

Falls Bridge Advisory Committee Meeting #22 Bridge Aesthetics



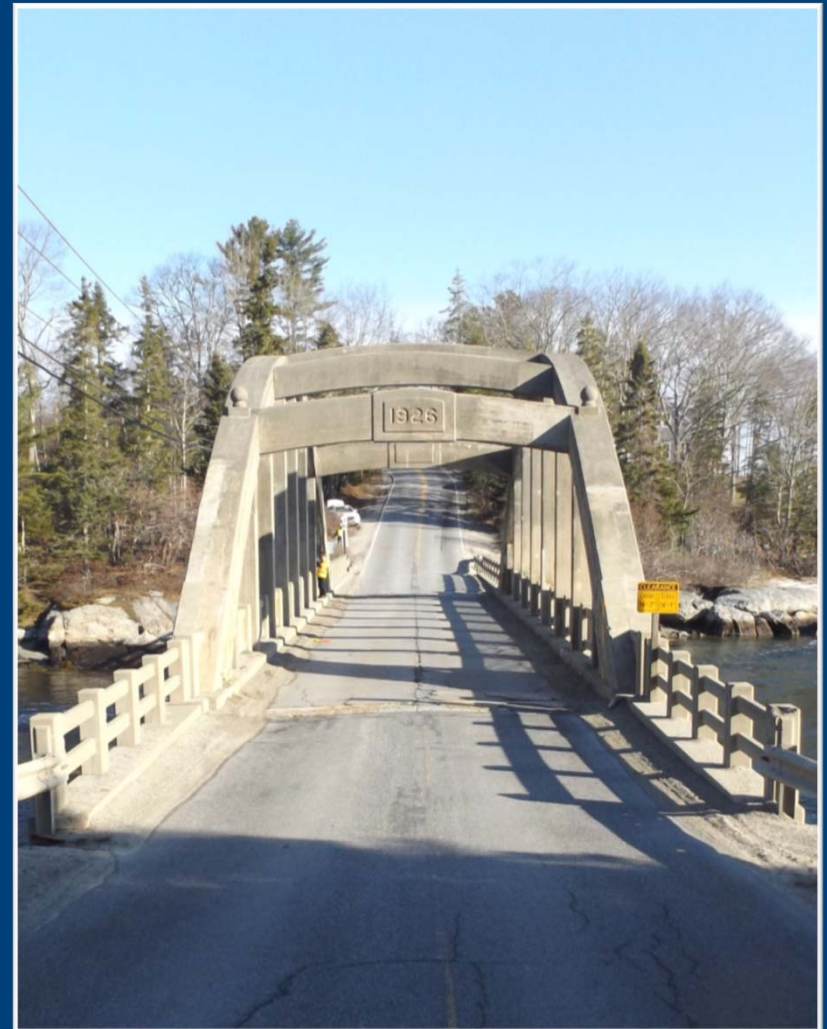
October 17, 2019

Integrity - Competence - Service



Meeting Agenda

- Introduction \ Selection Process
- Bridge Rail
 - Primer
 - Options
 - Discussion
- Fascia Enhancements
- Additional Project Enhancements
- Next Steps
- Handout Exercise



Introduction \ Selection Process

- Our goal is for the BAC and design team to come together to select key aesthetic features that will contribute to the overall aesthetic experience of the new Falls Bridge. Some items we'll be considering are:
 - Compliment the landscape w\ context-sensitive design elements
 - Use and blending of shapes and shadows
 - Incorporating textures and colors where appropriate
 - Maximizing opportunities to open new vistas
 - Incorporating details of the existing bridge (if desired)
 - Selecting pleasing elements that are also economical

Introduction \ Selection Process

- The initial stages of this process will focus on key aspects that impact design progression, such as:
 - Railing type
 - Aesthetic fascia treatments
- Additional enhancements to be discussed in greater detail:
 - Shoulder pavement treatments and colors
 - Incorporating features from the existing bridge
- Feedback will be used to further refine concepts and develop architectural renderings for discussion with the BAC. Goal is to select three concepts for rendering.

Bridge Rail - Primer

- Bridge rail standards are set by AASHTO and the Manual for Assessing Safety Hardware (MASH)
- The Standards Specify:
 - Shape
 - Height
 - Strength
- Purpose is to redirect errant vehicles while also keeping occupant forces within acceptable ranges
- Falls Bridge railing needs to meet test level “TL-2”

Bridge Rail - Primer

- Railing acceptability established through crash tests



Bridge Rail - Primer

- Railing Requirements at the Falls Bridge
 - Minimum 42" tall railing (measured from top of roadway)
 - Maximum clear opening size:
 - 6" above 27"
 - 4" in lower 27"
 - Requirements can be satisfied with either steel or concrete

Note: Rail shown is illustrative,
not suitable for vehicle use



Bridge Rail - Options

Kennebunkport – Matthew J. Lanigan Bridge

- MaineDOT 4-Bar Steel Railing

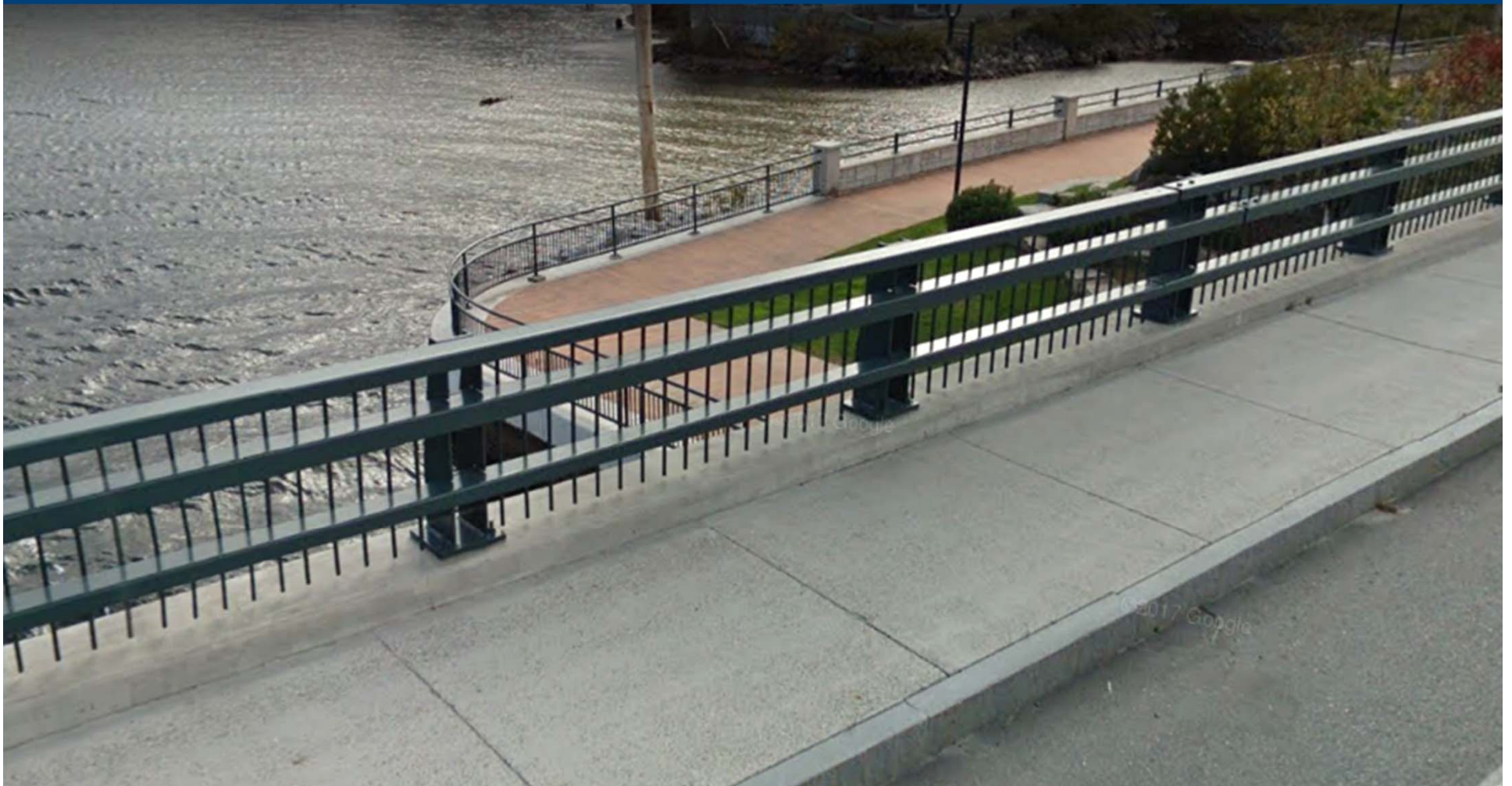


Note: Maintaining and touching up paint applied to bridge rail will be the responsibility of the Town.

Bridge Rail - Options

Naples, Causeway Bridge

- Wyoming 3-Bar Steel Railing with Pickets



Bridge Rail - Options

Yarmouth – Route 1 over Main Street Bridge

- Massachusetts - 3-Bar Steel Railing with Pickets



Bridge Rail - Options

Texas –Location Unknown

- Texas C2P 3-Bar Steel Railing with Pickets



Bridge Rail - Options

Topsham/Brunswick – Rt. 201 over Androscoggin River

- Concrete barrier with steel bar railing and pickets

Note: No raised sidewalk at Falls Bridge. Therefore, ornamental rail will be subject to plow damage.



Bridge Rail - Options

Kennebunk – Route 1 over Mousam River Bridge

- Texas Classic Rail



Bridge Rail - Options

Portland/Falmouth – Martins Point Bridge

- Modified Kansas Corral Rail



Bridge Rail - Options

Fairfield – Western Avenue Bridge

- Solid Concrete Barrier – Single Slope or F-Shape



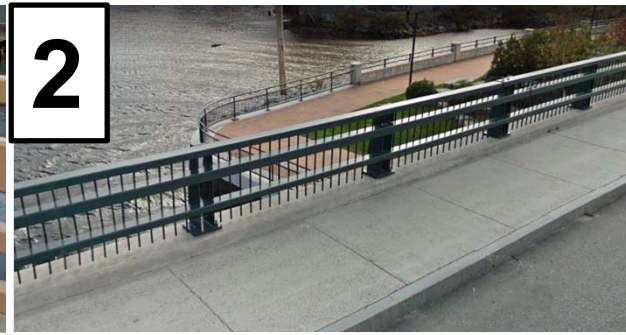
Bridge Rail - Discussion

When it comes to bridge railing:

- What type of rail system fits with the site?
 - Concrete or steel?
 - Ornate, or simple?
 - Open / airy, or dense / opaque?
 - Natural finish, or colored/painted?

Bridge Rail - Discussion

Summary of Options

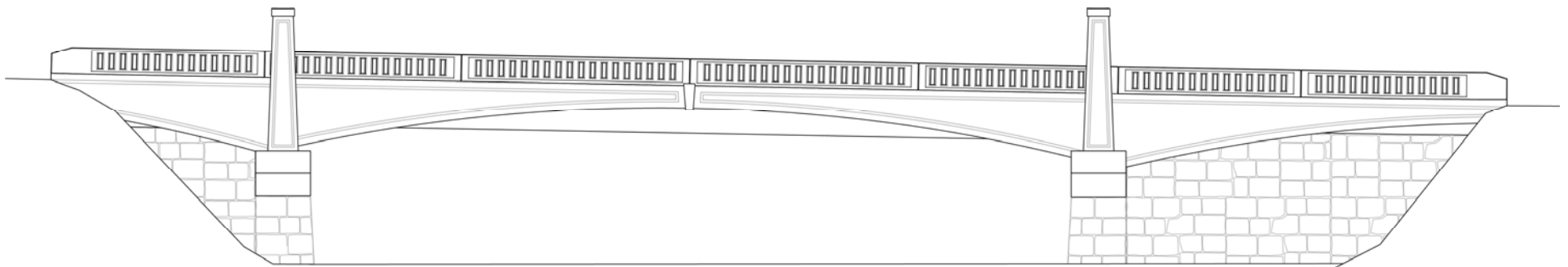
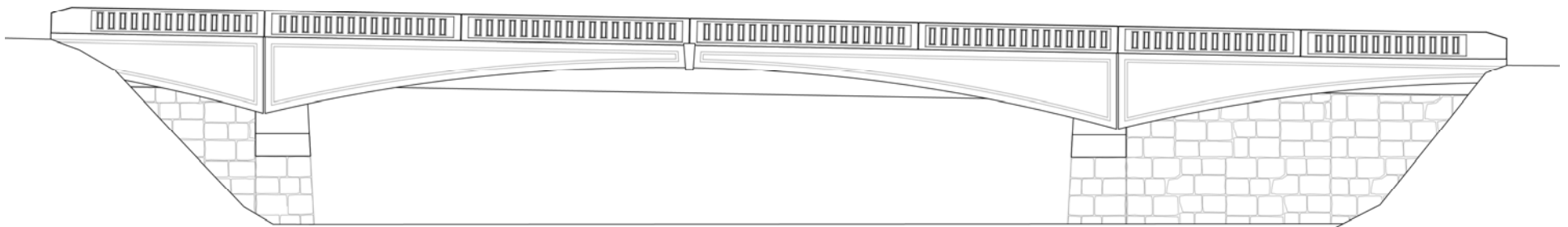
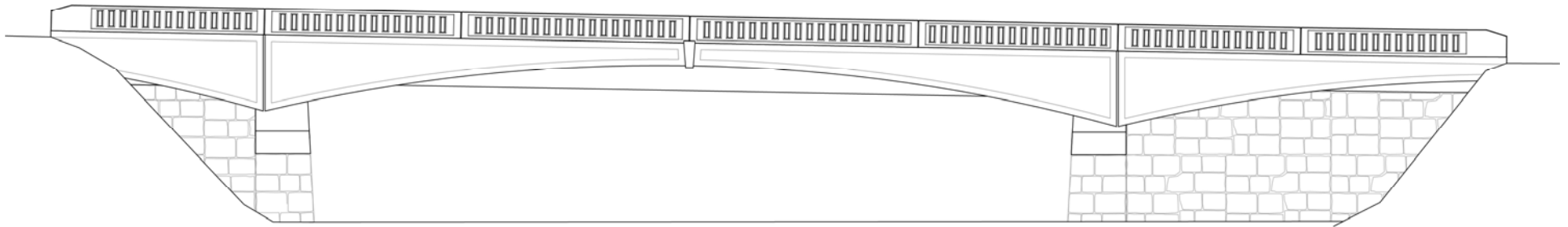


Fascia Enhancements

- The bridge fascia enhancement concepts herein are intended to serve as a starting point for discussion and dialog. All would be constructed from concrete.
- Future refinement and revisions are expected with input provided by the BAC
- The various bridge rail types presented can be interchanged between options
- Once initial preferences are identified, graphic renderings will be developed for review and discussion

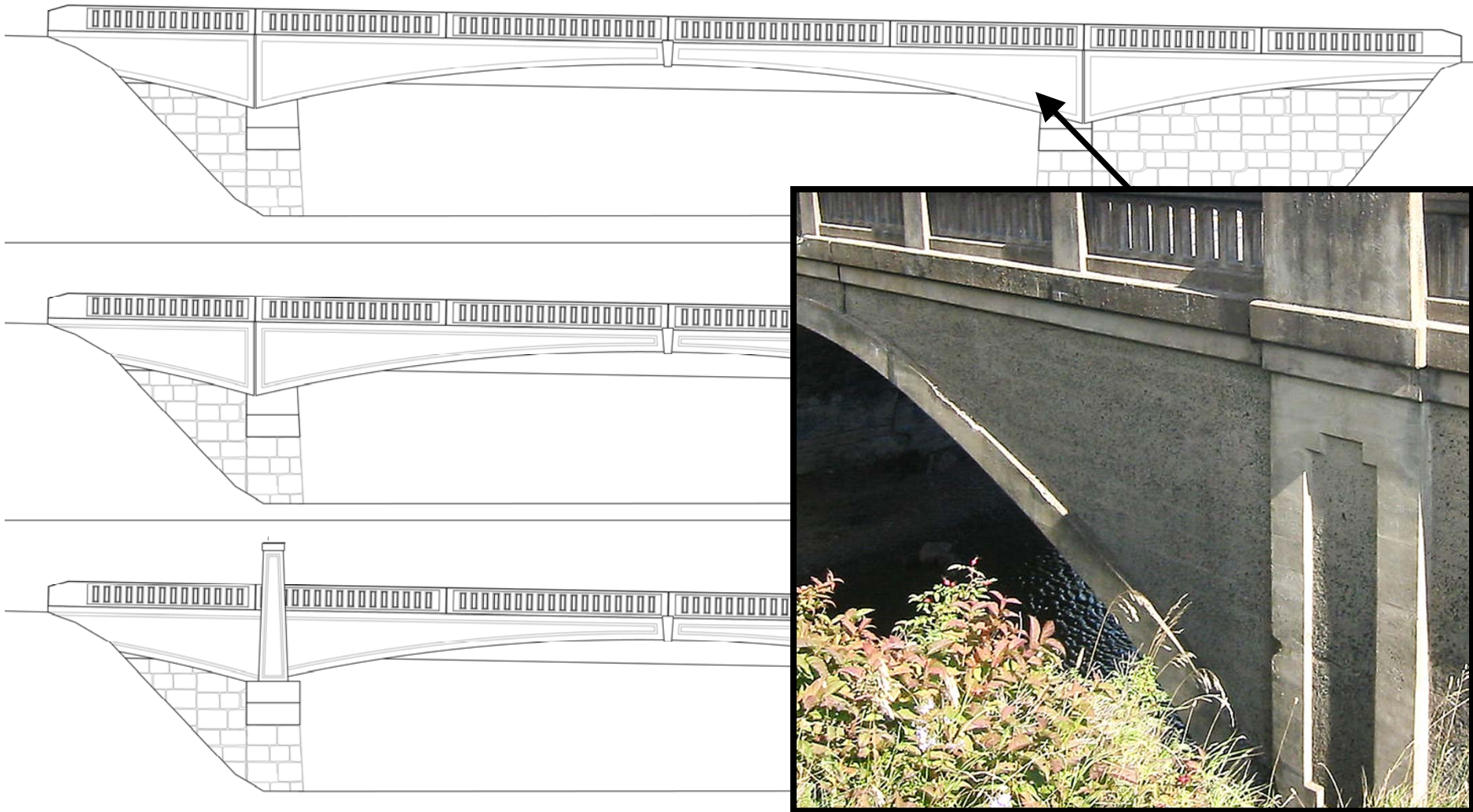
Fascia Enhancements

Alternative Series 1: Flat Panels, Main Span & Appr's



Fascia Enhancements

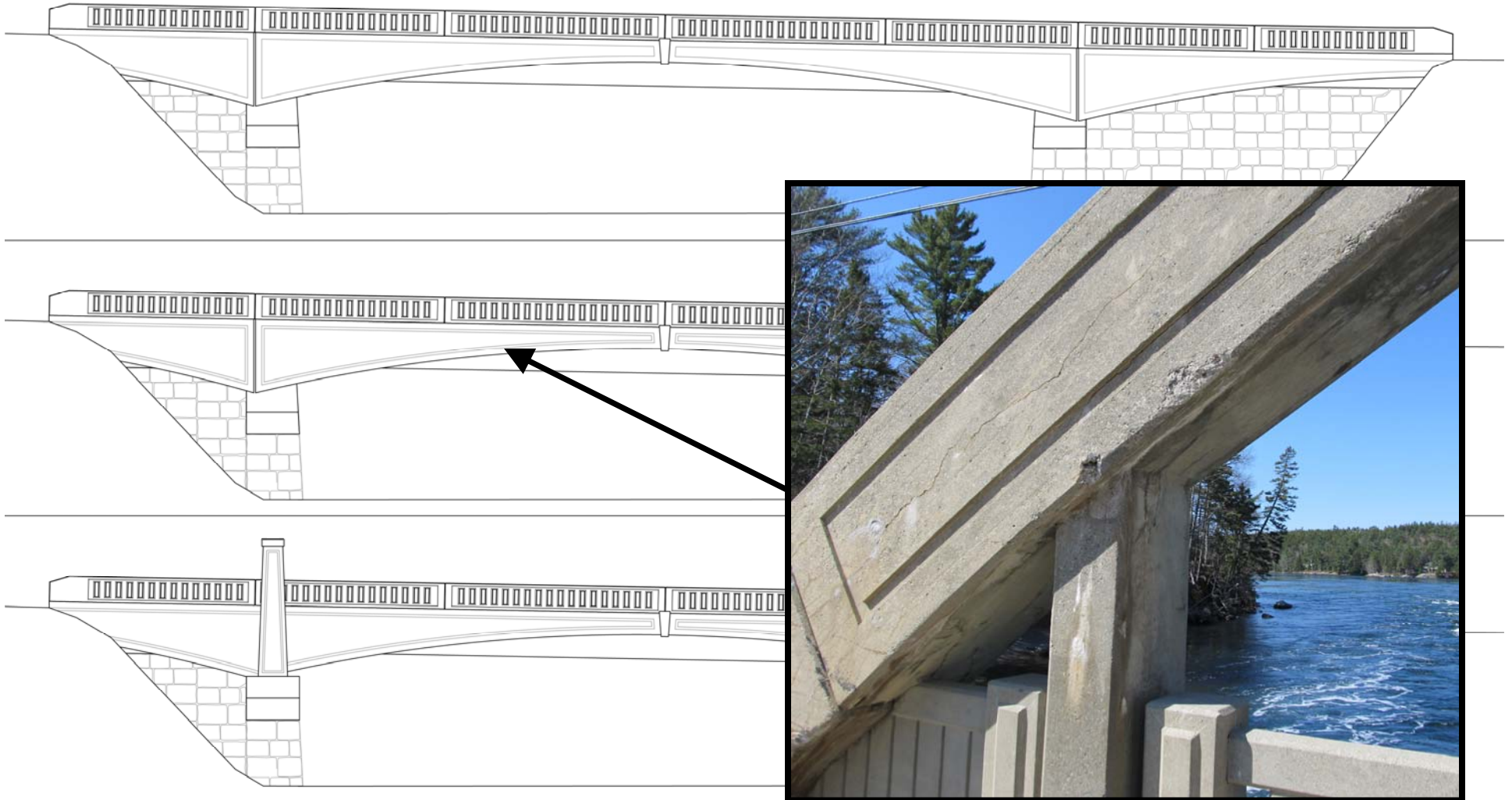
Alternative Series 1: Flat Panels, Main Span & Appr's



RECESS PANEL DETAIL

Fascia Enhancements

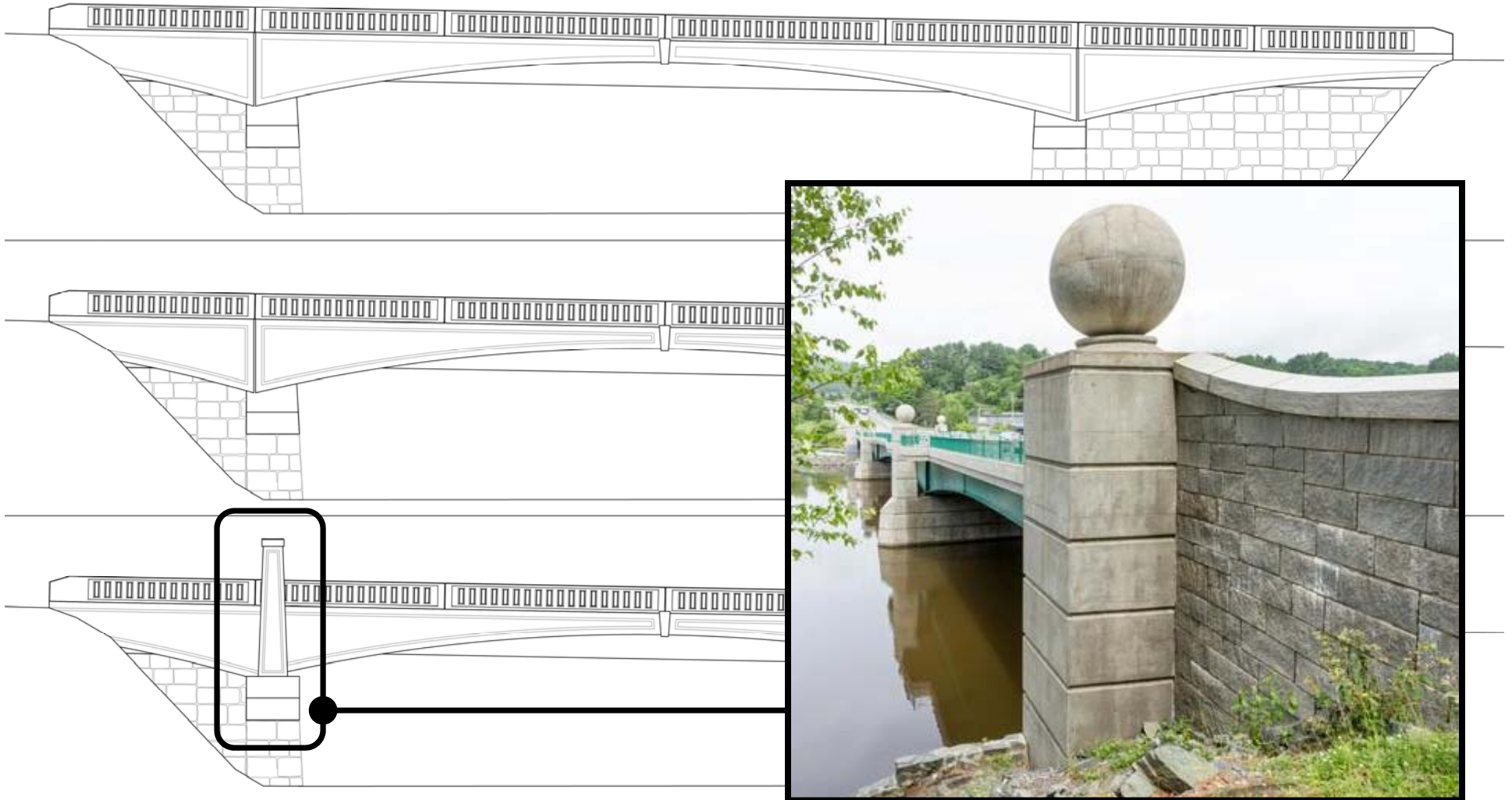
Alternative Series 1: Flat Panels, Main Span & Appr's



CHAMFER STRIP DETAIL

Fascia Enhancements

Alternative Series 1: Flat Panels, Main Span & Appr's

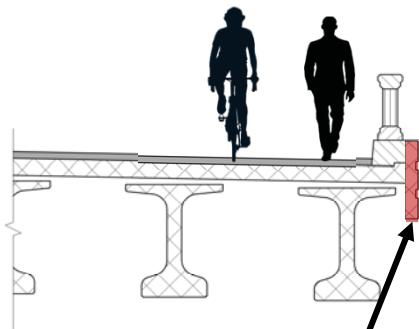


DECORATIVE COLUMN

Fascia Enhancements

Alternative Series 1 (Typical Sections)

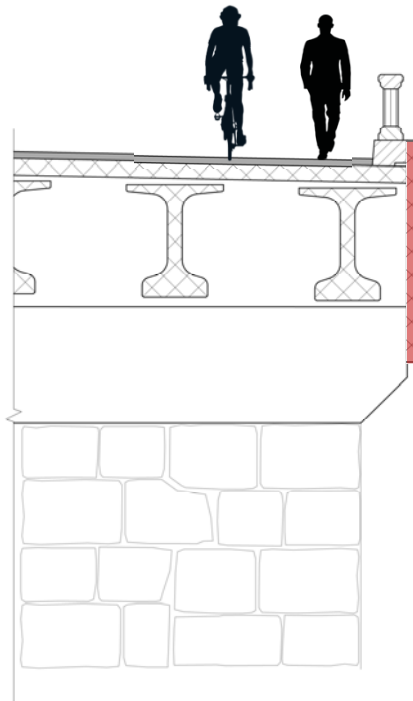
Section at Mid-Span



Variable
Depth Fascia
Panel

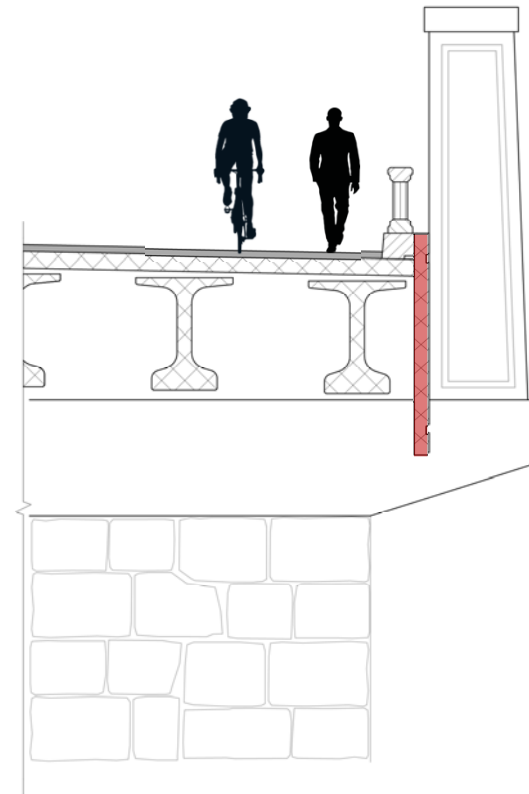
Section at Abutment

(without Columns)



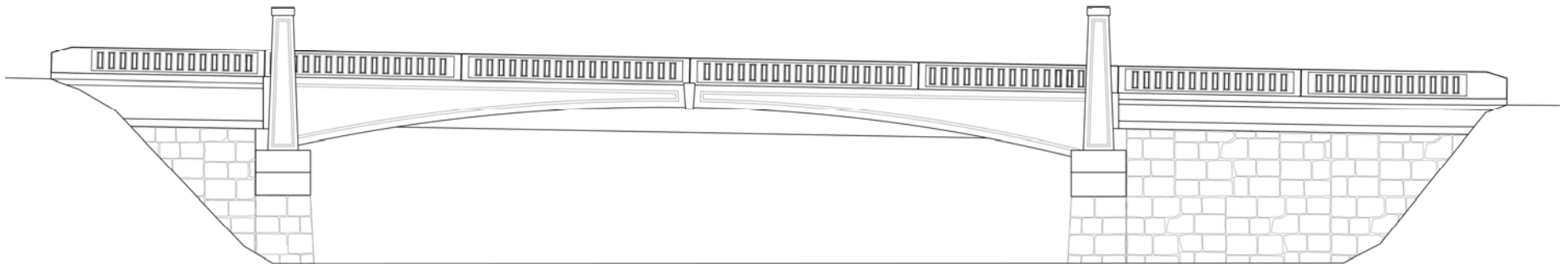
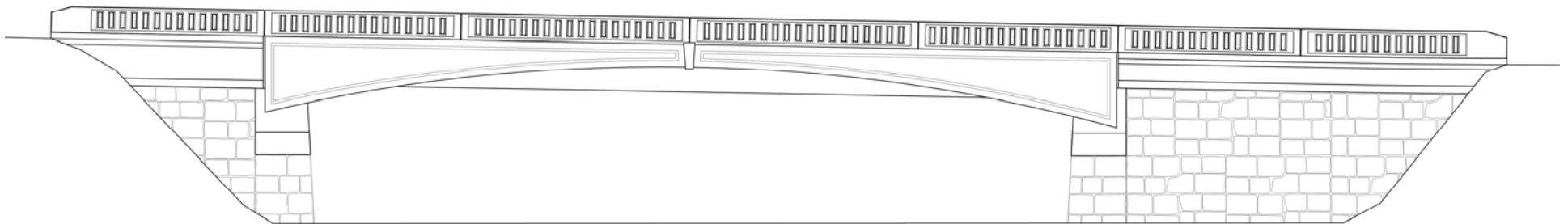
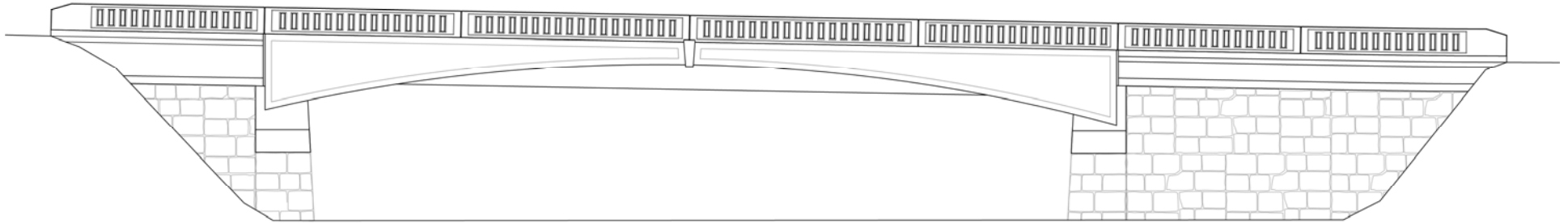
Section at Abutment

(with Columns)



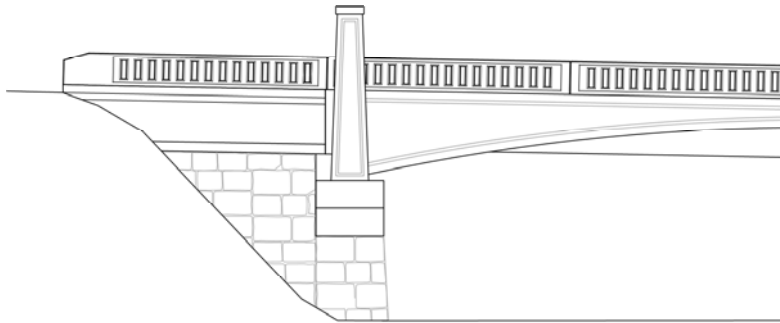
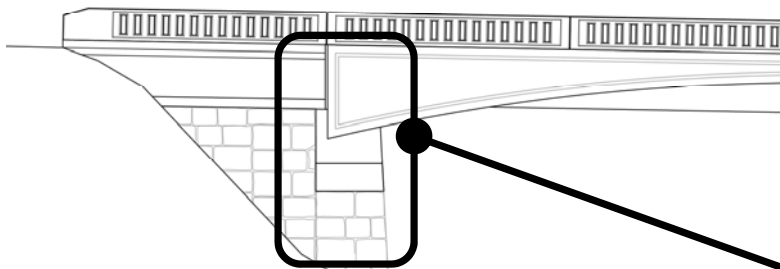
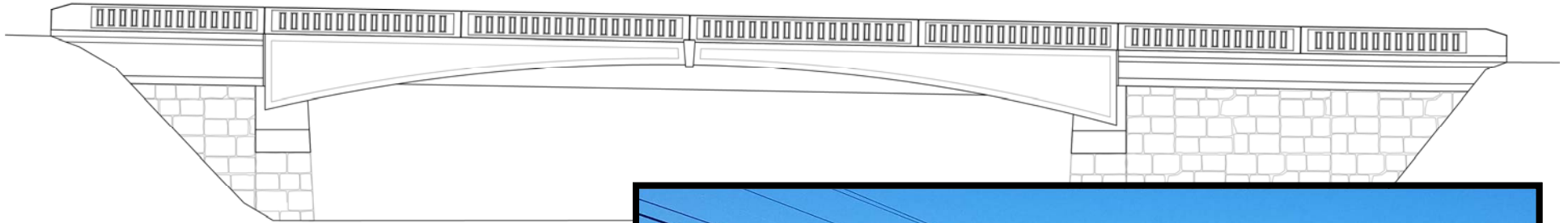
Fascia Enhancements

Alternative Series 2: Flat Fascia Panels, Main Span Only



Fascia Enhancements

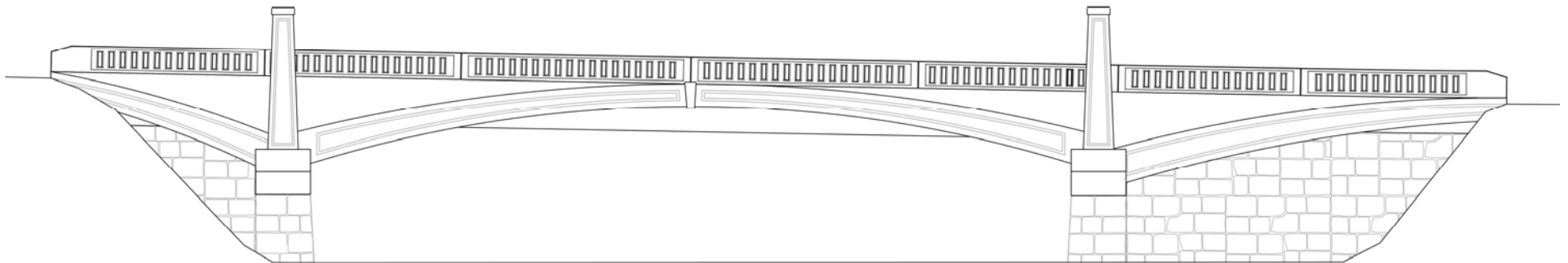
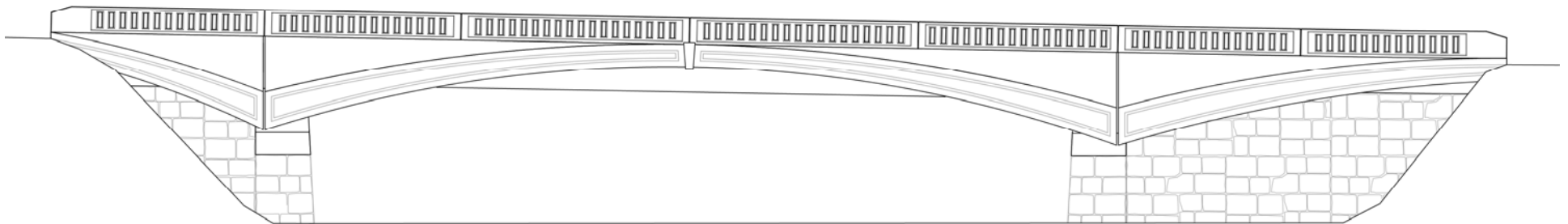
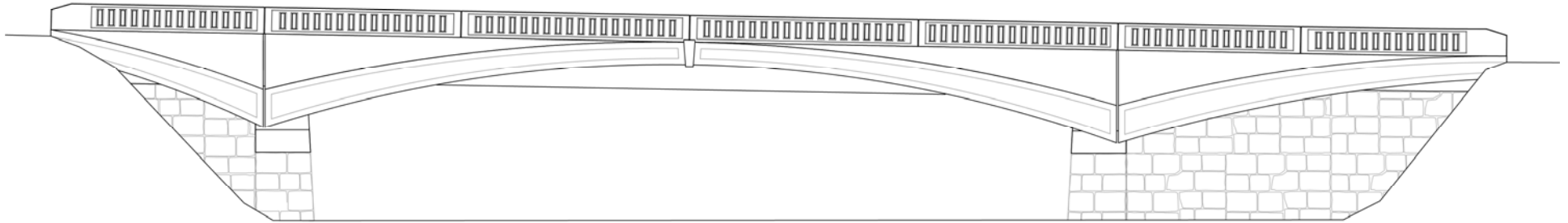
Alternative Series 2: Flat Fascia Panels, Main Span Only



Existing Falls Bridge

Fascia Enhancements

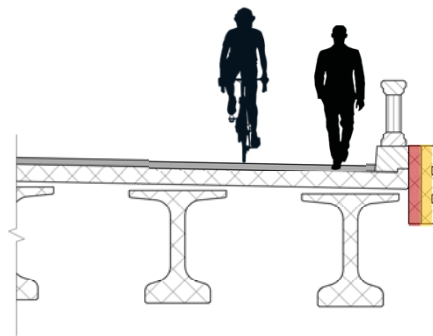
Alternative Series 3: Stepped Panels, Main Span & Appr's



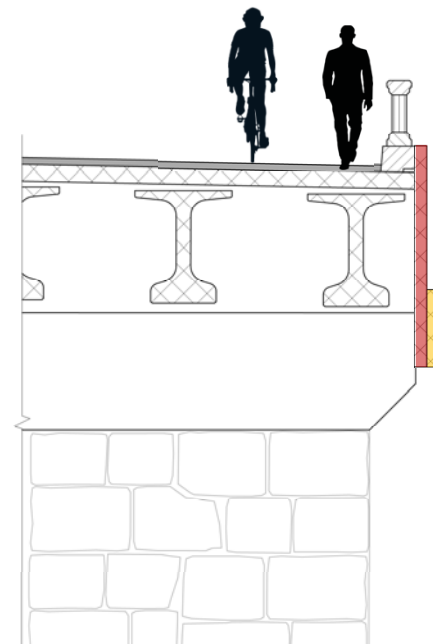
Fascia Enhancements

Alternative Series 3 (Typical Section)

Section at Mid-Span

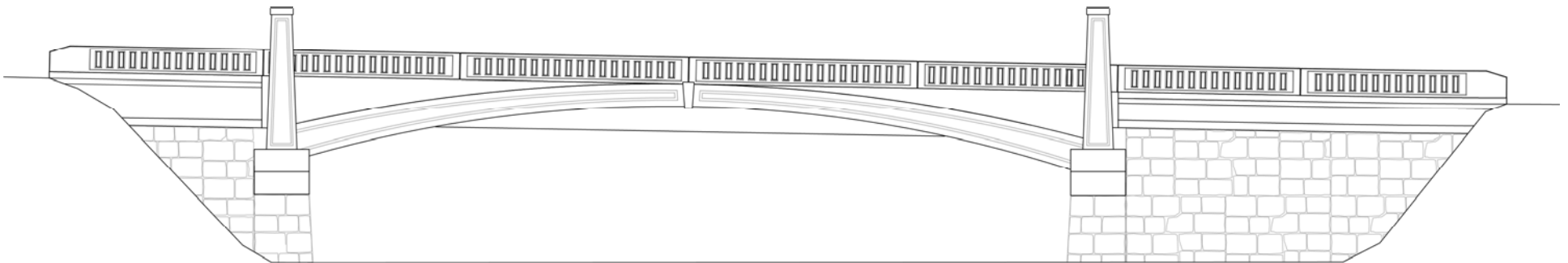
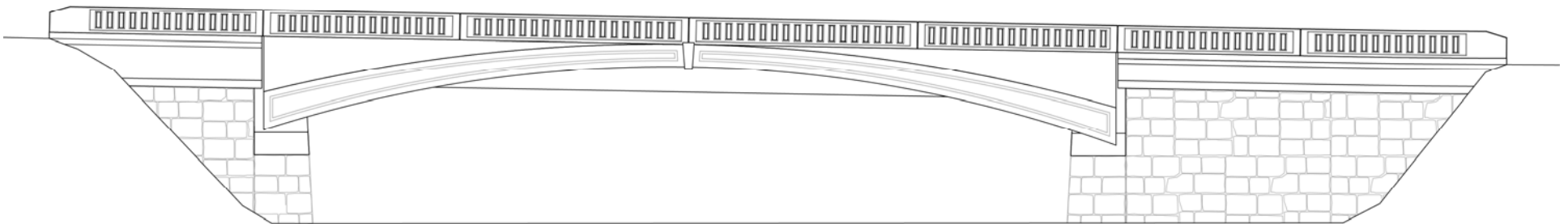
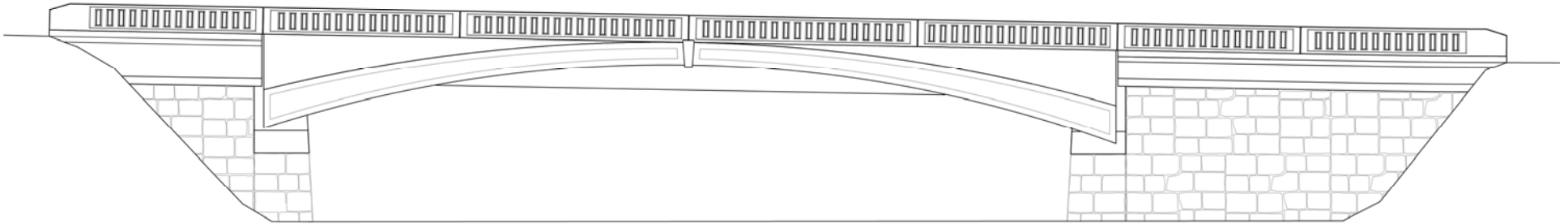


Section at Abutment



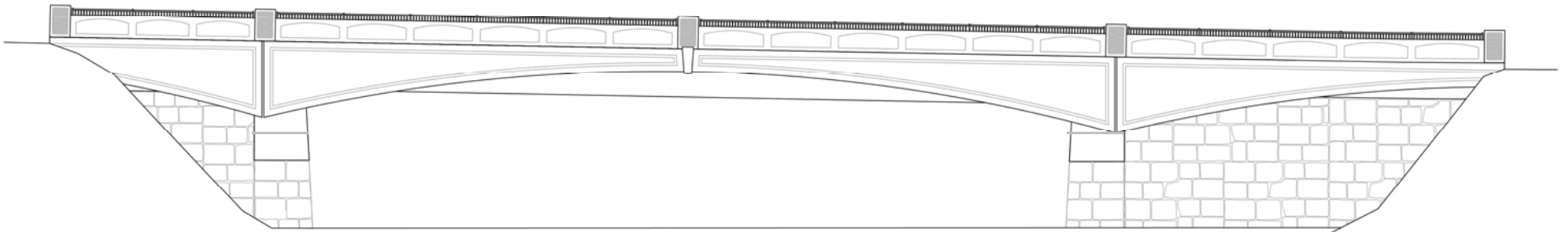
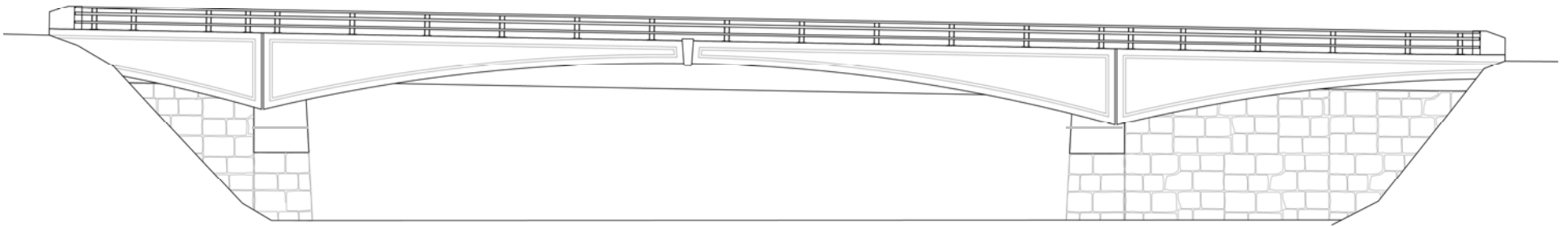
Fascia Enhancements

Alternative Series 4: Stepped Panels, Main Span Only



Fascia Enhancements

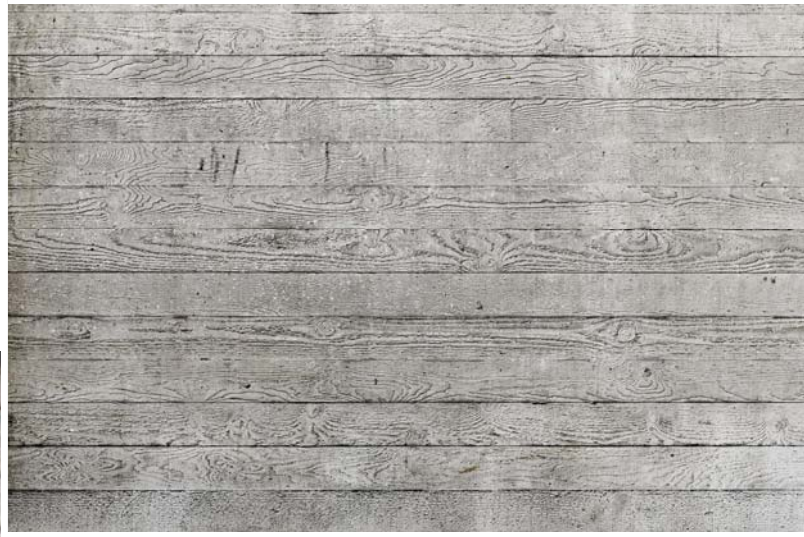
Alternative Series 1 Shown with Alternate Rail Types



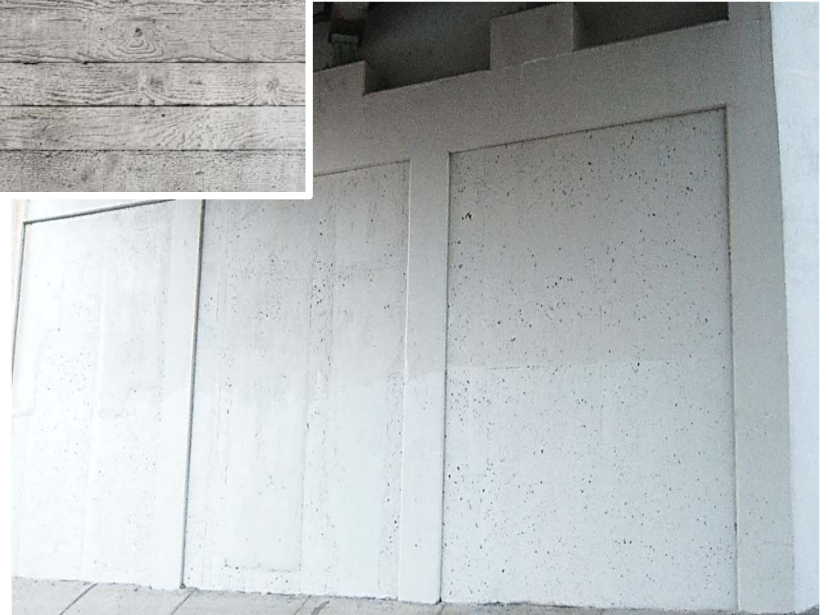
Fascia Enhancements

Concrete Finishing Options

Traditional Wood Plank



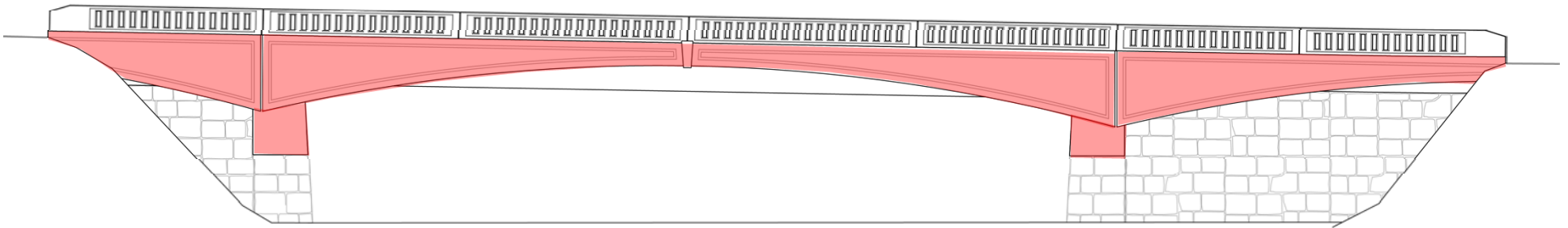
Ashlar Stone



Recessed Panel

Fascia Enhancements

Concrete Finishing Options – Possible Locations



Fascia Enhancements

Discuss Enhancement Options

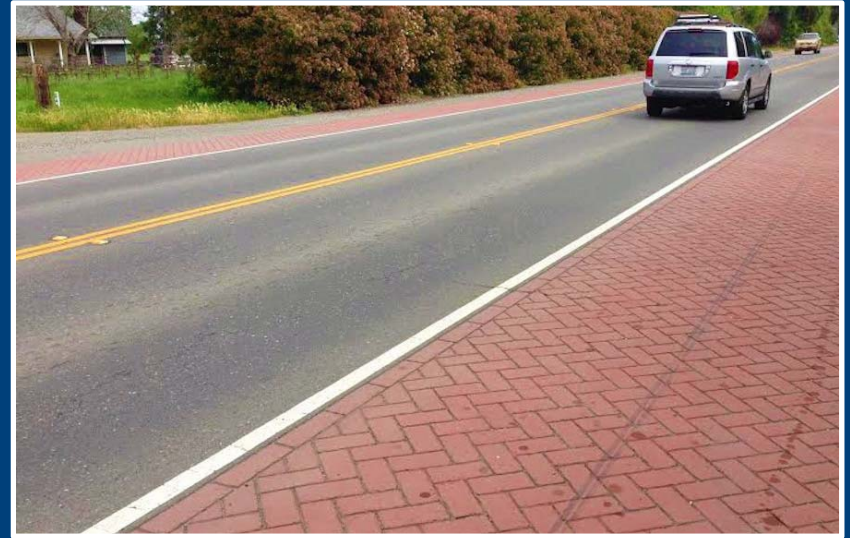
- Which options do you like best and why?
- Should we incorporate design elements of the old bridge, or forge a new path?
- Should columns be incorporated?
- Should the concrete receive a textured finish? If so, what type of texture?

Additional Project Enhancements

- Possible incorporation of existing bridge bronze plaque.
 - Location to be determined, not on proposed bridge.
- Possible shoulder striping/pigmenting.



Striped Shoulder



Stamped and Pigmented Pavement

The final decision regarding which additional enhancements are selected, and the details of those enhancements, can be assessed in final design

Additional Project Enhancements

- Pavement Patterning & Pigment



Additional Project Enhancements

- Pavement Patterning & Pigment degradation over time.



Next Steps

Aesthetic Enhancements

- Feedback received will be used by the design team to further iterate and refine concepts
- Refined concepts will be presented for discussion at a future BAC meeting

General Project Update

- Draft preliminary design report is being reviewed
- Final design will be starting this fall/winter and incorporate feedback and ideas from this process

Handout Exercise

Goal

- Determine desired components for three individual conceptual renderings

Components (See Handout)

- Rail Type
- Fascia Panel Type (Flat or Stepped) & (Main Span Only or Main Span & Appr.)
- Fascia Panel Treatment (Chamfer or Recessed)
- Columns (Yes or No)
- Concrete Finish (Yes or No, Type & Location)
- Roadway Shoulder Treatment (Pattern &/or Pigment)