

# DISTRICT DEPARTMENT OF TRANSPORTATION

## William Howard Taft Memorial Bridge Pedestrian Railing Improvement

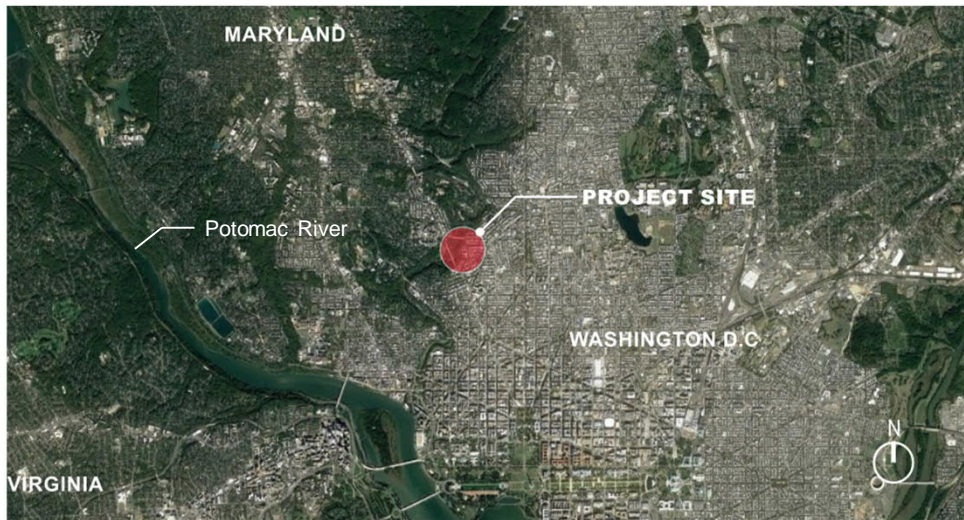
# DISTRICT DEPARTMENT OF TRANSPORTATION

**Presented to:** Commission of Fine Arts (CFA)  
Jan. 18, 2024

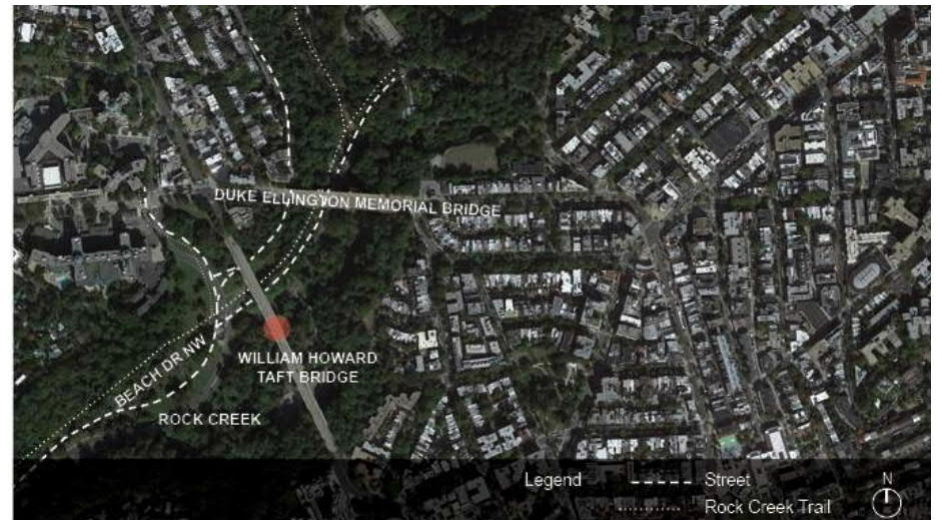


## William Howard Taft Memorial Bridge Pedestrian Railing Improvement

## PROJECT LOCATION



Vicinity Map



Location Map



APPROVED AND FURTHER CONSIDERED **DESIGN OPTIONS**

Option 3B **Replace** Concrete & Metal Fence ( Preferred Option )



Option 2 **Wire Mesh** Addition ( Further considered by CFA )





## APPROVED DESIGN OPTION

### Option 3B **Replace** Concrete & Metal Fence



## U.S. COMMISSION OF FINE ARTS

ESTABLISHED BY CONGRESS 17 MAY 1910

401 F STREET NW SUITE 312 WASHINGTON DC 20001-2728 202-504-2200 FAX 202-504-2195 WWW.CFA.GOV

28 September 2023

Dear Mr. Lott:

In its public meeting of 21 September conducted by videoconference, the Commission of Fine Arts reviewed a second concept submission for the installation of pedestrian safety barriers on the William Howard Taft Bridge, carrying Connecticut Avenue above the Rock Creek valley. Expressing appreciation for the response to its previous review, the Commission approved the new Option 3B, providing the following comments for the development of the design.

The Commission members observed that the range of alternatives in Option 3—replacing the piers and railings of the bridge in the same design character but increased to a height of eight feet—would be more harmonious with the bridge’s historic appearance than the other options, which would add a new barrier system next to the existing railings. Among the Option 3 alternatives, they recommended the articulated treatment of Option 3B as the best adaptation of the historic design, and they urged more development of its details. Where new material is added to replace or extend the existing concrete piers, they recommended that the new material closely match the appearance of the existing masonry. They also recommended careful perspectival studies to understand people’s experience moving along the bridge, and of the views upward from the Rock Creek and Potomac Parkway, to inform the development of the barrier system’s horizontal and vertical elements at the increased height, the aesthetic sense of appropriate proportions, and the views outward from the bridge. Understanding the complexity of this undertaking on the historic bridge, some Commission members expressed willingness to further consider Option 2, which would add an eight-foot-tall wire mesh supported by metal stanchions, for its relative transparency and ease of maintenance.

The Commission looks forward to further review of this important project. Please coordinate the next submission with the staff which, as always, is available to assist you.

Sincerely,

Thomas E. Luebke, FAIA  
Secretary

## WHAT WE HEARD FROM THE APPROVAL AGENCIES ON OPTION 3B

### General :

- Additional view studies are preferred.

### Metal Railing

- The top rail may be too slim when it is at 8'-0" feet.
- Pickets are thin and the gap in between should be evaluated.

### Concrete Pedestal & Pier:

- Option 3B design achieves harmonious and preferred design among other Option 3 variations.
- Lower pedestal height to be investigated.

## U.S. COMMISSION OF FINE ARTS

ESTABLISHED BY CONGRESS 17 MAY 1910

401 F STREET NW SUITE 312 WASHINGTON DC 20001-2728 202-504-2200 FAX 202-504-2195 WWW.CFA.GOV

28 September 2023

Dear Mr. Lott:

In its public meeting of 21 September conducted by videoconference, the Commission of Fine Arts reviewed a second concept submission for the installation of pedestrian safety barriers on the William Howard Taft Bridge, carrying Connecticut Avenue above the Rock Creek valley. Expressing appreciation for the response to its previous review, the Commission approved the new Option 3B, providing the following comments for the development of the design.

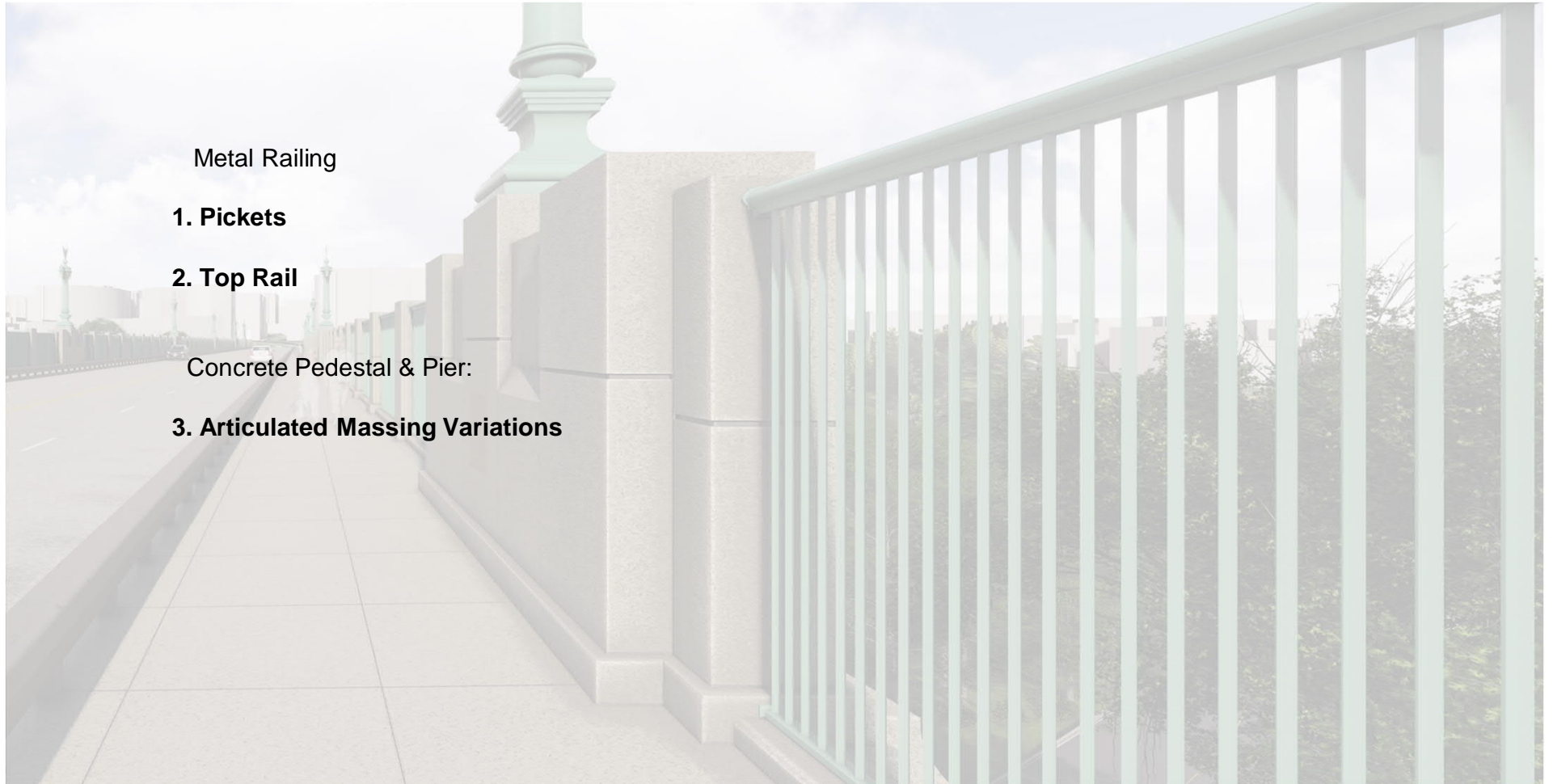
The Commission members observed that the range of alternatives in Option 3—replacing the piers and railings of the bridge in the same design character but increased to a height of eight feet—would be more harmonious with the bridge's historic appearance than the other options, which would add a new barrier system next to the existing railings. Among the Option 3 alternatives, they recommended the articulated treatment of Option 3B as the best adaptation of the historic design, and they urged more development of its details. Where new material is added to replace or extend the existing concrete piers, they recommended that the new material closely match the appearance of the existing masonry. They also recommended careful perspectival studies to understand people's experience moving along the bridge, and of the views upward from the Rock Creek and Potomac Parkway, to inform the development of the barrier system's horizontal and vertical elements at the increased height, the aesthetic sense of appropriate proportions, and the views outward from the bridge. Understanding the complexity of this undertaking on the historic bridge, some Commission members expressed willingness to further consider Option 2, which would add an eight-foot-tall wire mesh supported by metal stanchions, for its relative transparency and ease of maintenance.

The Commission looks forward to further review of this important project. Please coordinate the next submission with the staff which, as always, is available to assist you.

Sincerely,



Thomas E. Luebke, FAIA  
Secretary



Metal Railing

**1. Pickets**

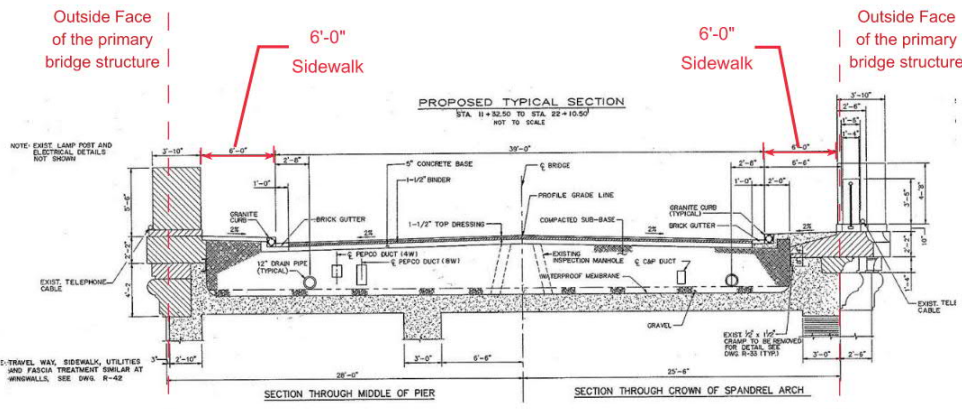
**2. Top Rail**

Concrete Pedestal & Pier:

**3. Articulated Massing Variations**



# EXISTING SIDEWALK SECTIONS – 1995 REHAB



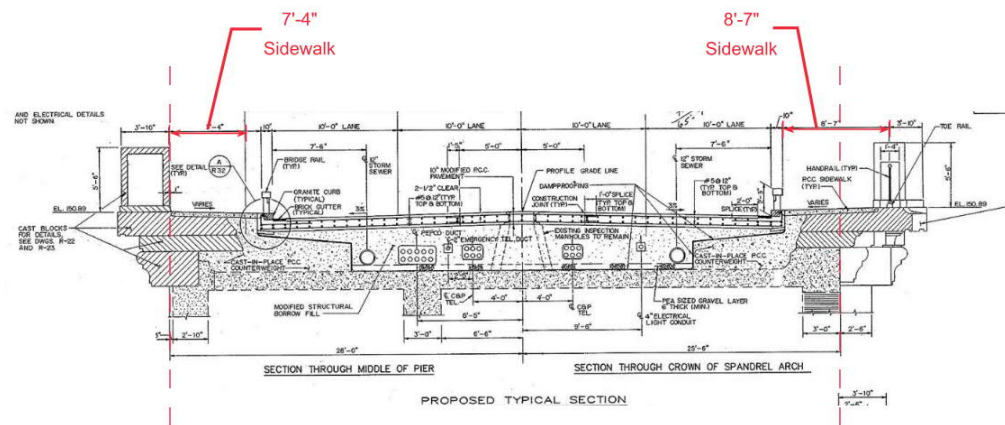
Before 1995



Sidewalk Perspective



Across Sidewalk Perspective



After 1995

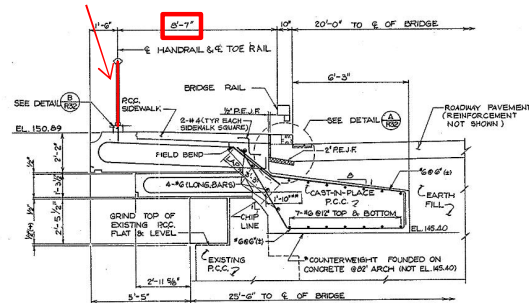


Across Sidewalk Perspective

## EXISTING SIDEWALK SECTIONS

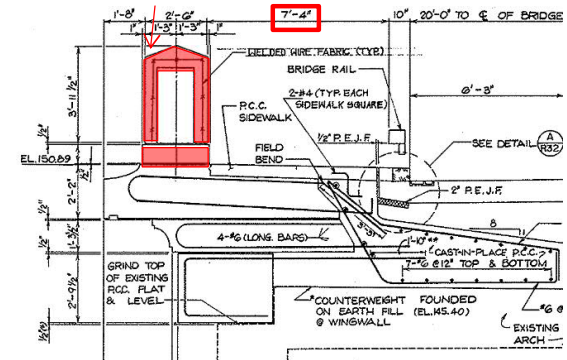
- Typical pier width perpendicular to bridge centerline: 1'- 4" with 7'-10" clear spacing to the face of the traffic railing
- Lamppost pedestal width directly under the lamppost in the direction perpendicular to bridge centerline: 3'-10" with 7'- 4" clear spacing to the face of the traffic railing

METAL RAILING



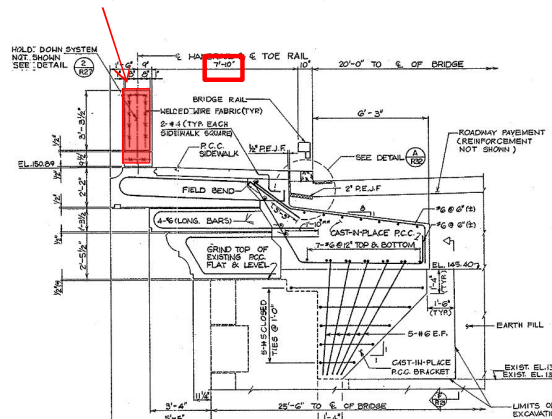
SECTION AT METAL RAILING

TYPICAL PEDESTAL



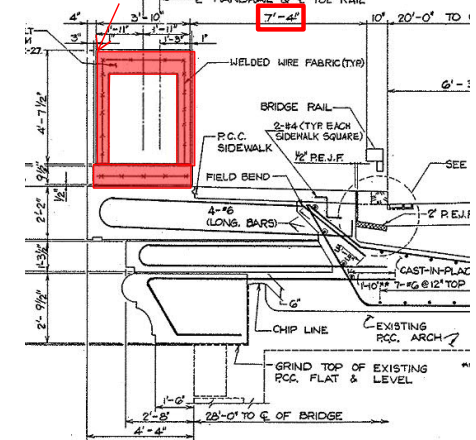
SECTION AT TYPICAL PEDESTAL

PIER (Handrail Concrete Post)



SECTION AT PIER

LAMPOST PEDESTAL



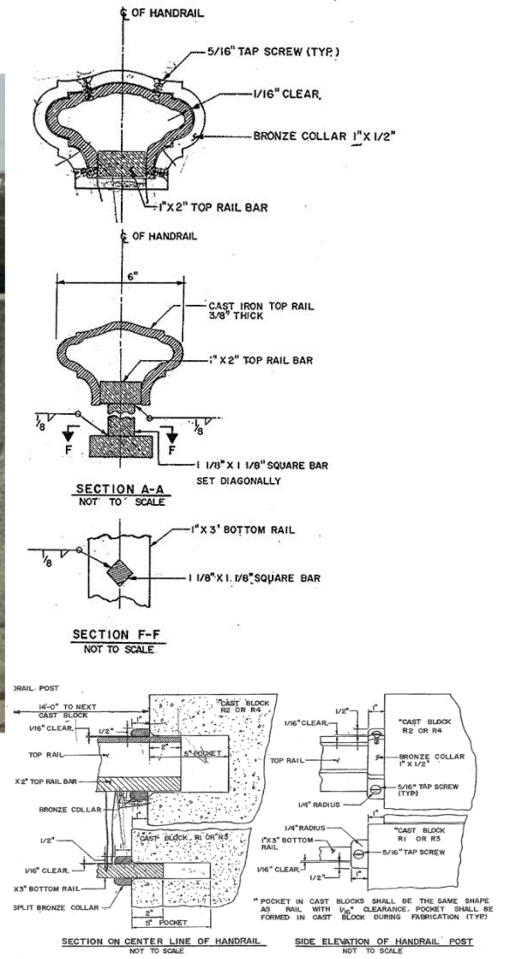
SECTION AT LAMPOST PEDESTAL

EXISTING METAL RAILING

Option 1



Photo





EXISTING METAL RAILING

Option 1

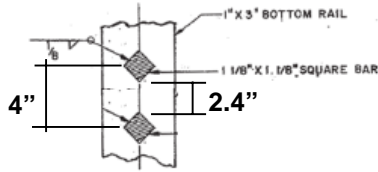


Photos



# 1 - PICKET SIZE AND SPACING

Pickets: 1 1/8" square  
 Picket spacing: 4" o.c.  
 Gap between Pickets: 2.4"

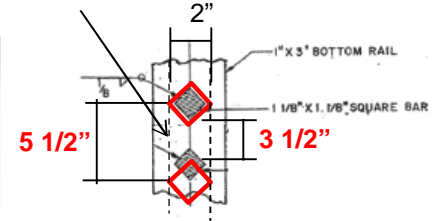


Sidewalk Rendered View

# Option 1

Concealed top rail (above)

Pickets: 1 3/8" square  
 Picket spacing: 5 1/2" o.c.  
 Gap between Pickets: 3 1/2"



Sidewalk Rendered View

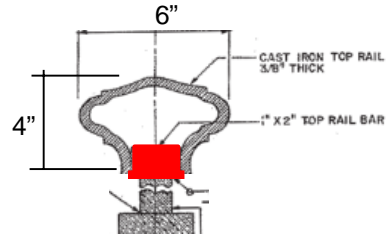


## 2 - TOP METAL RAIL

Option 1

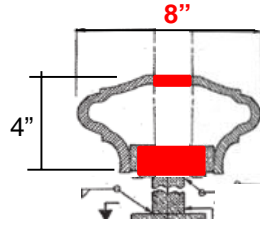
Existing Rail

2A Current (6" width, 4" ht.)

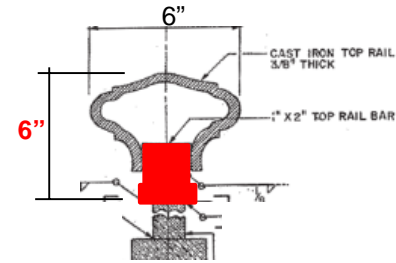


( Preferred Option )

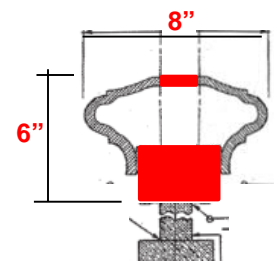
2B Top Rail :8" width, 4" ht.



2C Top Rail:6" width, 6" ht.



2D Top Rail:8" width, 6" ht.



Note: 2 A & C: For the red hatched area in the diagram, additional width may be required at the lower portion for welding. The render image 2 A & C does not show the reveal.

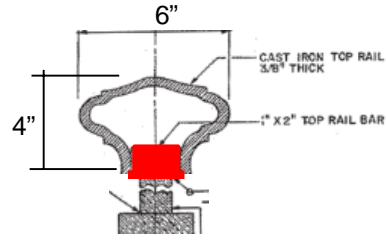


## 2 - TOP METAL RAIL

Option 1

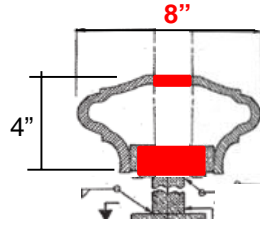
Existing Rail

2A Current (6" width, 4" ht.)

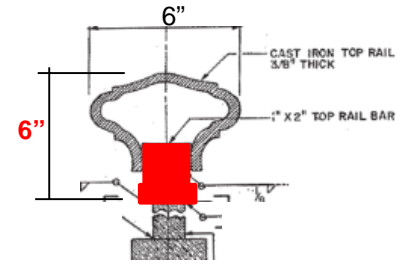


( Preferred Option )

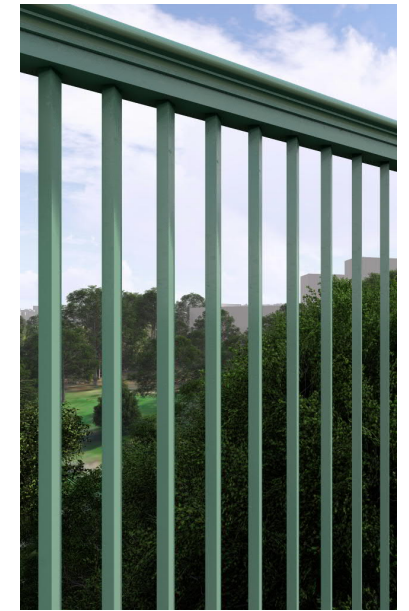
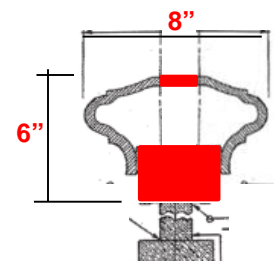
2B Top Rail :8" width, 4" ht.



2C Top Rail:6" width, 6" ht.



2D Top Rail:8" width, 6" ht.



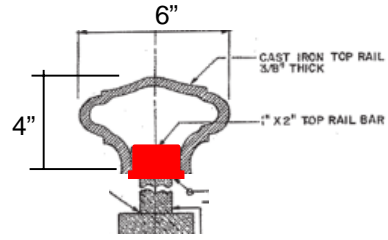
Note: 2 A & C: For the red hatched area in the diagram, additional width may be required at the lower portion for welding. The render image 2 A & C does not show the reveal.

## 2 - TOP METAL RAIL

Option 1

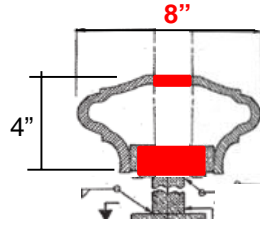
Existing Rail

**2A** Current (6" width, 4" ht.)

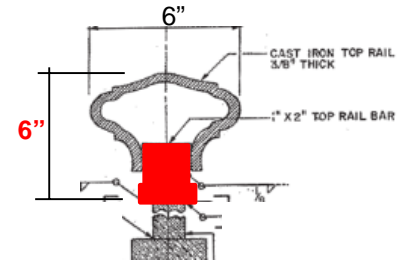


( Preferred Option )

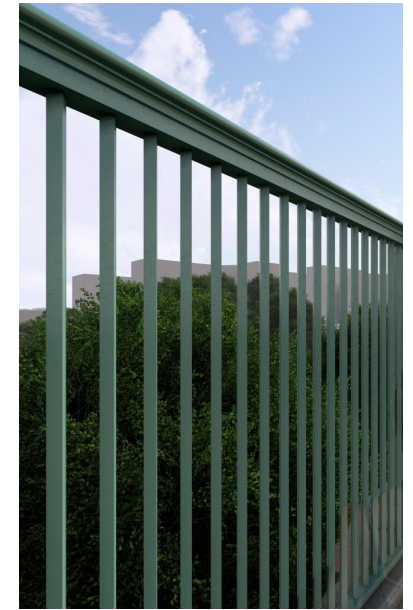
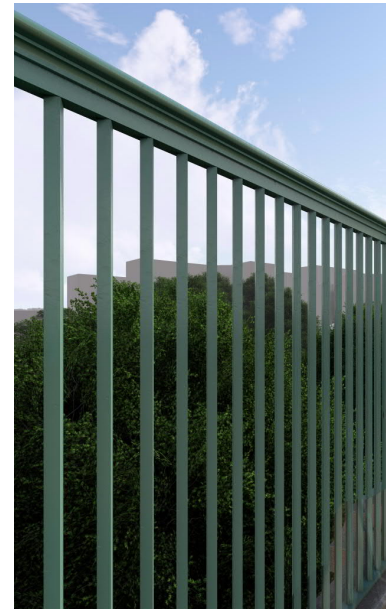
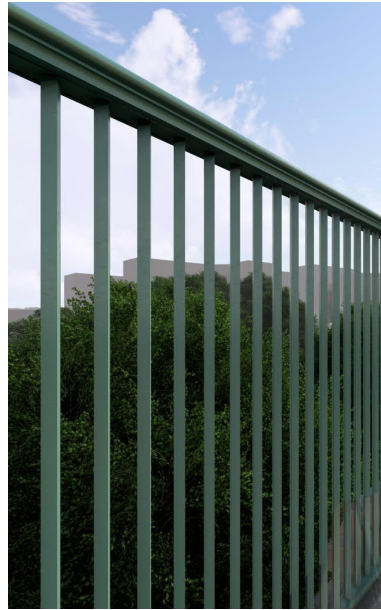
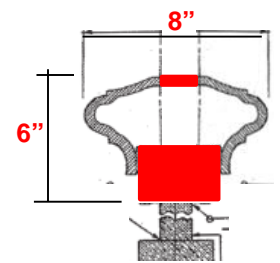
**2B** Top Rail :8" width, 4" ht.



**2C** Top Rail:6" width, 6" ht.



**2D** Top Rail:8" width, 6" ht.

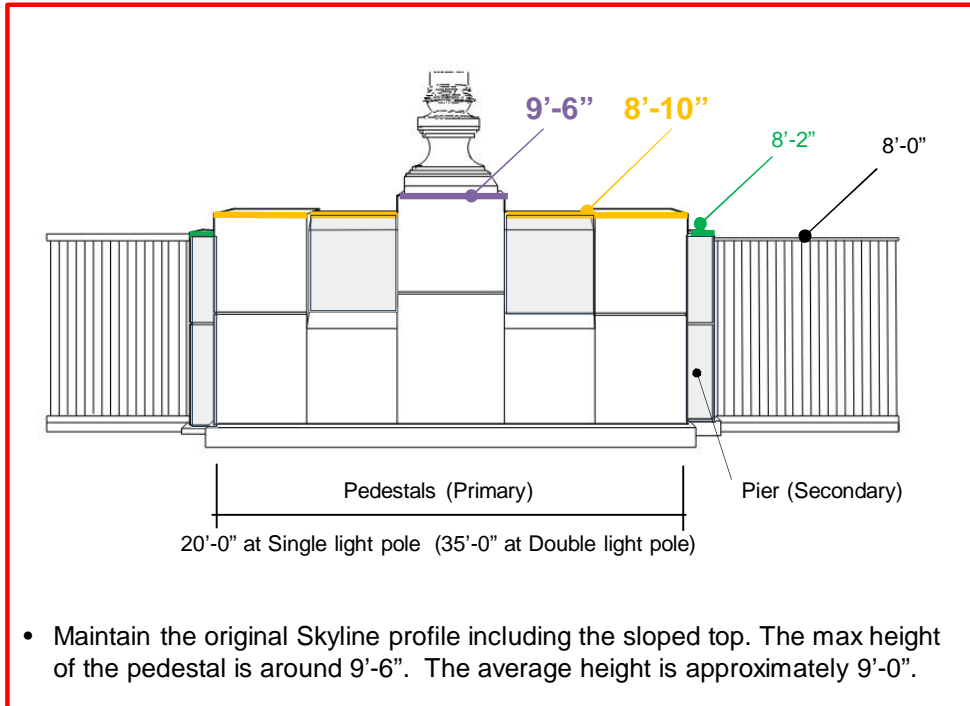


Note: 2 A & C: For the red hatched area in the diagram, additional width may be required at the lower portion for welding. The render image 2 A & C does not show the reveal.

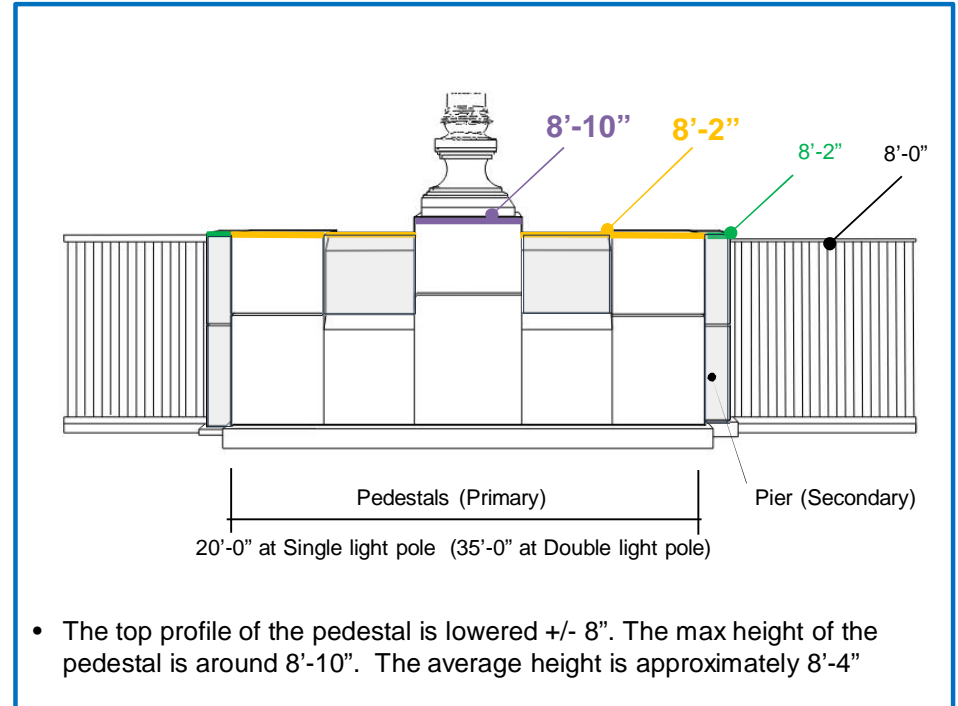
### 3 - ARTICULATED MASSING VARIATIONS

Option 1

#### 3A: MATCHING THE ORIGINAL SKYLINE



#### 3B: LOWERED PEDESTALS



Recessed vertical surface

#### General:

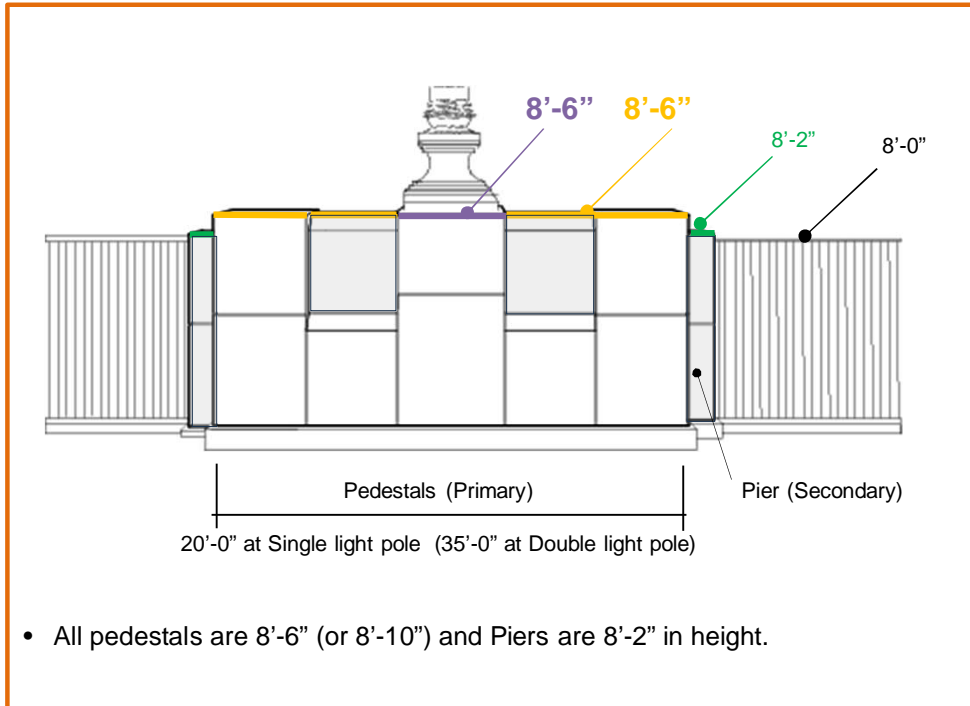
- Flat and slope tops remain in the design to respect the current design.
- Articulated 4" setback applied upper portion of the selected mass
- 60 degrees steep slope transition at the bottom of the recessed surface to avoid foot and handholds



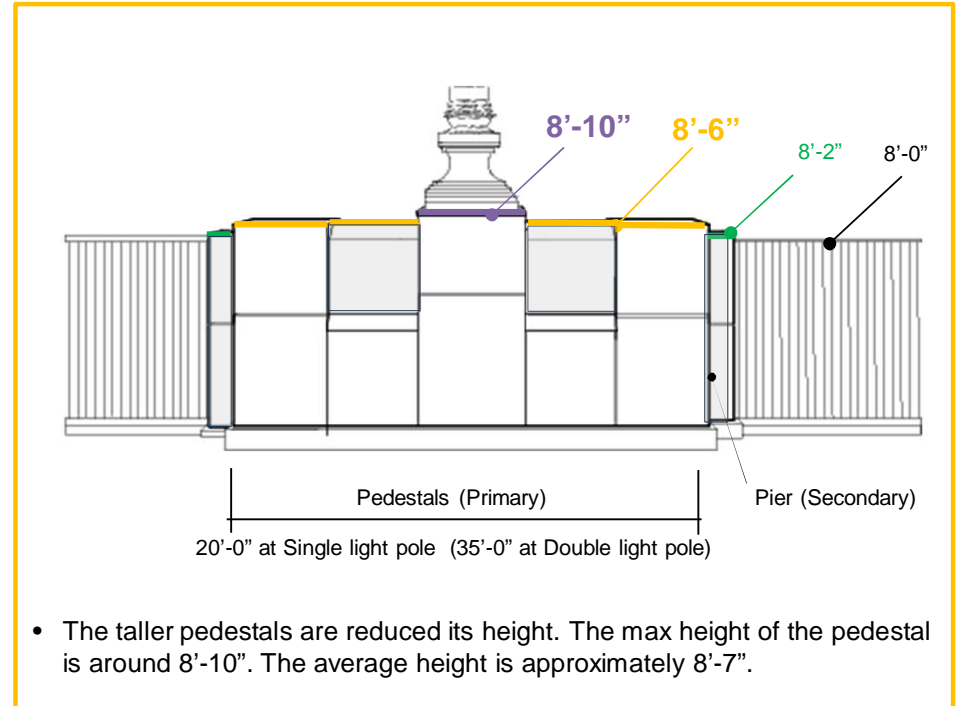
### 3 - ARTICULATED MASSING VARIATIONS


Option 1

#### 3C: EQUAL HEIGHT



#### 3D: SMALLER INCREMENTED STEP (Preferred Option)



 Recessed vertical surface

General:

- Flat and slope tops remain in the design to respect the current design.
- Articulated 4" setback applied upper portion of the selected mass
- 60 degrees steep slope transition at the bottom of the recessed surface to avoid foot and handholds

3A: MATCHING THE ORIGINAL SKYLINE

Option 1



Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



3 - ARTICULATED MASSING VARIATIONS

Option 1

3B: LOWERED PEDESTALS



3C: EQUAL HEIGHT



3D: SMALLER INCREMENTED STEP



Sidewalk Rendered View



3 - ARTICULATED MASSING VARIATIONS

Option 1

3B: LOWERED PEDESTALS



3C: EQUAL HEIGHT



3D: SMALLER INCREMENTED STEP



Sidewalk Rendered View

3 - ARTICULATED MASSING VARIATIONS

Option 1

3B: LOWERED PEDESTALS



3C: EQUAL HEIGHT



3D: SMALLER INCREMENTED STEP



Sidewalk Rendered Elevational View at Single Light Pole



Existing



3 - ARTICULATED MASSING VARIATIONS

Option 1

3B: LOWERED PEDESTALS



3C: EQUAL HEIGHT



3D: SMALLER INCREMENTED STEP



Sidewalk Rendered View



3B: LOWERED PEDESTALS

Option 1



Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



3C: EQUAL HEIGHT

Option 1



Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



3D: SMALLER INCREMENTED STEP

Option 1



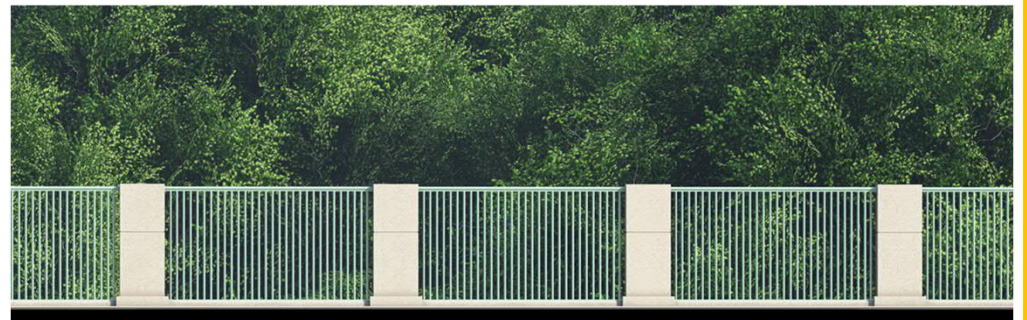
Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



3D: SMALLER INCREMENTED STEP

Option 1



Sidewalk Rendered View



Sidewalk Rendered View

### 3D: SMALLER INCREMENTED STEP

Option 1

Existing



3D



Note: Top Rail 2A is used for the rendering



View from Rock Creek Park with Single Light Pole Condition



View from Rock Creek Park with Double Light Pole Condition



3D: SMALLER INCREMENTED STEP

Option 1



Perry Lion Gate Rendered View

Note:  
The Horizontal Reveal at  
the concrete pier is  
adjusted to match the  
Perry Lion Plinth

# TOPO SURVEY AT THE SOUTH END OF THE BRIDGE

Option 1

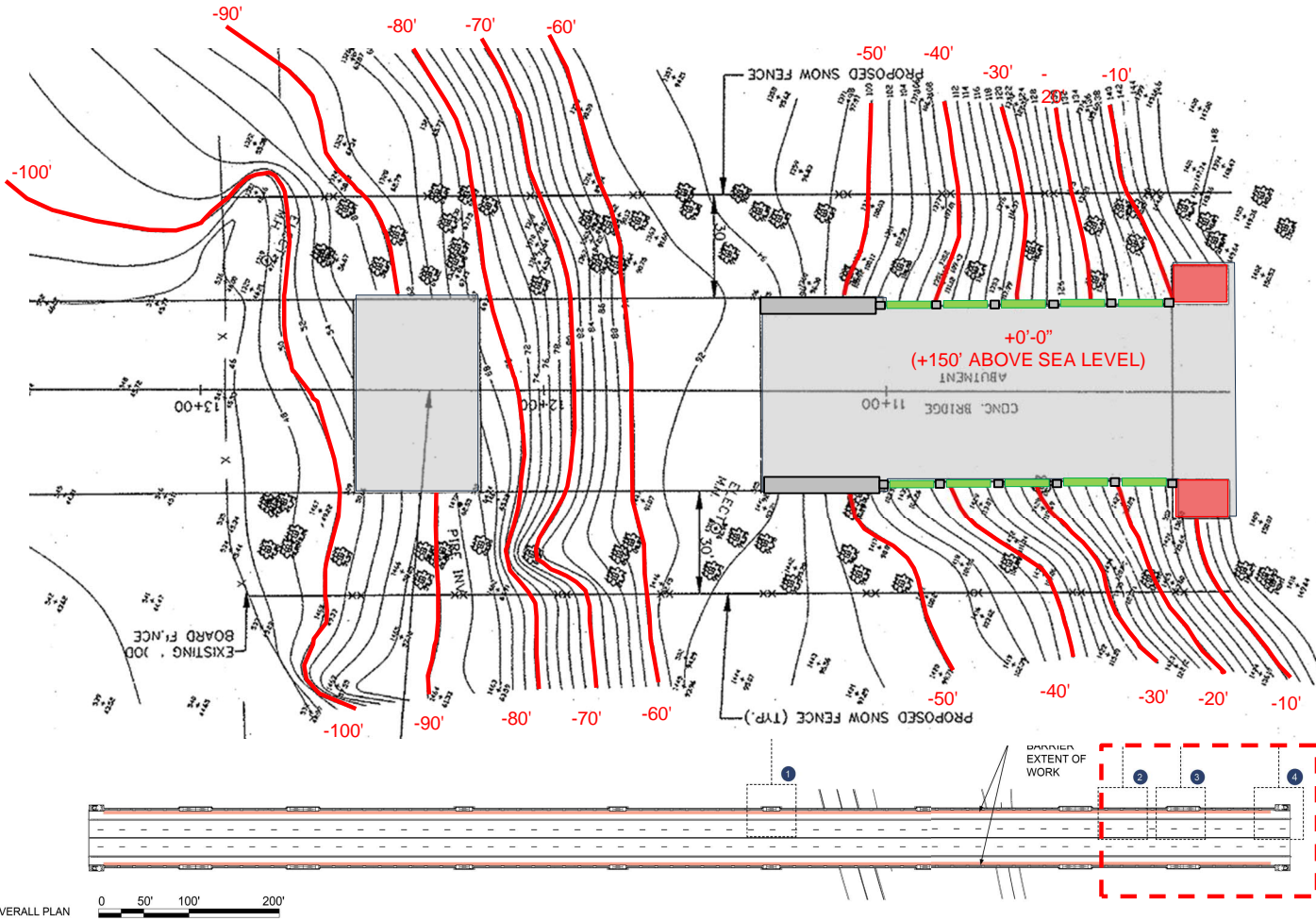


Photo of Perry lion

### Legend

- Perry Lion Plinth
- Metal Railing
- Concrete Pier



3D: SMALLER INCREMENTED STEP – LOWERED METAL RAIL AT THE LAST BAY

Option 1



Perry Lion Gate Rendered View

Note:  
The Horizontal Reveal at  
the concrete pier is  
adjusted to match the  
Perry Lion Plinth





Perry Lion Gate Rendered View



3D: SMALLER INCREMENTED STEP

Option 1



Perry Lion Gate Rendered View

Note:  
The Horizontal Reveal at  
the concrete pier is  
adjusted to match the  
Perry Lion Plinth



3D: SMALLER INCREMENTED STEP – LOWERED METAL RAIL AT THE LAST BAY

Option 1



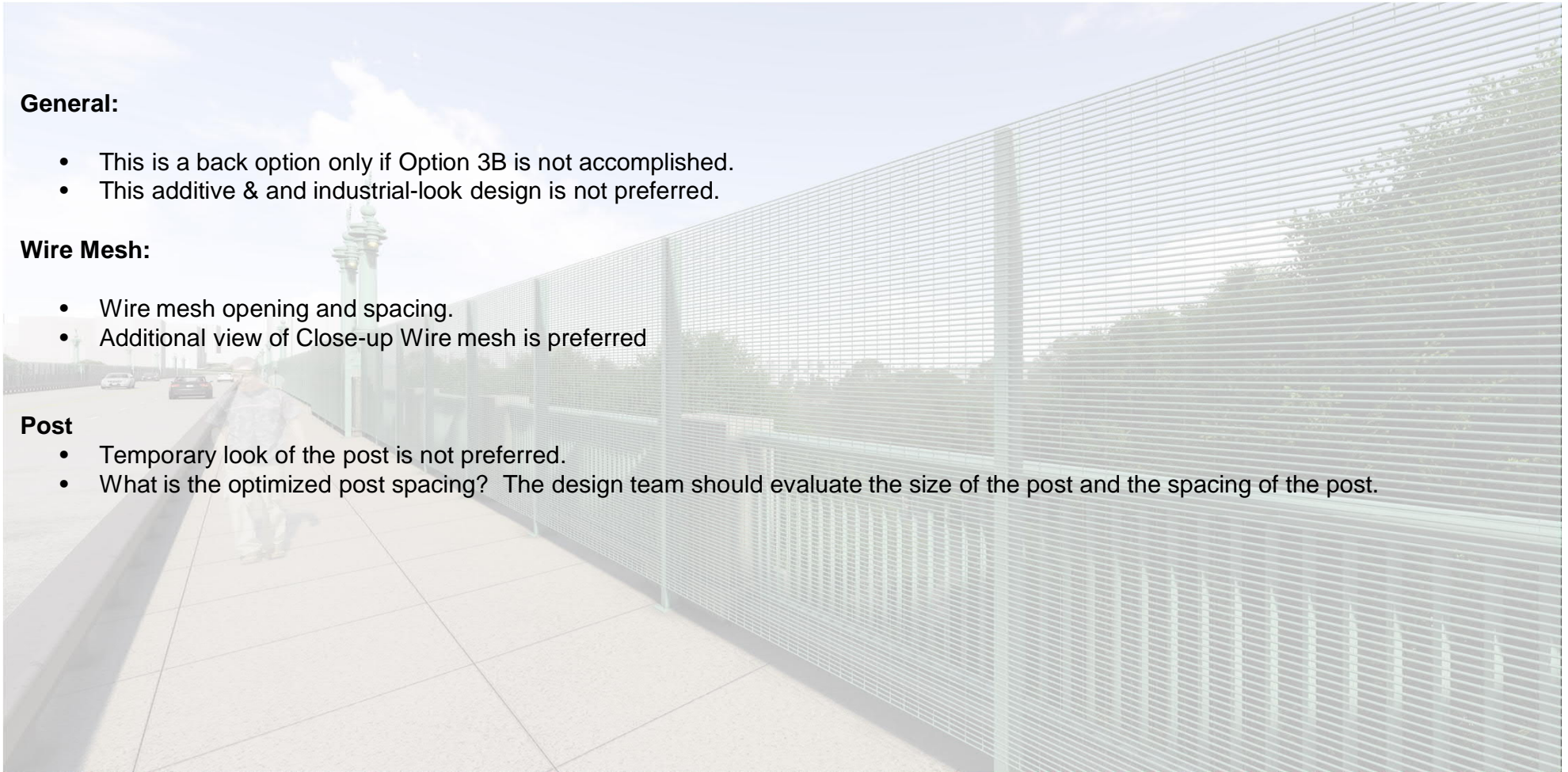
Perry Lion Gate Rendered View

Note:  
The Horizontal Reveal at  
the concrete pier is  
adjusted to match the  
Perry Lion Plinth





Aerial Rendered View at Dusk



**General:**

- This is a back option only if Option 3B is not accomplished.
- This additive & industrial-look design is not preferred.

**Wire Mesh:**

- Wire mesh opening and spacing.
- Additional view of Close-up Wire mesh is preferred

**Post**

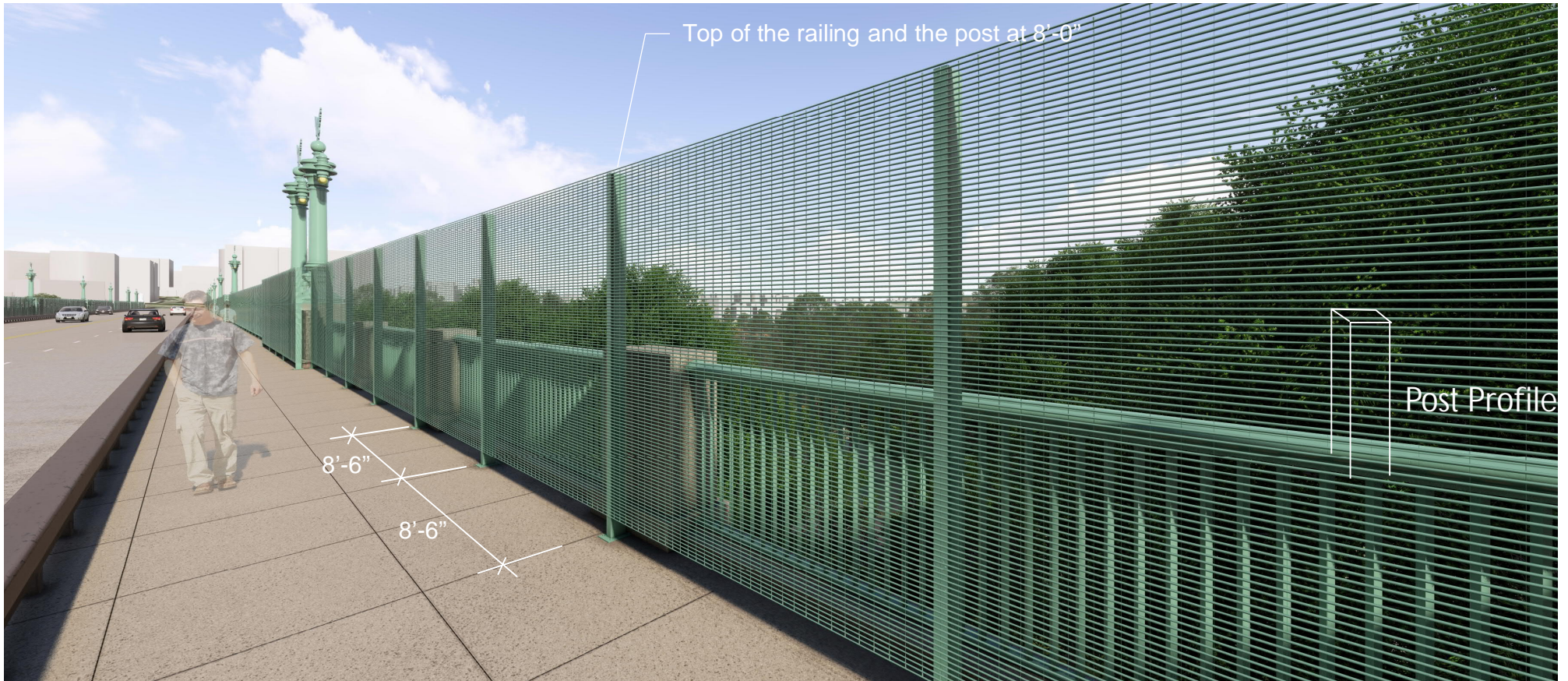
- Temporary look of the post is not preferred.
- What is the optimized post spacing? The design team should evaluate the size of the post and the spacing of the post.





Sidewalk Rendered View





Sidewalk Rendered View



RENDERING VIEWS

Option 2



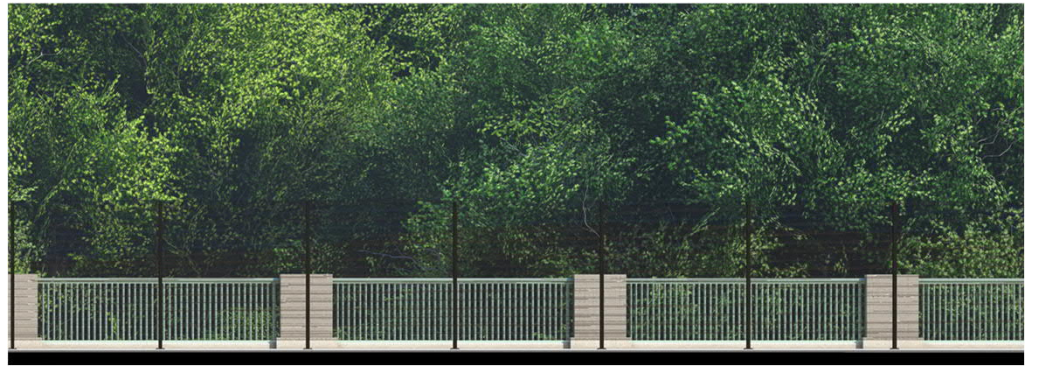
Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



RENDERING VIEWS – COLOR MATCHING TO THE METAL RAILING

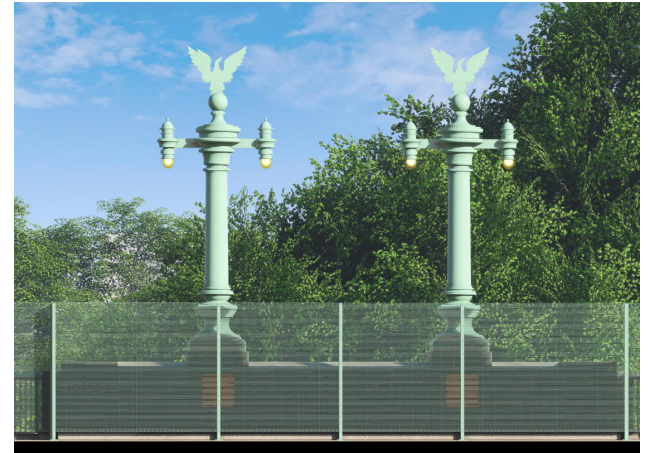
Option 2



Sidewalk Rendered View



Elevation at Single Light Pole



Elevation at Double Light Pole



Concrete Post with Metal Handrail - Elevation



ROCK CREEK VIEW

Option 2

Existing



Option 2



View from Rock Creek Park with Single Light Pole Condition



View from Rock Creek Park with Double Light Pole Condition



ROCK CREEK VIEW – COLOR MATCHING TO THE METAL RAILING

Option 2

Existing



Option 2



View from Rock Creek Park with Single Light Pole Condition

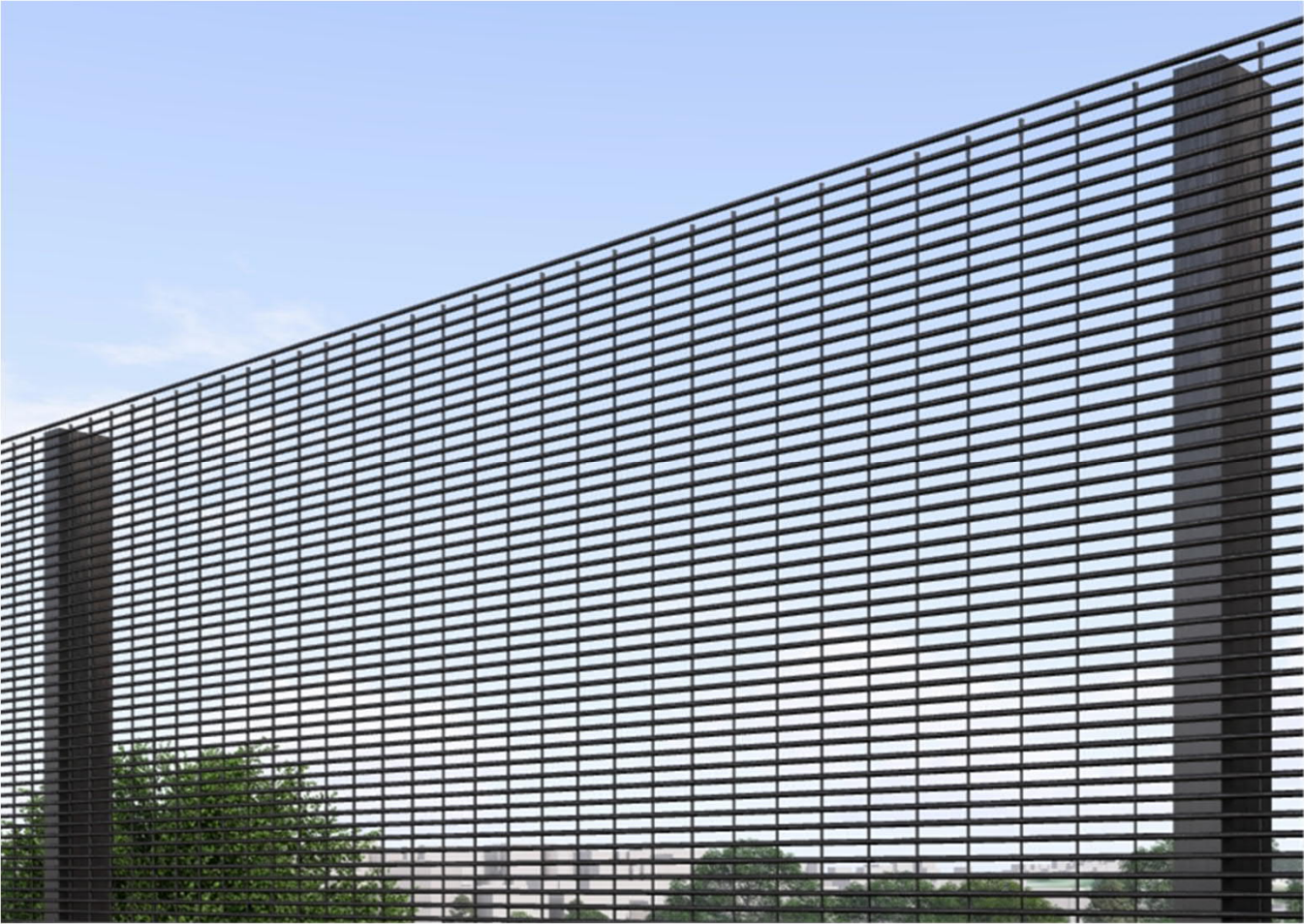
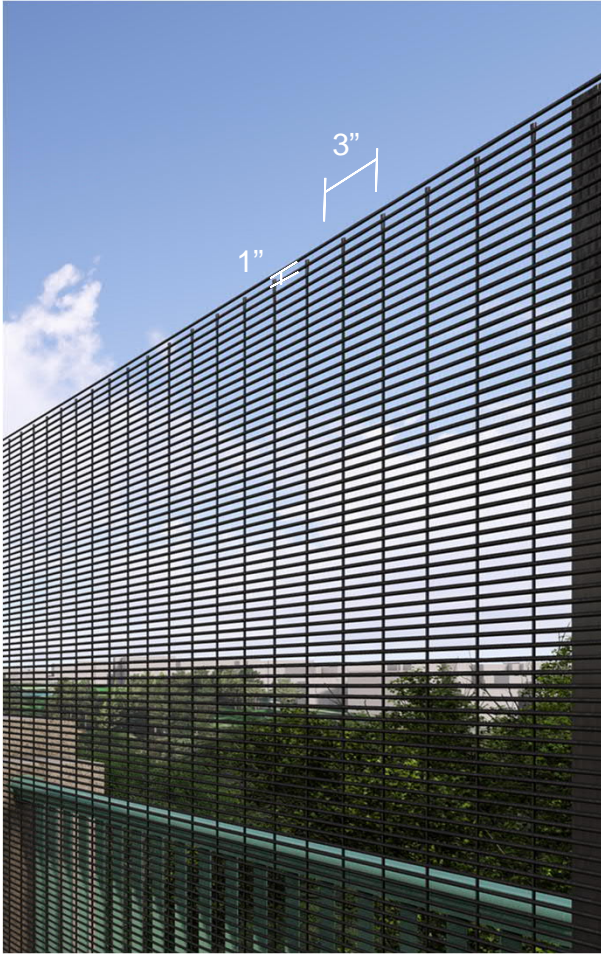


View from Rock Creek Park with Double Light Pole Condition



WIRE MESH ENLARGED VIEW

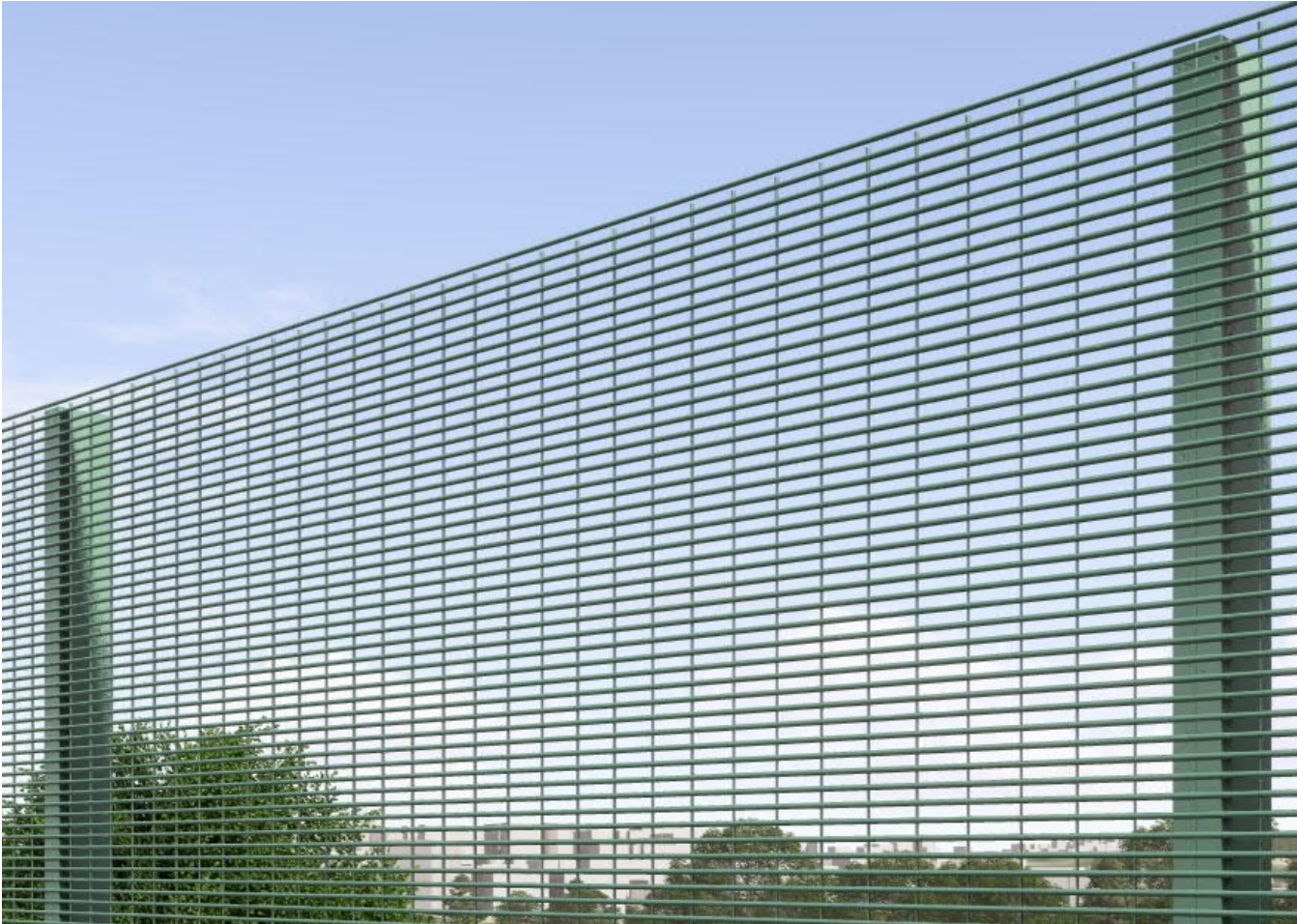
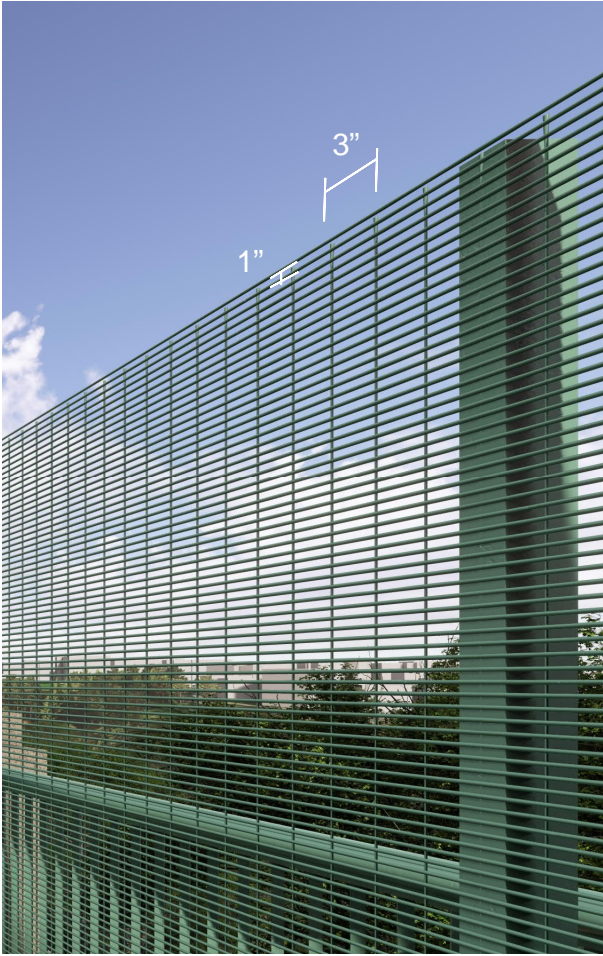
Option 2





WIRE MESH ENLARGED VIEW

Option 2





## REFERENCE

- **Welded Wire Mesh**

Welded Wire Mesh is a galvanized carbon steel plate barb size 1mm or 2mm with an outer coating. It is known to be extremely difficult to cut and difficult to climb. Many of the products come with a lifetime warranty (i.e. 25 years) in normal environmental conditions.

- **Architectural Mesh**

Architectural Mesh is generally finer than Welded Wire Mesh and can be manipulated easily. The density and transparency can be also adjusted based on the design.

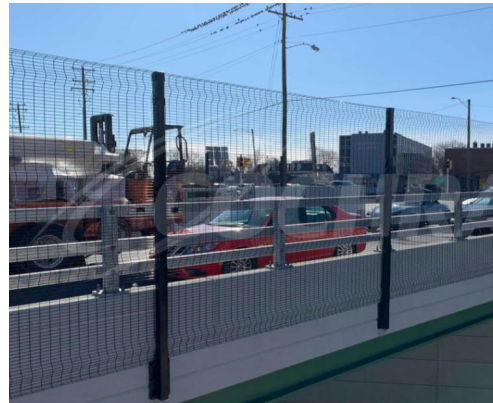
Option 2

### 358 Security Clearvu Fencing Specification

358 Security Fencing					
Fence Model	Height Range of Fence (mm)	Width Range of Panel (mm)	Wire Dia. Range (mm)	Mesh Opening (mm)	Post Size Type (mm)
358 security fencing	800-2500	2000-3100	3.0-5.0	12.5*75	Square Post: 60*60, 70*70, 80*80
				12.6*76.2	C Post: 60*80
				25*75	H Post: 44*100
Popular Panel Size	1800*2400	2100*2400	2400*2400	2475*3100	2200*2800
Popular Post Size	60*60*2.0thk	60*80*2.0thk	60*60*2.2thk	60*60*2.5thk	60*80*2.2thk
Surface Treatment	1. Black wire welded then hot-dipped galvanized only 2. Galvanized wire and Electrostatic polyester powder coated 3. Galvanized with then PVC coated				



Reference Photo of Bridge 341



Reference Photo of Wilson Blvd



Photo of a Physical Sample



Reference Photo of Welded Wire Mesh



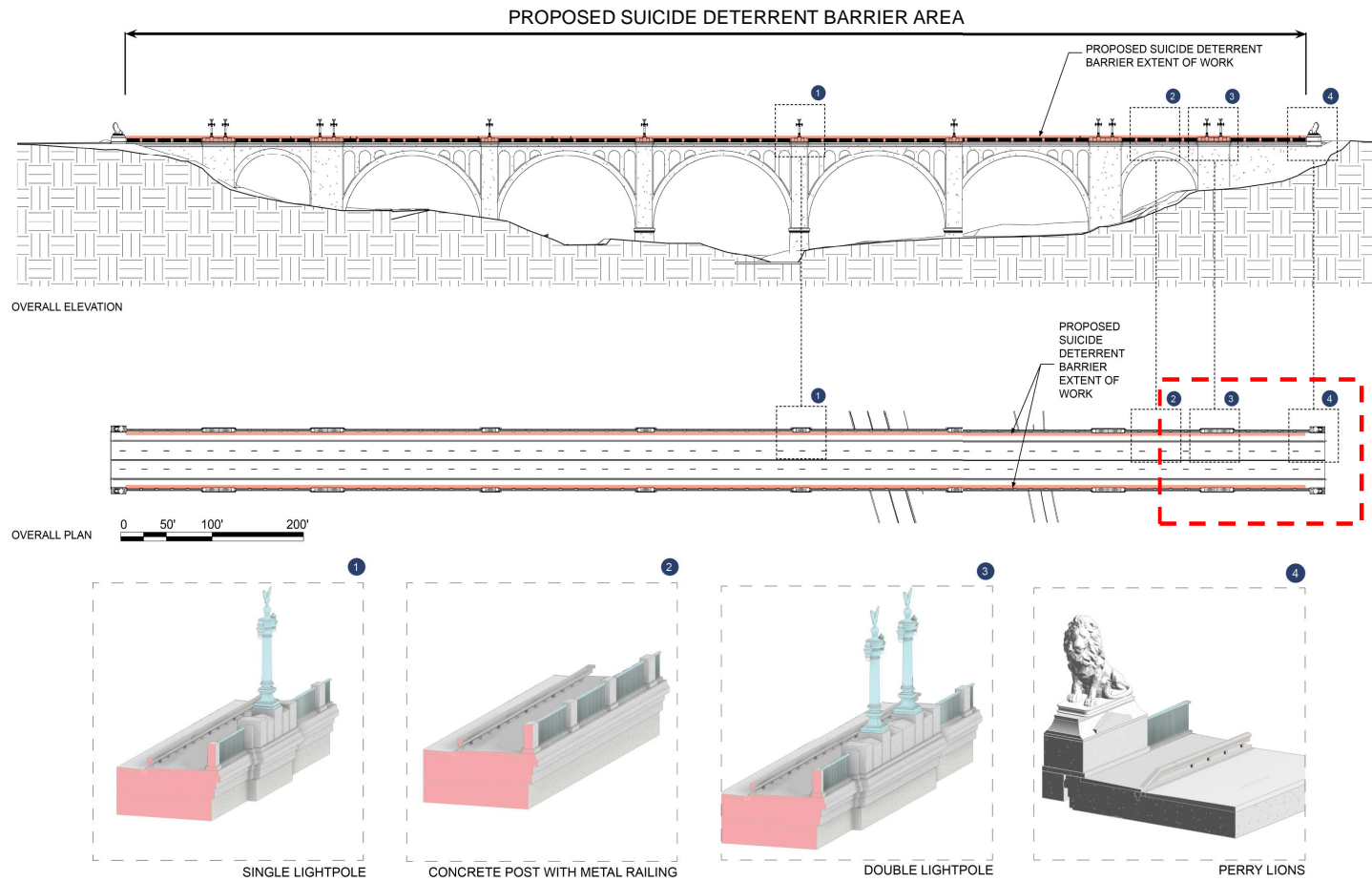
District Department of Transportation

250 M St SE | Washington, DC 20003 | 202.673.6813



Existing **Plan** and **Elevation** – Features Unique Design Element

Option 1



3A: MATCHING THE ORIGINAL SKYLINE

Option 1



Sidewalk Rendered View



Sidewalk Rendered View



3A: MATCHING THE ORIGINAL SKYLINE

Option 1

Existing



3A



Note: Top Rail 2A is used for the rendering

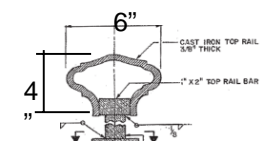


View from Rock Creek Park with Single Light Pole Condition



View from Rock Creek Park with Double Light Pole Condition

**3B: LOWERED PEDESTALS with 2A TOP RAIL**



Option 1

**2A** Current (6" width, 4" height)



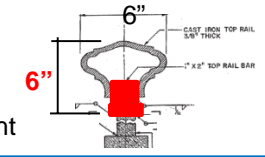
Sidewalk Rendered View



Sidewalk Rendered View



3B: LOWERED PEDESTALS with 2C TOP RAIL



Option 1

2C Top Rail: 6" width, 6" height



Sidewalk Rendered View



Sidewalk Rendered View

### 3B: LOWERED PEDESTALS

Option 1

Existing



3B



View from Rock Creek Park with Single Light Pole Condition



View from Rock Creek Park with Double Light Pole Condition

Note: Top Rail 2A is used for the rendering



3C: EQUAL HEIGHT

Option 1



Sidewalk Rendered View



Sidewalk Rendered View

3D: SMALLER INCREMENTED STEP

Option 1



Sidewalk Rendered View



Sidewalk Rendered View