APPENDIX F:
VISUAL QUALITY AND SHADOW STUDIES

F.1 Simulated Views (or Renderings) of the Build Alternatives
F.2 Shadow Sweeps of the No-Build and Build Alternatives

NOTE: The renderings in this appendix are conceptual in nature and portray the visual environment with the build alternatives in place, as they would be experienced by the key viewer groups identified.

Appendix F.1
Simulated Views (or Renderings) of the Build Alternatives

Only the renderings of the New Alignment alternatives (whether north or south) are herein provided since differences are barely perceptible from the respective Existing Alignment alternatives in terms of presentation for potential impacts in Visual Quality.

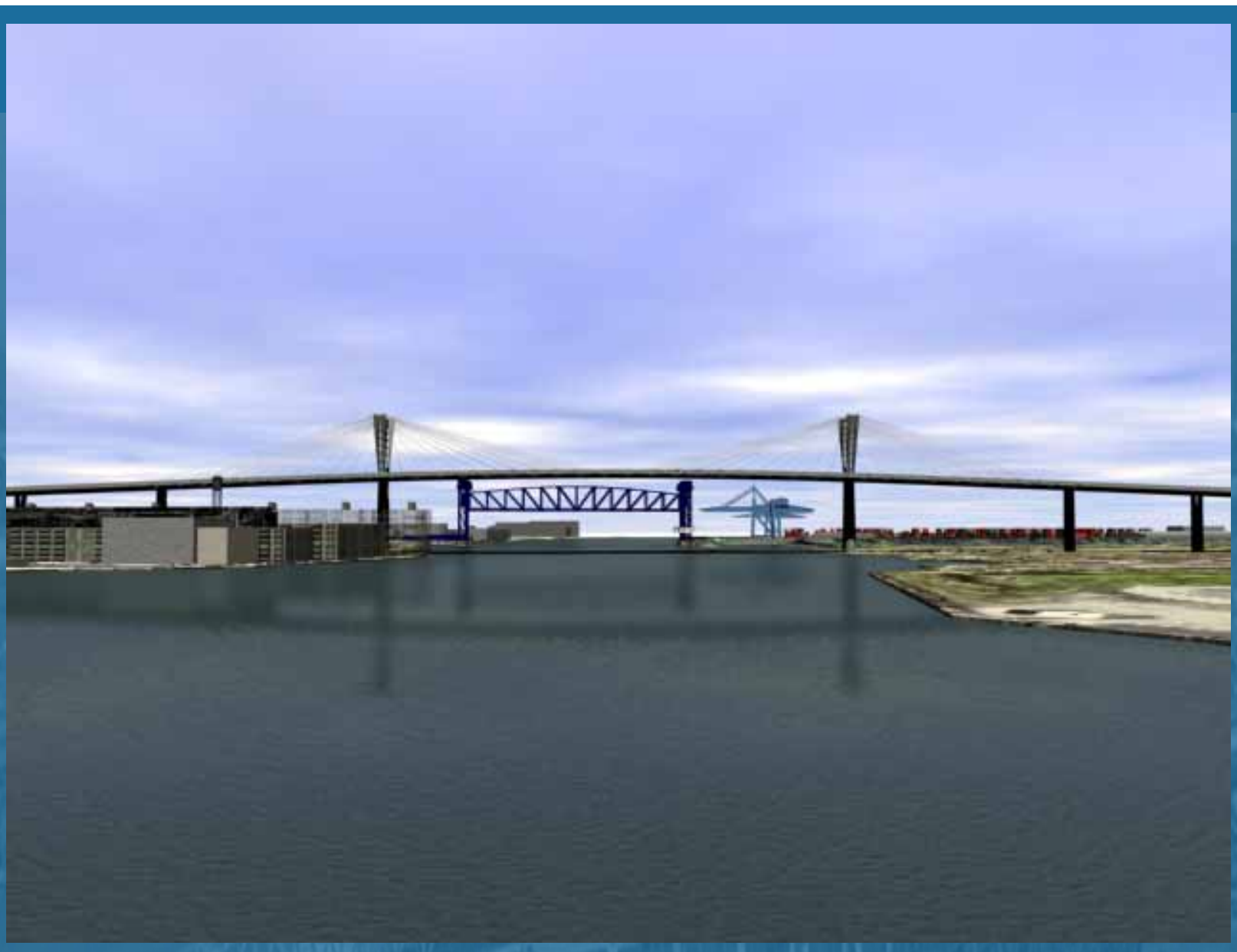
1. New Alignment South
    a. *New Jersey View / Staten Island View*
    b. *Arthur Kill View / Driver View*
2. New Alignment North
    a. *New Jersey View / Staten Island View*
    b. *Arthur Kill View / Driver View*

NEW ALIGNMENT SOUTH

New Jersey View

Staten Island View

NEW ALIGNMENT SOUTH



Arthur Kill View

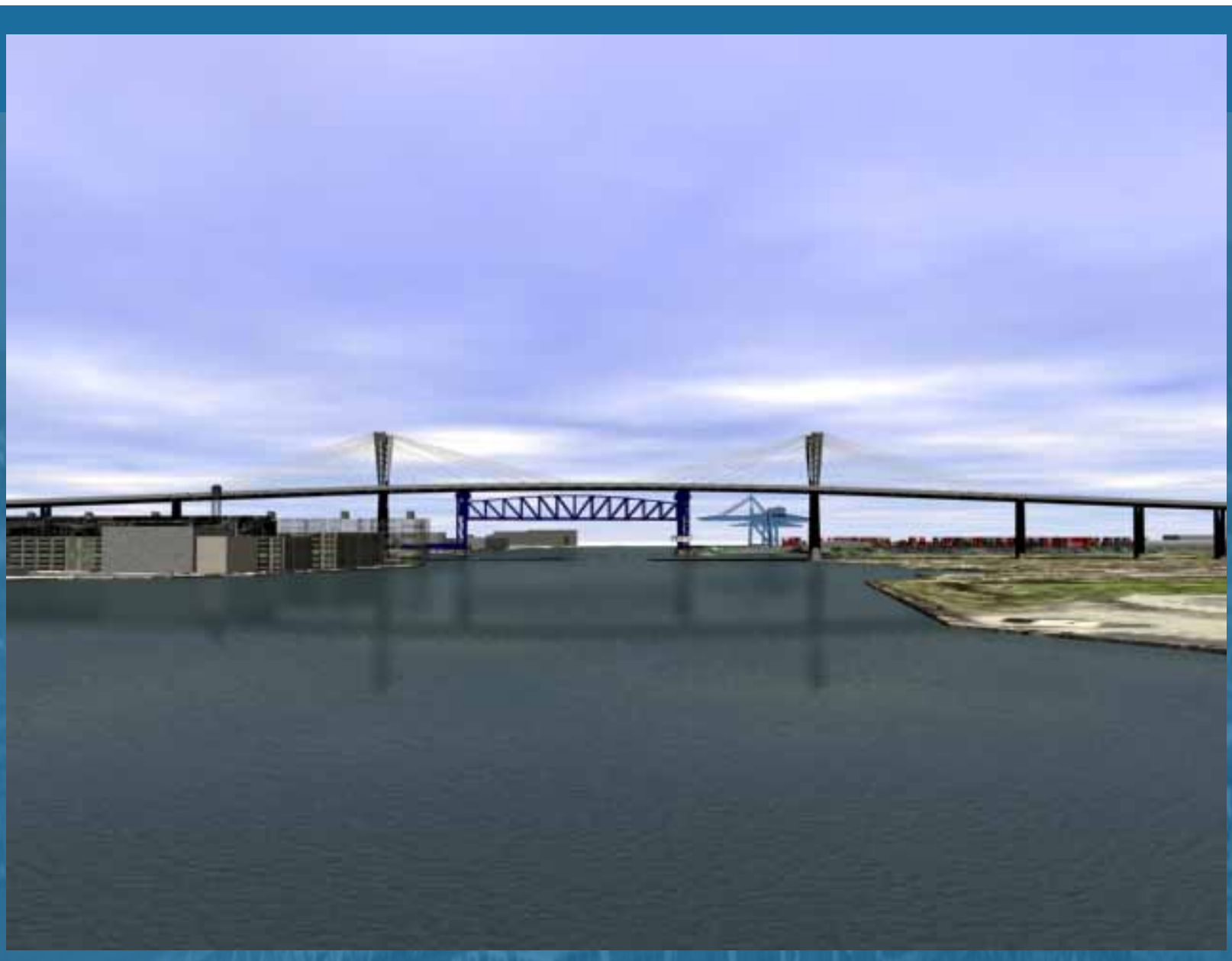
Driver View

NEW ALIGNMENT NORTH

New Jersey View

Staten Island View

NEW ALIGNMENT NORTH



Arthur Kill View

Driver View

Appendix F.2
Shadow Sweeps of the No-Build and Build Alternatives

The following shadow sweeps (date / time) for the no-build and build alternatives are herein icluded:

1. Existing Goethals Bridge (No-Build)
    a. *March 21st – Spring Equinox (9AM-12PM-3PM)*
    b. *June 21st – Summer Solstice (9AM-12PM-3PM)*
    c. *September 21st – Fall Equinox (9AM-12PM-3PM)*
    d. *December 21st – Winter Solstice (9AM-12PM-3PM)*
2. New Alignment South
    a. *March 21st – Spring Equinox (9AM-12PM-3PM)*
    b. *June 21st – Summer Solstice (9AM-12PM-3PM)*
    c. *September 21st – Fall Equinox (9AM-12PM-3PM)*
    d. *December 21st – Winter Solstice (9AM-12PM-3PM)*
3. Existing Alignment South
    a. *March 21st – Spring Equinox (9AM-12PM-3PM)*
    b. *June 21st – Summer Solstice (9AM-12PM-3PM)*
    c. *September 21st – Fall Equinox (9AM-12PM-3PM)*
    d. *December 21st – Winter Solstice (9AM-12PM-3PM)*
4. New Alignment North
    a. *March 21st – Spring Equinox (9AM-12PM-3PM)*
    b. *June 21st – Summer Solstice (9AM-12PM-3PM)*
    c. *September 21st – Fall Equinox (9AM-12PM-3PM)*
    d. *December 21st – Winter Solstice (9AM-12PM-3PM)*
5. Existing Alignment North
    a. *March 21st – Spring Equinox (9AM-12PM-3PM)*
    b. *June 21st – Summer Solstice (9AM-12PM-3PM)*
    c. *September 21st – Fall Equinox (9AM-12PM-3PM)*
    d. *December 21st – Winter Solstice (9AM-12PM-3PM)*

SHADOW SWEEP : MARCH 21
EXISTING GOETHALS BRIDGE (NO-BUILD)

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : JUNE 21
EXISTING GOETHALS BRIDGE (NO-BUILD)

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : SEPTEMBER 21
EXISTING GOETHALS BRIDGE (NO-BUILD)

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : DECEMBER 21
EXISTING GOETHALS BRIDGE (NO-BUILD)

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : MARCH 21
NEW ALIGNMENT SOUTH

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : JUNE 21
NEW ALIGNMENT SOUTH

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : SEPTEMBER 21
NEW ALIGNMENT SOUTH

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : DECEMBER 21
NEW ALIGNMENT SOUTH

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : MARCH 21
EXISTING ALIGNMENT SOUTH

9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : JUNE 21
EXISTING ALIGNMENT SOUTH

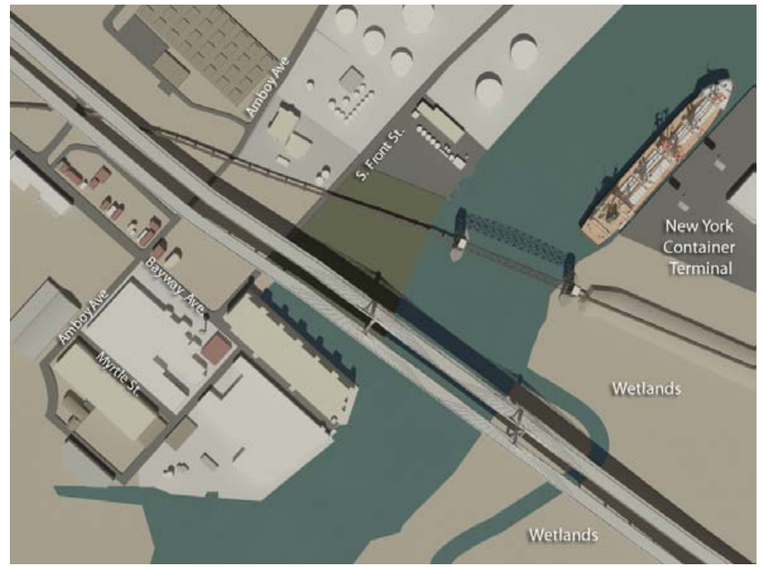
9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : SEPTEMBER 21
EXISTING ALIGNMENT SOUTH

9:00 A.M.



12:00 P.M.

3:00 P.M.

SHADOW SWEEP : DECEMBER 21
EXISTING ALIGNMENT SOUTH

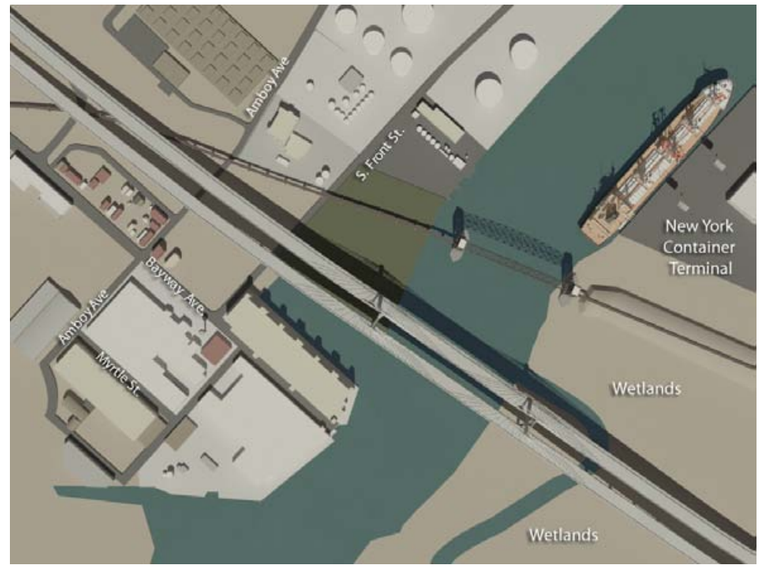
9:00 A.M.

12:00 P.M.

3:00 P.M.

SHADOW SWEEP : MARCH 21
NEW ALIGNMENT NORTH

9:00 A.M.



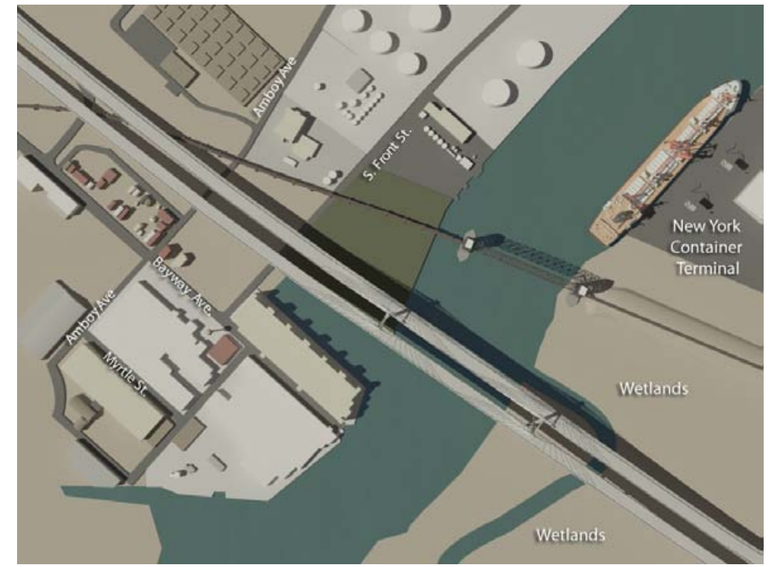
12:00 P.M.

3:00 P.M.

SHADOW SWEEP : JUNE 21
NEW ALIGNMENT NORTH

9:00 A.M.

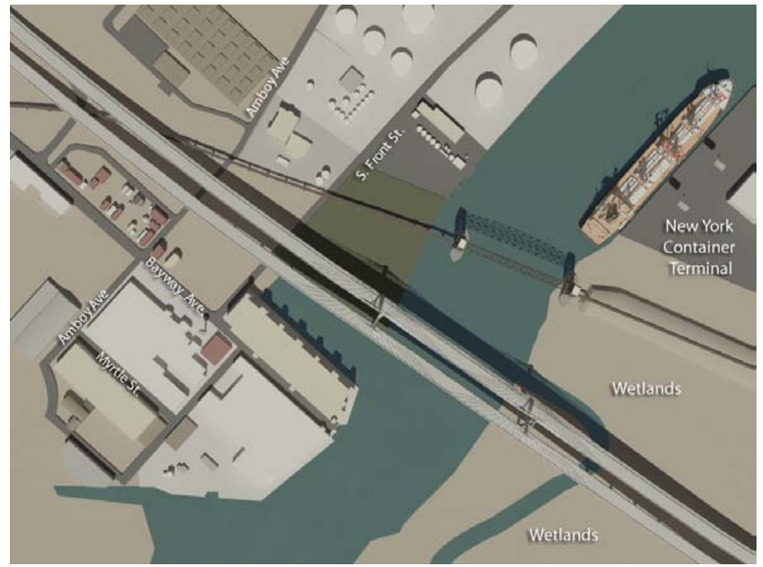
12:00 P.M.



3:00 P.M.

SHADOW SWEEP : SEPTEMBER 21
NEW ALIGNMENT NORTH

9:00 A.M.



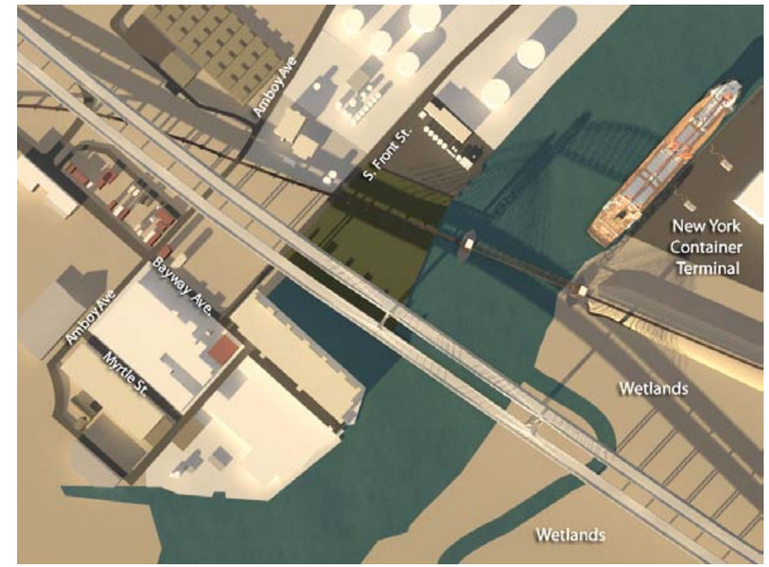
12:00 P.M.

3:00 P.M.

SHADOW SWEEP : DECEMBER 21
NEW ALIGNMENT NORTH

9:00 A.M.

12:00 P.M.



3:00 P.M.

SHADOW SWEEP : MARCH 21
EXISTING ALIGNMENT NORTH

9:00 A.M.

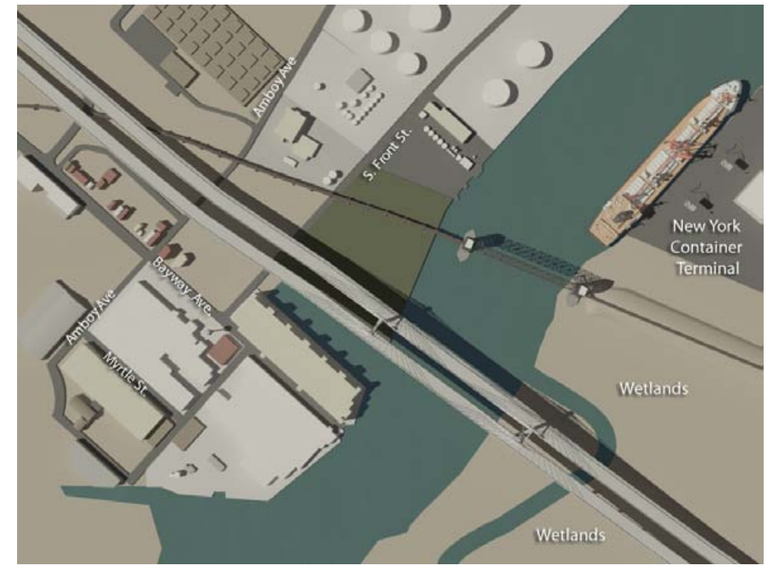
12:00 P.M.

3:00 P.M.

SHADOW SWEEP : JUNE 21
EXISTING ALIGNMENT NORTH

9:00 A.M.

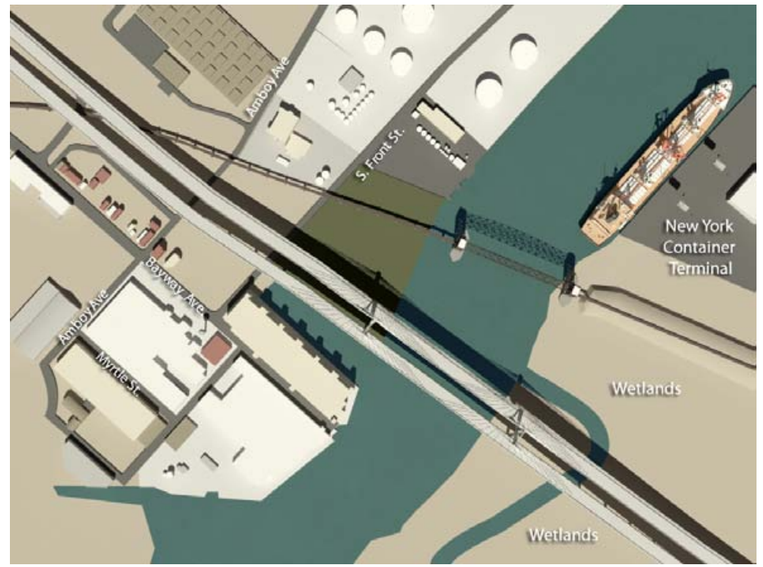
12:00 P.M.



3:00 P.M.

SHADOW SWEEP : SEPTEMBER 21
EXISTING ALIGNMENT NORTH

9:00 A.M.



12:00 P.M.

3:00 P.M.

SHADOW SWEEP : DECEMBER 21
EXISTING ALIGNMENT NORTH

9:00 A.M.

12:00 P.M.

3:00 P.M.