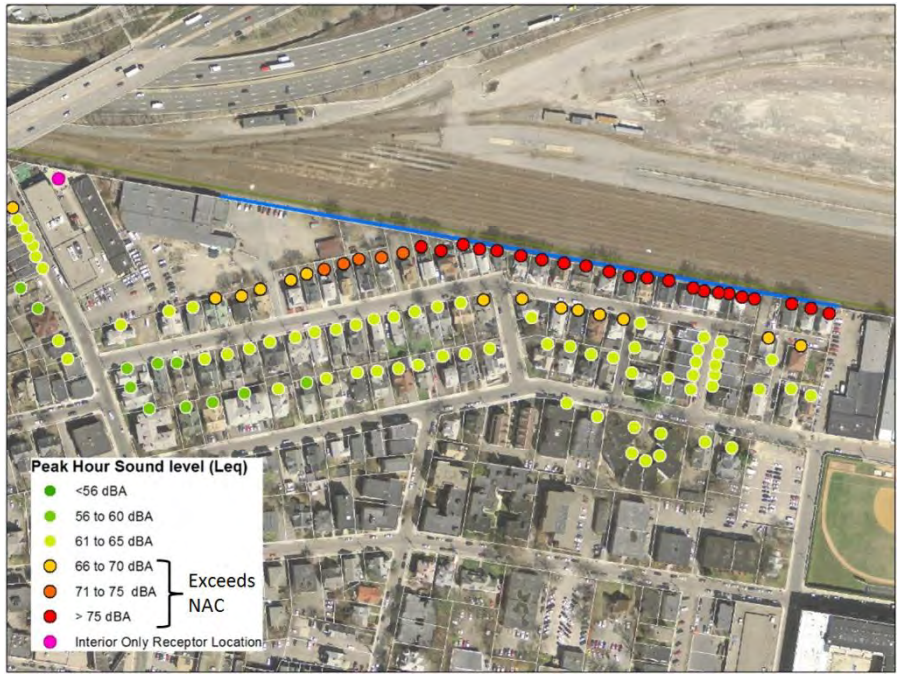
Lincoln Street – at Mansfield Street

- Future 2035 build noise levels are expected to exceed NAC at 1st and 2nd row for all design options (similar to existing conditions)
- Barrier will be evaluated for feasibility and reasonableness
  - Constructability on Cambridge St, ped access, acoustical effectiveness



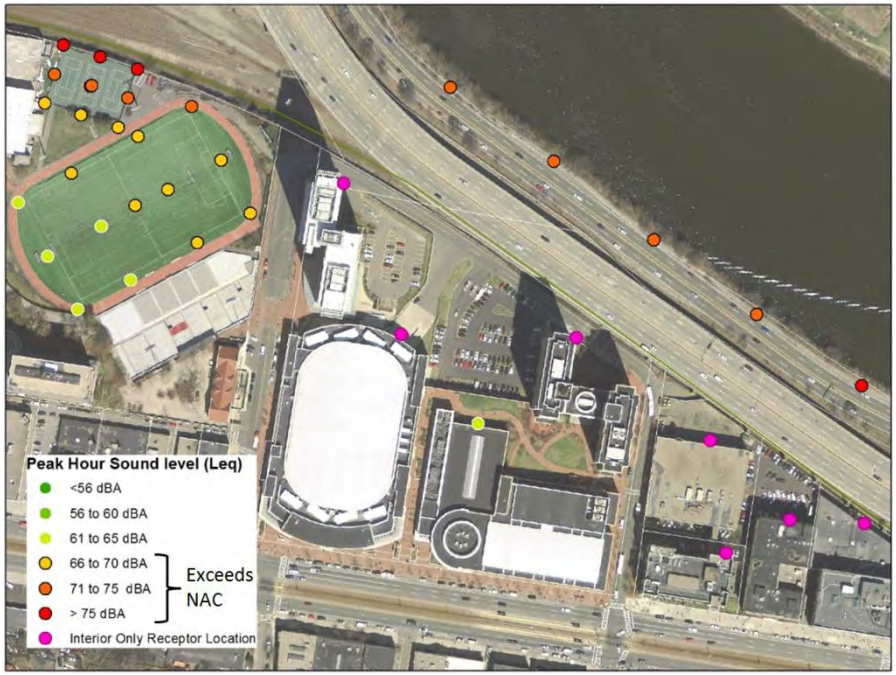
Pratt Street and Wadsworth Street Area

- Future 2035 build noise levels are expected to exceed NAC (similar to existing conditions) due primarily to commuter trains
- Barrier is expected to be reasonable and feasible
- Potential for noise mitigation from overbuild will be evaluated



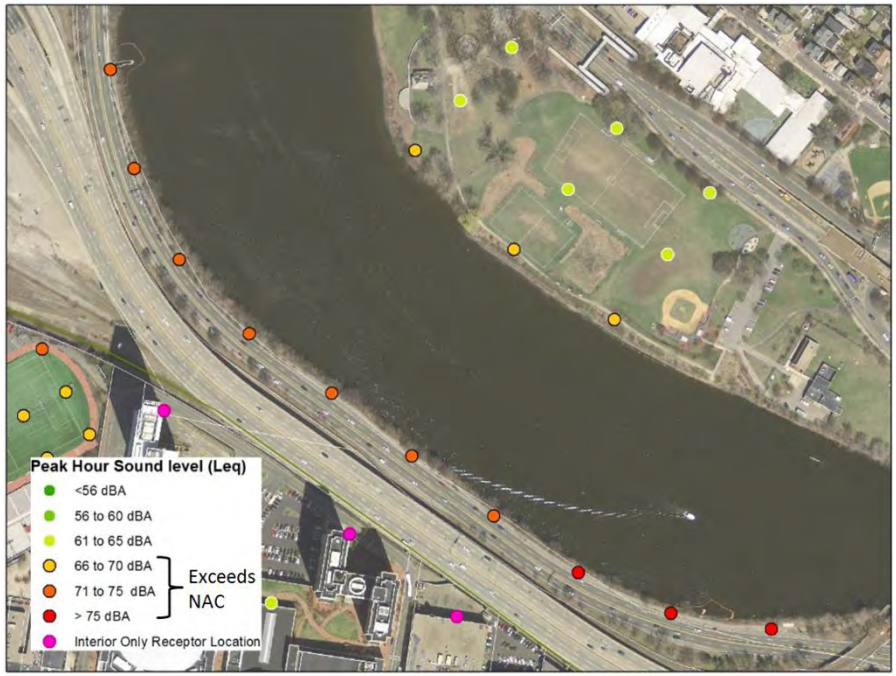
Boston University

- Future 2035 noise levels for all design options are expected to exceed NAC at parts of Nickerson Field due to I-90 and trains
- Barrier(s) will be evaluated for feasibility and reasonableness
  - Barriers for only park & recreation use are often not cost-effective



Paul Dudley Path and Magazine Beach

- Future build noise levels for all design options are expected to exceed NAC on Paul Dudley Path due to SFR, I-90 and trains
- Future noise levels at Magazine Beach may or may not exceed NAC
  - Barriers for only park & recreation use are often not cost-effective



Meeting Agenda

- Welcome & Introductions
- Update on Shading Analysis
- Update on Noise Study
- **Design Alternative Matrix**

Design Alternative Matrix Review

- Design & Performance
- Impacts
- Constructability