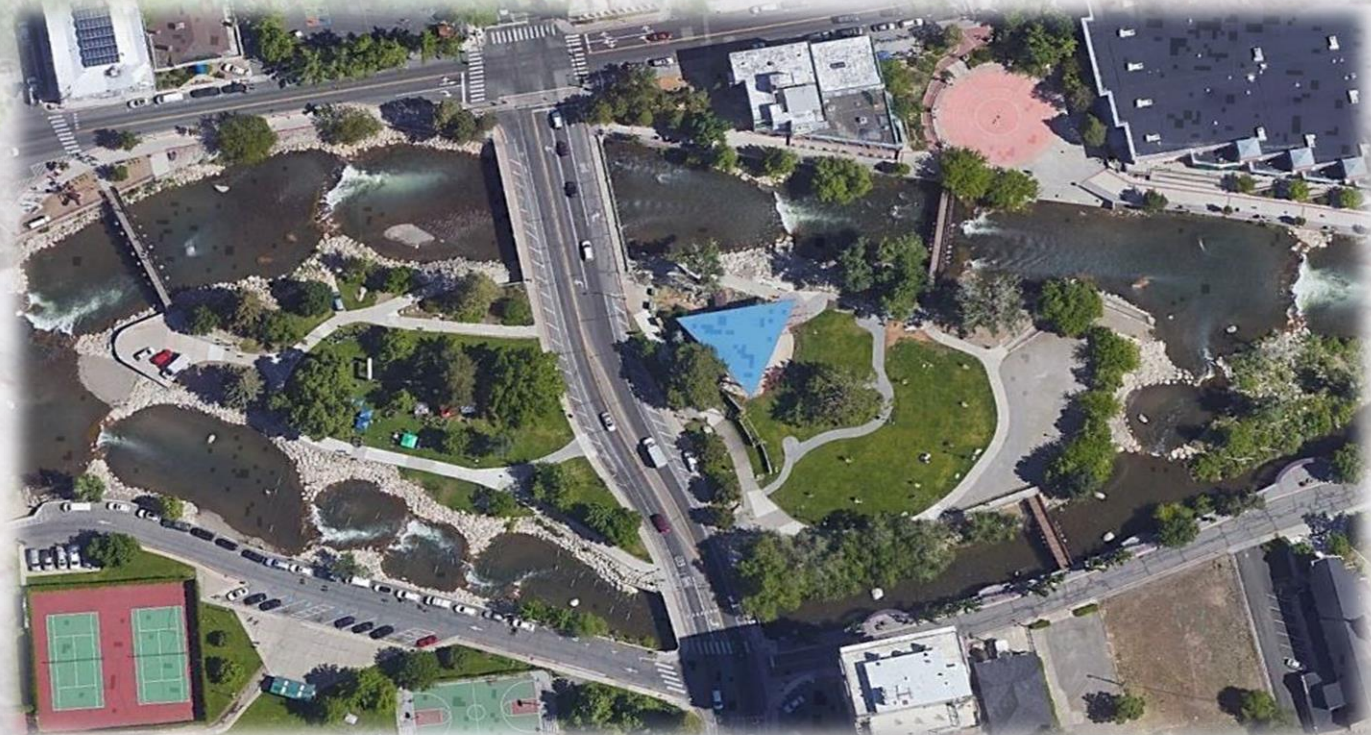


# Design and Environmental Study For



## ARLINGTON AVENUE BRIDGES REPLACEMENT

Aesthetics Working Group Meeting #2 | March 25, 2022

# Agenda



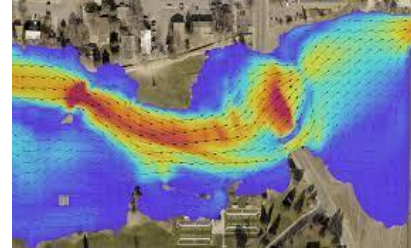
- ✓ Meeting Goals and Objectives
- ✓ New Items and Updates
- ✓ Project Design Recap
- ✓ Selected Bridge Elements for Discussion
  - ✓ End Pylons
  - ✓ Bridge Rail
  - ✓ Overlooks
  - ✓ Pilasters
  - ✓ Public Art/Guardians
  - ✓ Pedestrian and Bridge Lighting
  - ✓ Floodwalls
  - ✓ Abutments
  - ✓ Initially Preferred Design Direction Discussion
- ✓ Next Steps
- ✓ Next Meeting: May 6<sup>th</sup>, 2022

# New Items and Updates

- ▶ Structure Type Decision Progress



- ▶ Hydraulic Analysis Progress



- ▶ Lighting Impact on Fauna Study



- ▶ Culvert/Retaining Wall Replacement



# Project Design Recap

## Feasibility Study Results

- ▶ Single Pier for North Bridge (reduce from 3 to 2 spans)
- ▶ Clear Span for South Bridge (match existing single span)
- ▶ Aesthetics Theme - Modern Art Deco - a melding of old and new design styles

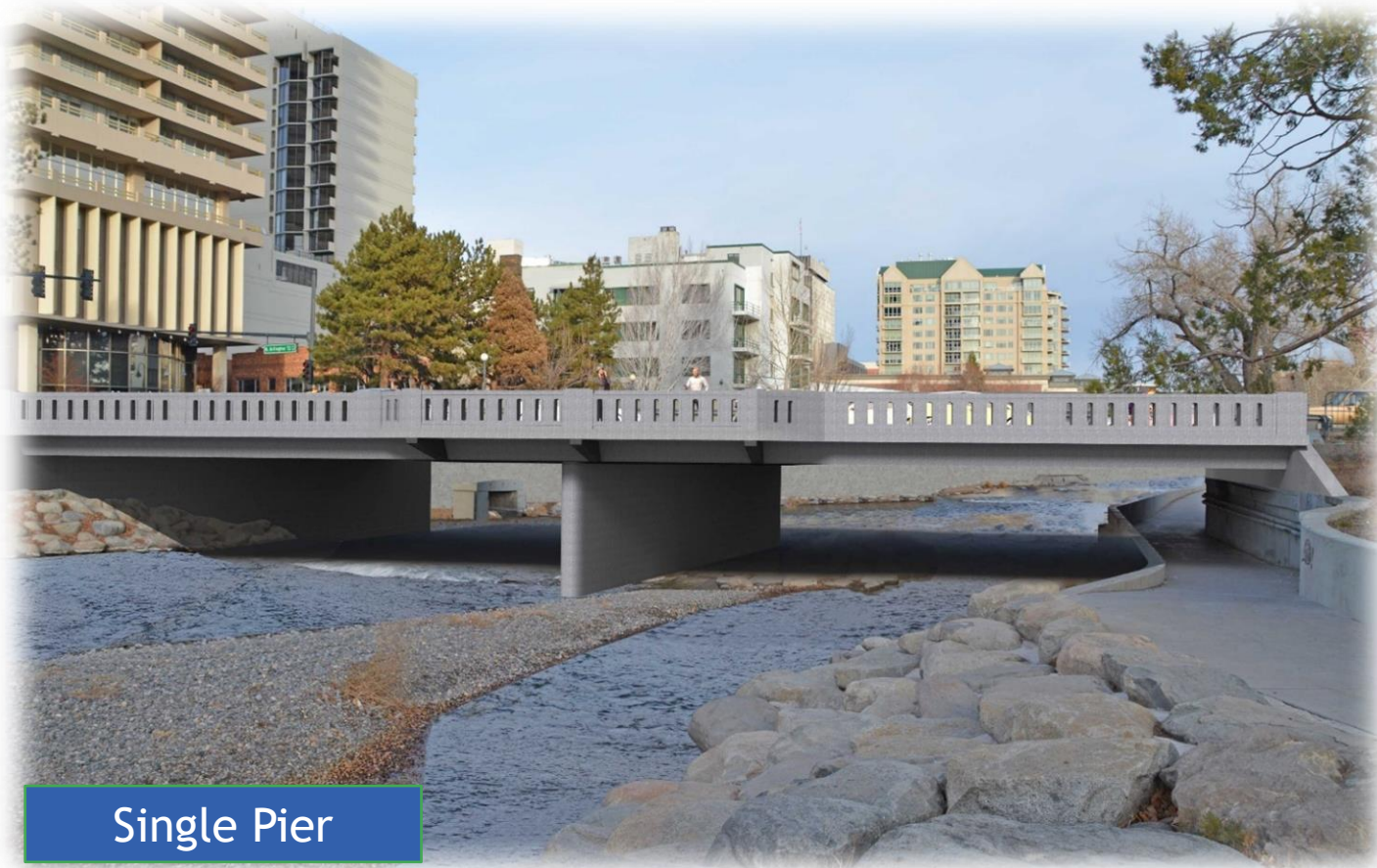


Existing North Bridge



Existing South Bridge

# Project Design Recap



## Why Single Pier North Bridge?

- ▶ Reduced deck thickness
- ▶ Vertical clearance along path
- ▶ Opportunity for wider sidewalks along bridges
- ▶ Minor profile adjustments for hydraulic model clearance
- ▶ Similar look to existing (2-pier) bridge
- ▶ Maintenance access from bridge allows for debris removal prior to downstream narrowing of river
- ▶ Easier to construct
- ▶ Less expensive

NOTE: THIS GRAPHIC IS A GENERAL DEPICTION OF A SINGLE PIER BRIDGE, NOT A FINAL DESIGN

# Project Site Map and Context

The main image is an aerial site map of Wingfield Park and its surroundings. The Truckee River flows through the center, with Wingfield Park on either side. A central road, Arlington Ave, is highlighted with a yellow oval. Other streets shown include West First Street, West Street Plaza, and Island Ave. The map includes labels for Wingfield Park, Barbara Bennett Park, and West Street Plaza. A north arrow is located in the bottom right corner of the map.

**URBAN ART**  


**KAYAK PARK**  


**BRIDGE PATHWAY**  


**PARK PATHWAYS**  


**SPORTS COURTS**  


**BARBARA BENNETT PARK**

**WEST FIRST STREET**

**TRUCKEE RIVER**

**ARLINGTON AVE**

**WINGFIELD PARK**

**ISLAND AVE**

**WEST STREET PLAZA**

**NORTH FLOOD WALL**  


**AMPHITHEATER**  


**PEDESTRIAN ACCESS**  


**STREET TREES**  


**PEDESTRIAN BRIDGE**  


# Aesthetic Design Goals:



## Cohesive Design Language

1. Establish a project theme to unify all the bridge and landscape elements

## Enhance Pedestrian Experience

1. Maintain vantage points of the river and surrounding landscape, avoid above street bridge types
2. Enhance pedestrian experience with shade trees, decorative lighting, decorative railing, paving, sculptural/artistic features and unified materials between sidewalk and street

Notes: Arlington Avenue acts as an urban plaza during special events; consider using unified materials for the sidewalks; new standards for sidewalks in Downtown

## Contextual and Historical Relevance

1. Design structural elements to have relevance to the urban context
2. Provide design solutions that pay homage to Reno's history, while representing a new age of bridge development within the downtown core
3. Virginia Street bridge to be the landmark bridge and others focal bridges.

## Innovation and Sustainability

1. Provide stormwater infiltration on street (Low Impact Development - LID) permeable pavement or pavers
2. Use LED lighting
3. Use drought resistant and native trees and plants

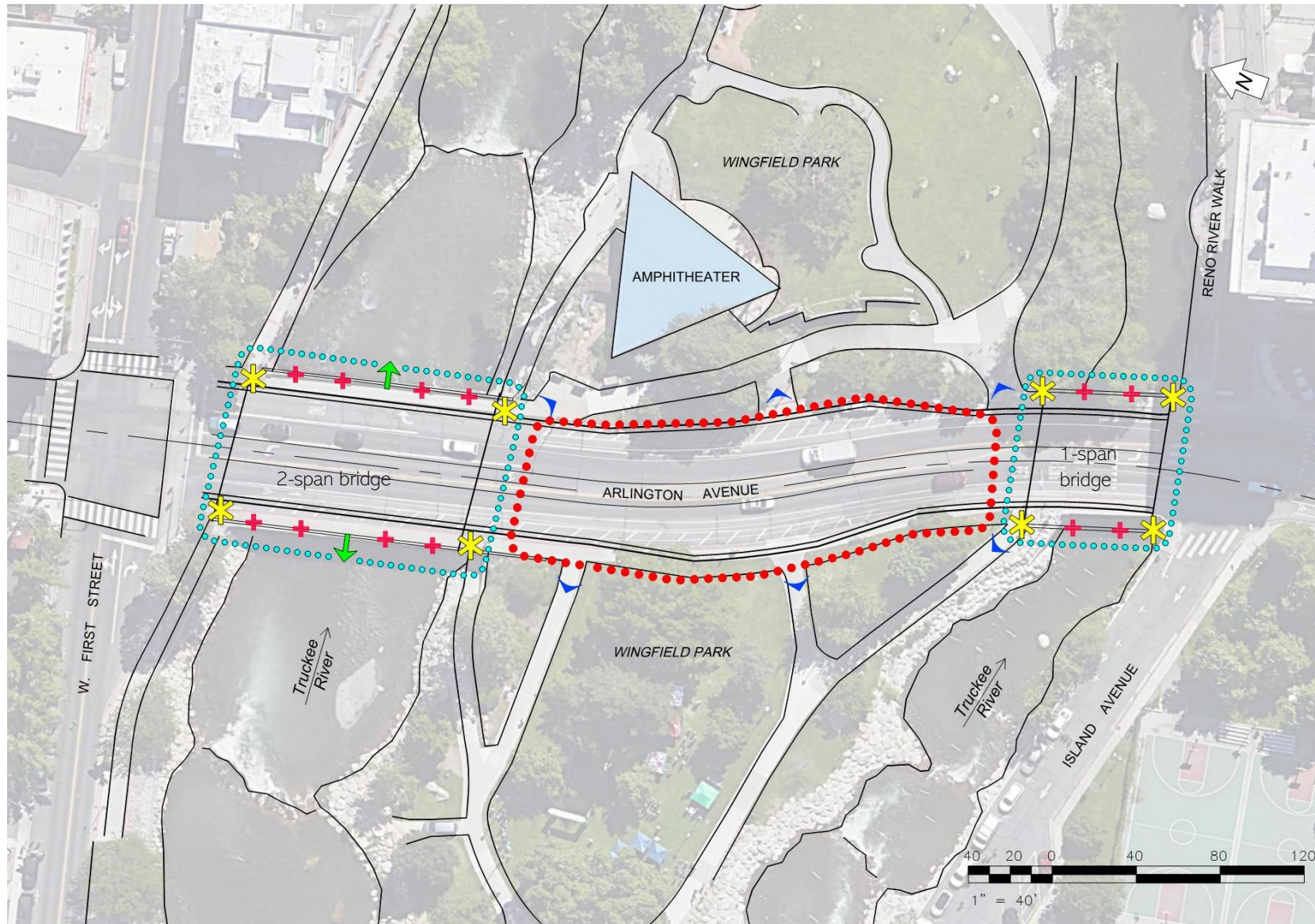
# Aesthetic Elements to Be Included:







- Use Modern Design Elements: A Melding of Old and New
- Use Pedestrian-Scaled Lighting Where Possible
- Develop Bridge Accent Lighting
- Develop a Transparent, Traffic-Rated Bridge Railing
- Maintain Pedestrian Accessibility Throughout Arlington Avenue
- Widen Bridge Sidewalk and/or Provide Overlook
- Treat Abutment Walls and Flood Walls Uniquely
- Develop Seamless Transition from Sidewalks to Street-Paving





# Bridge Elements

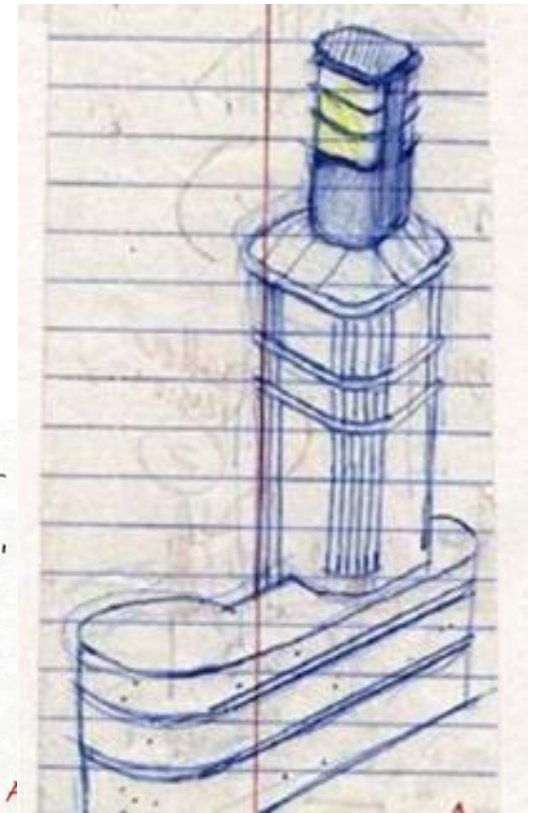
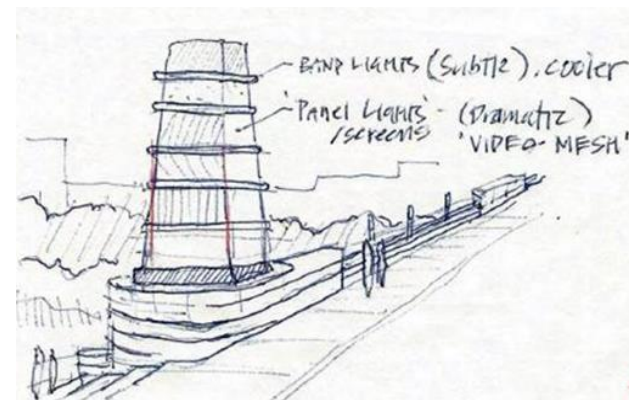
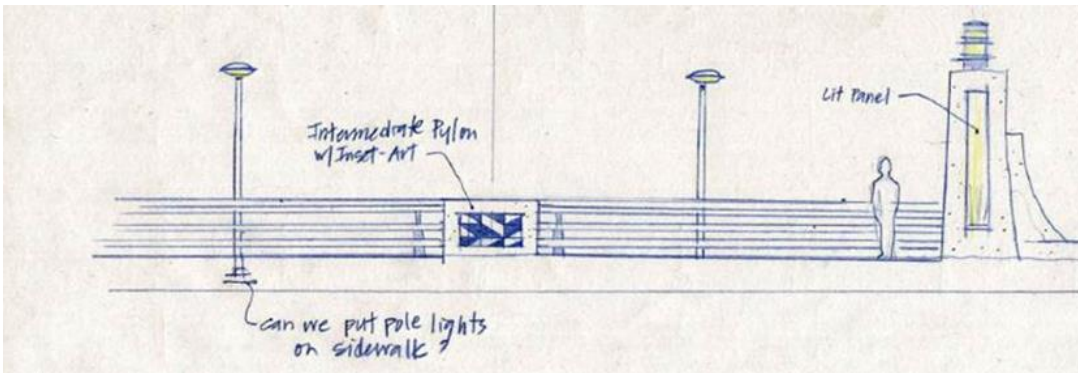
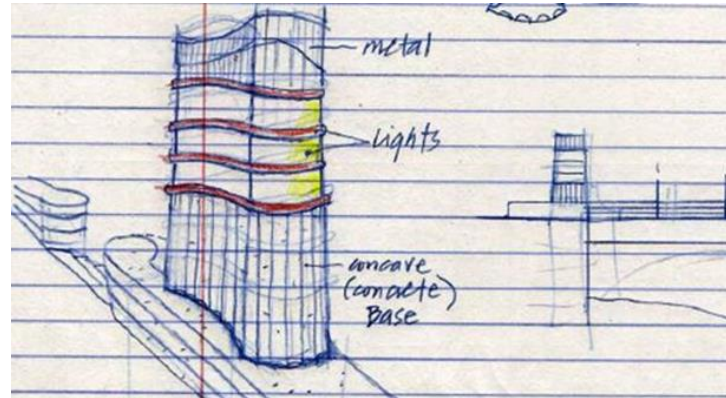
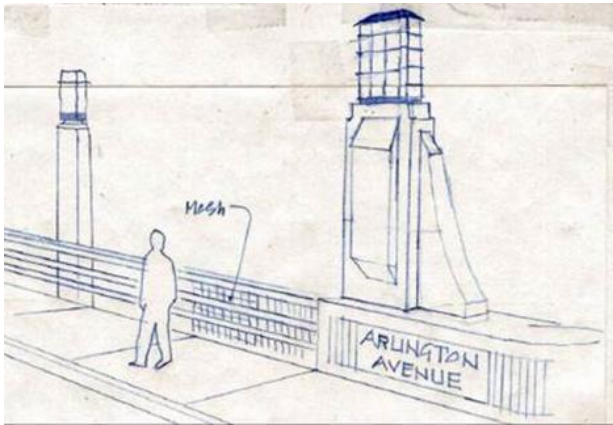
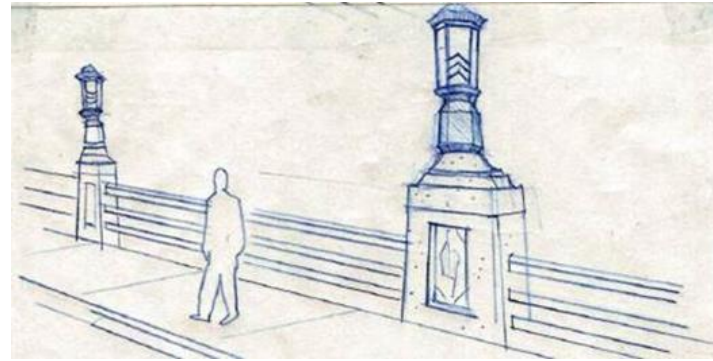
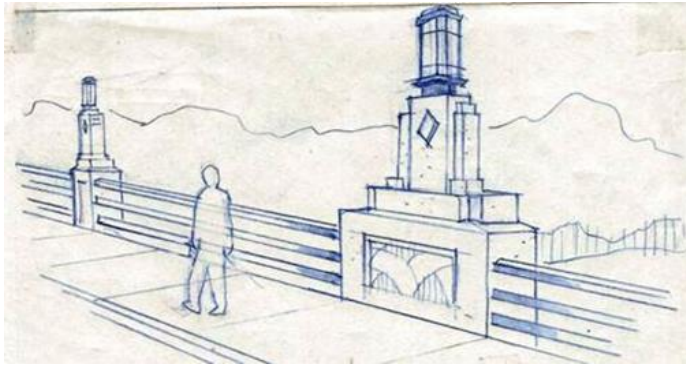


-  PARK ACCESS POINTS
-  BRIDGE END PYLON LOCATIONS
-  POTENTIAL PILASTER LOCATIONS
-  BRIDGE OVERLOOK LOCATIONS
-  LIMITS OF BRIDGE STRUCTURES
-  PARK ROADWAY CORRIDOR

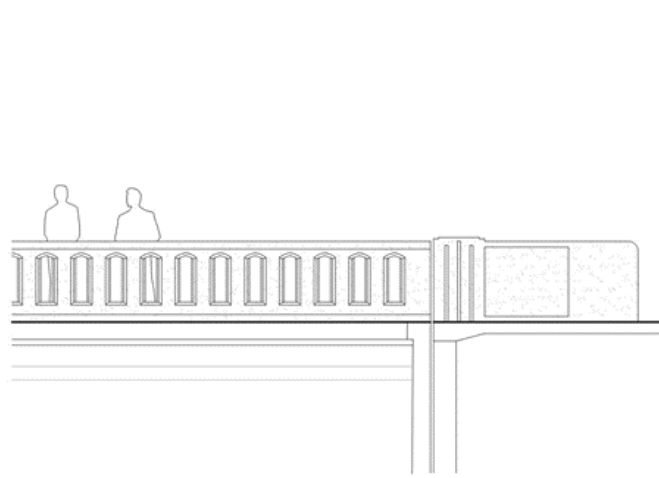
# Bridge Element: End Pylons



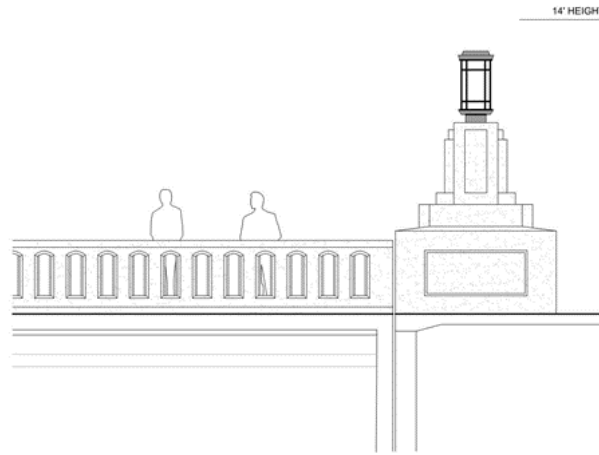
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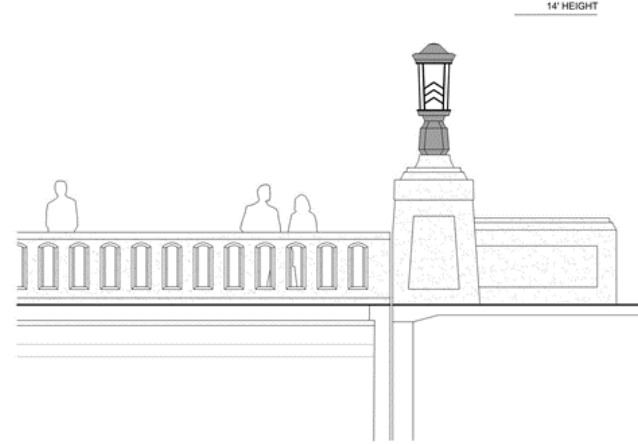
# Bridge Element: End Pylons



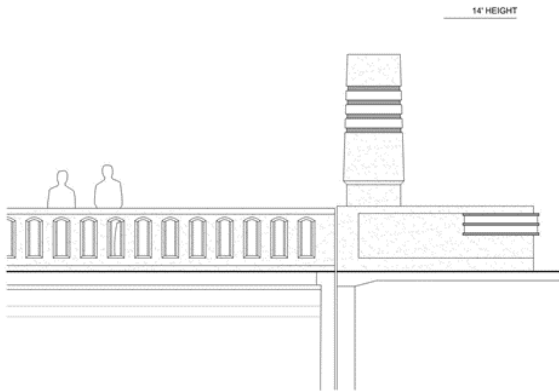
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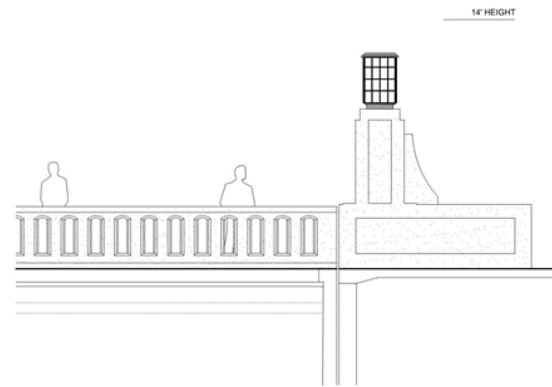
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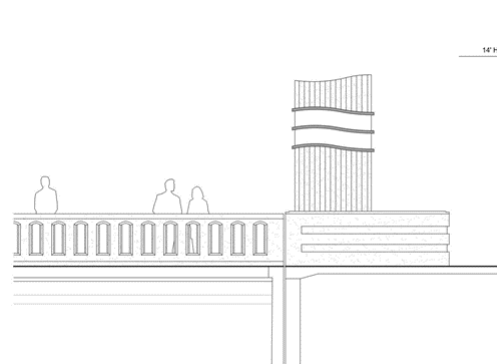
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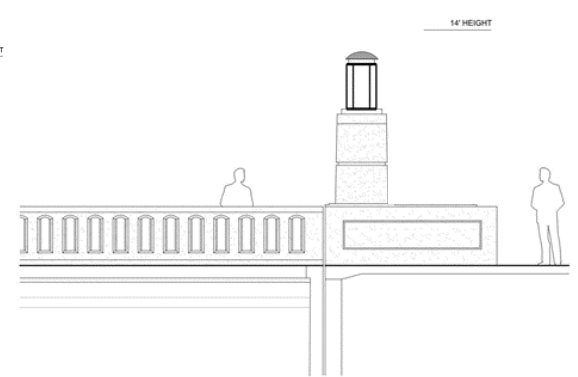
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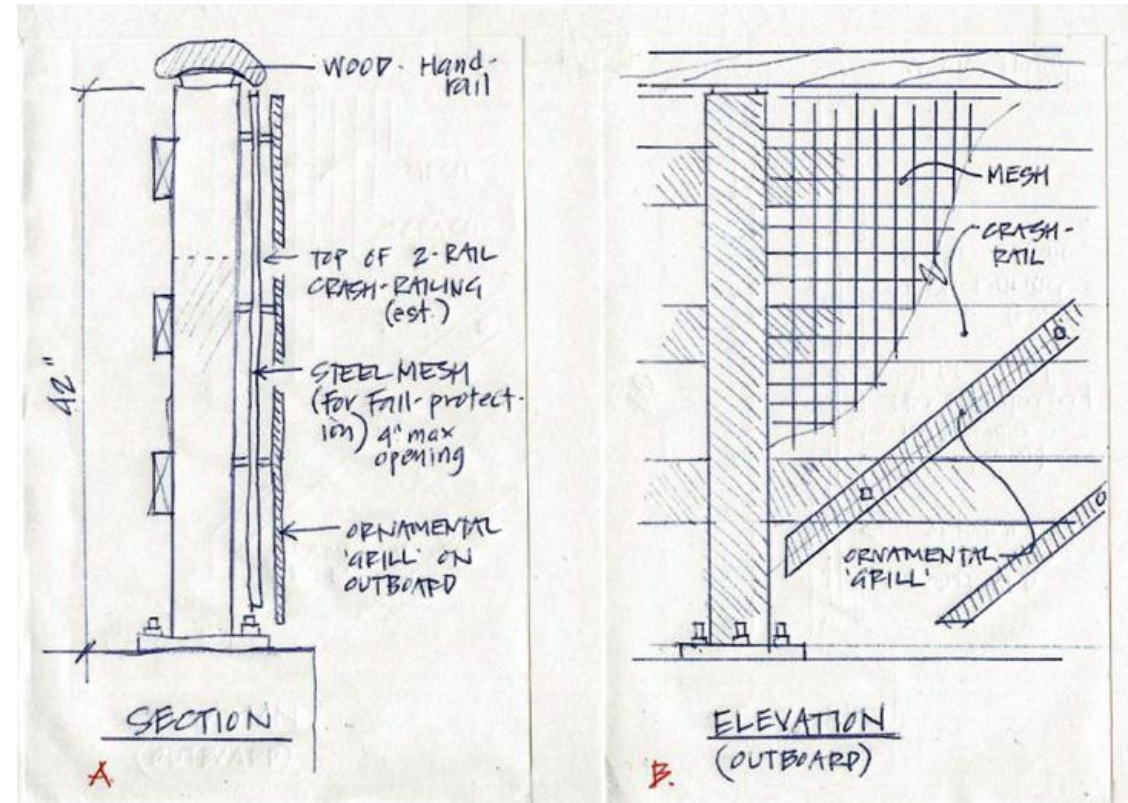
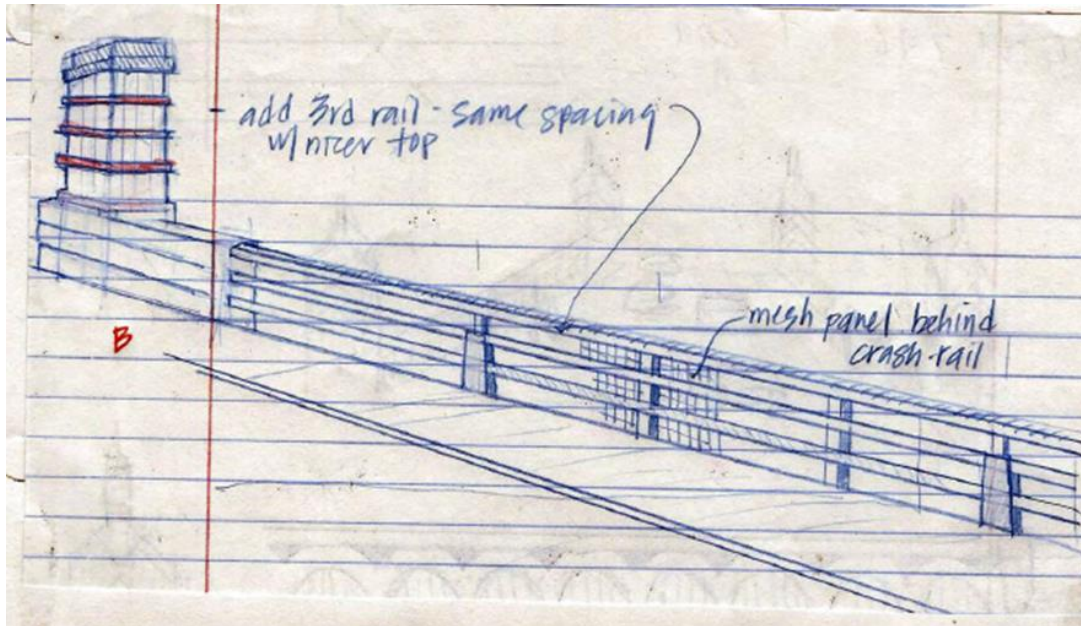
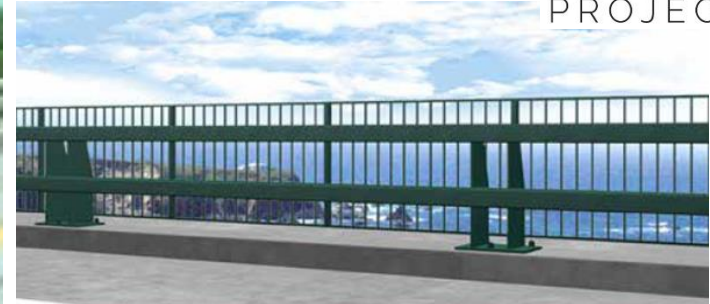


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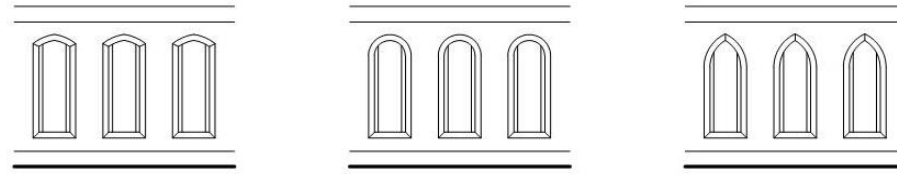


7

# Bridge Element: Bridge Rail



# Bridge Element: Bridge Rail

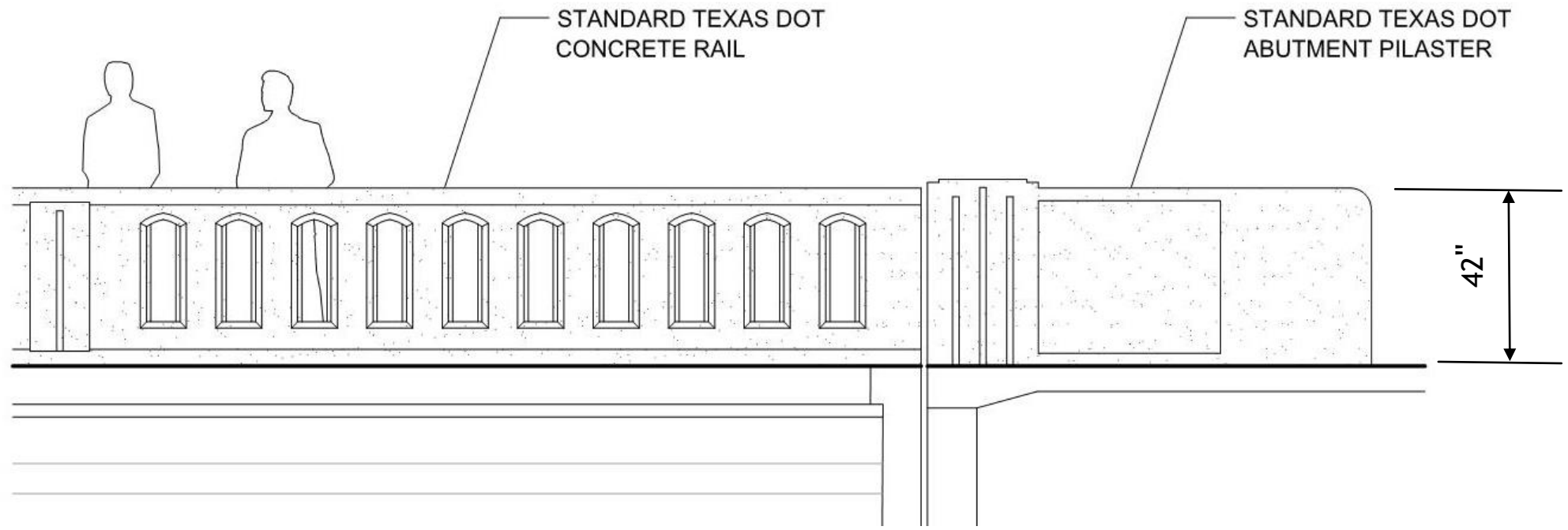


TYPE A

TYPE B

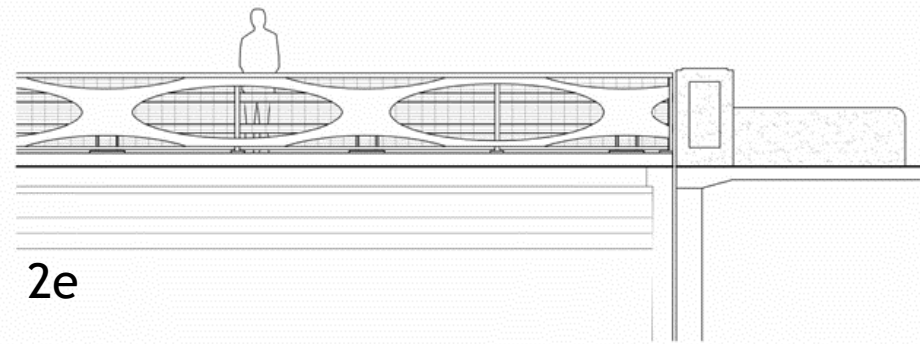
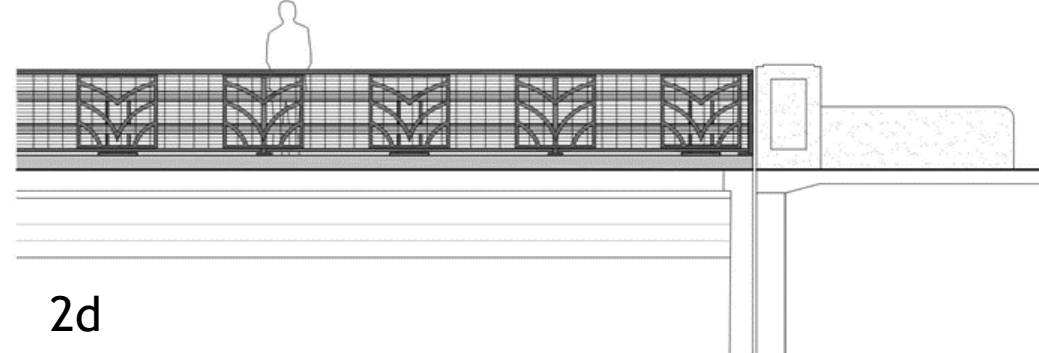
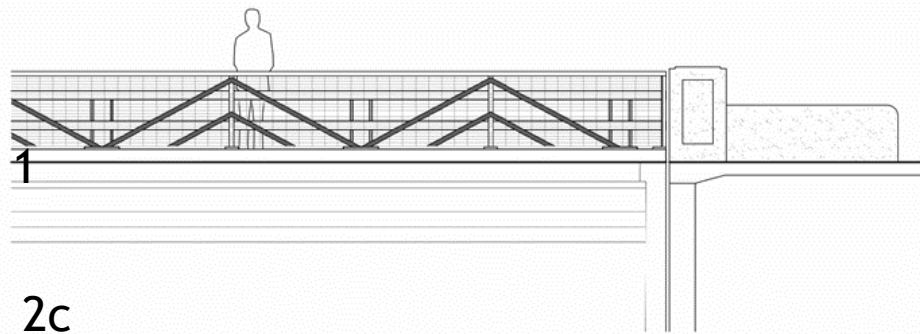
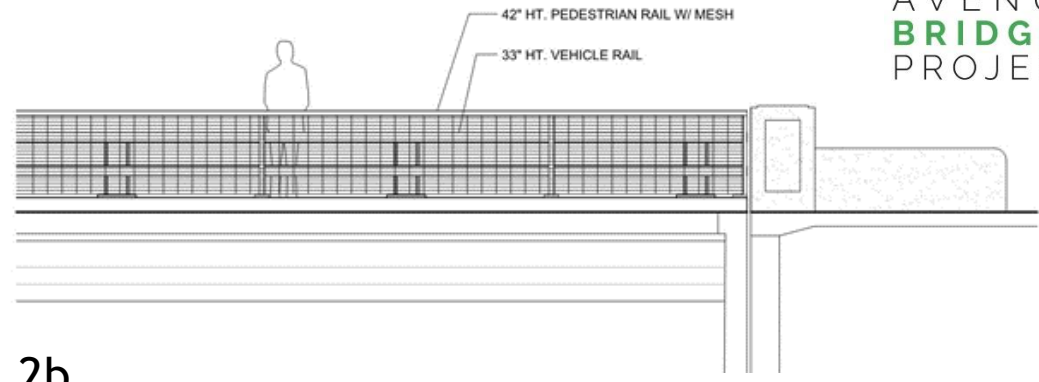
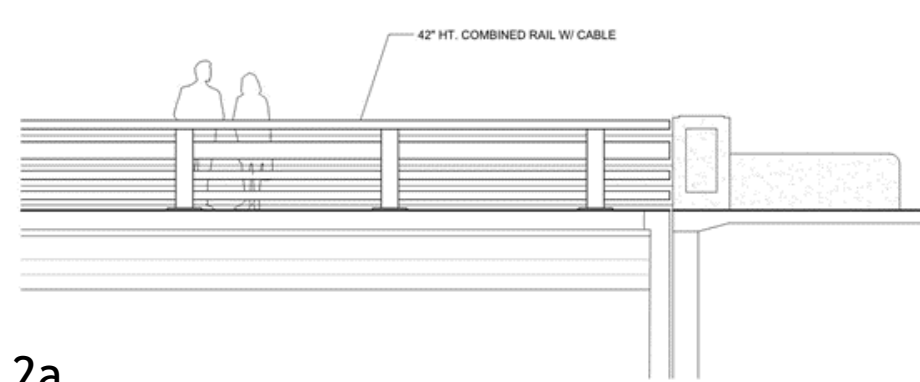
TYPE C

WINDOW TYPES



Option 1 - Texas Concrete Window Parapet

# Bridge Element: Bridge Rail

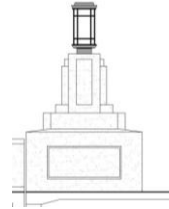


Option 2 - Crash-Rated Bridge Rail with Pedestrian Fence Backing

# Group Discussion

## Selected Project Elements for Discussion

✓ End Pylons



✓ Bridge Rail

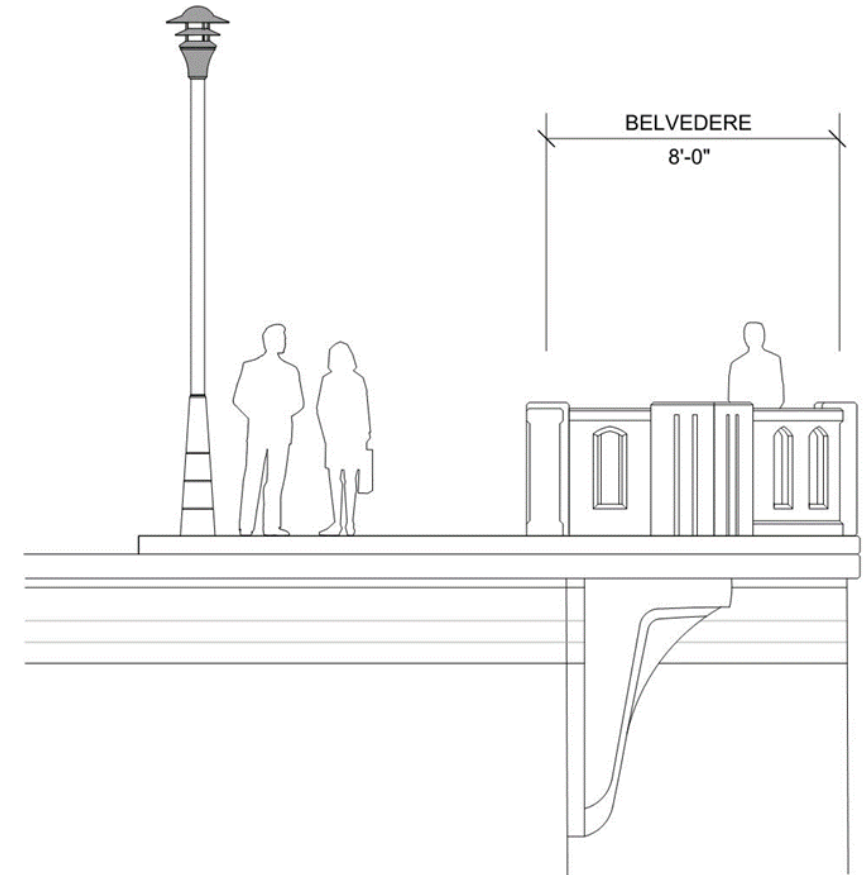
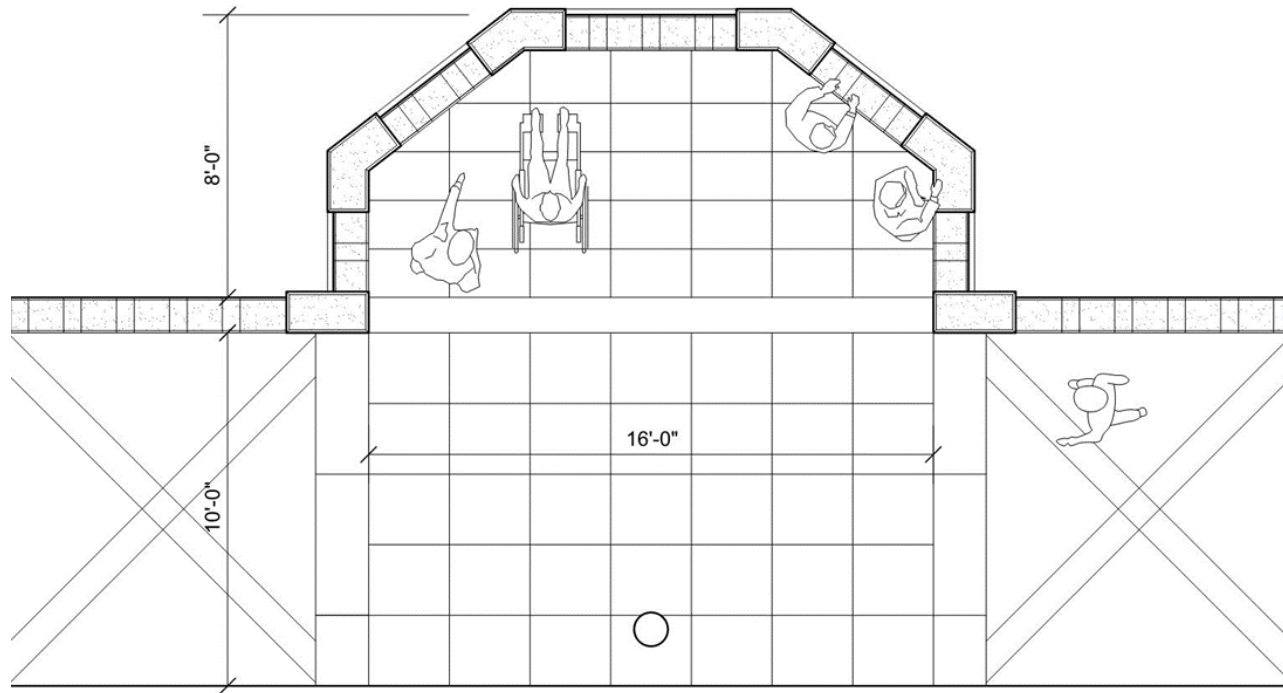




# Bridge Element: Overlooks

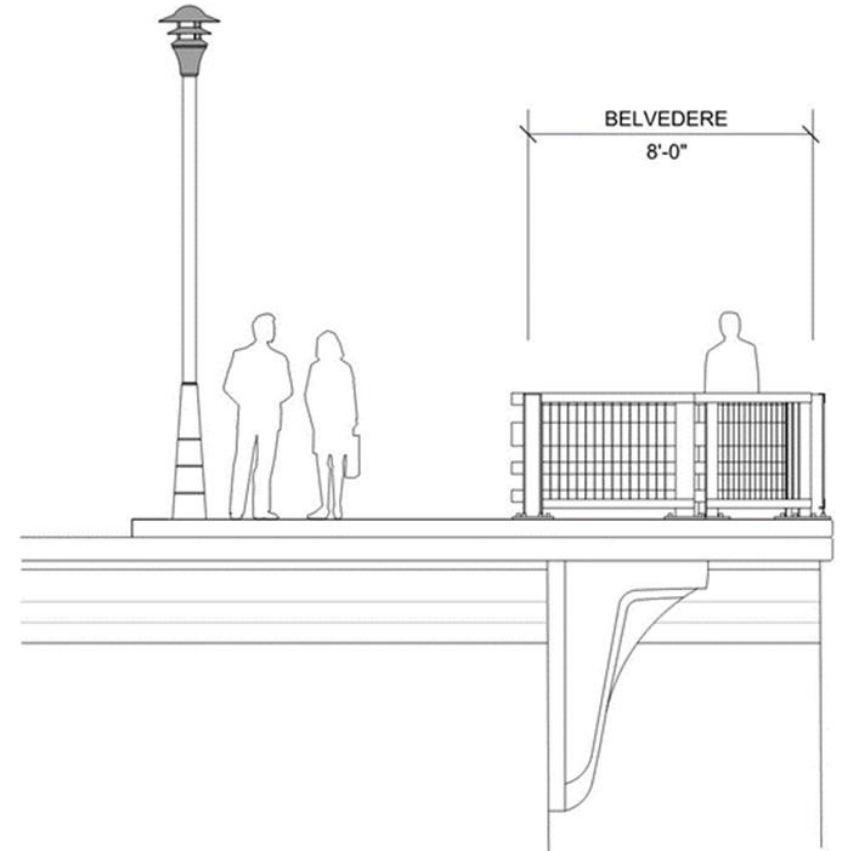
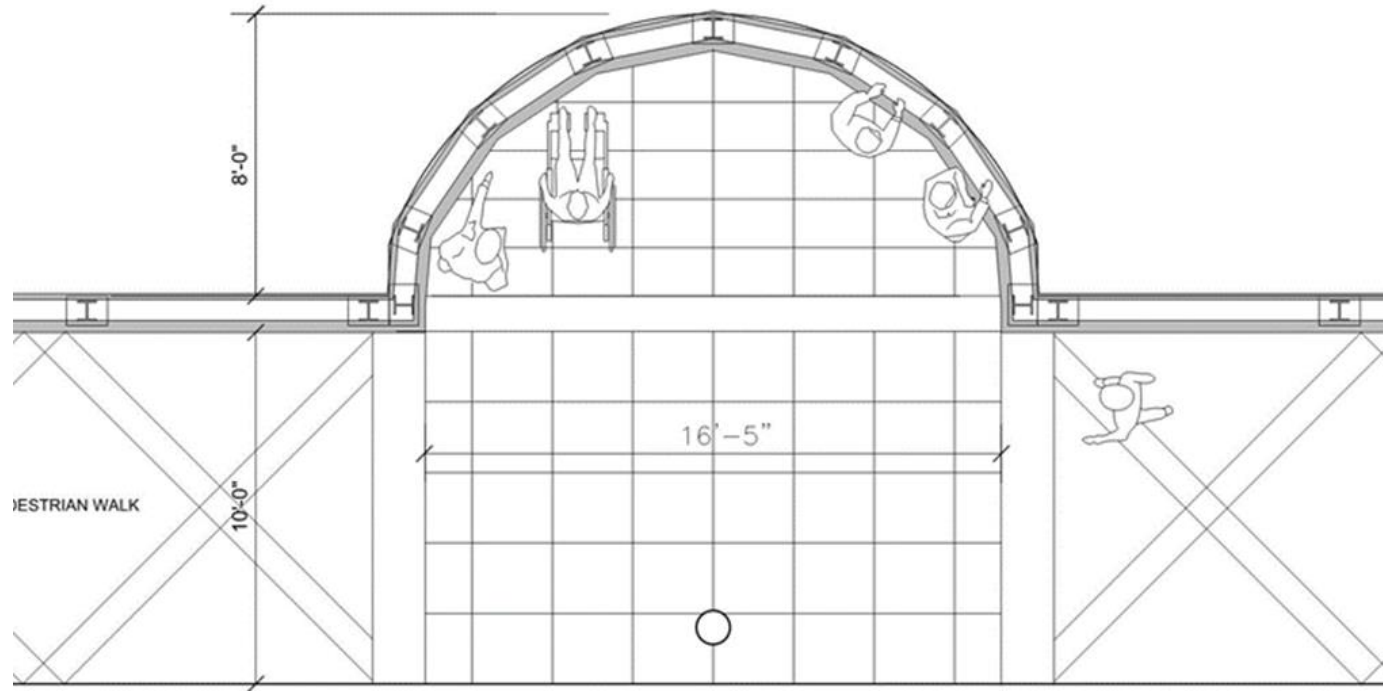


# Bridge Element: Overlooks



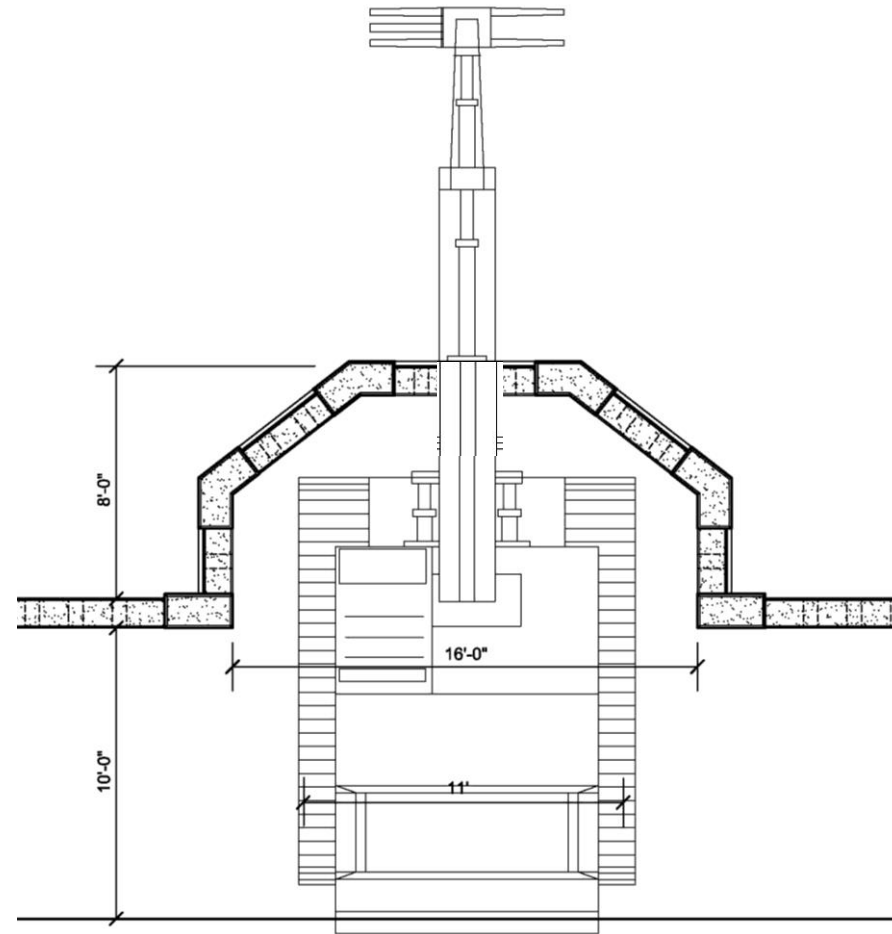
Option 1 - Overlook with Texas Concrete Window Parapet

# Bridge Element: Overlooks



Option 2 - Overlook with Metal Crash Rail and Fence Backing

# Bridge Element: Overlooks

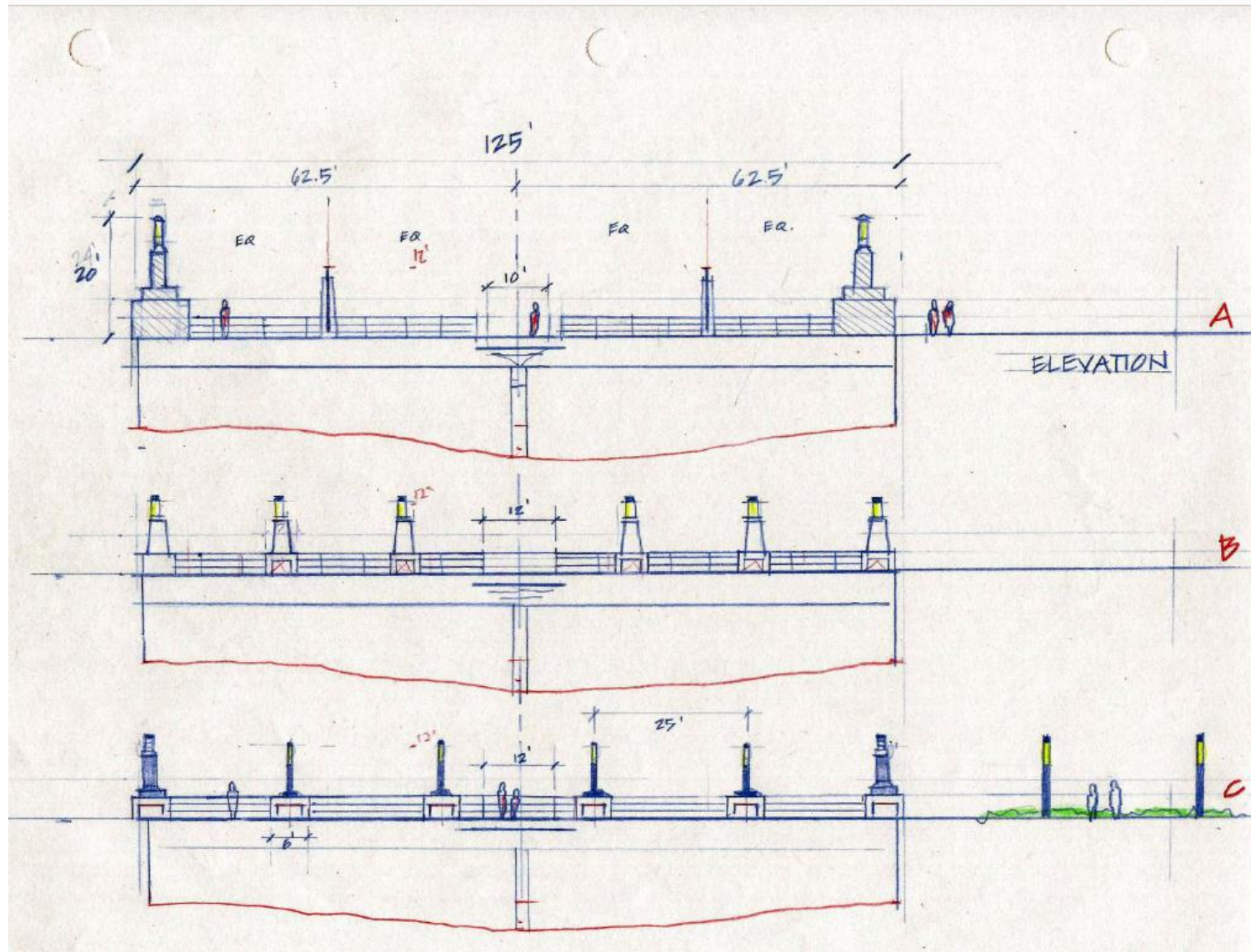


Overlook with Excavator with Grapple Claw for Debris Removal

# Bridge Element: Pilasters

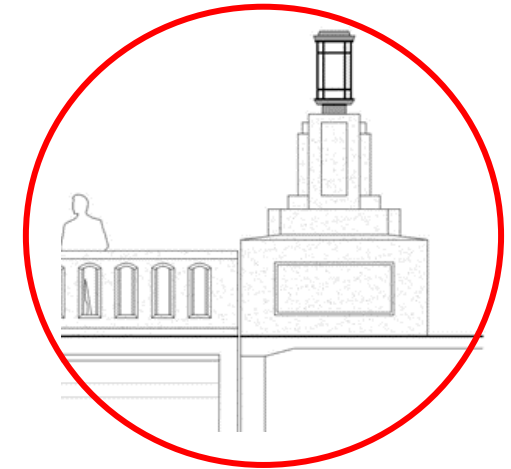
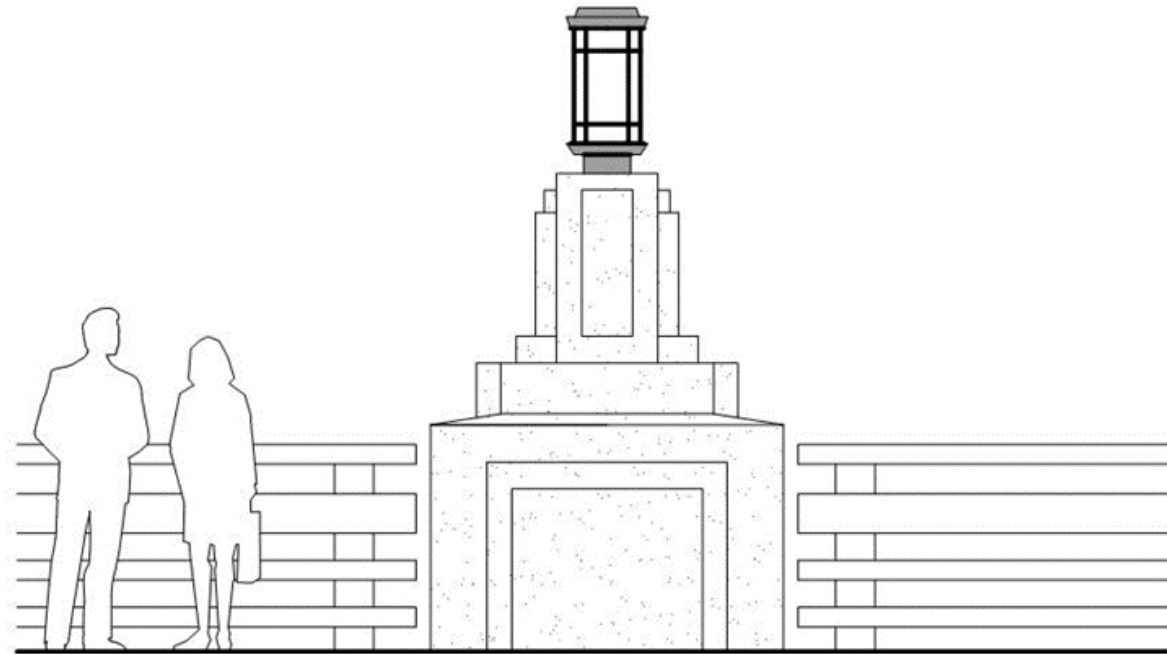
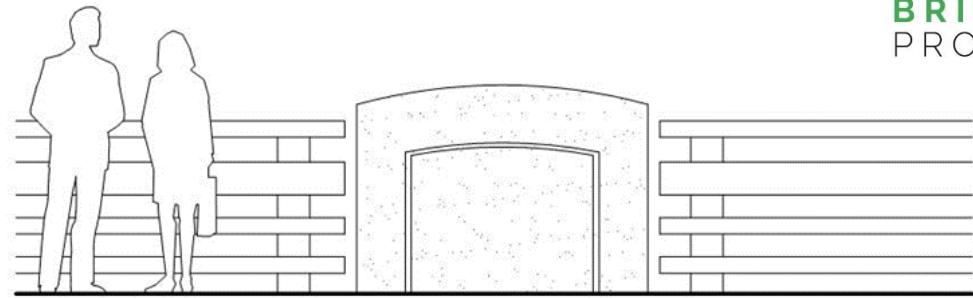
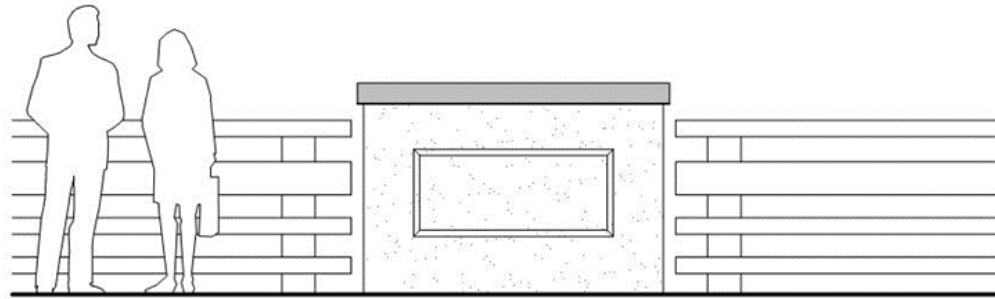


# Bridge Element: Pilasters



Pilaster Studies with and without End Pylons

# Bridge Element: Pilasters



Pilaster Studies with and without Light Options to Match End Pylon Treatment

# Public Art in the Reno Landscape

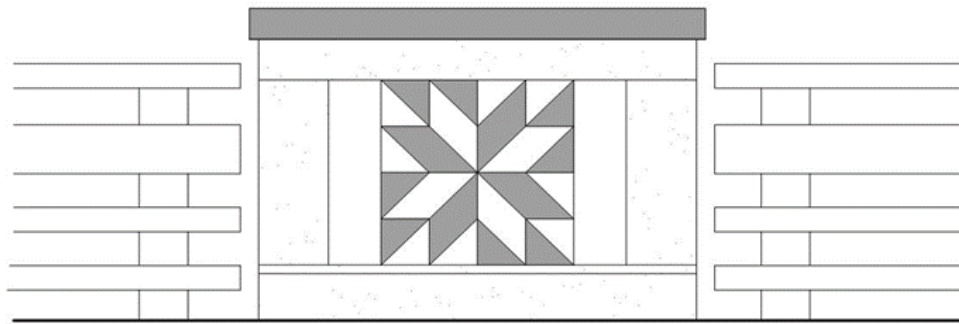


- ▶ Reno has a long and rich history of displaying public art
- ▶ More art in the landscape becomes more reasons for visitors to come to the Riverwalk District

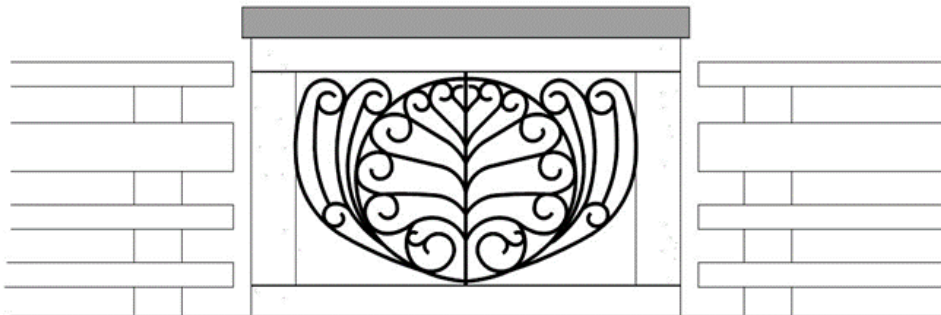




# Bridge Element: Public Art/Guardians



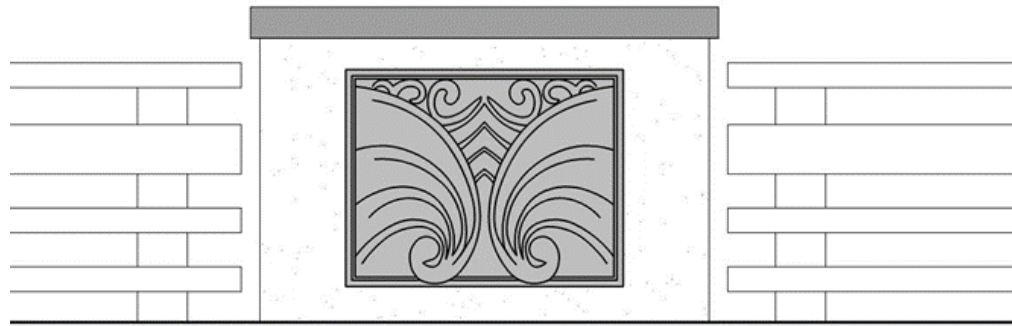
Ceramic Tile & Mosaics



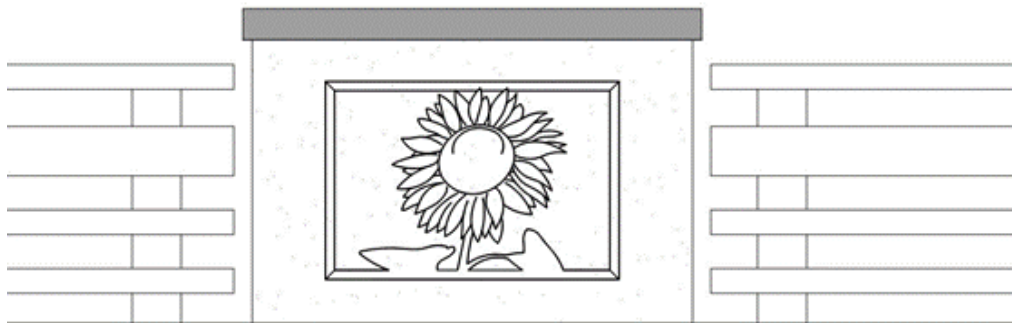
Metal Work

Incorporating Art onto the Pilasters

# Bridge Element: Public Art/Guardians



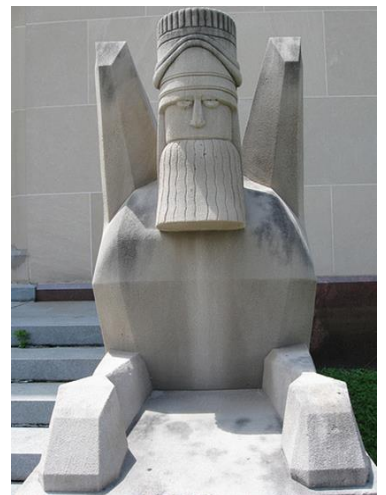
Terra Cotta



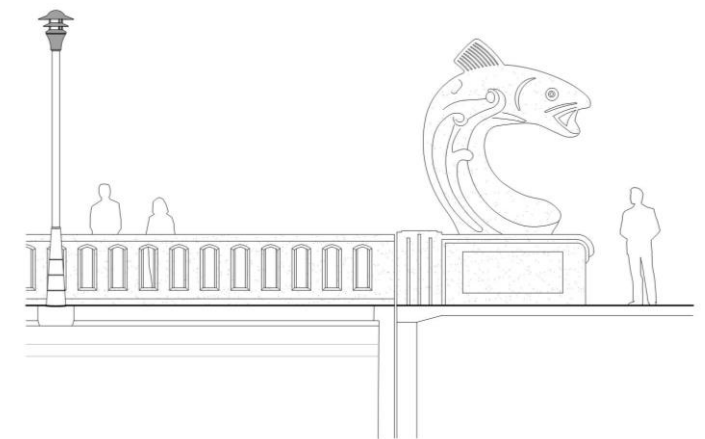
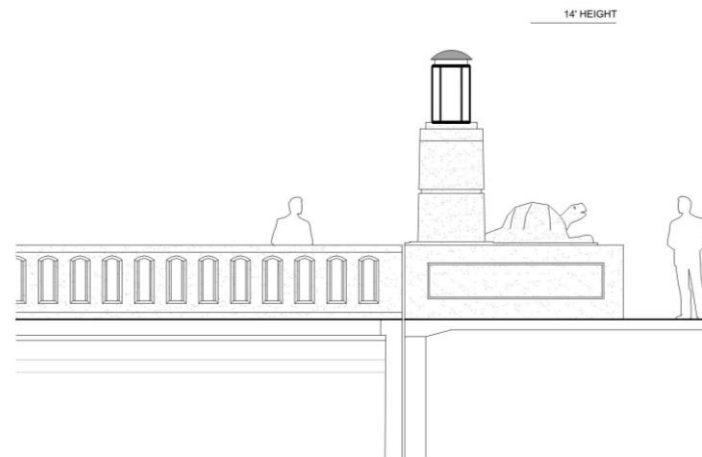
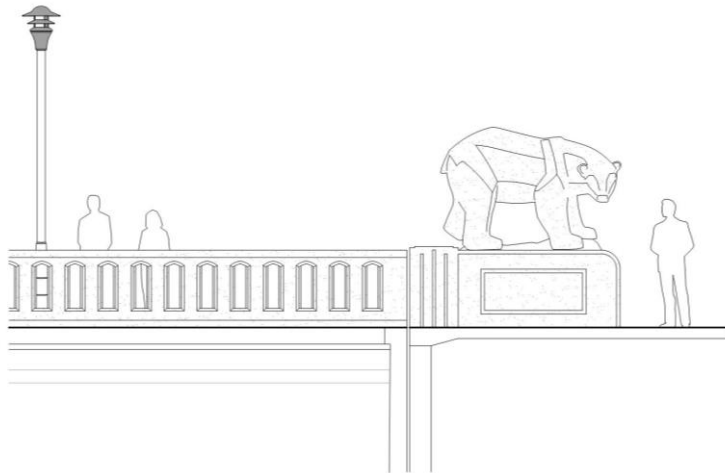
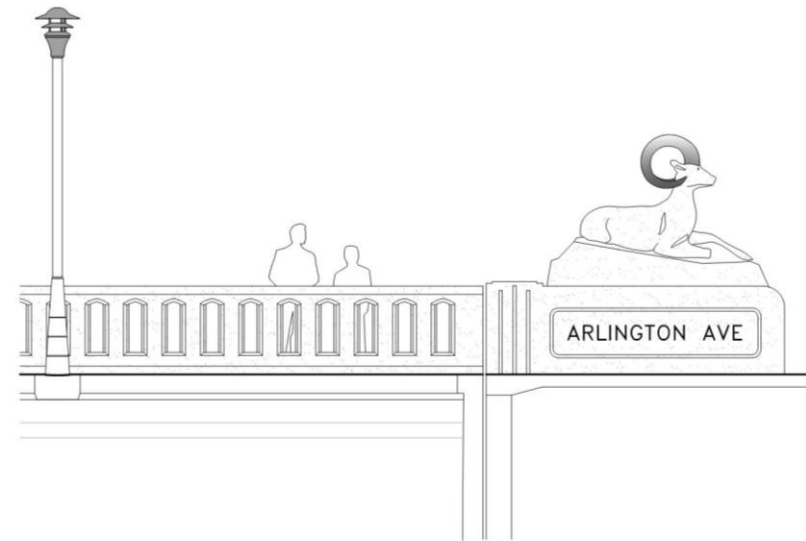
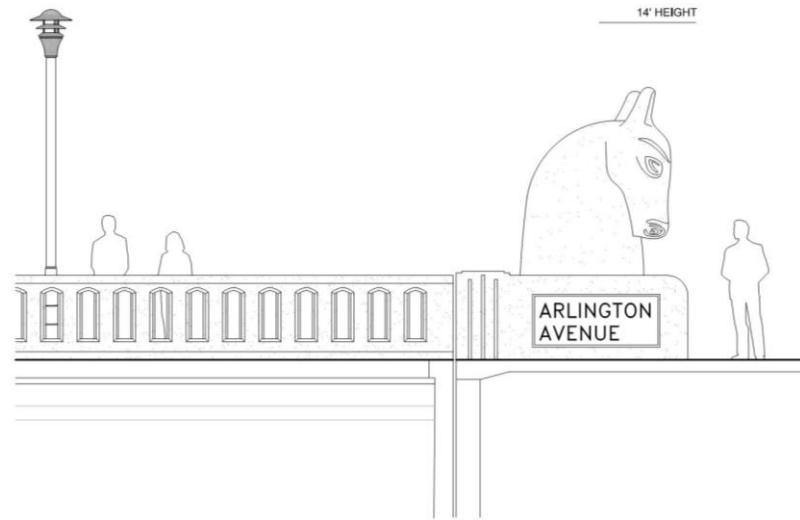
Precast Concrete

Incorporating Art onto the Pilasters

# Bridge Element: Public Art/Guardians



# Bridge Element: Public Art/Guardians

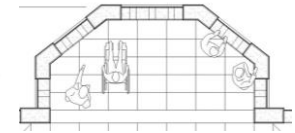


Local Fauna for Guardians of the Bridge Sculpture

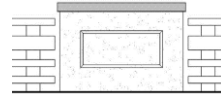
# Group Discussion

## Selected Project Elements for Discussion

✓ Overlooks



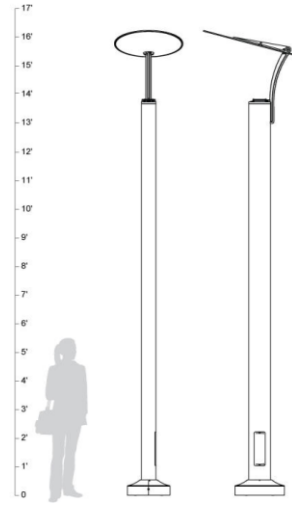
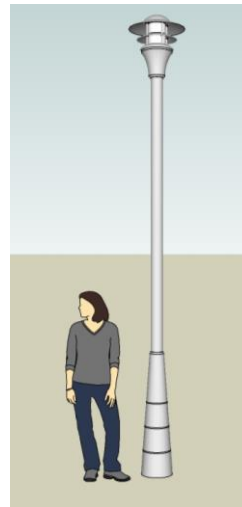
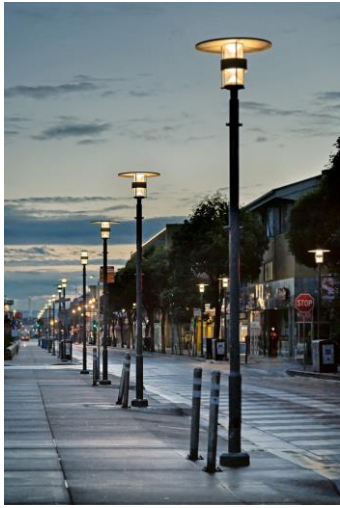
✓ Pilasters



✓ Public Art/Guardians

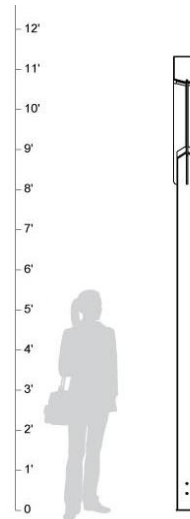
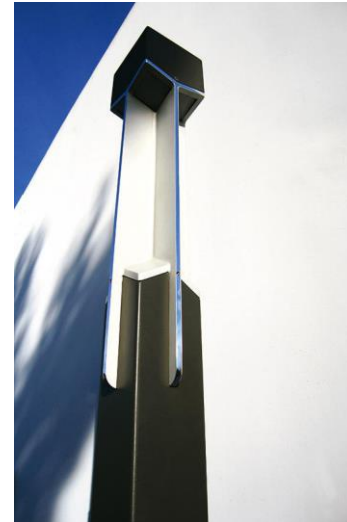


# Bridge Element: Lighting Strategies



Pole Top Luminaire Lighting

- ▶ Provide modern pedestrian-scaled lighting on both bridges, railing, and flood walls



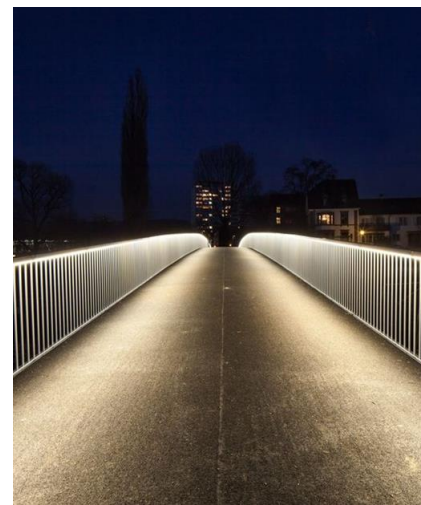
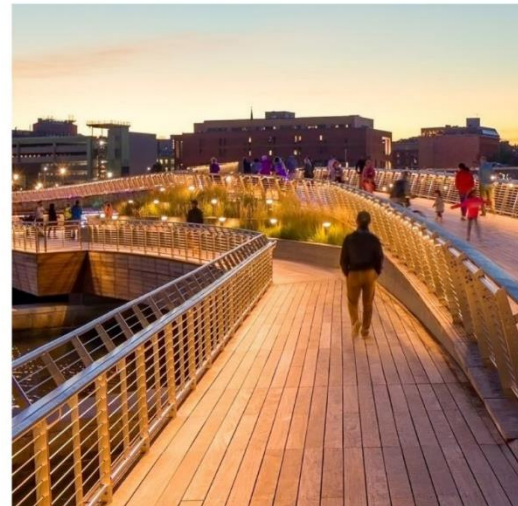
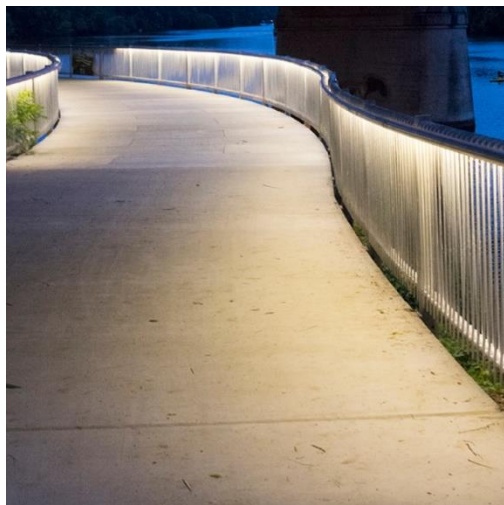
Column Lighting

- ▶ Provide full cutoff lighting to mitigate light pollution

# Bridge Element: Lighting Strategies

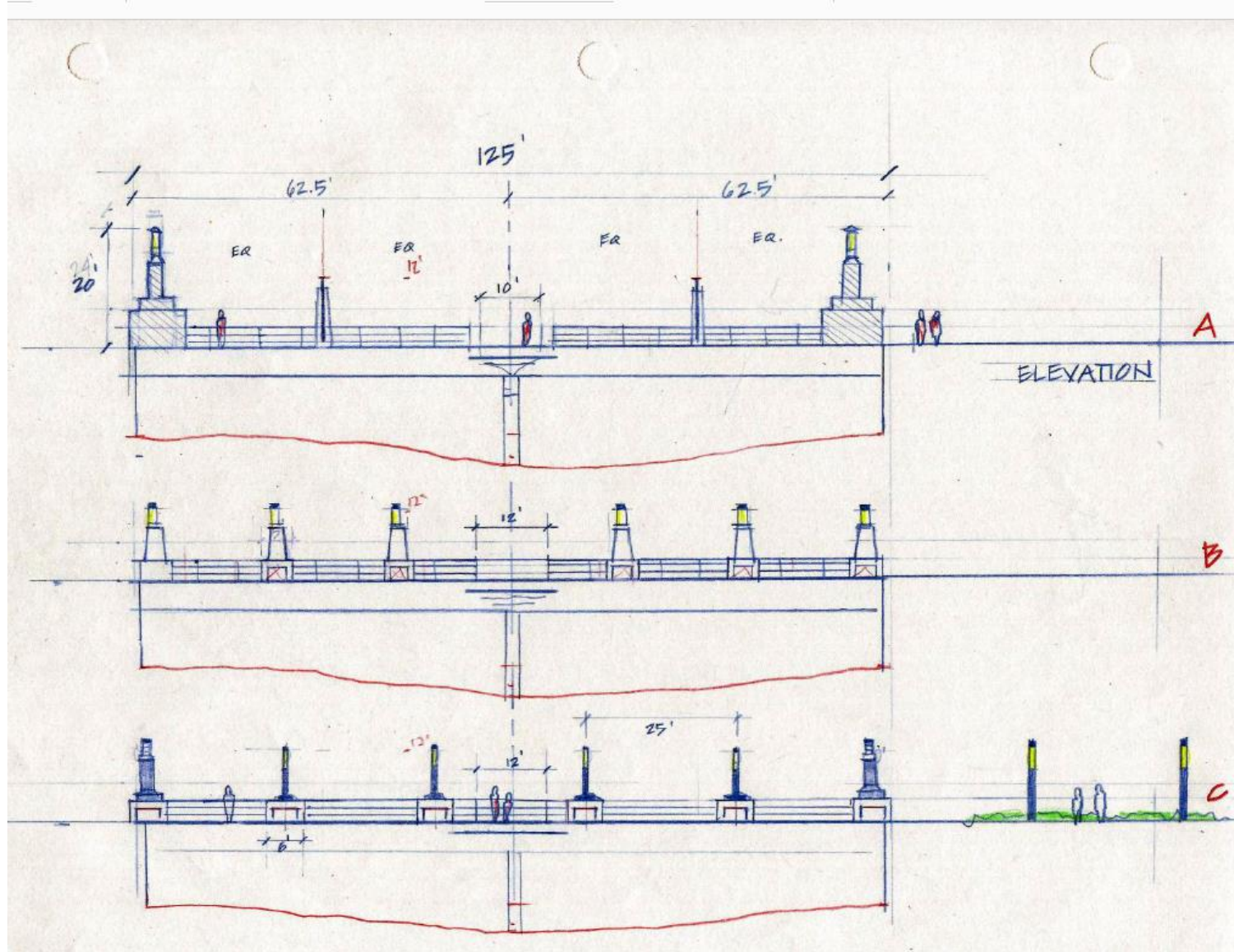


Bollard Lighting



Under Top Rail Lighting

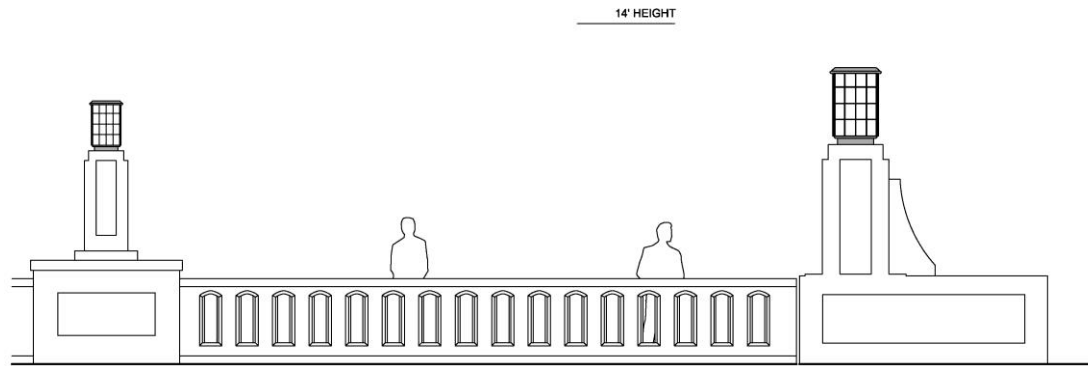
# Bridge Element: Lighting on Pilasters



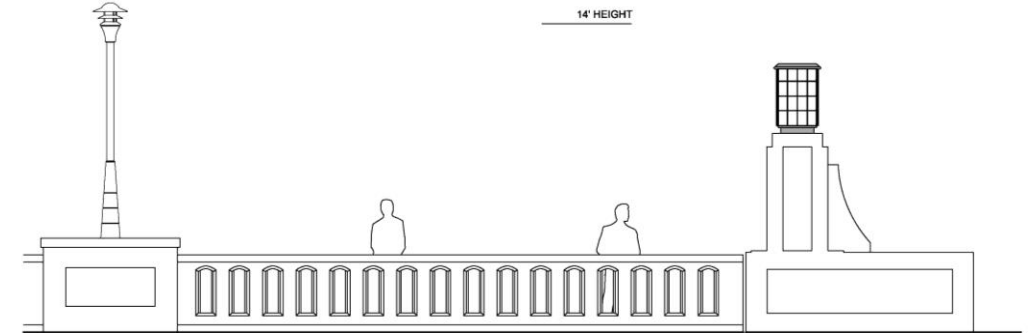
Various Lighting Strategies on Pilasters Studies



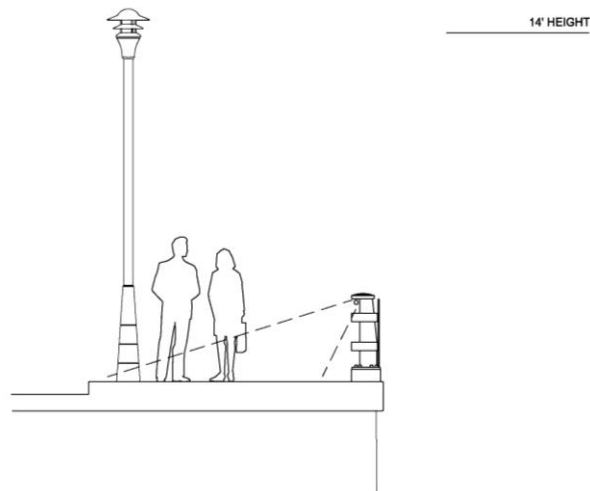
# Bridge Element: Lighting Strategies



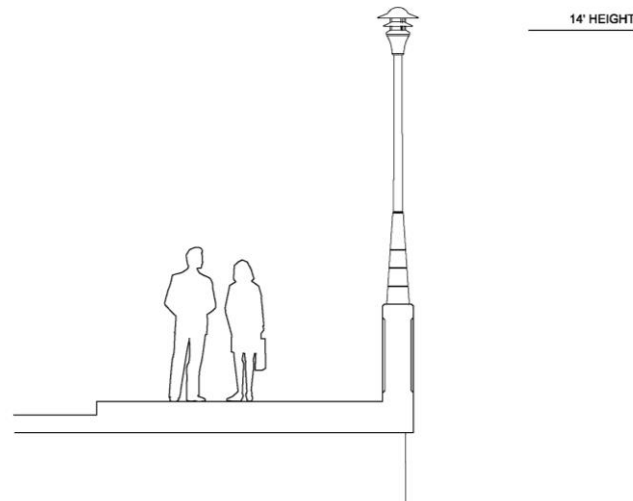
1. Major and Minor Pylon Lighting



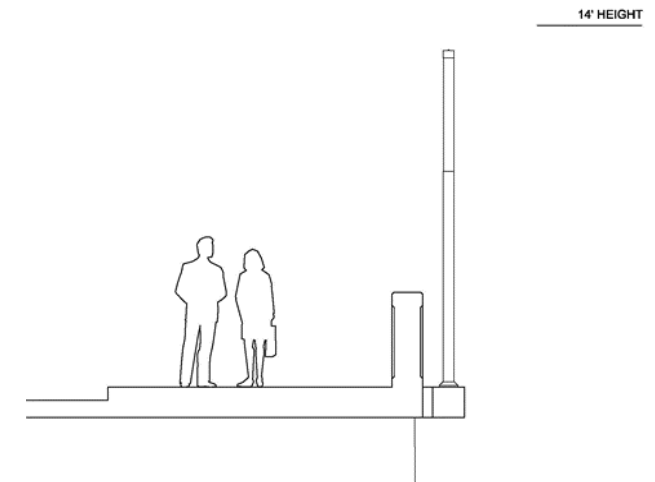
2. Pylon Light with Pilaster-Mounted Pole and Luminaire



3. Pole at Curb and Pedestrian Lighting Under Top Rail



4. Pilaster-Mounted Pole and Luminaire



5. Deck Edge Blister-Mounted Column Light

# Bridge Elements

## Bridge Accent Lighting 1 – Uplighting of Structure



- ▶ Bridge aesthetic lighting and under-bridge safety/pedestrian lighting
- ▶ Gives vibrancy to bridges at night for visitors viewing the bridges and from below the bridge
- ▶ Design for protection from flooding, debris and vandalism
- ▶ Consider impacts to aquatic species



UNDER BRIDGE  
UPLIGHTING

# Bridge Elements

## Accent Lighting 2 – Artistic Lighting Under Structure



UNDER BRIDGE PROJECTION LIGHTING

- ▶ Consider a lighting concept that can be applied to other bridges in downtown to create a 'family' of unified bridges
- ▶ Consider aesthetic lighting experience for both visitors viewing the bridge and visitors walking along the bridges
- ▶ Provide conduit for future bridge artistic lighting

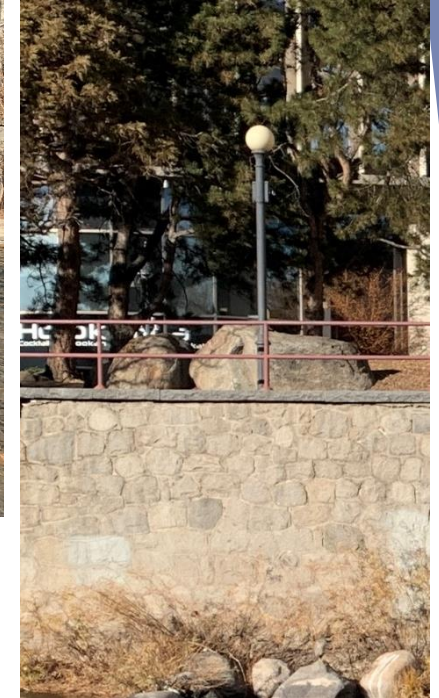


UNDER BRIDGE RGBW LIGHTING



# Bridge Element: Abutments & Flood Walls

## North Bridge - Existing



### Floodwalls - West

- North Side- Smooth Concrete with Brick Accent →
- South Side - Smooth Concrete-Riprap →

### Floodwalls - East

- North Side- Smooth Concrete at Ex Culvert →
- Random Stone →
- Horizontal Reveals (right of random stone) →
- South Side - Smooth Concrete Riprap →

Enlargement - Random Stone Wall →

### North and South Abutment Walls





- Smooth Concrete →

# Bridge Element: Abutments & Flood Walls

North Bridge - Existing



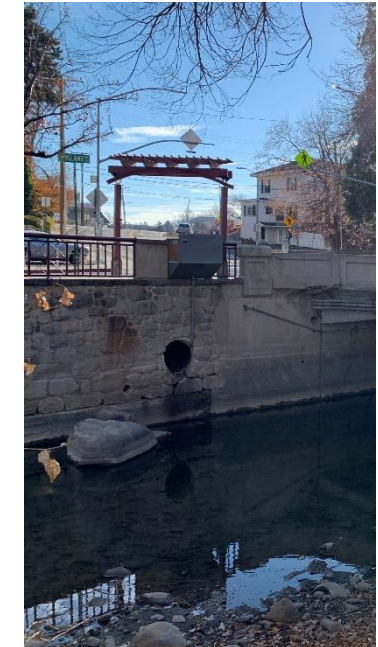
## Floodwalls - East

- North Side- Smooth Concrete at Ex Culvert 
- Random Stone 
- Horizontal Reveals 
- South Side - Smooth Concrete Riprap 

Further East - Horizontal Reveals- Light Blisters

# Bridge Element: Abutments & Flood Walls

## South Bridge - Existing



### Floodwalls - East

- North Side- Smooth Concrete
- South Side - Random Stone

### Floodwalls - West →

- North Side- Smooth Concrete
- South Side - Smooth Concrete

### Enlargement - Random Stone Wall



### North and South Abutment Walls - Smooth Concrete →

# Bridge Element: Flood Walls

Proposed - Match Adjacent Existing, Reduce Clutter

- Replace smooth concrete with textured surface - add horizontal texture

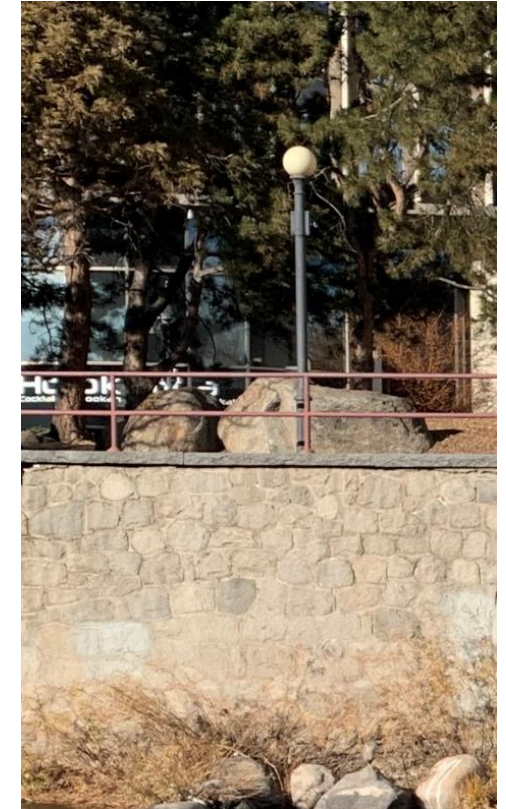


Repeat Existing Flood Wall Texture North Side



Flood Wall Texture North Side- Repeated at Virginia Street Bridge Near Post Office

- Reduce Clutter - consistency between bridges where possible
- Consistent textures, horizontal reveals, open railing, light blisters and lighting
- Consider a narrow planting at bases of walls to soften the height



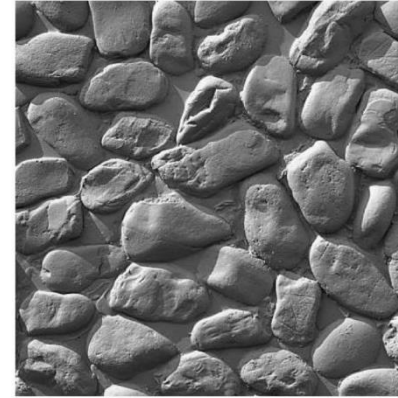
Match Existing Random Stone

# Bridge Element: Abutments

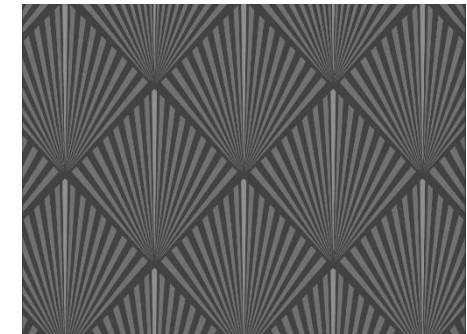
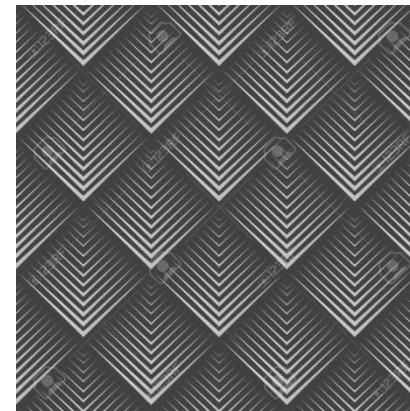
Distinctive from Flood Walls



Option A: Naturalistic - Stone



Option B: Geometric



Inset of Guardian  
Theme From Above -  
Unique for Arlington  
Bridges- Photo Op

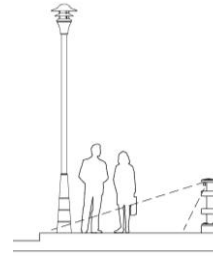




# Group Discussion

## Selected Project Elements for Discussion

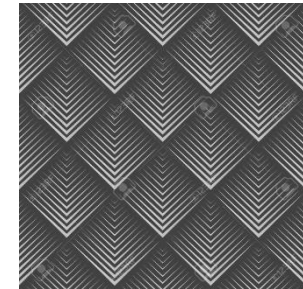
✓ Lighting



✓ Floodwalls

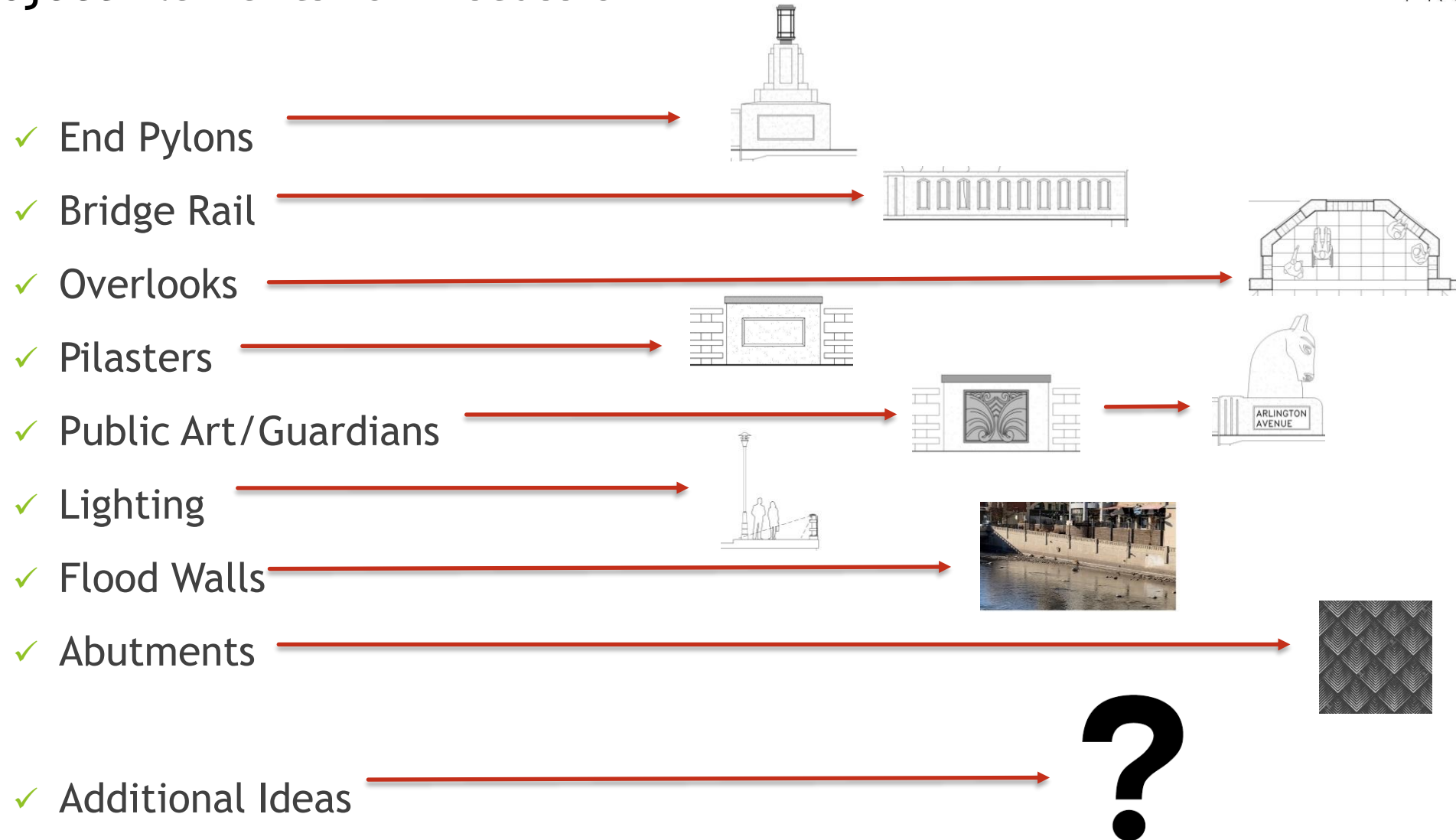


✓ Abutments

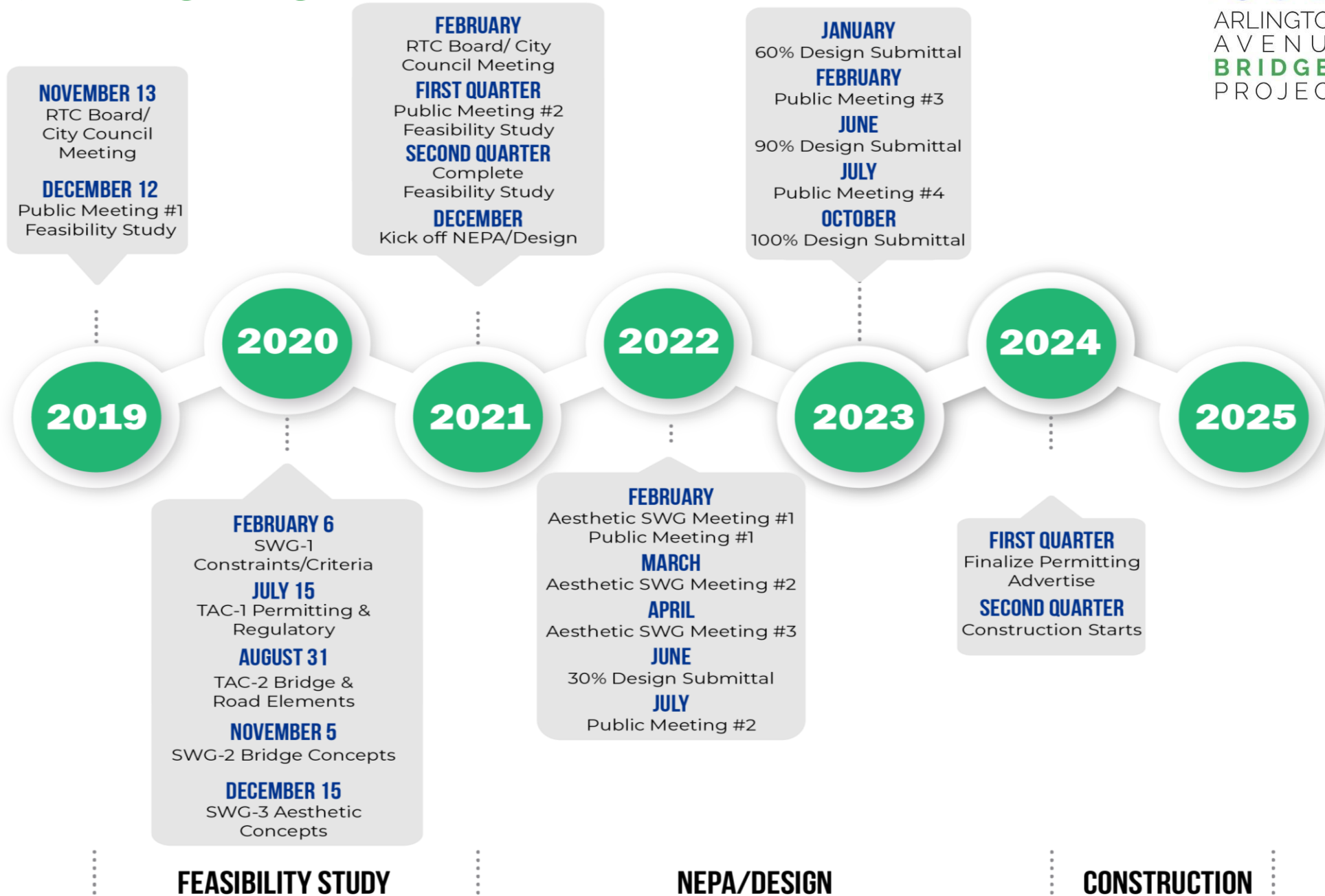


# Group Discussion and Consensus

## Project Elements for Discussion



# Project Timeline

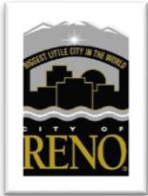




# Thank You for Participating!



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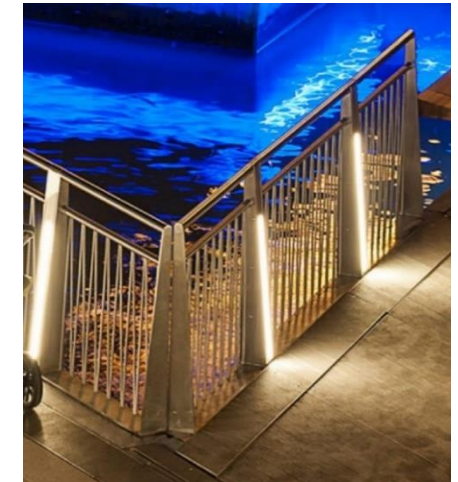
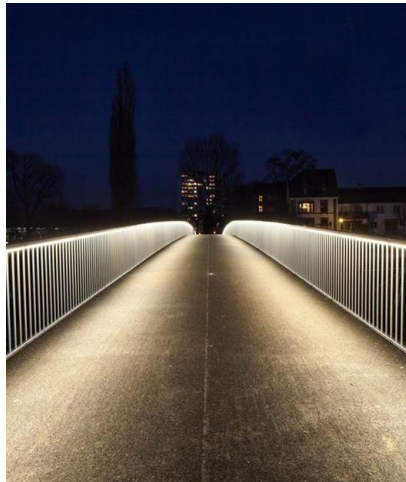
# Aesthetics Elements

## Pedestrian Scaled Lighting

- ▶ Provide modern pedestrian scaled lighting on both bridges, railing, and flood walls
- ▶ Provide full-cutoff lighting to mitigate light pollution



HISTORICAL PEDESTRIAN POLE



HANDRAIL LIGHTING