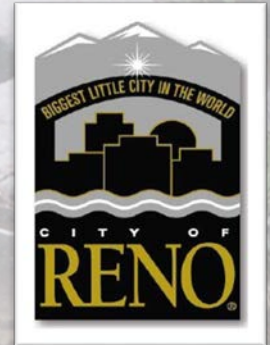
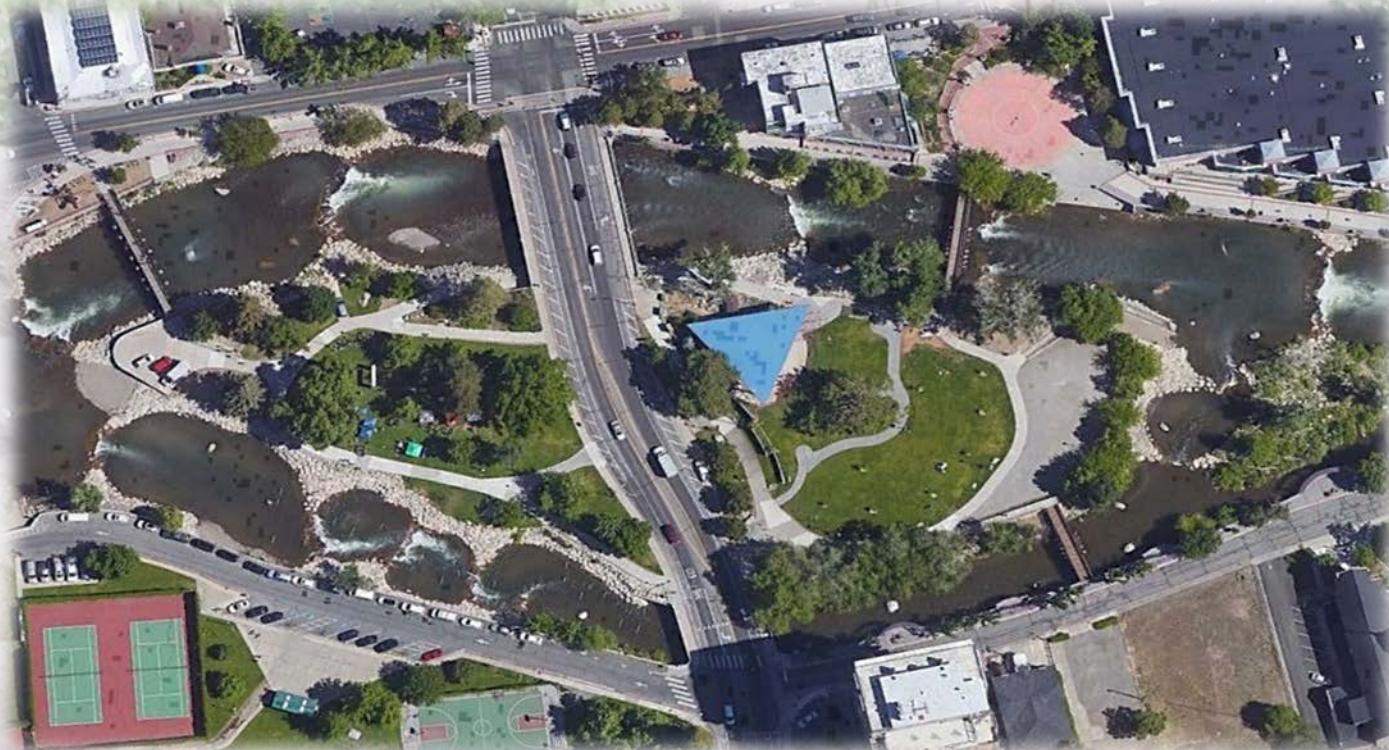


Feasibility Study for



ARLINGTON AVENUE BRIDGES REPLACEMENT

Stakeholder Working Group Meeting #3 |
Aesthetic Themes | December 15, 2020

Meeting Purpose

- ▶ Discuss aesthetic themes for the project
 - ▶ Initial Aesthetic Themes
 - ▶ Downtown Streetscape Master Plan
 - ▶ Virginia Street Bridge
 - ▶ “Family of Bridges” Theme
 - ▶ New - Wingfield Park Area
 - ▶ SWG-2 Input
- ▶ Recommended Bridge Concepts
- ▶ Help guide us
 - ▶ Which design elements need additional analysis
 - ▶ Input and ideas on appearance of the bridges

Meeting Agenda



- ▶ Review site history, existing condition, and recommended bridge concepts
- ▶ Look at opportunities, constraints, and design goals
- ▶ Proposed Aesthetic Elements
 - ▶ Theme and Lighting
Questions ??
 - ▶ Railing and Sidewalk Space
Questions ??
 - ▶ Surface Texture
Questions ??
- ▶ Group discussion and consensus

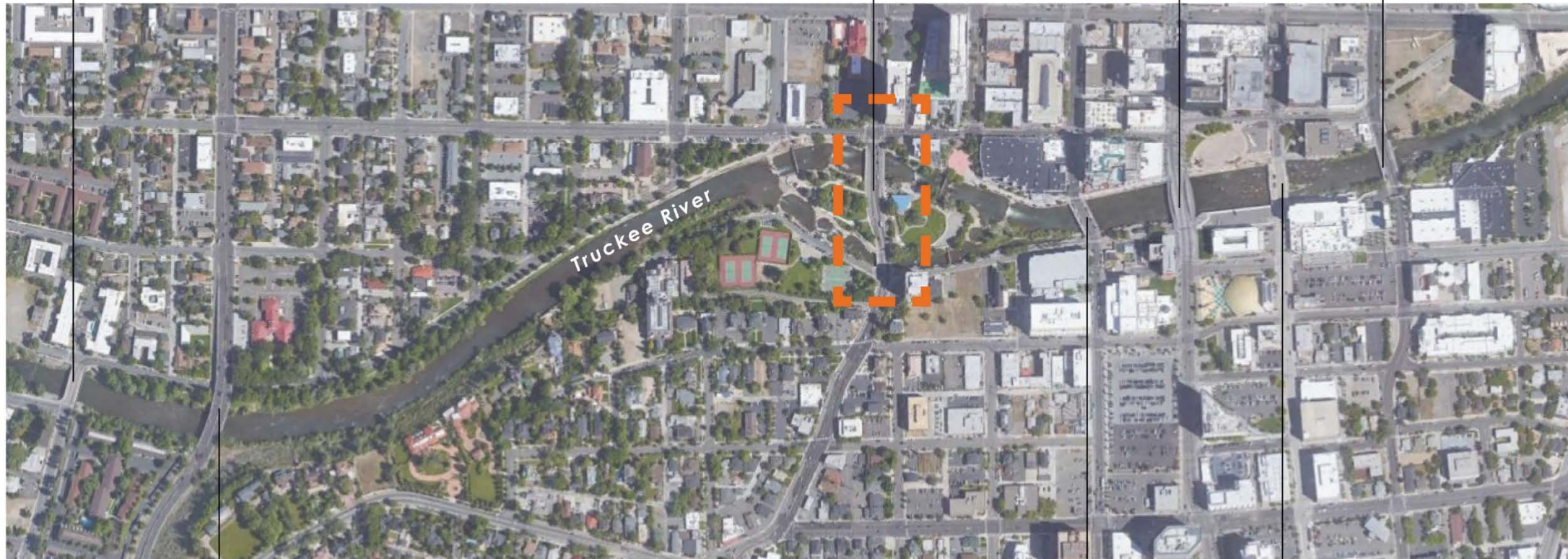
Location Map: Downtown Bridges Reno, Nevada

**BOOTH STREET
BRIDGE**

PROJECT SITE
**ARLINGTON AVENUE
BRIDGES**

**VIRGINIA
STREET
BRIDGE**

**LAKE STREET
BRIDGE**



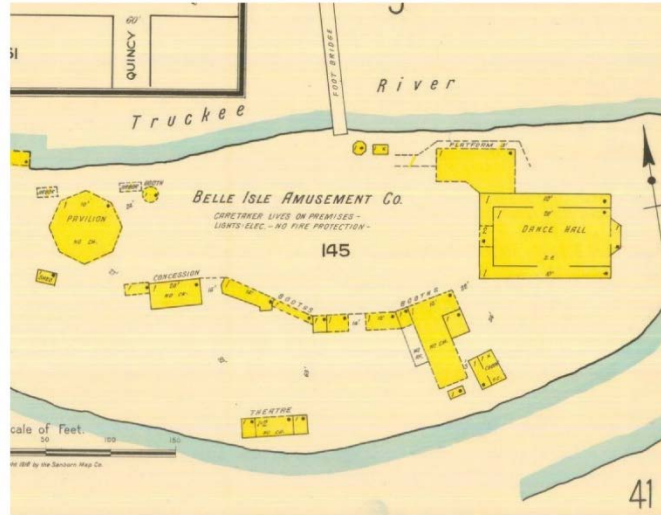
**KEYSTONE
AVENUE BRIDGE**

**SIERRA STREET
BRIDGE**

**CENTER STREET
BRIDGE**

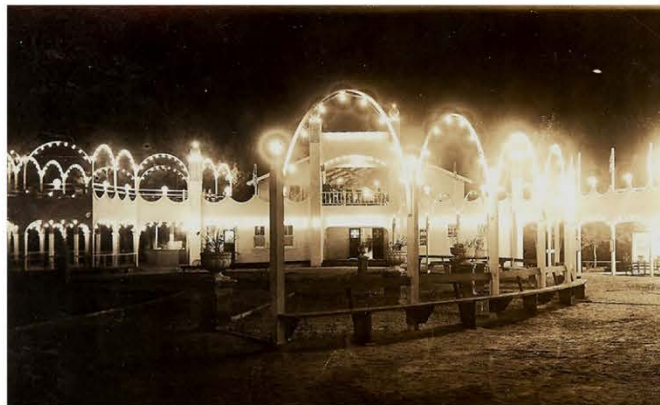
--- FUTURE BRIDGE
REPLACEMENT

Site History



Belle Isle Map, 1918

- 1909 - Lewis Hinckley purchased and developed the land into a relaxing resort-like destination, known as Belle Isle
- 1912 - The river was partially dammed, and footbridge was added.
- 1916 - Owners of the park filed for bankruptcy and the space was acquired by Reno National Bank
- 1920 - Influential banker George Wingfield bought the property and donated it to the City. The island was later named "George Wingfield Park."
- 1921 - North bridge structure constructed, originally called Chestnut Street Bridge, Nevada's oldest T-beam bridge
- 1928 - A flood caused substantial damage to the park, with repair help by George Wingfield
- 1925-1980's - The Reno Municipal Christmas Tree stood at Wingfield Park



Electric Lights, 1911

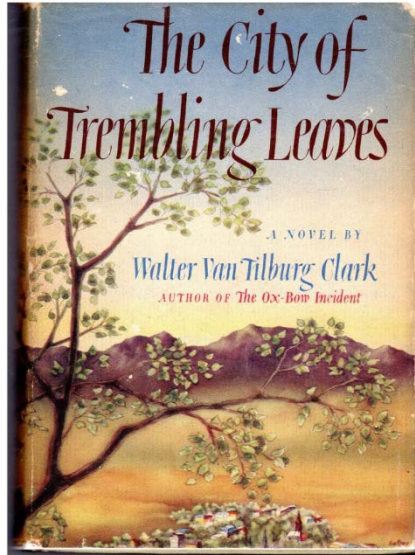


Belle Isle, 1911



Wingfield Park Postcard

Design Inspiration: City of Trembling Leaves



- **The City of Trembling Leaves**, by Walter Van Tilburg Clark
 - The City of Trembling Leaves is a well-known book about the history and development of Reno
 - Reno was established as small town on the edge on the mountain range with beautiful trees and wildlife all around
 - The book illustrates the natural beauty of the Reno landscape and highlights Wingfield Park as a leisurely oasis within the City
 - Urbanization and development has changed the landscape of the City within the last century
 - How can the proposed design reconnect to its history and celebrate the natural beauty of the Reno landscape?



Cottonwood Trees in the Nevada Landscape



Cottonwood Tree Leaf



Truckee River through Reno

Existing Conditions Inventory: Booth Street Bridge

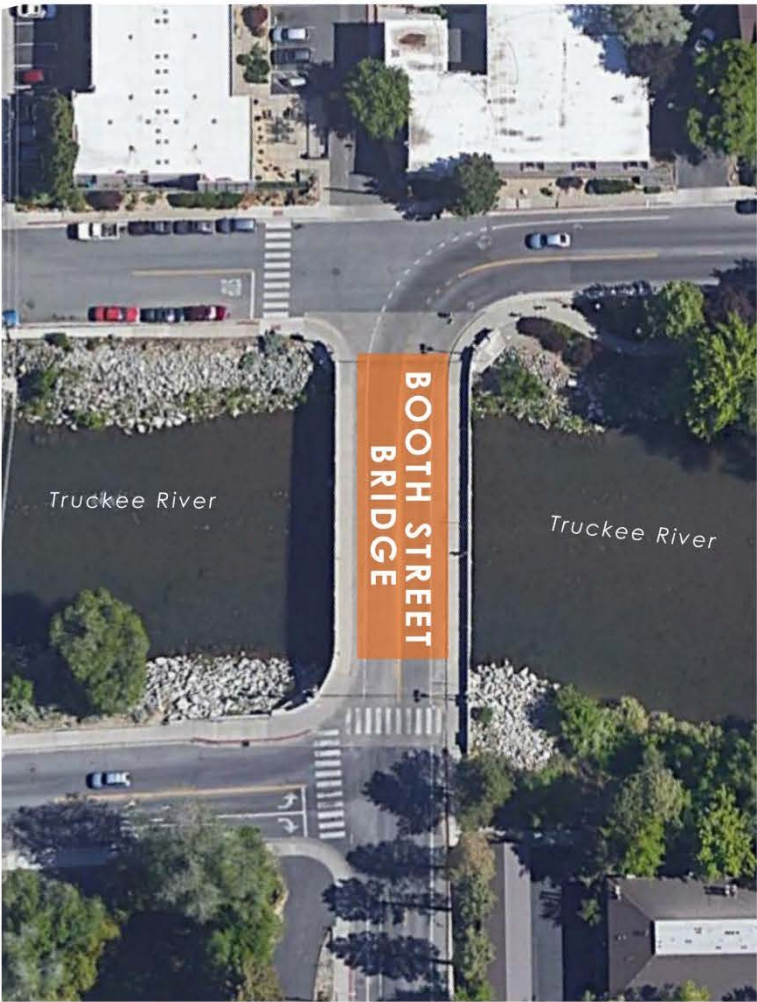
SINGLE PIER BRIDGE

SMOOTH TEXTURED ABUTMENT WALL

RIP RAP

TEXTURED SOLID CONCRETE BARRIER RAIL

PEDESTRIAN ACCESS



SITE PLAN



VIEW LOOKING SOUTH



VIEW LOOKING WEST



LIGHTING



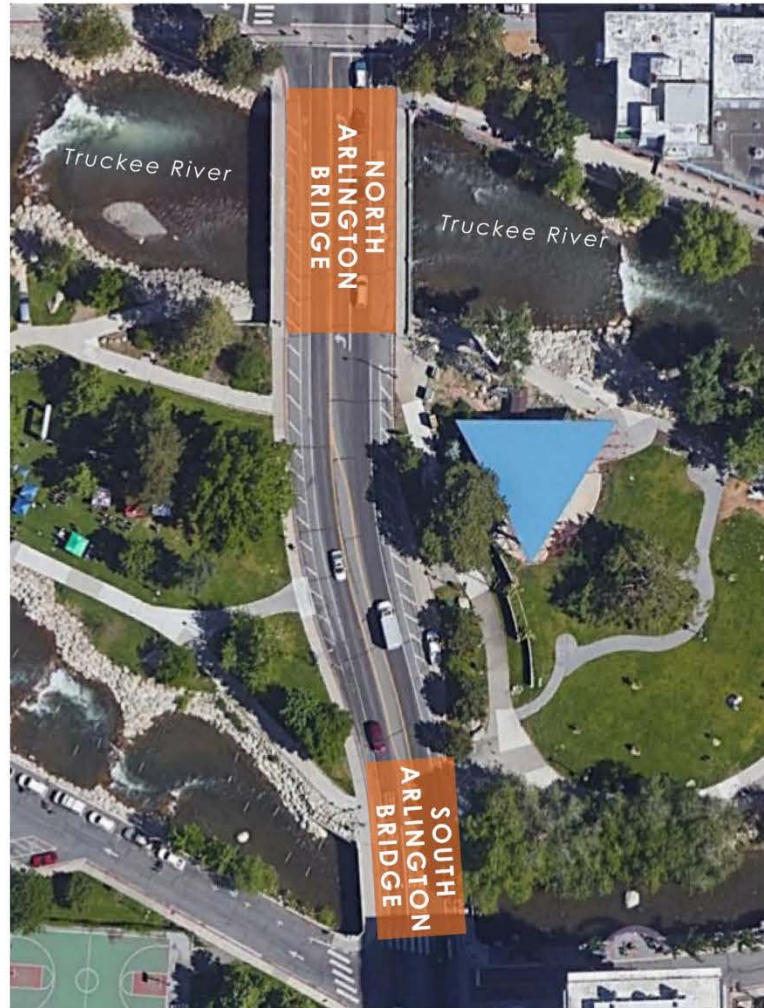
SIDEWALK



PEDESTRIAN ACCESS



Existing Conditions Inventory: Arlington Avenue Bridges



SITE PLAN

ROCKERY FLOOD WALL

SOLID CONCRETE BARRIER RAIL

PEDESTRIAN ACCESS

RIP RAP

GIRDER

DOUBLE PIER BRIDGE



NORTHERN BRIDGE SECTION, LOOKING EAST



VIEW OF NORTHERN BRIDGE

ADJACENT PARK

ADJACENT RIVERWALK

SOLID CONCRETE BARRIER RAIL

CLEAR SPAN BRIDGE

PEDESTRIAN RAILING



SOUTHERN BRIDGE SECTION, LOOKING EAST



VIEW OF SOUTHERN BRIDGE

Existing Conditions Inventory: Arlington Avenue Bridges



NORTHERN BRIDGE SECTION, LOOKING WEST



SOUTHERN BRIDGE SECTION, LOOKING WEST



VIEW OF KAYAK PARK



VIEW OF WILDLIFE

Existing Conditions Inventory: Sierra Street Bridge

SMOOTH TEXTURED FLOOD WALL

SMOOTH TEXTURED PIERS

DOUBLE PIER BRIDGE

PEDESTRIAN LIGHTING

PEDESTRIAN ACCESS

DECORATIVE BARRIER RAIL



SITE PLAN



VIEW LOOKING WEST



VIEW LOOKING NORTH



LIGHTING



SIDEWALK



OPEN DECORATIVE CONCRETE RAILING



Existing Conditions Inventory: Virginia Street Bridge

TEXTURED
FLOOD
WALL

DECK WIDENED
FOR PEDESTRIAN
USE

CLEAR SPAN
BRIDGE

PEDESTRIAN
LIGHTING

ART DECO
BRIDGE
ACCENT

VEHICULAR
RATED
INTERIOR
GUARDRAIL

TRANSPARENT ART
DECO INSPIRED
PEDESTRIAN
RAILING



SITE PLAN



VIEW OF BRIDGE



RAILING



LIGHTING

SALVAGED/
REPLACED
LIGHT FROM
HISTORIC
BRIDGE



BRIDGE
ACCENT
LIGHTING

RAILING
ACCENT
LIGHTING

PEDESTRIAN
SCALED
LIGHTING



DECORATIVE PAVING



Existing Conditions Inventory: South Center Street Bridge

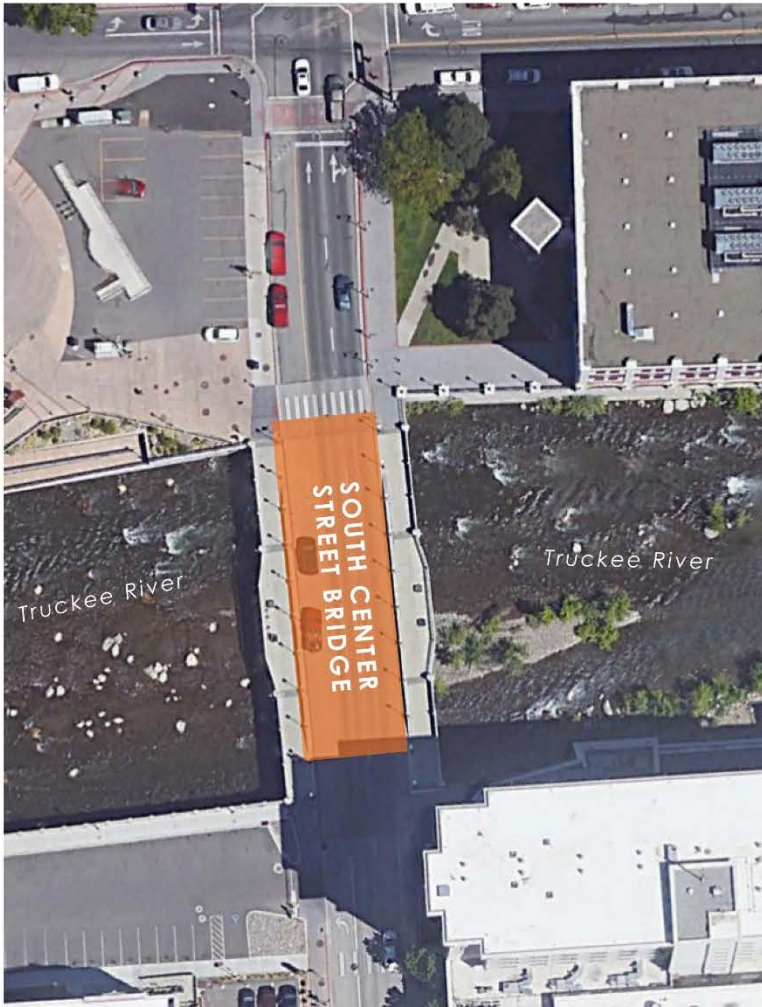
TRANSPARENT ART
DECO INSPIRED
DECORATIVE RAILING

VEHICULAR RATED
DECORATIVE
CONCRETE INTERIOR
GUARDRAIL

SCORED
PAVING

DECK WIDENED FOR
PEDESTRIAN USE

PEDESTRIAN
SCALE LIGHTS



SITE PLAN



VIEW LOOKING EAST



VIEW LOOKING WEST



LIGHTING



DECORATIVE RAILING AND GUARDRAIL

Existing Conditions Inventory: Lake Street Bridge



SITE PLAN

RENO WELCOME SIGN

DECORATIVE RAILING

PEDESTRIAN ACCESS

DECORATIVE LIGHTING ON BRIDGE PILASTER



PERSPECTIVE LOOKING SOUTHEAST



LIGHTING



REMOVABLE METAL RAILING



Existing Conditions Inventory: Riverwalk



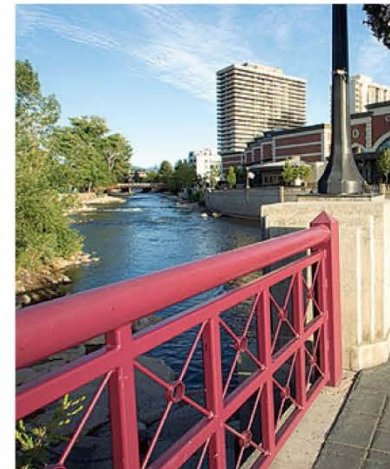
SITE PLAN



PERSPECTIVE



ARCHITECTURAL FEATURES



RAILING



PEDESTRIAN BRIDGES

Existing Conditions Inventory: Artwork



Site Inventory Map

The central image is an aerial photograph of the Wingfield Park area in Reno, NV. The Truckee River flows through the center, with Wingfield Park situated on its west bank. Key streets shown include West First Street, West Street Plaza, Arlington Ave, and Island Ave. The map is annotated with callout lines pointing to various features, each accompanied by a small inset photograph. On the left side, callouts include: URBAN ART (pointing to a bridge over the river), KAYAK PARK (pointing to a rocky section of the river), BRIDGE PATHWAY (pointing to a bridge over the river), PARK PATHWAYS (pointing to a paved path in the park), and SPORTS COURTS (pointing to tennis courts). On the right side, callouts include: NORTH FLOOD WALL (pointing to a wall along the river), AMPHITHEATER (pointing to an outdoor performance area), PEDESTRIAN ACCESS (pointing to a path leading to the river), STREET TREES (pointing to a row of trees along a street), and PEDESTRIAN BRIDGE (pointing to a bridge over the river). The map also labels 'Truckee River' in two locations and 'WINGFIELD PARK' in two locations. A north arrow is located in the bottom right corner of the map.

URBAN ART

KAYAK PARK

BRIDGE PATHWAY

PARK PATHWAYS

SPORTS COURTS

WEST FIRST STREET

TRUCKEE RIVER

ARLINGTON AVE

WINGFIELD PARK

ISLAND AVE

BARBARA BENNETT PARK

WEST STREET PLAZA

TRUCKEE RIVER

WINGFIELD PARK

NORTH FLOOD WALL

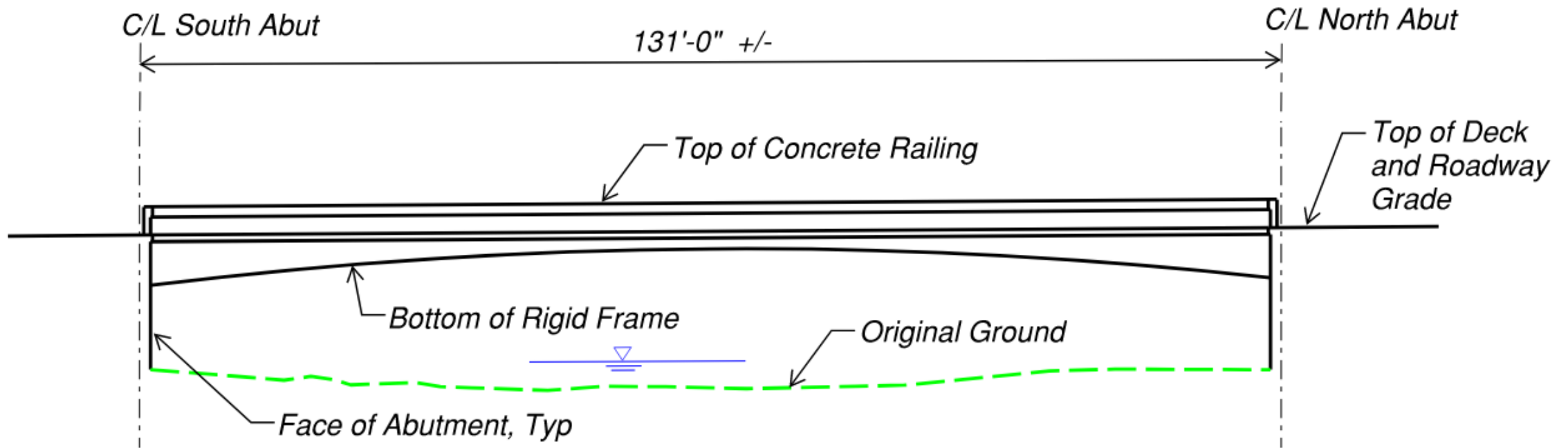
AMPHITHEATER

PEDESTRIAN ACCESS

STREET TREES

PEDESTRIAN BRIDGE

Clear Span Bridge Concept



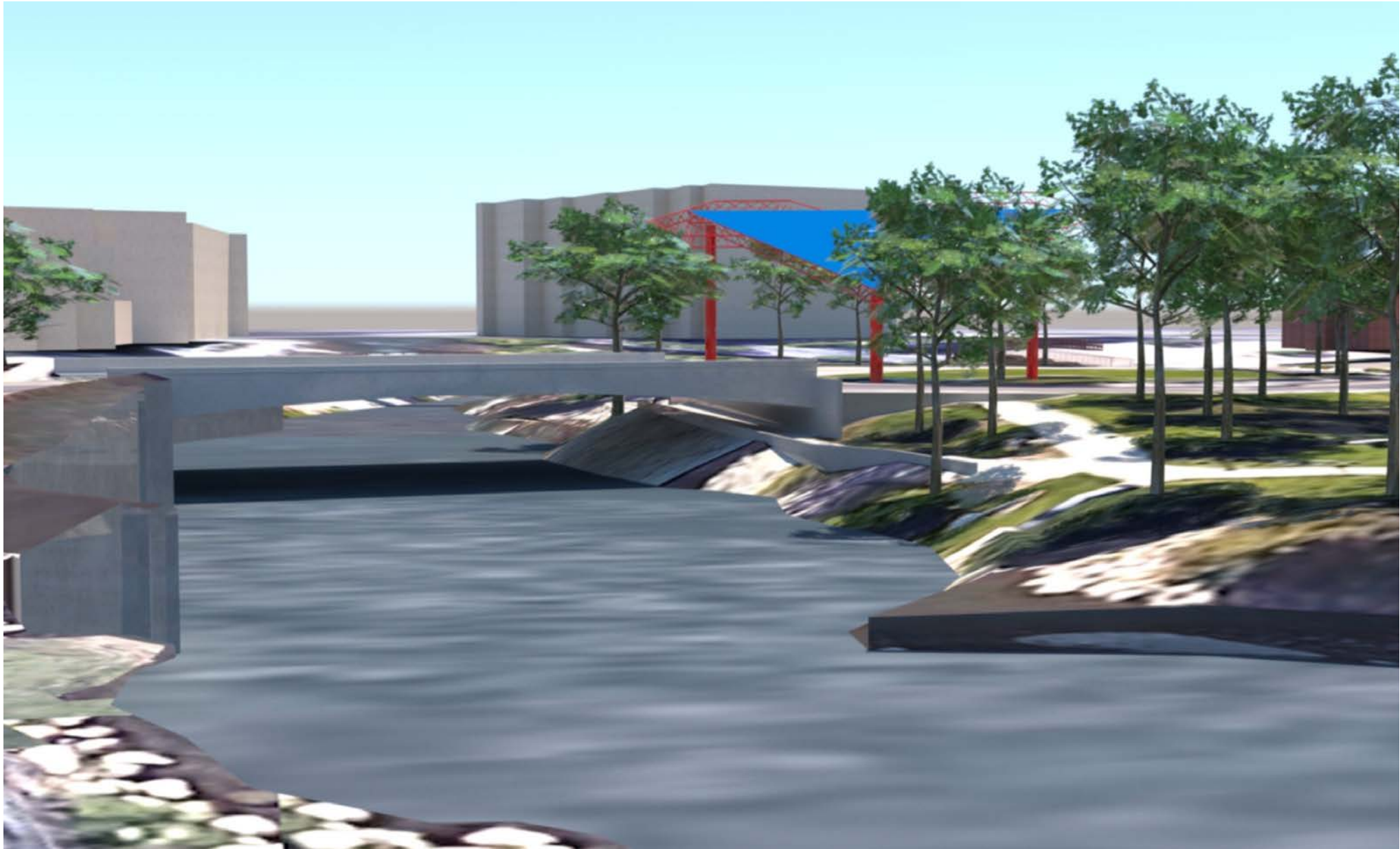
Pros:

- No obstruction in the river improves flow capacity and boating access
- No pier/surface for tagging

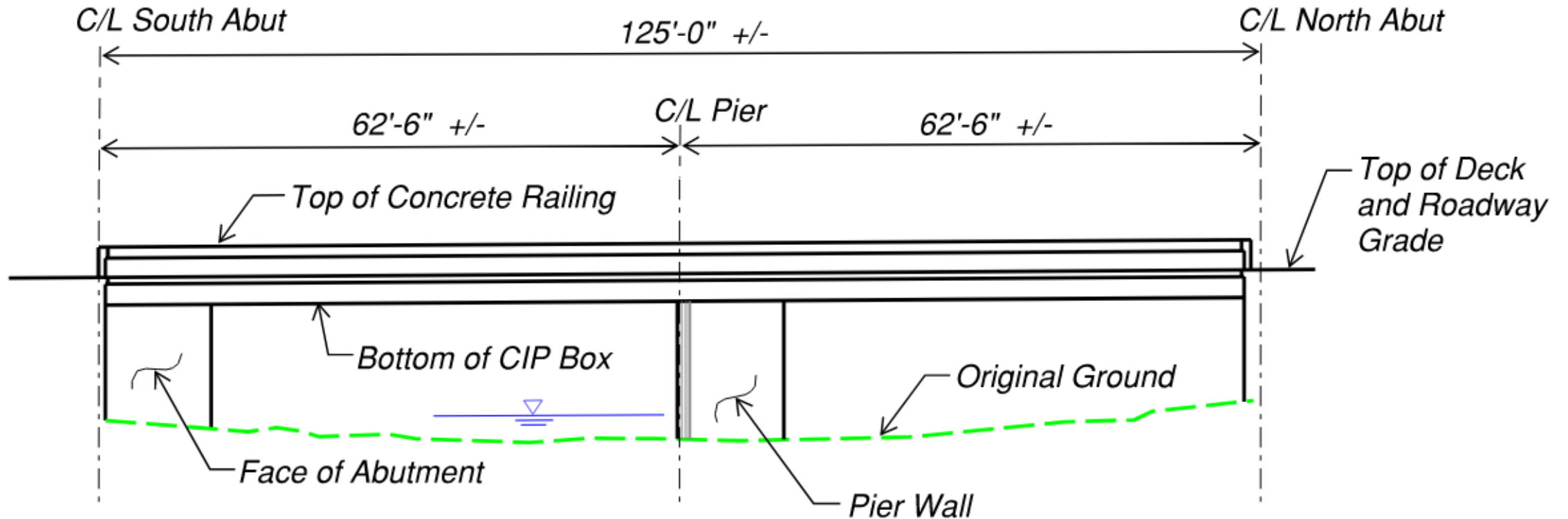
Cons:

- Challenges in expanding the sidewalk at midspan for overlook/viewing area
- Depth of structure is deeper than single pier and provides less pedestrian overhead below bridge

Clear Span Bridge Concept



Single Pier CIP Concrete Box Bridge Concept



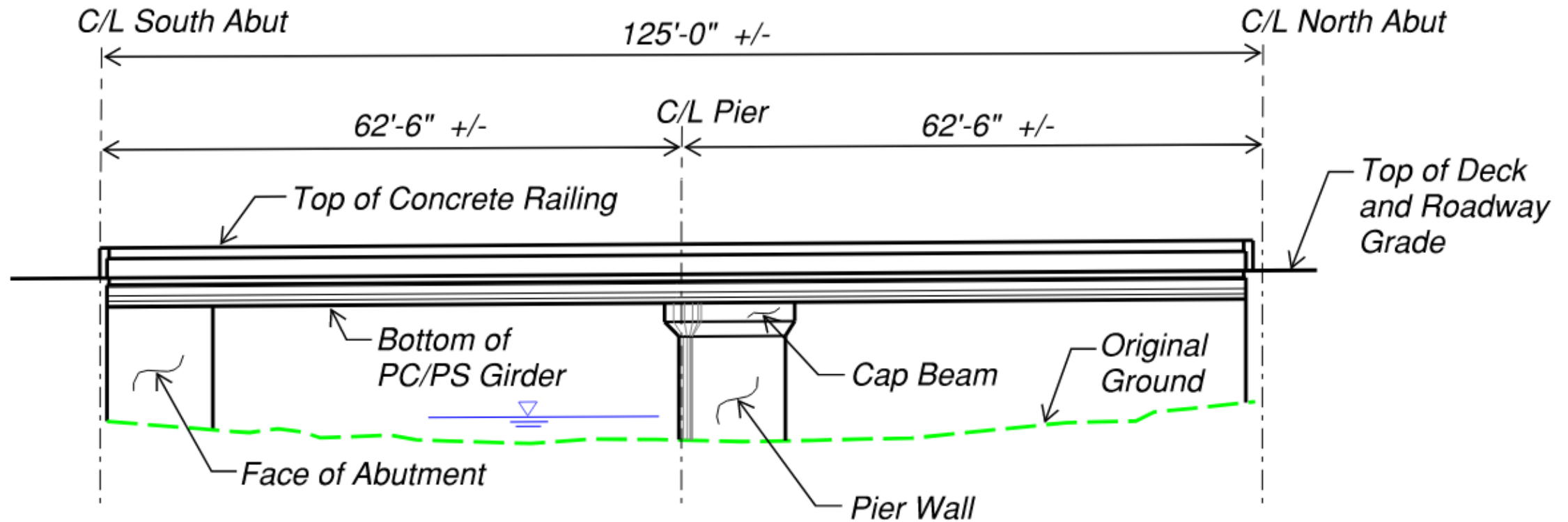
Pros:

- Pier provides means to support widened overlook/viewing area mid-river
- Shallower bridge depth minimizes impact to roadway profile

Cons:

- Obstruction in river for recreational boating users (although, one less pier than existing bridge).
- Pier wall may become a potential tagging surface

Single Pier Precast Concrete Girders Bridge Concept



Pros:

- Pier provides means to support widened overlook/viewing area mid-river
- Shallower bridge depth minimizes impact to roadway profile

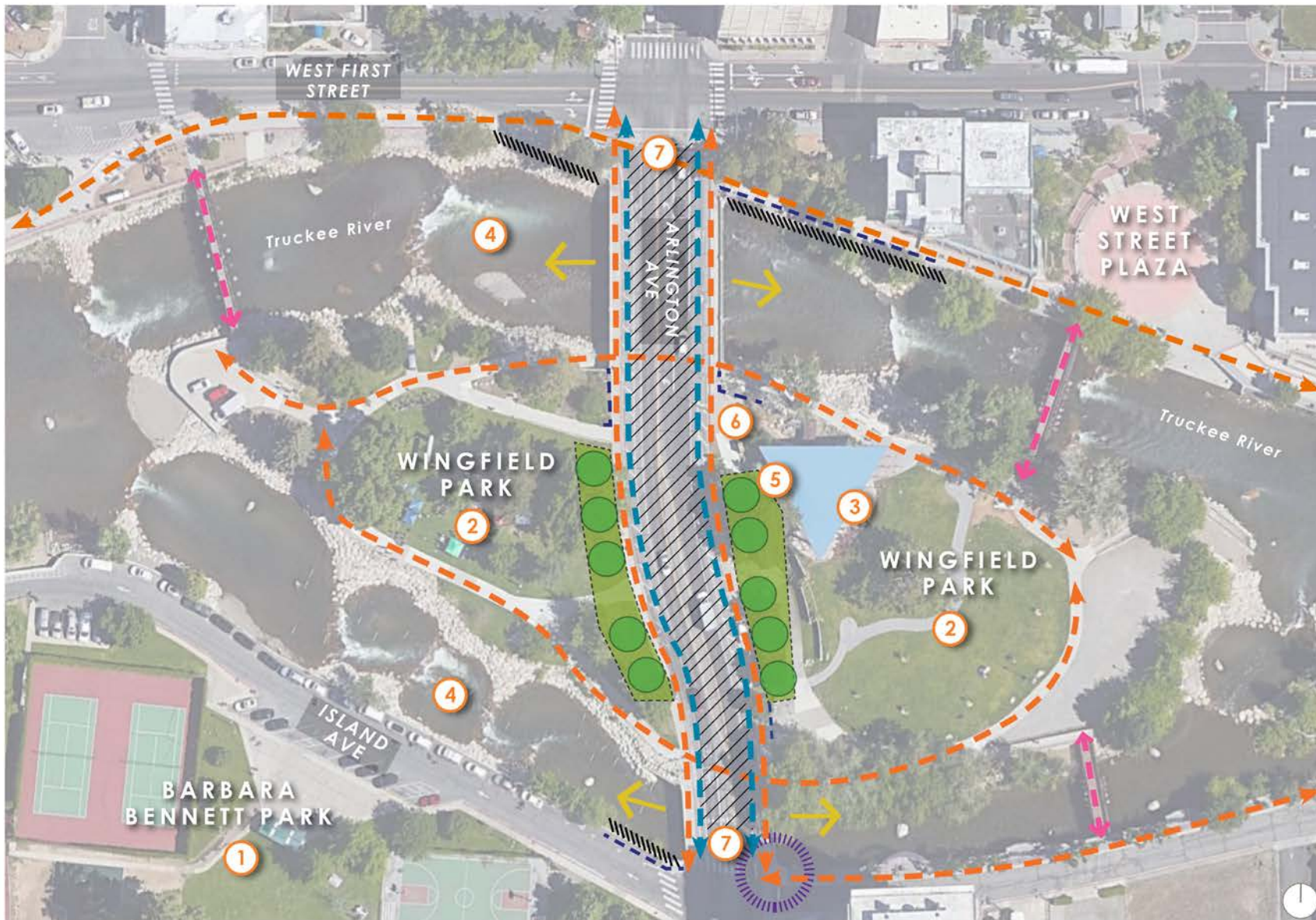
Cons:

- Obstruction in river for recreational boating users (although, one less pier than existing bridge).
- Pier wall may become a potential tagging surface

Single Pier Bridge Concept



Opportunities and Constraints Map



LEGEND

- Pedestrian Access
- Bicycle Access
- Pedestrian footbridges provide ample pedestrian access from adjacent amenities
- Existing floodwall needs renovation, providing an opportunity to update the formliner pattern
- Reno Riverwalk termination, bringing foot traffic to Arlington Avenue
- Opportunity to replace existing pedestrian railing to match new bridge aesthetics
- Landscape may require regrading if street elevation is raised; maintain existing trees and add street trees
- Views of Truckee River
- 1** Park amenities include tennis courts, basketball courts, play equipment, and restrooms attracting visitors of all ages
- 2** Park amenities include large grass areas, tree lined pathways, bike and pedestrian access, and river recreation
- 3** Amphitheater hosts concerts in the park, making this location a premier summer destination
- 4** Whitewater park includes drop pools, smooth rocks, deep pools, with many access points, attracting many visitors in summer months
- 5** Existing stone steps are not accessible and poorly designed
- 6** Existing utility boxes are an eyesore, consider relocating
- 7** Street is closed for special events, between First/Island, maintain smooth pedestrian traffic flow across.

Design Goals:

Cohesive Design Language

1. Unify the north bridge and south bridge experience with a consistent form language, including the experience on the bridges and viewing the bridges
2. Establish a project theme to unify all the bridge and landscape elements

Enhance Pedestrian Experience

1. Arlington Avenue to act as an urban plaza, using unified materials between sidewalk and street
2. Maintain vantage points of the river and surrounding landscape
3. Enhance pedestrian experience with shade trees, decorative lighting, decorative railing, paving, and sculptural/artistic features

Contextual and Historical Relevance

1. Proposed structural elements will have relevance to the urban context
2. Project shall pay homage to Reno's history, while representing a new age of bridge development within the downtown core

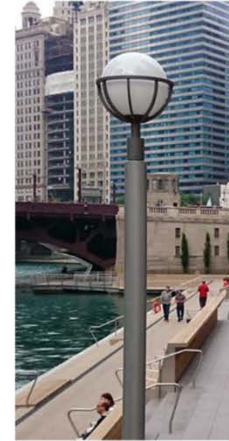
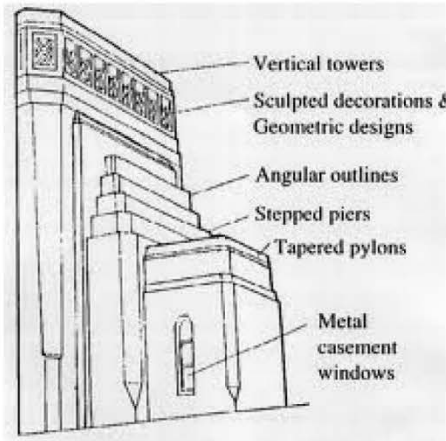
Innovation and Sustainability

1. Low Impact Development (LID)- Street shall be repaved using permeable pavement, concrete pavers, permeable concrete
2. LED lighting
3. Drought resistant and native trees and plantings

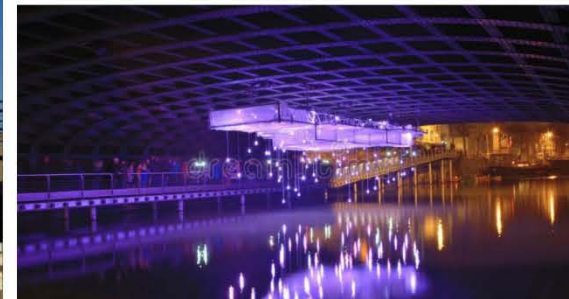
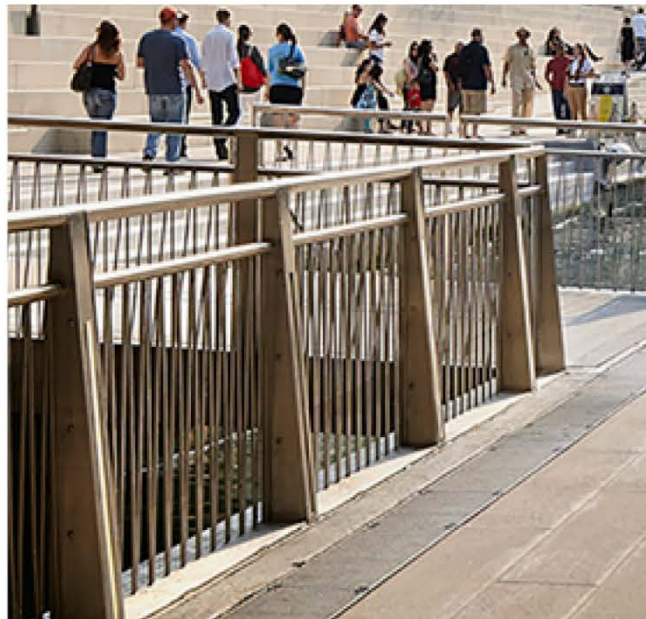
Proposed Aesthetic Elements

- Modern Design Elements, A Melding of Old and New
- Pedestrian Scaled Lighting
- Bridge Accent Lighting
- Under Bridge Lighting
- Transparent, Traffic Rated Bridge Railing
- Maintain Pedestrian Accessibility
- Widen Bridge Deck
- Textured Abutment Walls
- Flood Walls
- Plaza Street

Modern Design Elements: A Melding of Old and New



- Proposed decorative elements should incorporate modern design elements with a nod to the Art Deco historical context
- Decorative elements will focus on pedestrian lighting, railing design, under-bridge lighting, and sculptural elements
- Consider applying decorative form liner under bridges and on bridge pilaster and girders



Pedestrian Scaled Lighting



COLUMN LIGHTS



STICK LIGHTS

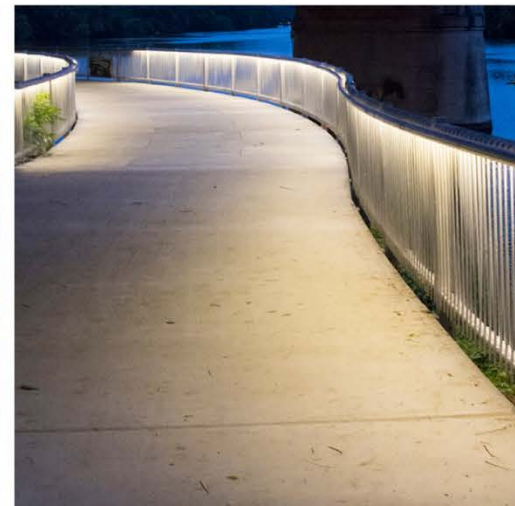
- Potential for modern pedestrian lighting concept
- Potential for stick lights fixed into bridge pilaster on north and south bridge
- Lighting elements to continue between bridges to create unity
- Incorporate lighting elements into railing
- Lighting along renovated north flood wall to match with existing art deco-style lights



LIGHTED BOLLARD



RAILING LIGHTING



Bridge Accent Lighting



- Potential girder lighting to unify the north and south bridge
- Precast girders provide areas to conceal lights
- Potential bridge pilaster lighting
- Consider lighting protection from flood water, debris and vandalism.
- Consider impacts to aquatic species



GIRDER LIGHTING



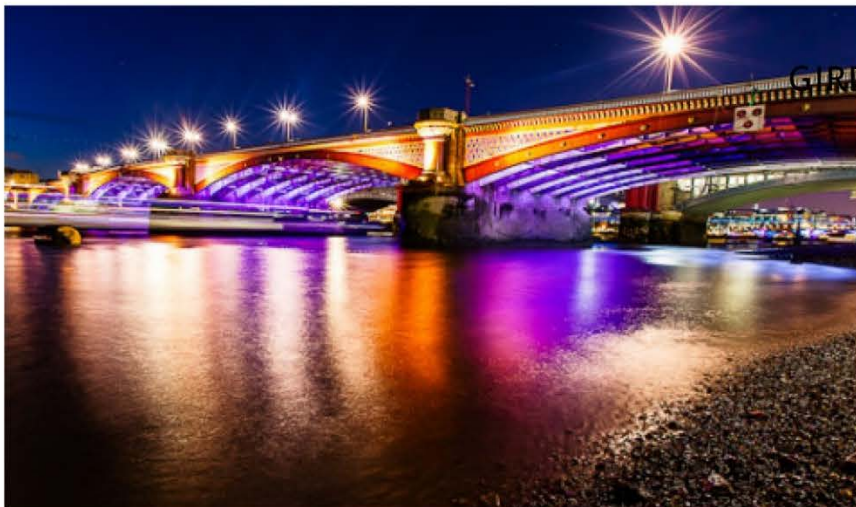
PILASTER LIGHTING

Under Bridge Lighting

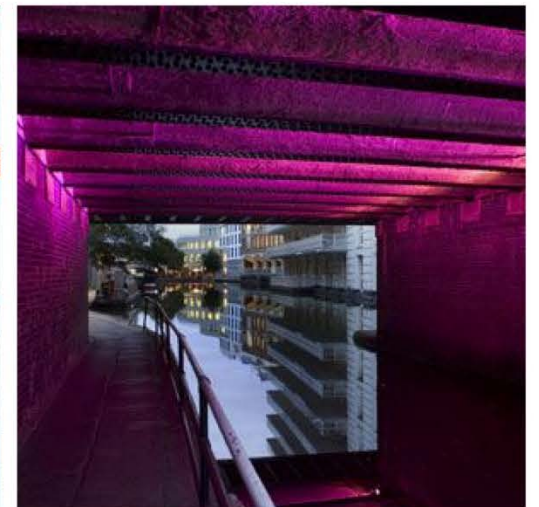


UNDER BRIDGE LIGHTING

- Potential under-bridge aesthetic lighting and under-bridge safety/pedestrian 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 visitors viewing the bridges and visitors walking along the bridges
- Provide conduit for future bridge artistic lighting

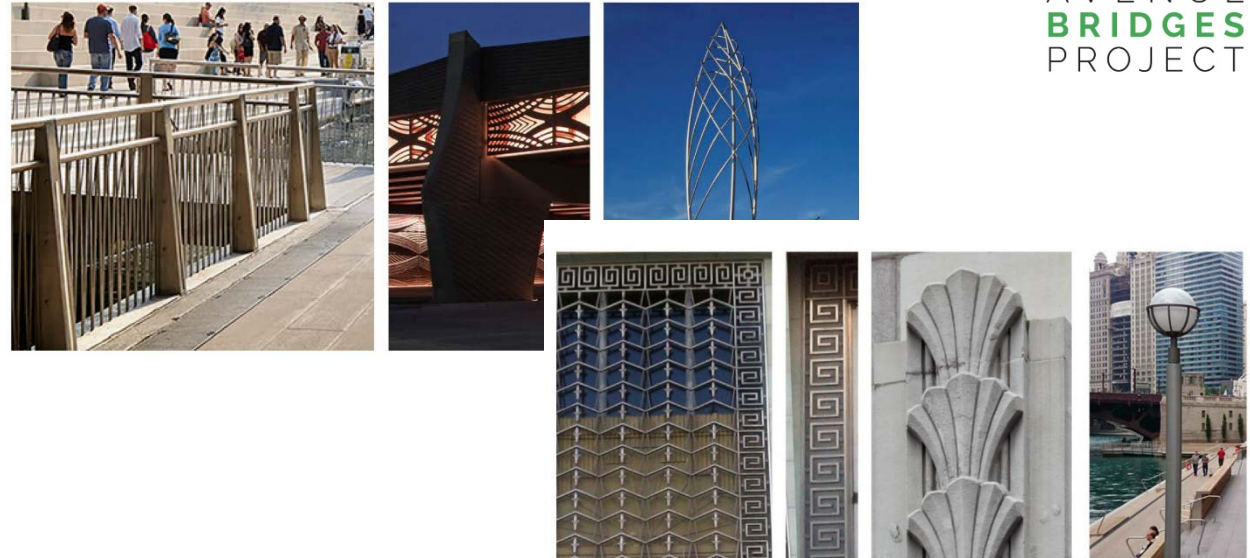


COLORED UNDER BRIDGE LIGHTING



Questions on Theme and Lighting?

- ▶ Is the general theme ok?
 - ▶ Modern design elements with a nod to the Art Deco historical context



- ▶ Should lighting be included?
 - ▶ Pedestrian Scaled, Bridge Accent, Under Bridge



LIGHTED BOLLARD



RAILING LIGHTING



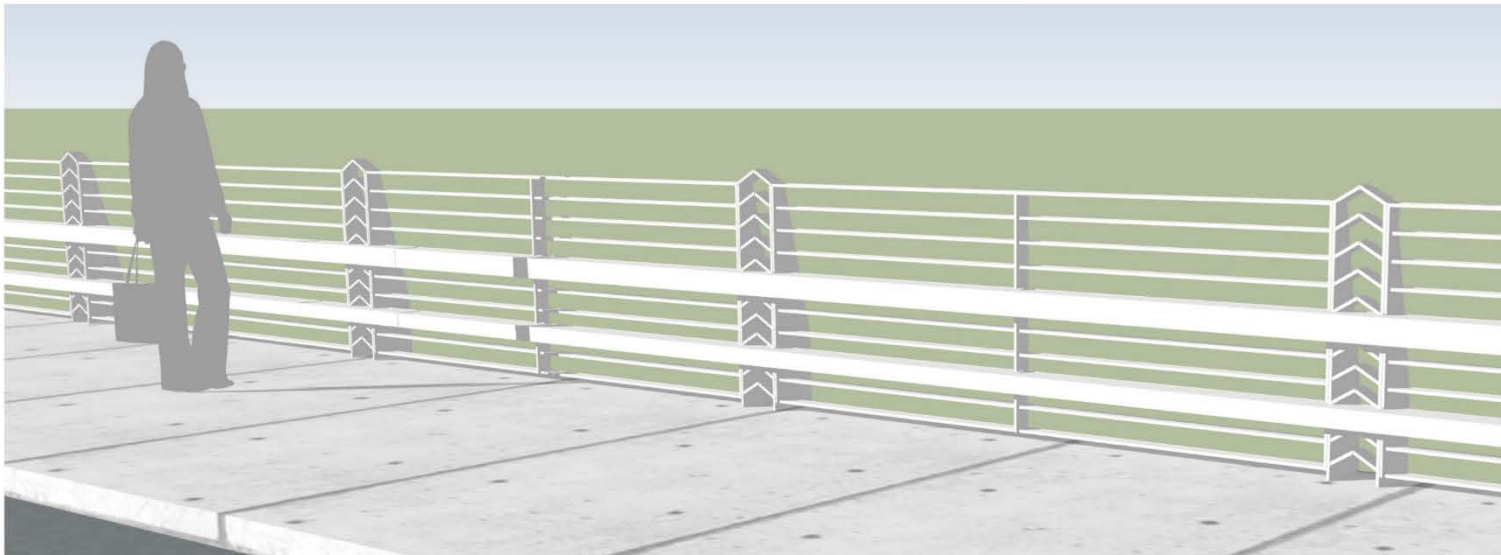
UNDER BRIDGE LIGHTING

Transparent, Traffic Rated Bridge Railing



OPEN DECORATIVE CONCRETE VEHICULAR GUARDRAIL

- Exterior railing should allow for viewing of the river
- Avoid double railing due to large number of special events
- Potential for decorative concrete railing and decorative steel railing hybrid
- Potential vehicular rated metal guardrail with custom artistic detailing
- Art deco concrete railing exists along northern flood wall, Sierra Street Bridge, and Center Street Bridge



TYPE TL-4 VEHICULAR BARRIER WITH PEDESTRIAN MODIFICATIONS



DECORATIVE CONCRETE BARRIER RAIL AND STEEL RAILING HYBRID

Maintain Pedestrian Accessibility



CENTER STREET BRIDGE DOUBLE RAILING



STREET TREES



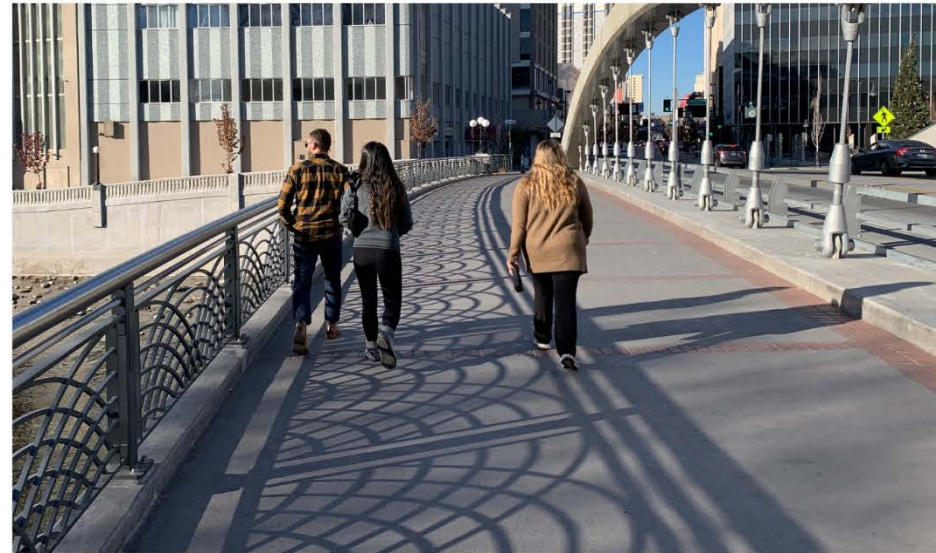
- Avoid double bridge railing due to large number of special events and need for pedestrian accessibility
- Maintain smooth pedestrian movement across street even if elevation needs to be raised
- Consider planting street trees along Arlington Avenue at 30 ft. O.C., if elevation needs to be raised
- Provide graffiti coating for maintenance/ easy removal

Widen Bridge Deck

- Consider widening bridge deck to allow for greater pedestrian viewing (single pier only)
- Center Street Bridge and Virginia Street Bridge have widened segments

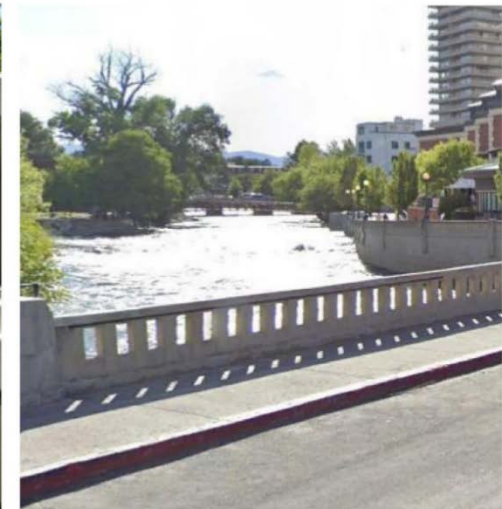
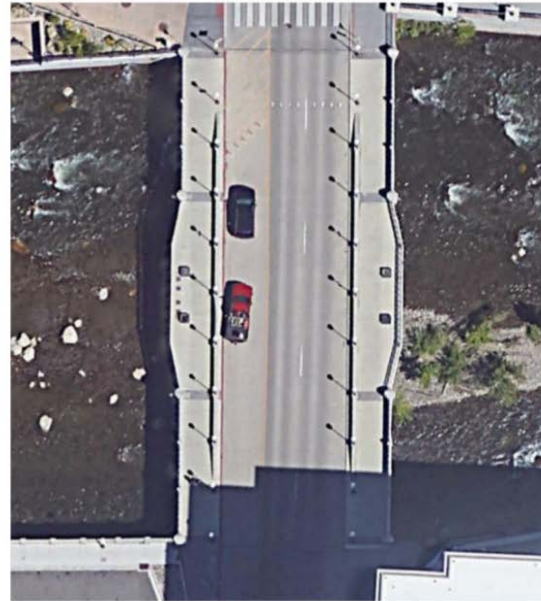
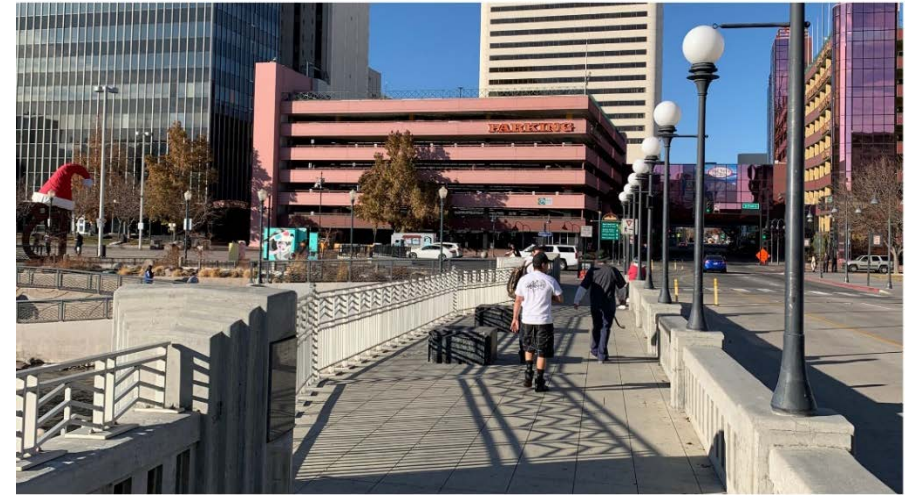


WIDENED BRIDGE SEGMENT



Questions on Railing and Sidewalk Space?

- ▶ Smooth Pedestrian Movement
 - ▶ Don't include double railing?
 - ▶ Should railing be transparent?
 - ▶ Should the bridge deck be widened?

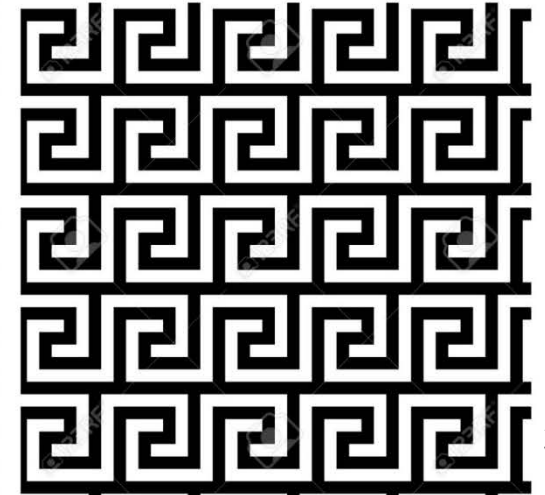
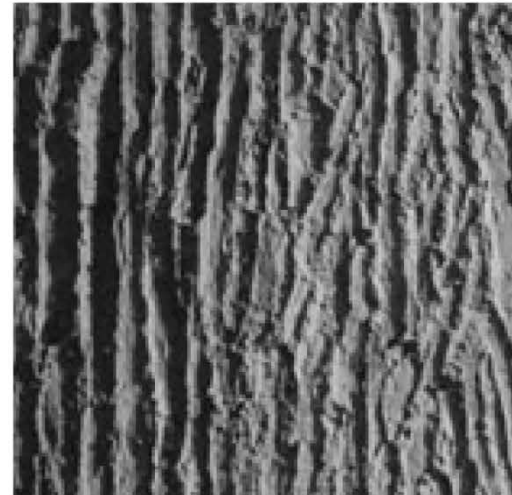
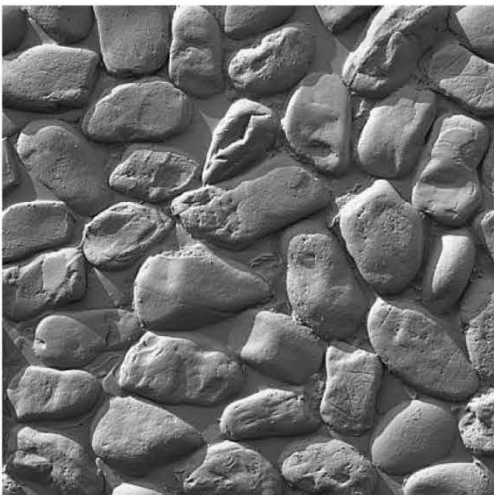


Textured Abutment Walls

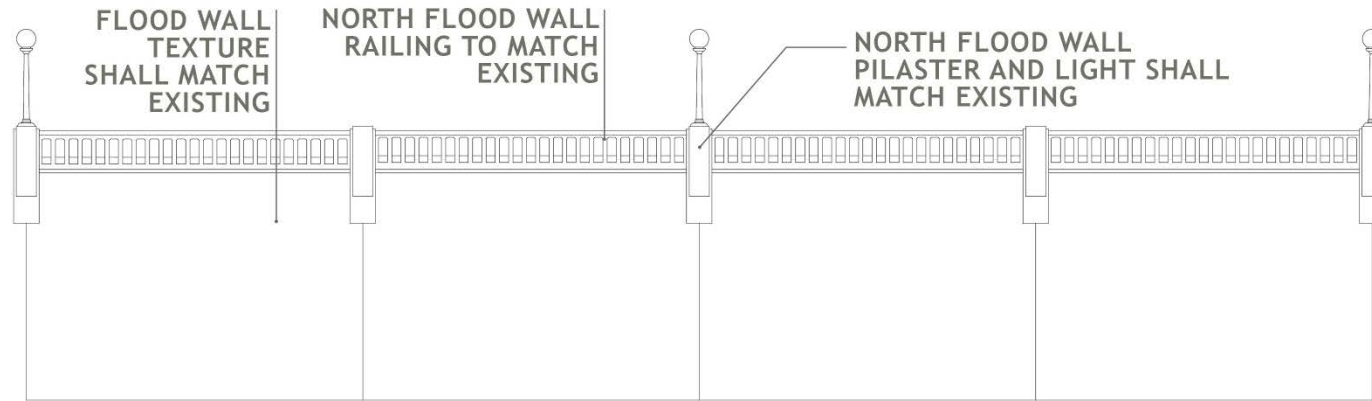


FORMLINER PATTERN FOR ABUTMENT WALL

- Consider abutment wall with a rich texture to enhance pedestrian and river user experience below the bridge
- Consider cobble texture used elsewhere



Flood Walls



NORTH FLOOD WALL MOCK UP



EXISTING FLOOD WALL



FORMLINER PATTERN FOR FLOOD WALL

- Flood wall should have consistency between bridges
- Textures, horizontal reveals, open concrete railing, pilasters extended below, and lighting shall be consistent
- Flood wall along south side shall match with cobble wall along Riverwalk
- Consider a narrow planting at bases of walls to soften the height

Plaza Street



STREET PLAZA



- Consider Arlington Avenue 'Plaza Street' concept to unify park areas if street between bridges needs to be replaced
- Consider permeable pavers on street and sidewalk to create seamless transition and provide stormwater infiltration
- Sidewalk paving with unique stamp or sandblast that follows theme



WATER WAVE CONCRETE PATTERNS



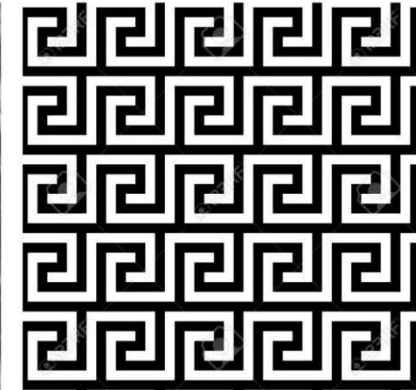
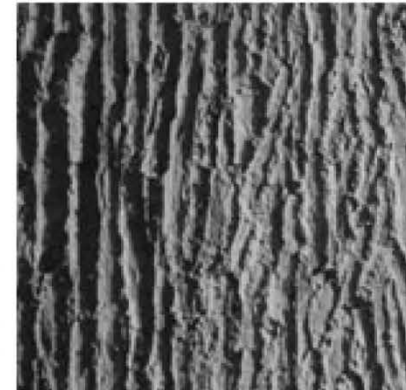
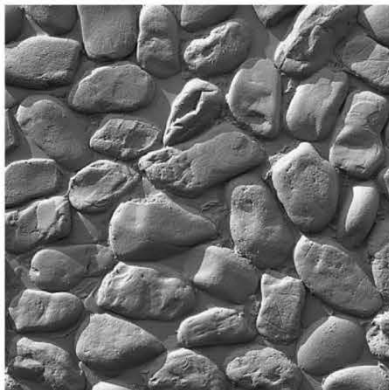
DECORATIVE PAVING



PERMEABLE PAVERS

Questions on Surface Texture?

- ▶ Is the Plaza Street idea appealing?
- ▶ Should texture on abutment walls and flood walls be considered?



Group Discussion and Consensus



- ▶ Theme and Lighting
- ▶ Railing and Sidewalk Space
- ▶ Surface Texture
- ▶ Additional Ideas

Thank you for Participating!



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JACOBS

