



MaineDOT



In cooperation with the
**State of
New Hampshire**



U.S. Department of Transportation
**Federal Highway
Administration**



Stakeholder Meeting

SARAH MILDRED LONG Bridge Replacement *The Regional River Crossing*

Linking Kittery, Maine & Portsmouth, New Hampshire

May 30, 2013





Welcome & Introductions



MaineDOT

New Hampshire
DOT
Department of Transportation



Lead Agency

Supporting Agency

Supporting Agency

Design Team

FIGG | Hardesty & Hanover
Joint Venture

SEBAGO
TECHNICS



Bridge Design

Roadway Design

Geotechnical, Hydraulics



Project Team



MaineDOT

in cooperation with
**the State of New Hampshire and the
Federal Highway Administration**

PUBLIC STAKEHOLDERS

FIGG | Hardesty & Hanover
Joint Venture

CIANBRO

Public Involvement Process Goals & Objectives

GOALS

Gain input from the community through open communications throughout design.

Through the Design Workshops, participants come together to select key aesthetic features for the new bridge.



Public Involvement Process Goals & Objectives

OBJECTIVES

Create a bridge that is beautiful and functional

Compliment the landscape with context sensitive design

Utilize efficient structural forms that are economical

Capture the community vision for a signature bridge





Community Involvement

Design Workshops



Newsletters



Education for Kids



Bridge Website



[www.mainedot.gov/mdot/sml/
index.shtml](http://www.mainedot.gov/mdot/sml/index.shtml)
[Link to
Sarah Mildred Long Bridge](#)

Sidewalk Community Talks During Construction



Bridge Box for Teachers

Stakeholder Meeting and Workshop Schedules

Stakeholder Meeting	January 24, 2013
Design Workshop	April 26, 2013
Stakeholder Meeting	May 30, 2013
Design Workshop	July 11, 2013
Stakeholder Meeting	September 2013

* Stakeholder Meetings are for input and information

* Design Workshops are cross section of the community to work with design team on selecting bridge features for final aesthetics



Stakeholders Meeting - January 24, 2013



35 Community Participants



Design Workshop - April 26, 2013

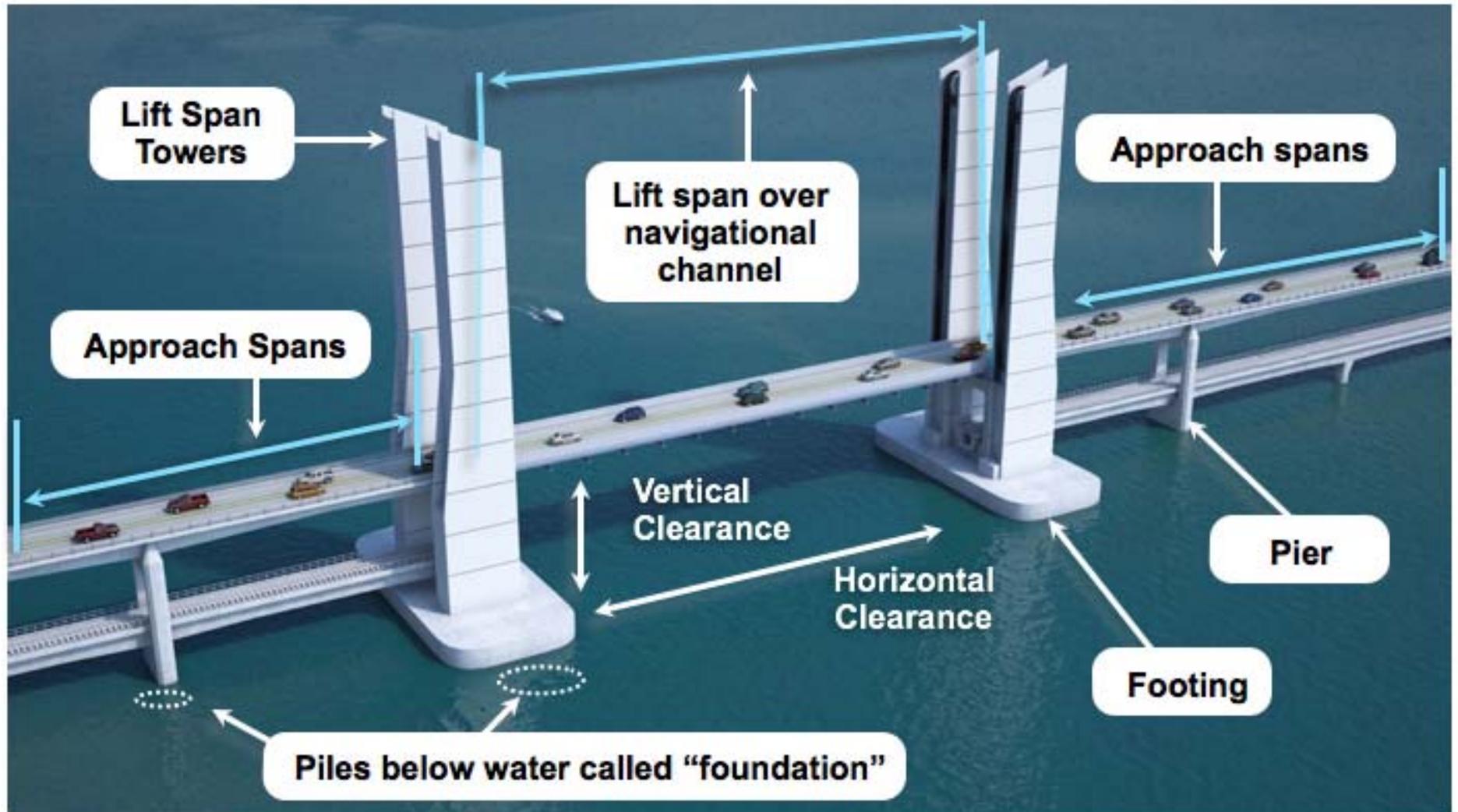


32 Community Participants

- Followed agenda to review bridge options
- Presented options
- Encouraged open discussion
- Provide handouts on each topic
- Recorded preferences

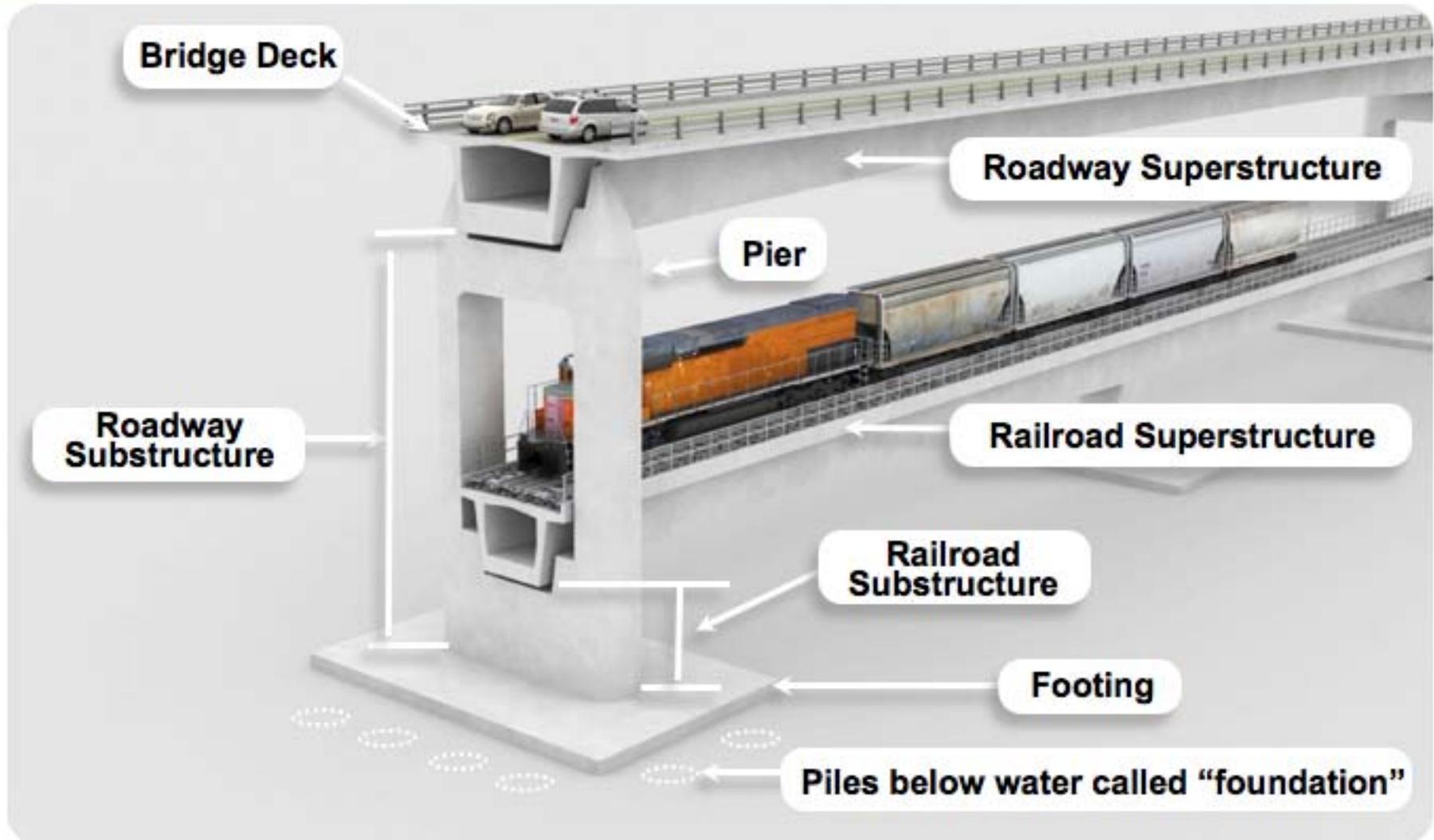
Project Overview

Bridge Terminology



Schematic bridge for illustration of terms

Bridge Terminology



Schematic bridge for illustration of terms

Area Bridge Locations



I-95 Piscataqua Bridge

Piscataqua River

Sarah Mildred Long Bridge



Memorial Bridge

Portsmouth, New Hampshire

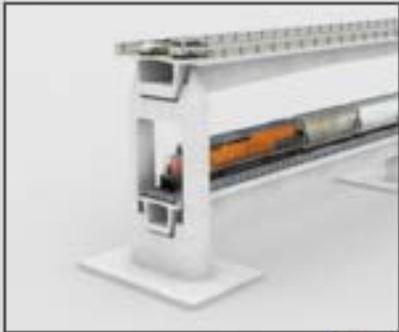
Kittery, Maine

Current Alignment

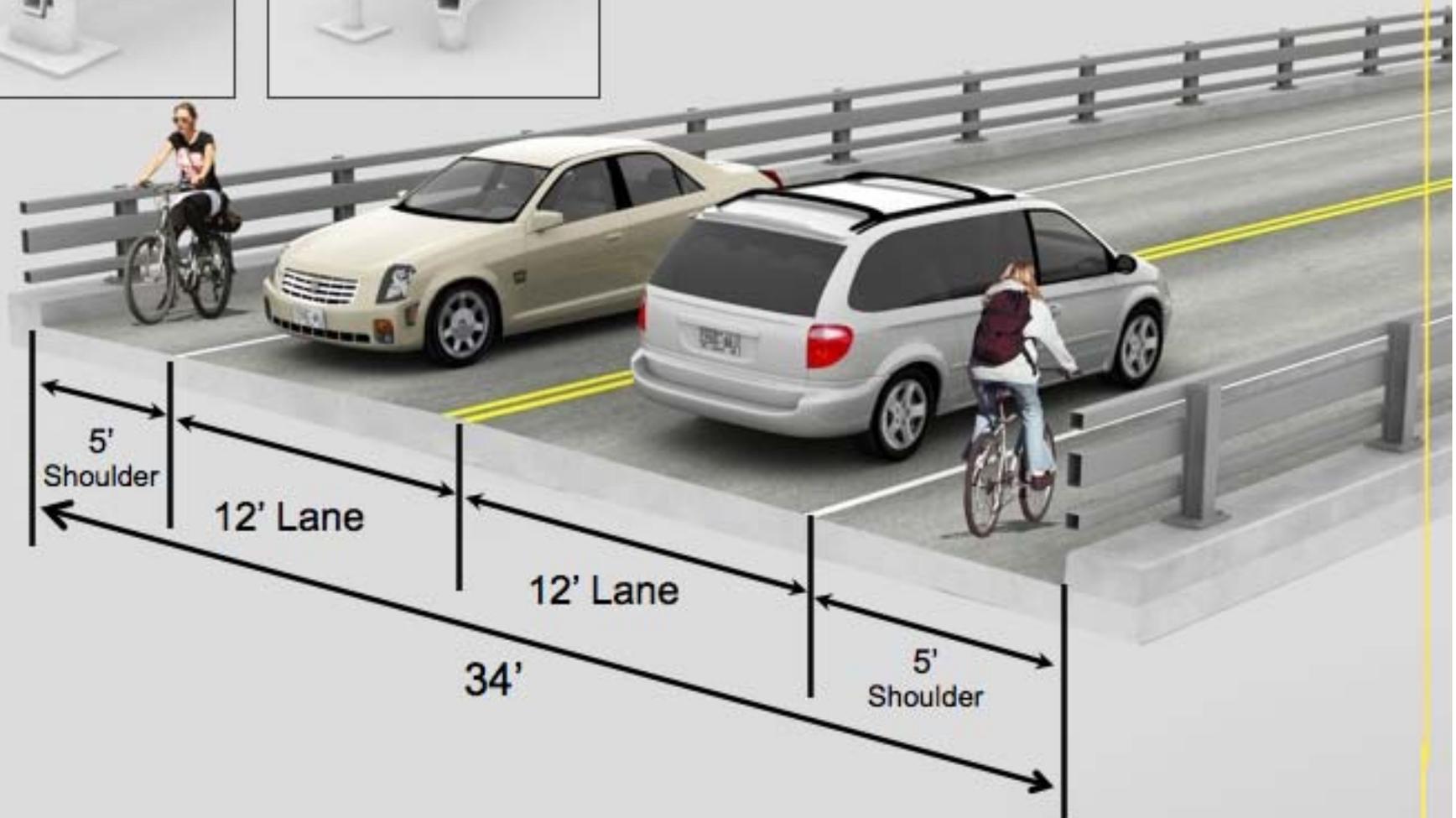




Proposed Cross-Section

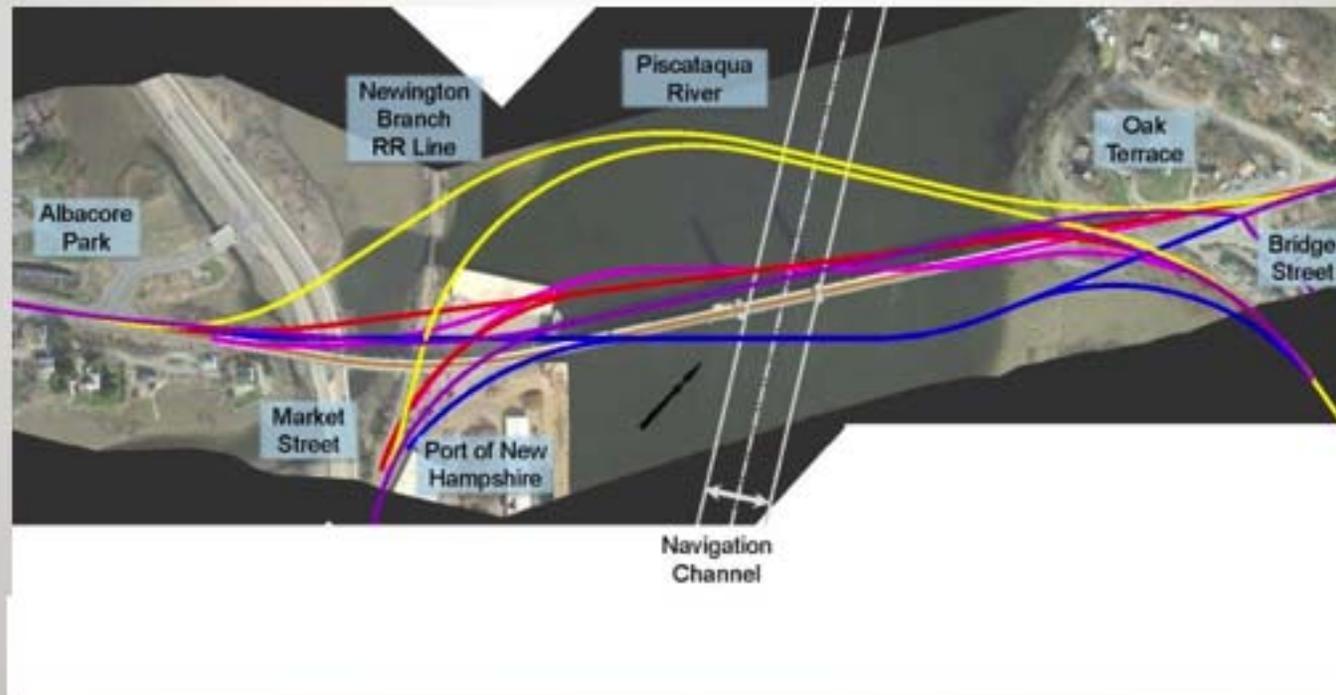


**Vehicle traffic is on bridge
above the train**



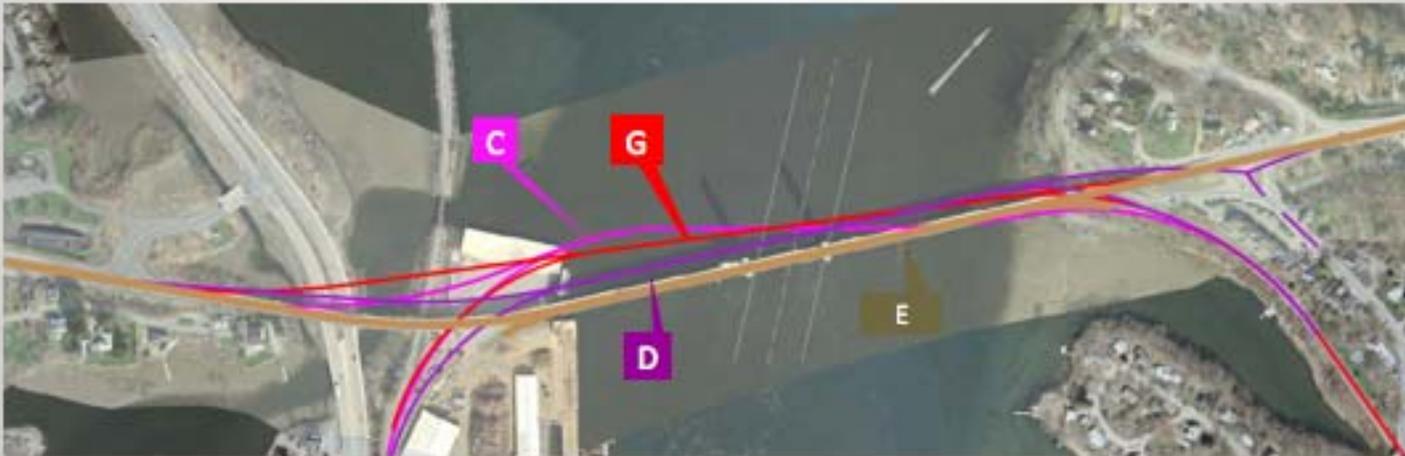
A photograph of a blank white canvas mounted on a light-colored wall. The canvas is rectangular and occupies most of the upper half of the frame. Below the canvas is a wooden floor with a herringbone pattern. The text "We Began Together with a Blank Canvas" is overlaid on the bottom portion of the image.

We Began Together with a Blank Canvas



Studied new alignments to provide a practical and efficient solution for the new bridge

Alignments C, D , E and G



Top new alignments studied further



Selected Alignment



Benefits of Selected Alignment

Most cost effective design

Improved clearance of the navigation channel

Improves constructability by moving away from existing foundations and obstructions

Portsmouth Side:

No impact to Albacore Park

Optimizes the space at the Port

Kittery Side:

Opens up land use opportunities

Less overlap with existing alignment reduces closures during construction

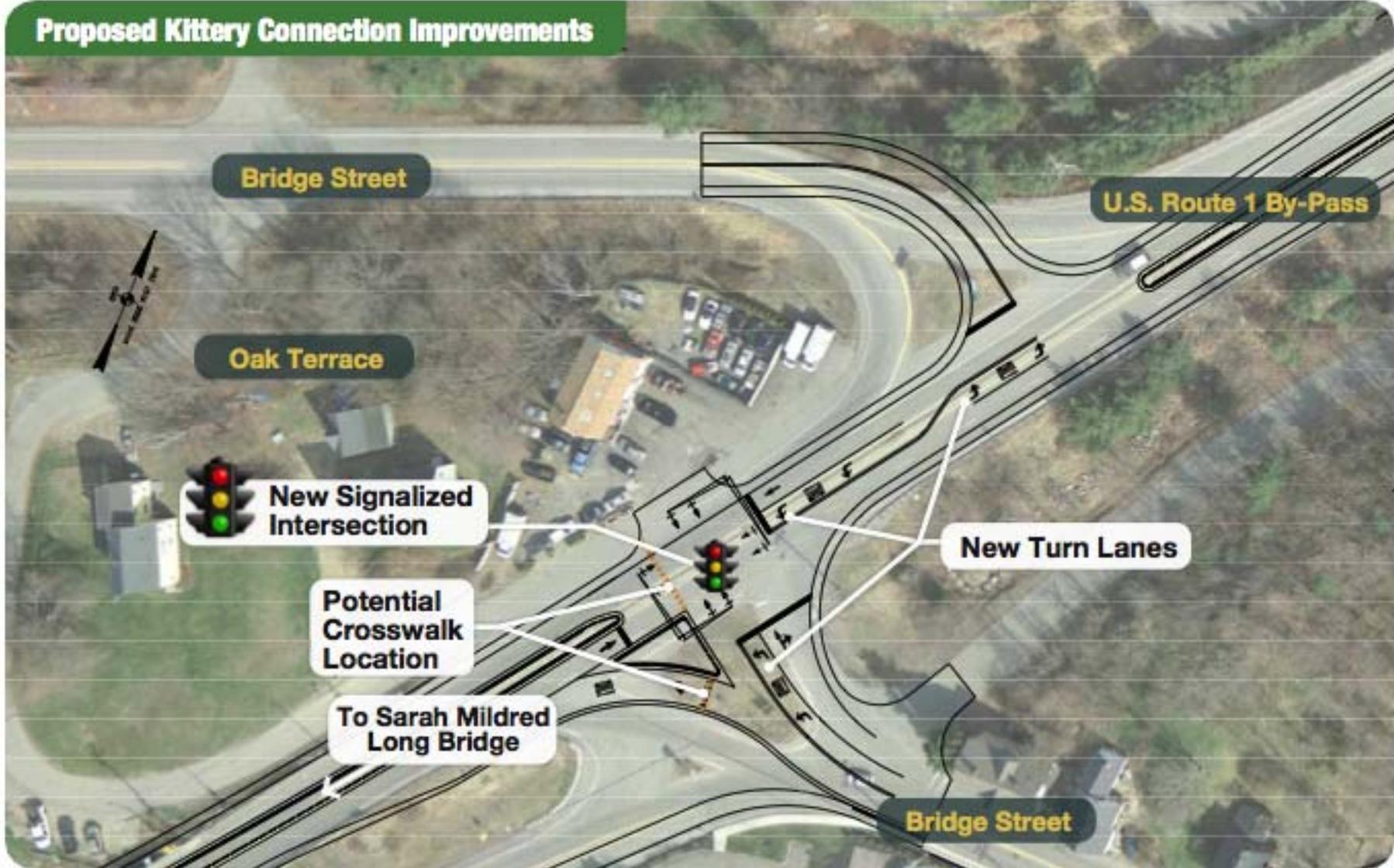


Portsmouth & Kittery Connections

Portsmouth Connection

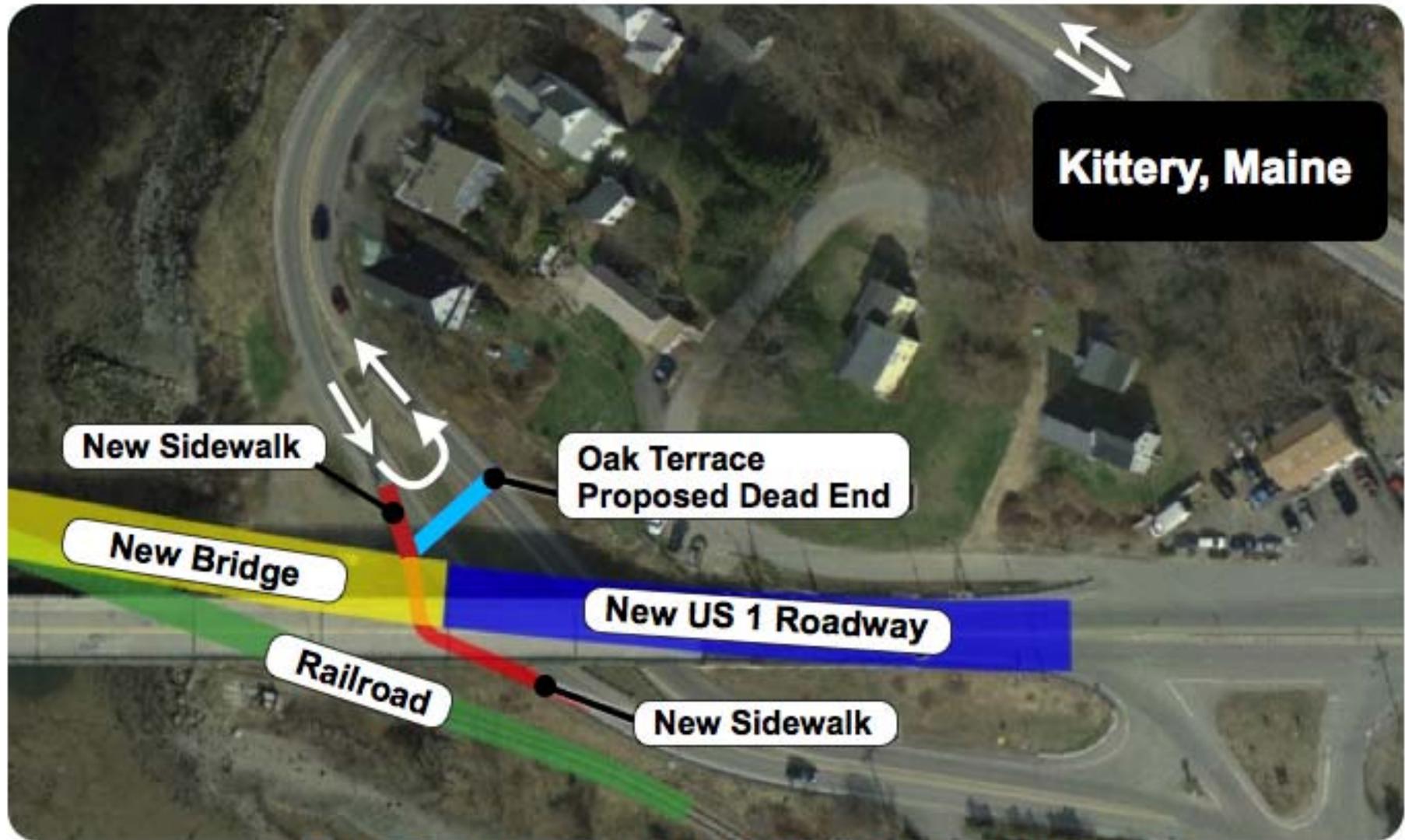


Kittery Connection





Kittery Connection

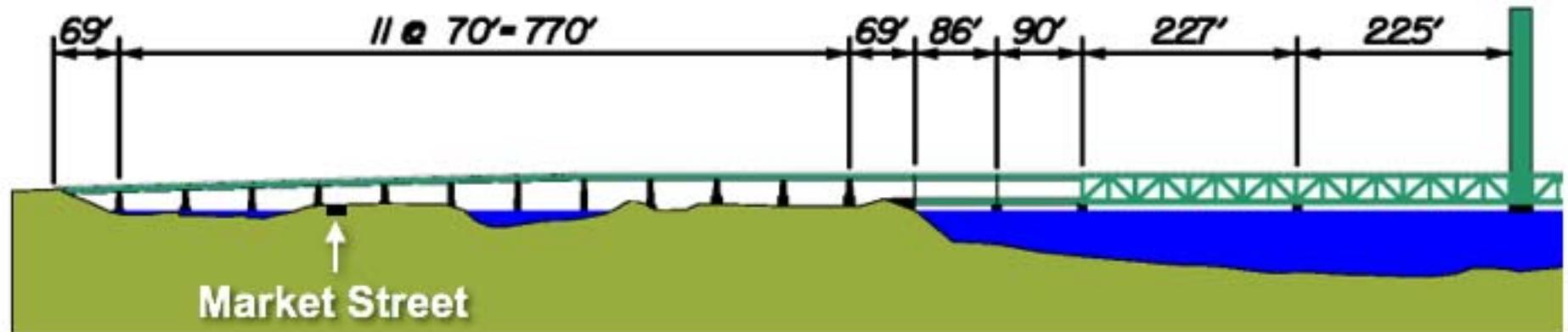


Improves pedestrian connection from Oak Terrace neighborhood to Bridge Street

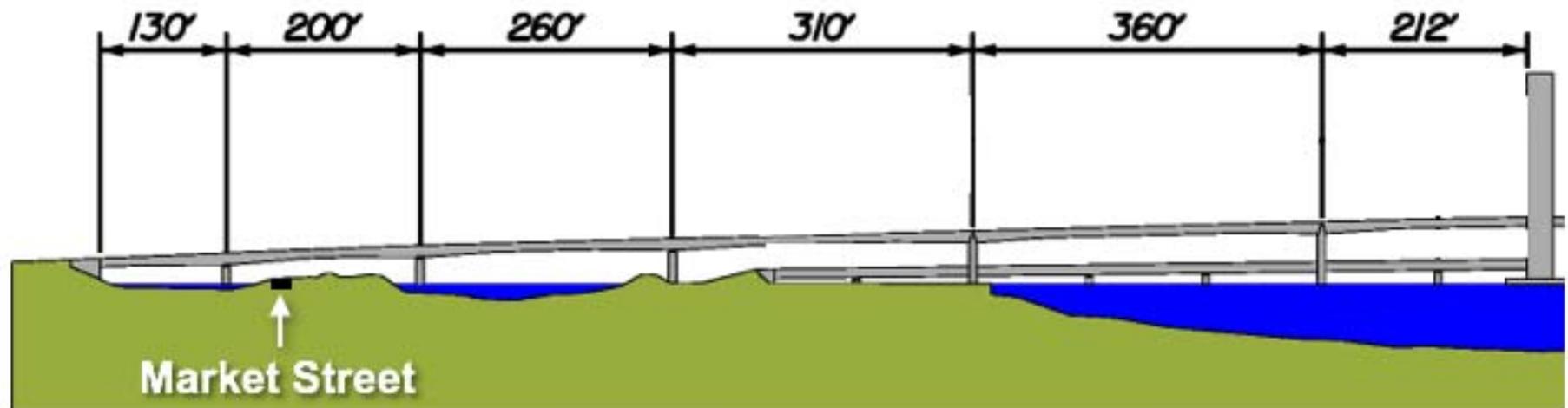
Structure Type and Span Arrangement

Portsmouth Side Span Arrangement

Existing Bridge

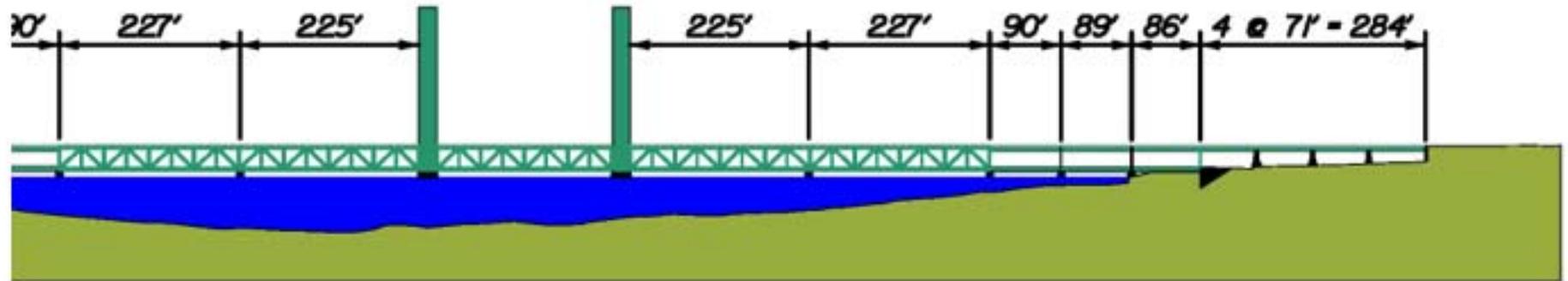


Proposed Bridge

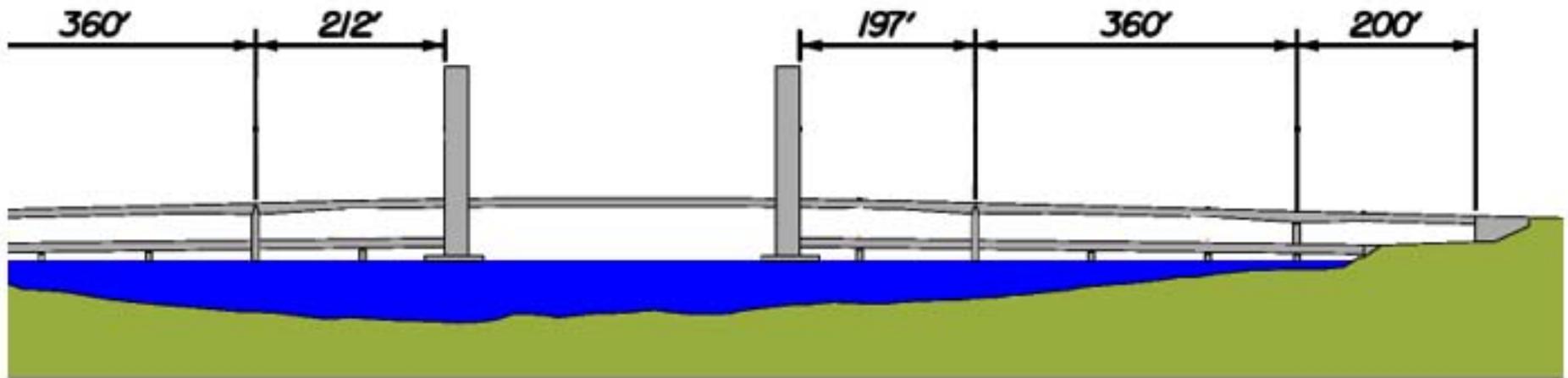


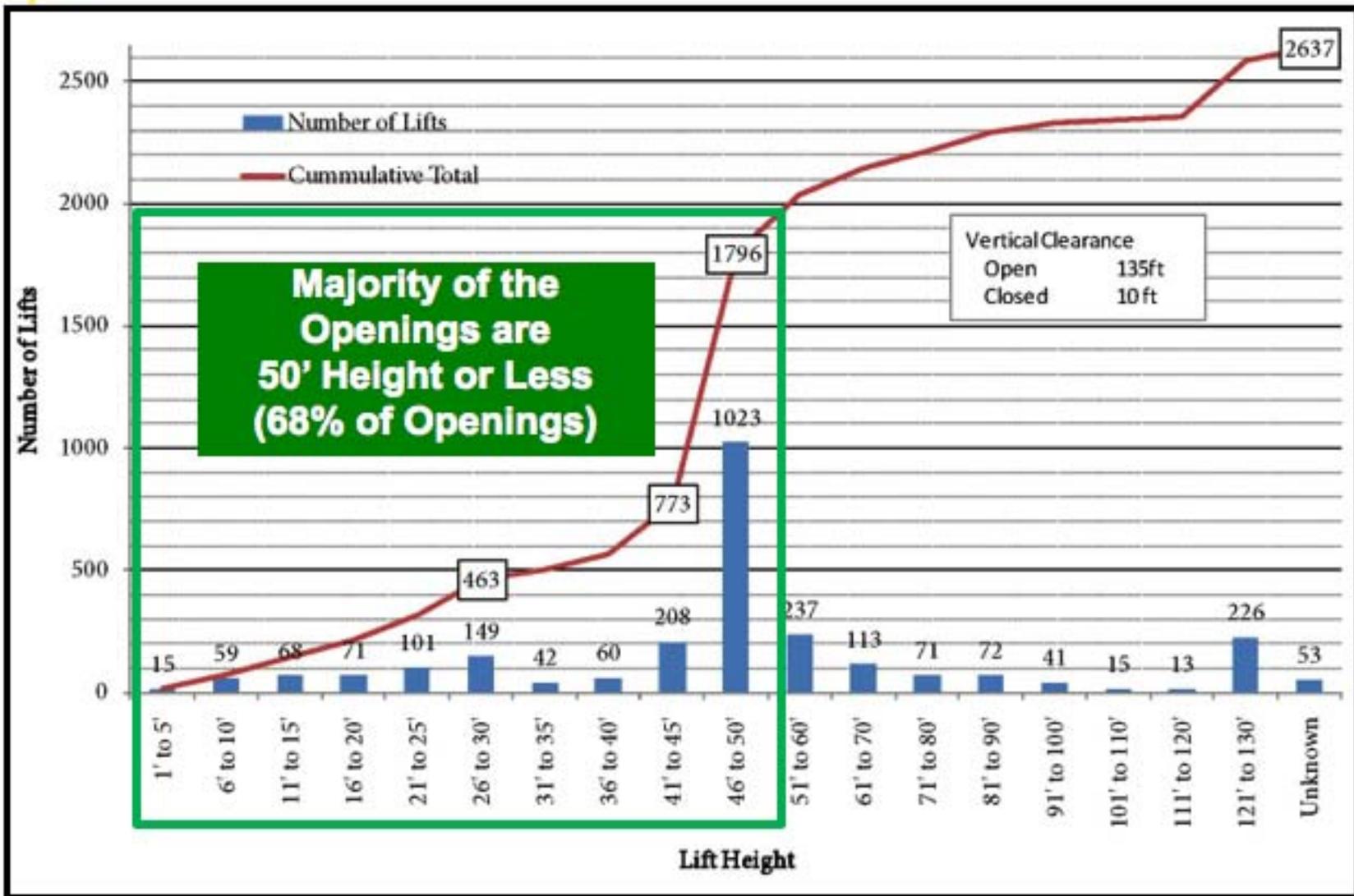
Kittery Side Span Arrangement

Existing Bridge



Proposed Bridge

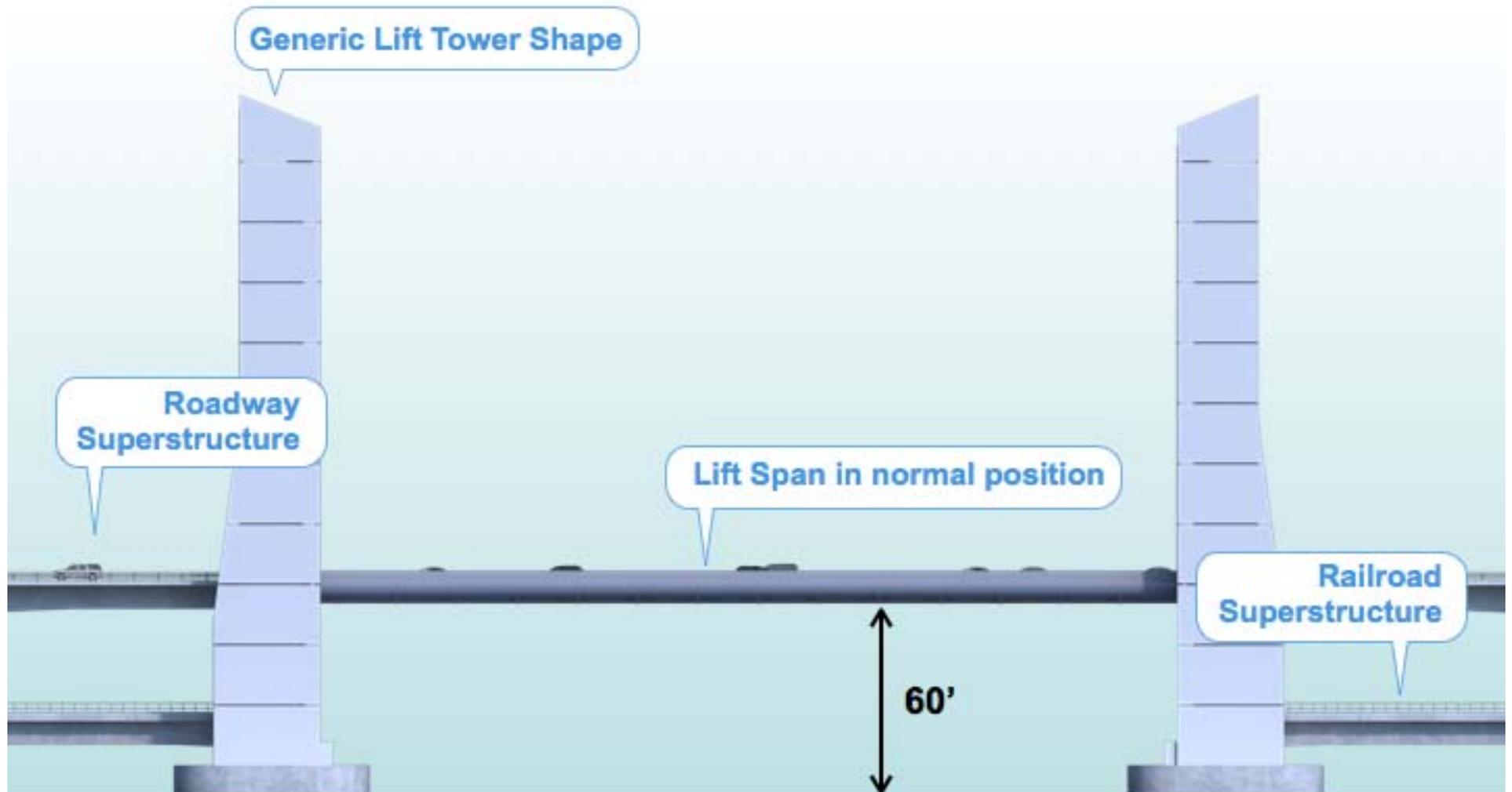




Reduce Number of Bridge Openings



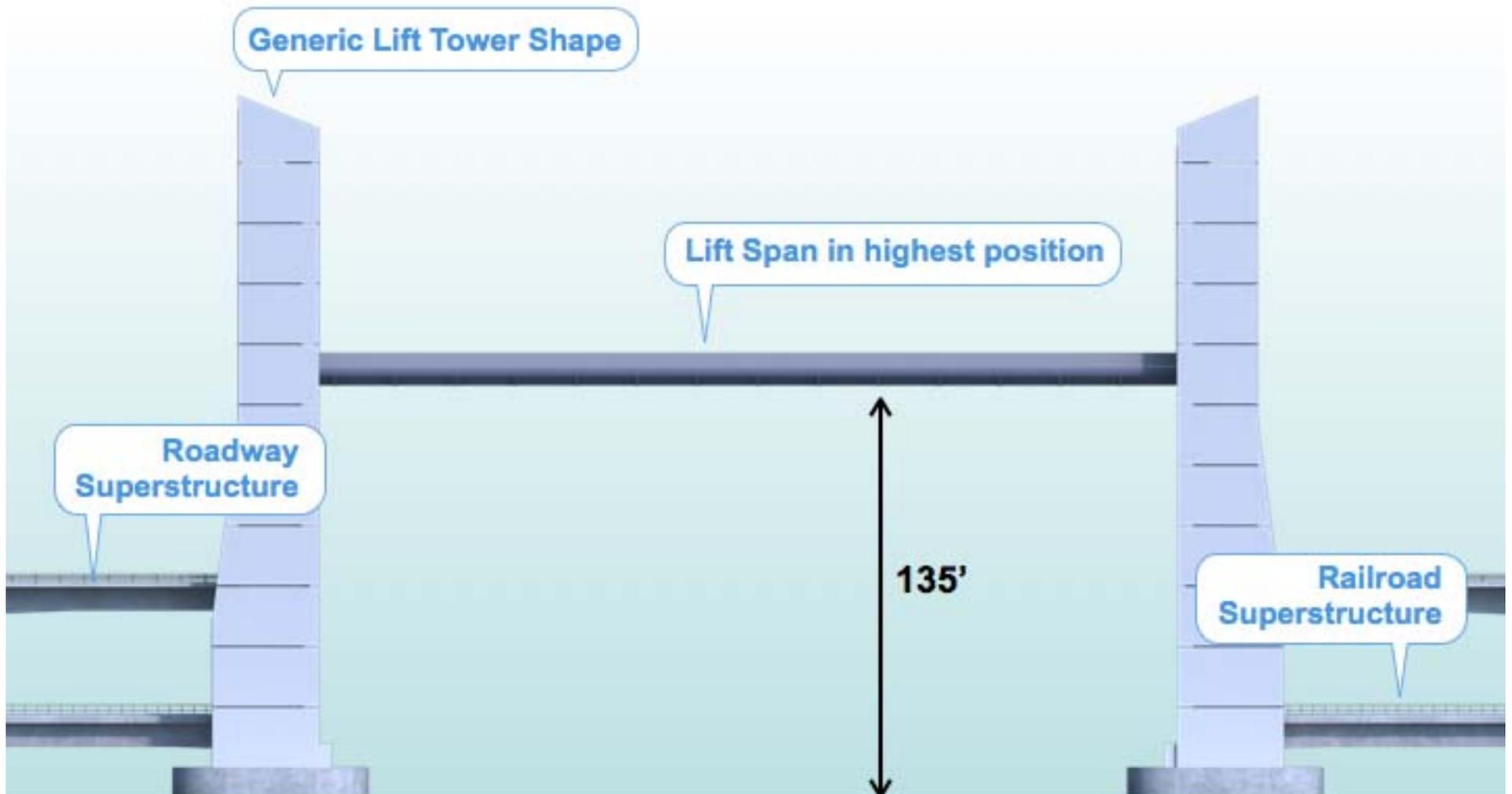
Proposed Typical Clearances



Bridge in typical configuration



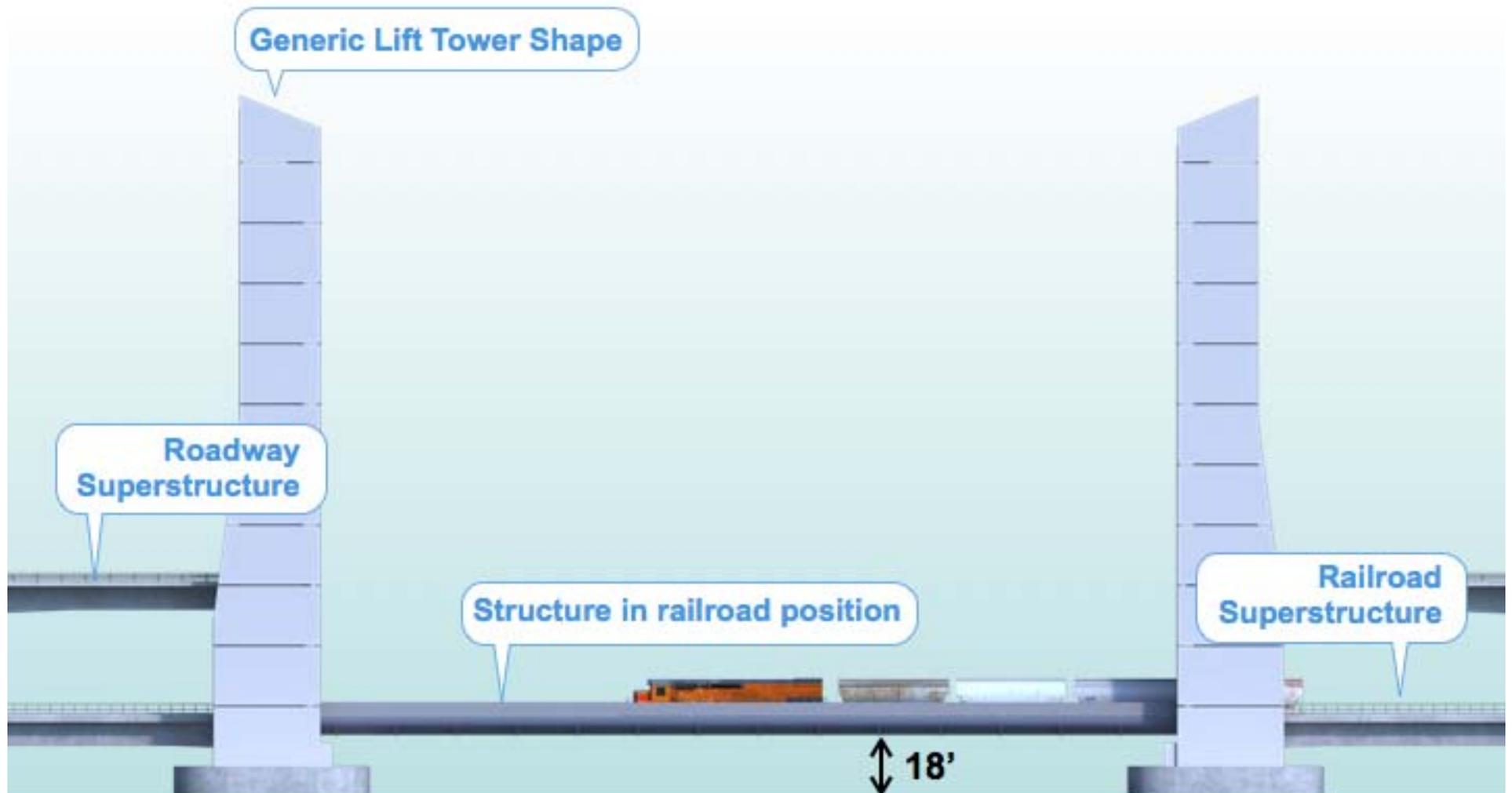
Proposed Typical Clearances



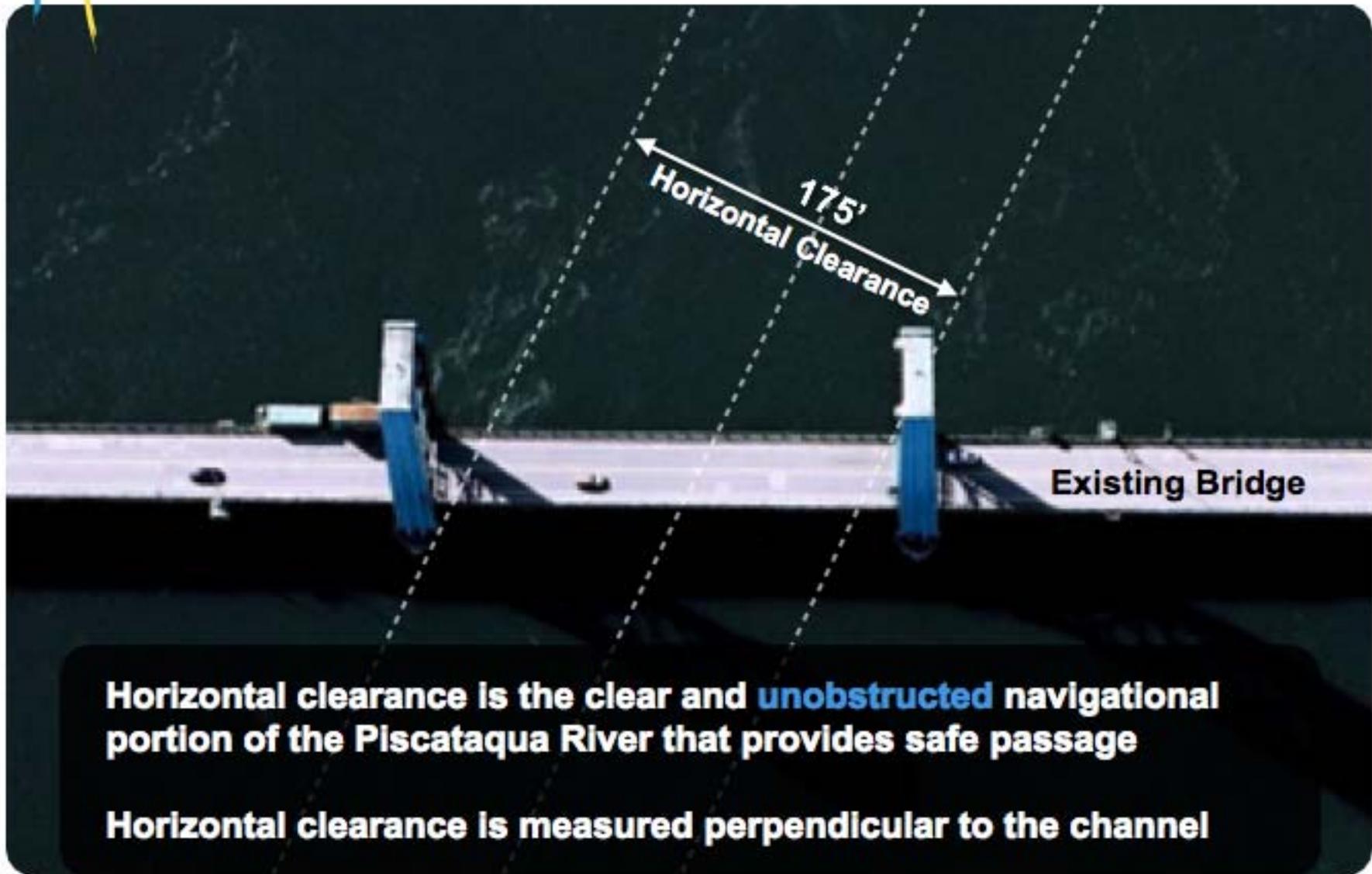
Bridge main-span lifted in highest configuration for tall vessels to pass under



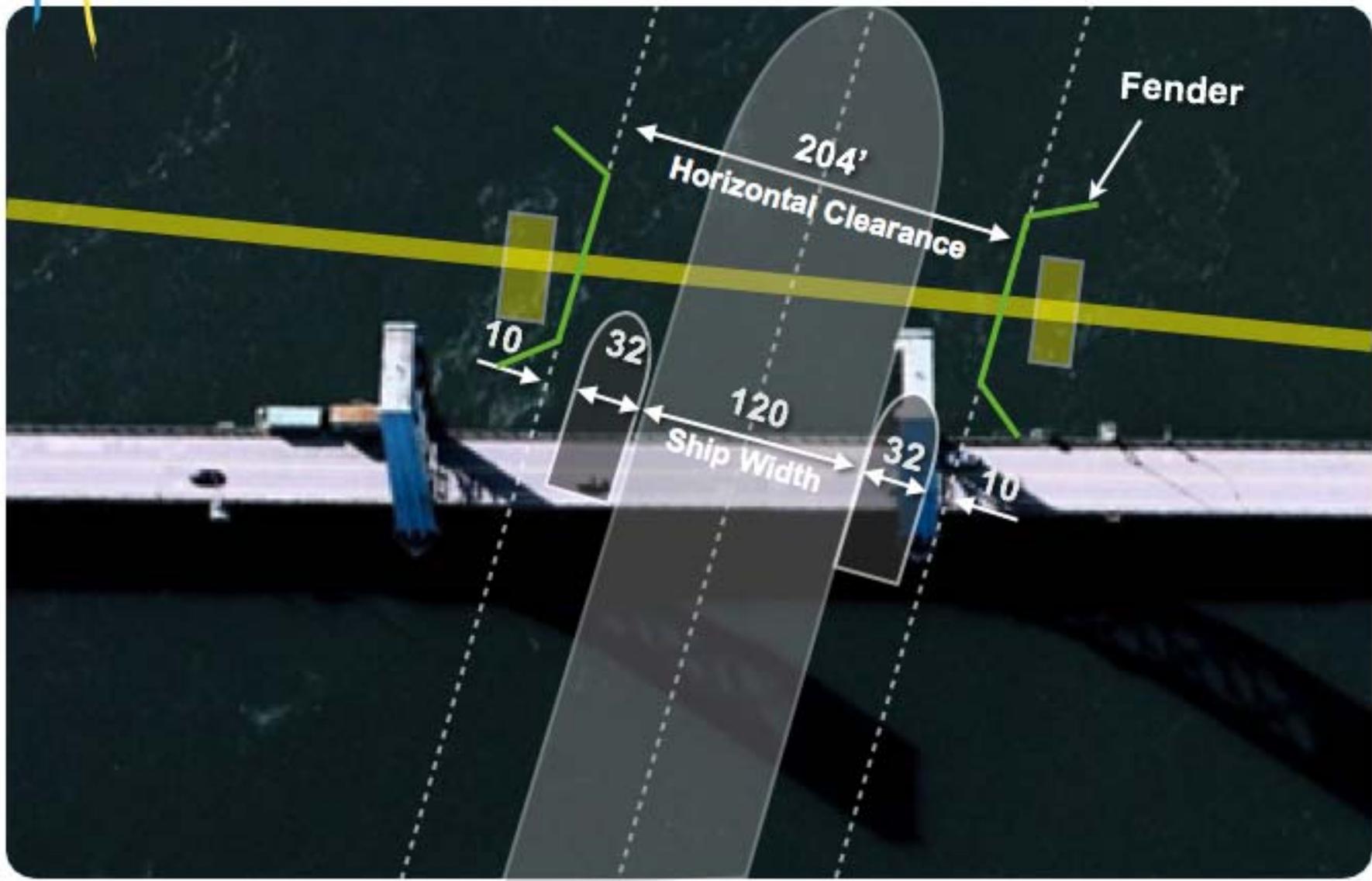
Proposed Typical Clearances



Bridge main-span lowered to the railroad crossing configuration



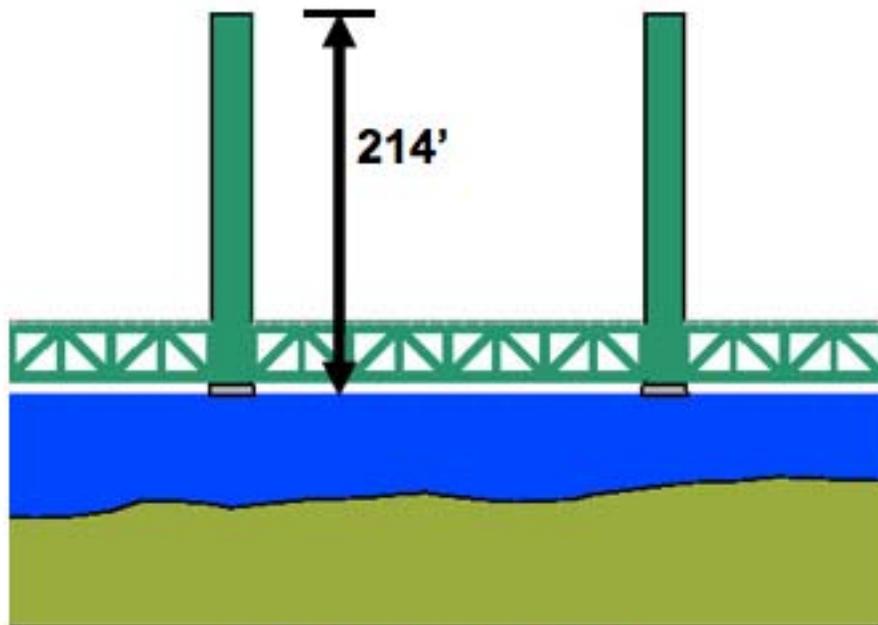
Existing Horizontal Clearance



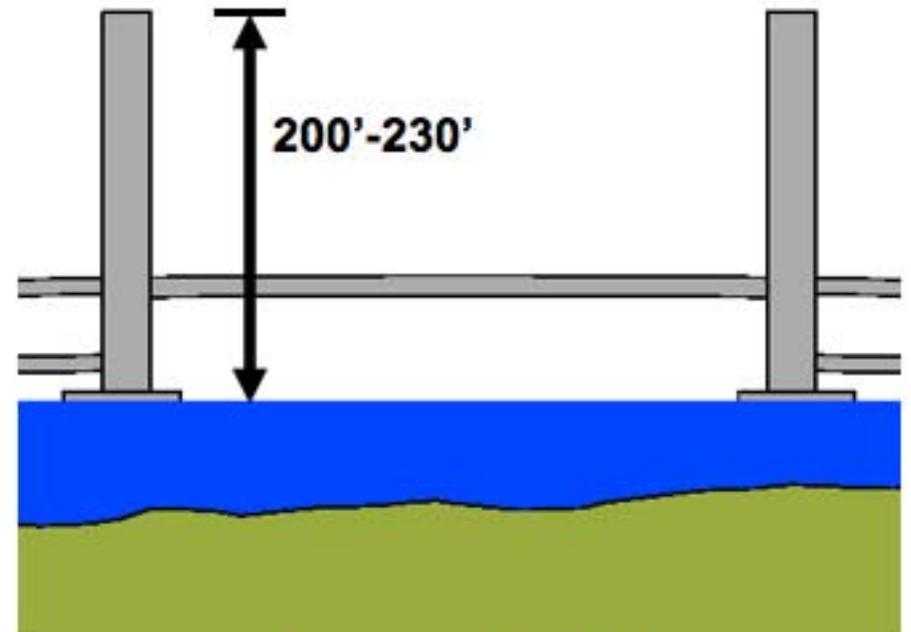
Proposed Horizontal Clearance for New Bridge



Lift Bridge



Existing Bridge
Tower Height



Proposed Bridge
Tower Height

Lift Span Tower Heights



Generic Bridge Shape

General Concept of Lift Bridge Operations



Generic Bridge Shape

General Concept of Lift Bridge Operations



Structure Type - Concrete Segmental Box Girder



Draft Summary Construction Schedule Draft Summary - Conceptual Construction Schedule

MILESTONES	2014	2015	2016	2017	2018	2019
	A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J
Notice to Proceed	◆ Notice to Proceed					
CONSTRUCTION						
Mobilize to Site	■					
Install Work Trestles	■					
Install Drilled Shaft		■				
Construct Sub Structure		■				
Construct Super Structure			■			
Construct Lift Span Towers			■			
Demo Existing Superstructure				■		
Float-In & Activate Lift Span				■		
Bridge & Roadway Finishes				■		
Demo Existing Sub Structure				■		
Construct New Fender				■		
Punchlist & Demo Project						■
Existing Bridge Out of Service				■		
New Bridge Open to Traffic					◆ New Bridge Open to Traffic (11/15/17)	
Project Completion					Project Completion ◆	



**Design Workshop April 26
Summary of Preferences Selected**

Bridge Theme



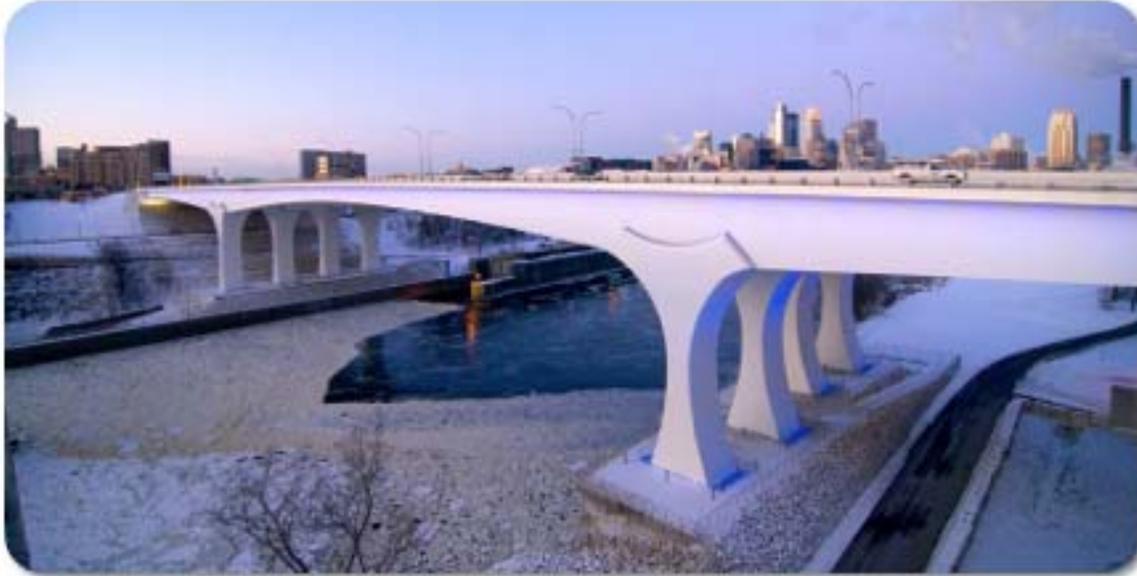
**Theme:
Granite, Simple
and Elegant**



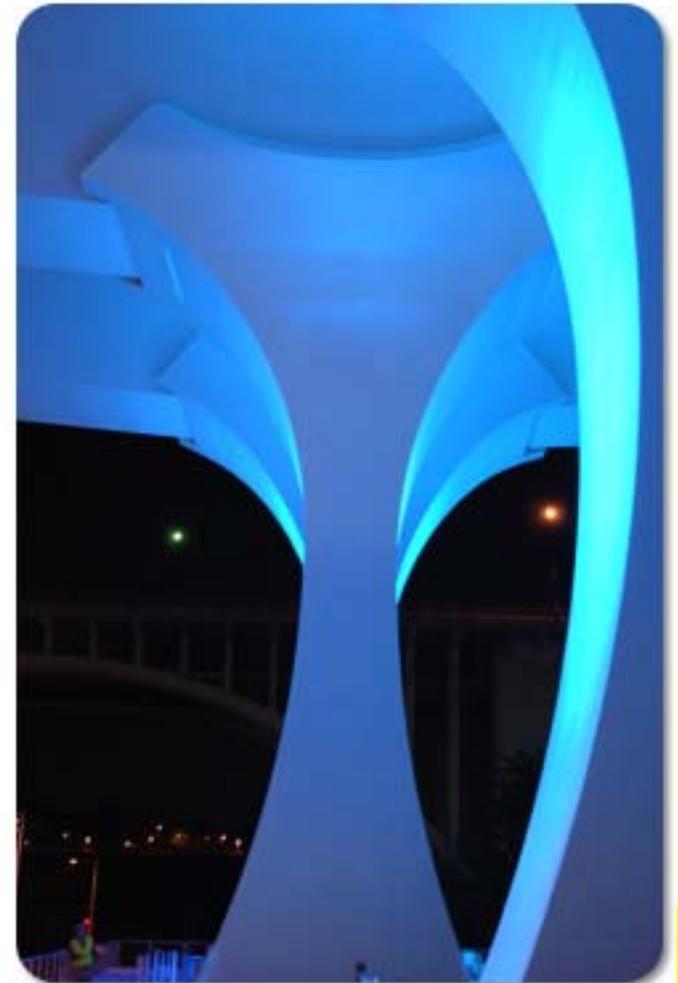
**Penobscot Narrows Bridge
and Observatory, Maine**



Theme: Arches • Water • Reflection



New I-35W Bridge, Minnesota



Theme Development Brainstorming at Stakeholder Meeting - January 24, 2013





Theme Ideas from the Stakeholder Meeting Brainstorming Session (January 24, 2013)

*Types of ships built in the
Navy yard (sails to subs)

Context appropriate design
of columns/towers
"mast-like"

Lighting

Materials -- avoid being too
"glitzy" (modern okay)

Mass of bridge should be
appropriate to scale of
community context

Brick color

Colors that reflect submarines?

Brick (of Portsmouth)

Elegance (like I-35W example)

↳ Rte 4 Bridge in Durham
across tributary to Great
Bay

↳ open-ness

↳ something different from
I-95 & Memorial

↳ simplicity

Connects and also celebrates
differences (b/w communities &
states)

Multi-modal

Retaining views up-river &
down-river from other
bridges

History of communities reflected
Contemporary in design



Theme Ideas from the Stakeholder Meeting Brainstorming Session (January 24, 2013)

Fishing Industry

Shipping "

Tall Ships

Lobster

Tourism

Opp'ty for
Statement
of beauty

Moose

Navy Yard - founding of Navy

Great Bay Ecosystem

Gateway to ME/NH

^{Water} Gateway (from the Ocean)

MARITIME HISTORY / WORKING WATERFRONT

SYMPATHETIC TO ARCHITECTURE / CONTEXT

- SIMPLE AESTHETIC

- MINIMAL DECORATION

VISUALLY SIMILAR IN SHAPE / FEATURE
AS I-95 BRIDGE AS VIEWED
FROM MEMORIAL BRIDGE



Theme Ideas from the Stakeholder Meeting Brainstorming Session (January 24, 2013)

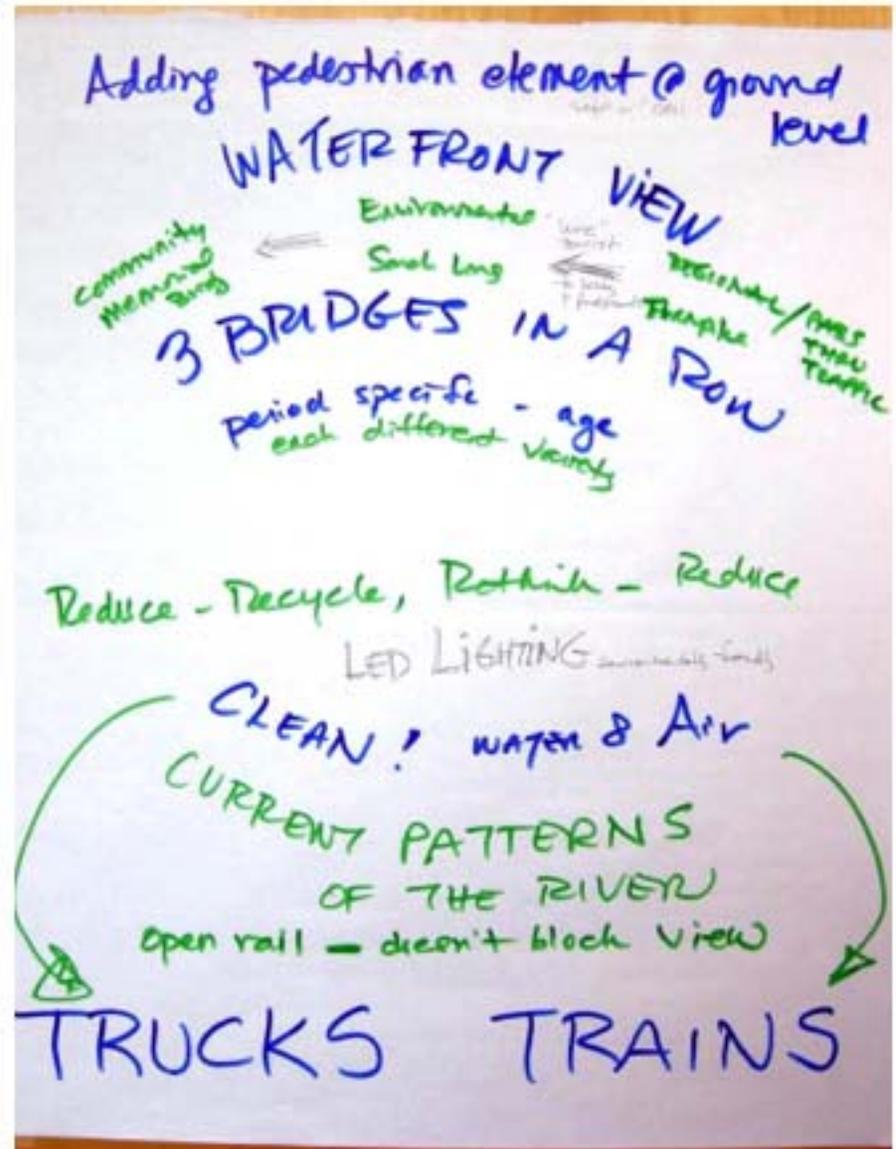
Fishing village
old nautical
Rugged New England
Sails
TALL Ships
MASTS
River Current - SWIFT
Historical
Red Bricks/Stone Walls
Widow's WALK
OBSERVATORY

Granite
PINE TREES
Small scale "Neighborhood"
Consideration of 2 other
Bridges (color + proximity)
Sails (Jib)
ANCHORS
Spans 2 states
"PARTNERSHIP"
"UNITY"



Theme Ideas from the Stakeholder Meeting Brainstorming Session (January 24, 2013)

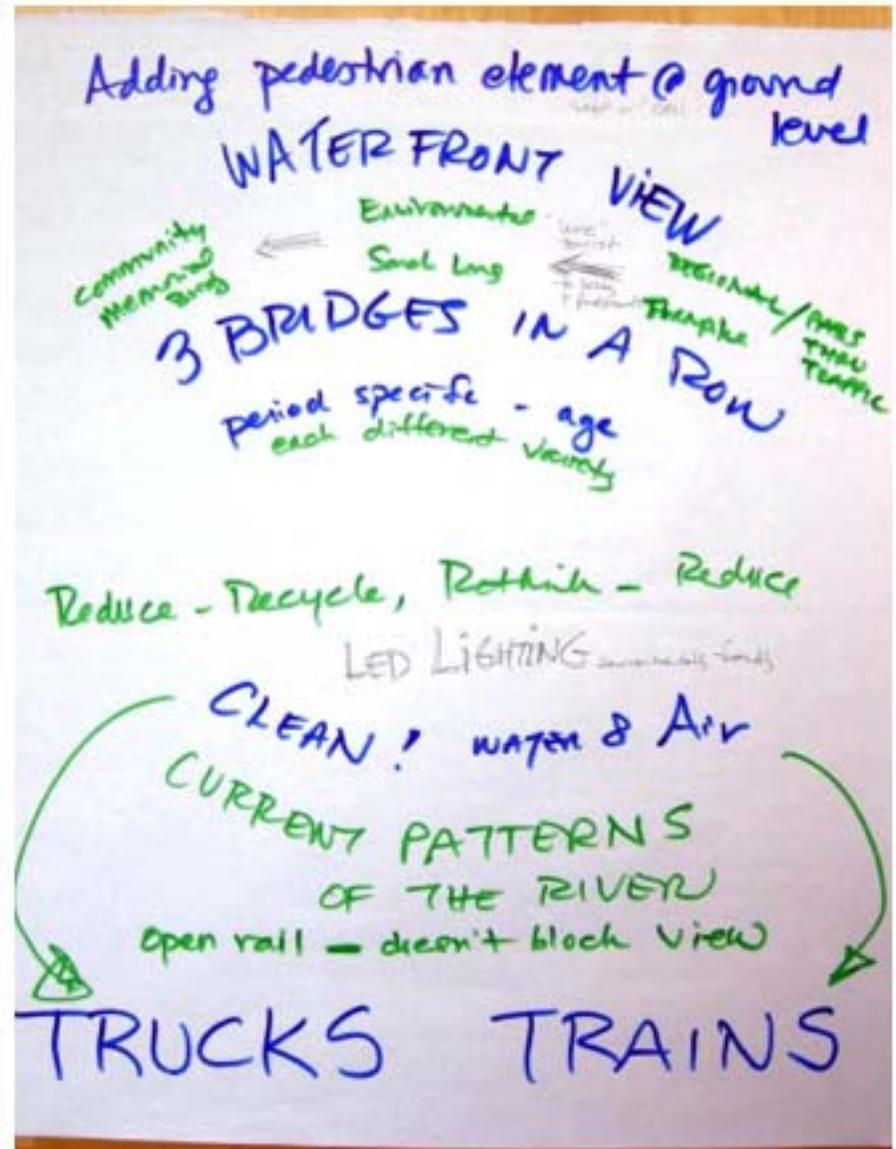
- 2 Sides/different Uses + Land use
- 2 different states/cometions
- Classic, History, Nautical
- Colonial/Bricks
- Fast/Deep River
- Complete Streets/All users
- Bold ^{↳ Rail Bed with Bike/Ped?}
- Ships ^{building} + history/Shipyard
- Covered ~~?~~ Post + Beam
- Observatory





Theme Ideas from the Stakeholder Meeting Brainstorming Session (January 24, 2013)

- 2 Sides/different Uses + Land use
- 2 different states/cometions
- Classic, History, Nautical
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- Bold ^{↳ Rail Bed with Bike/Ped?}
_{building}
- Ships ^{building} + history/Shipyard
- Covered ~~?~~ Post + Beam
- Observatory





Feedback from Meeting with State Historic Preservation Offices

The New Sarah Mildred Long
Bridge should:

Reflect technology of our time

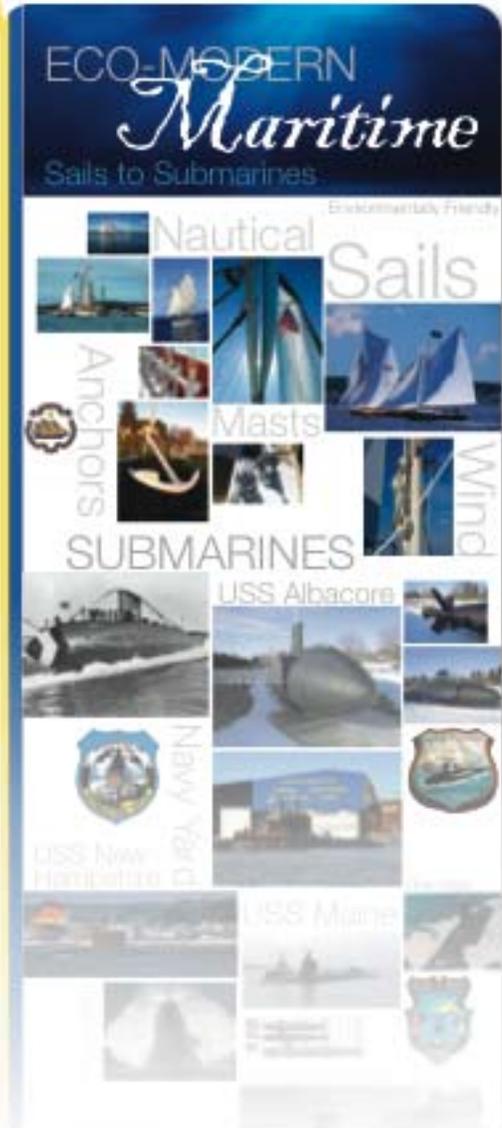
Be factual (no artificial mimicry)

Be humble, simple and deliberate

Be authentic and have purity
of materials

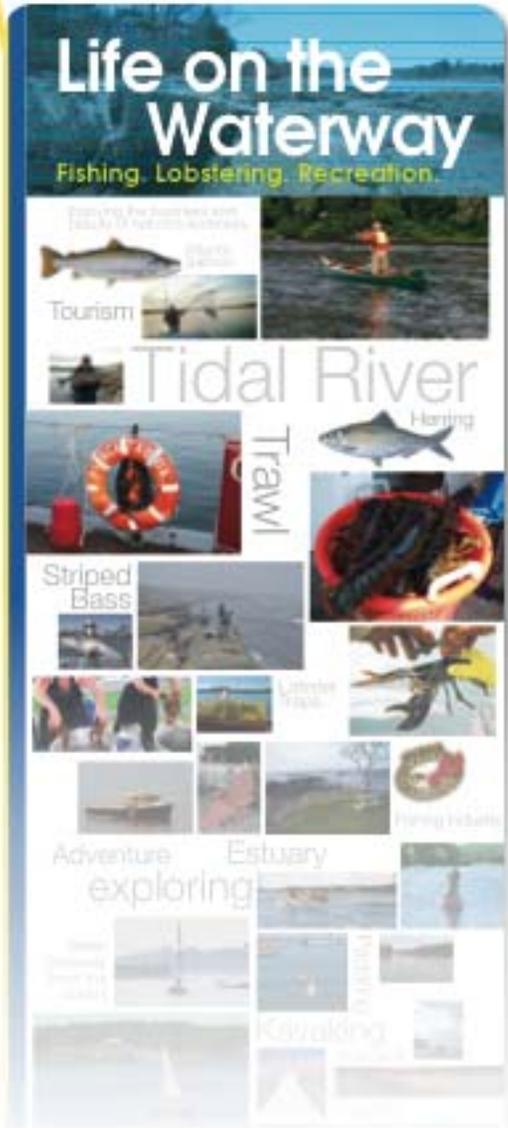
Have nothing that is fake





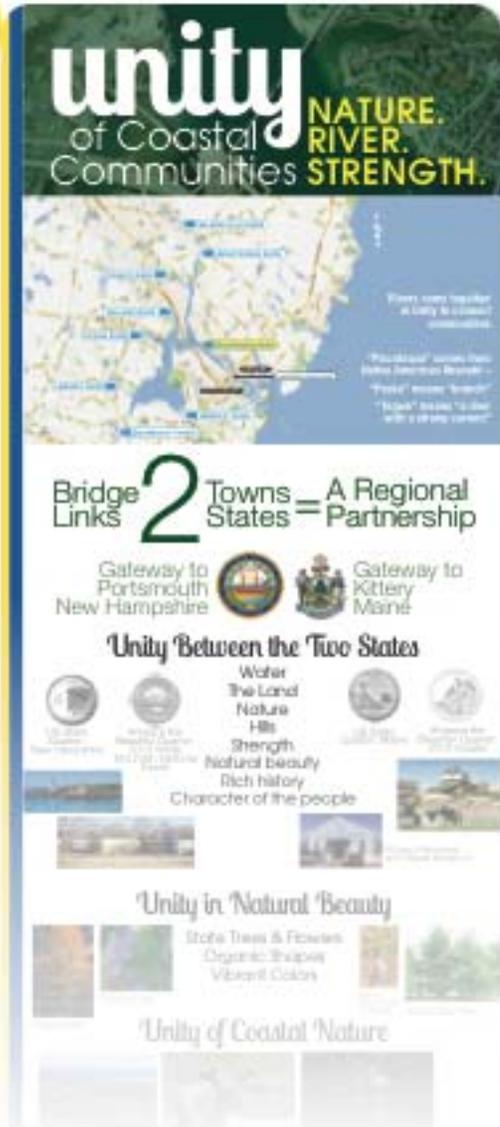
Themes from Design Workshop April 26

**EcoModern Maritime
Sails to Submarines**



Themes from Design Workshop April 26

Life on the Waterway
Fishing. Lobstering. Recreation.



Themes from Design Workshop April 26

Unity of Coastal Communities
Nature. River. Strength



Additional Theme Ideas Suggested by Design Workshop Participants

- ① Simplicity / Vernacular
- ② Working Waterway
- ③ Transition / Gateway
- ④ Piscatiqua
- ⑤ Sculptural / Iconic



Design Workshop Preference Forms

How scoring was accomplished



Design Workshop

SARAH MILDRED LONG Bridge Replacement

The Regional River Crossing

April 26, 2013

Preference 1 - Project Theme

Using the black pens provided, please fill in completely one red box for each item that represents your preference. If no box is filled then a 5 will be recorded. NOTE: 1 = Lowest Score (Dislike), 5 = Neutral, 10 = Highest Score (Like).

1. Eco Modern Maritime

Sails to Submarines.

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

2. Life on the Waterway

Fishing, Lobstering, Recreation.

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

3. Unity of Coastal Communities

Nature, River, Strength.

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like



Design Workshop

SARAH MILDRED LONG Bridge Replacement

The Regional River Crossing

April 26, 2013

Preference 1 - Project Theme Write-in

Using the black pens provided, please fill in completely one red box for each item that represents your preference. If no box is filled then a 5 will be recorded. NOTE: 1 = Lowest Score (Dislike), 5 = Neutral, 10 = Highest Score (Like).

1. Simplicity/Vernacular

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

2. Working Waterway

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

3. Transition/Gateway

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

4. Piscataqua

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

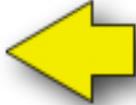
5. Sculptural/Iconic

Comments: _____

1 2 3 4 5 6 7 8 9 10

Dislike Neutral Like

Project Theme Voting Results

THEME	AVERAGE SCORE	VOTES WITH AVERAGE SCORE ABOVE 8
Eco Modern Maritime	6.8	50% 
Life on the Waterway	5.0	14%
Unity of Coastal Communities	4.7	29%
Simplicity/Vernacular	8.4	71.4% 
Working Waterway	7.1	60.7% 
Transition/Gateway	6.9	39.3%
Piscataqua	6.8	46.4%
Sculptural/Iconic	6.1	32.1%



Chosen Project Theme

Vernacular
Simplicity

of the Working Waterway. Ecology and Maritime.

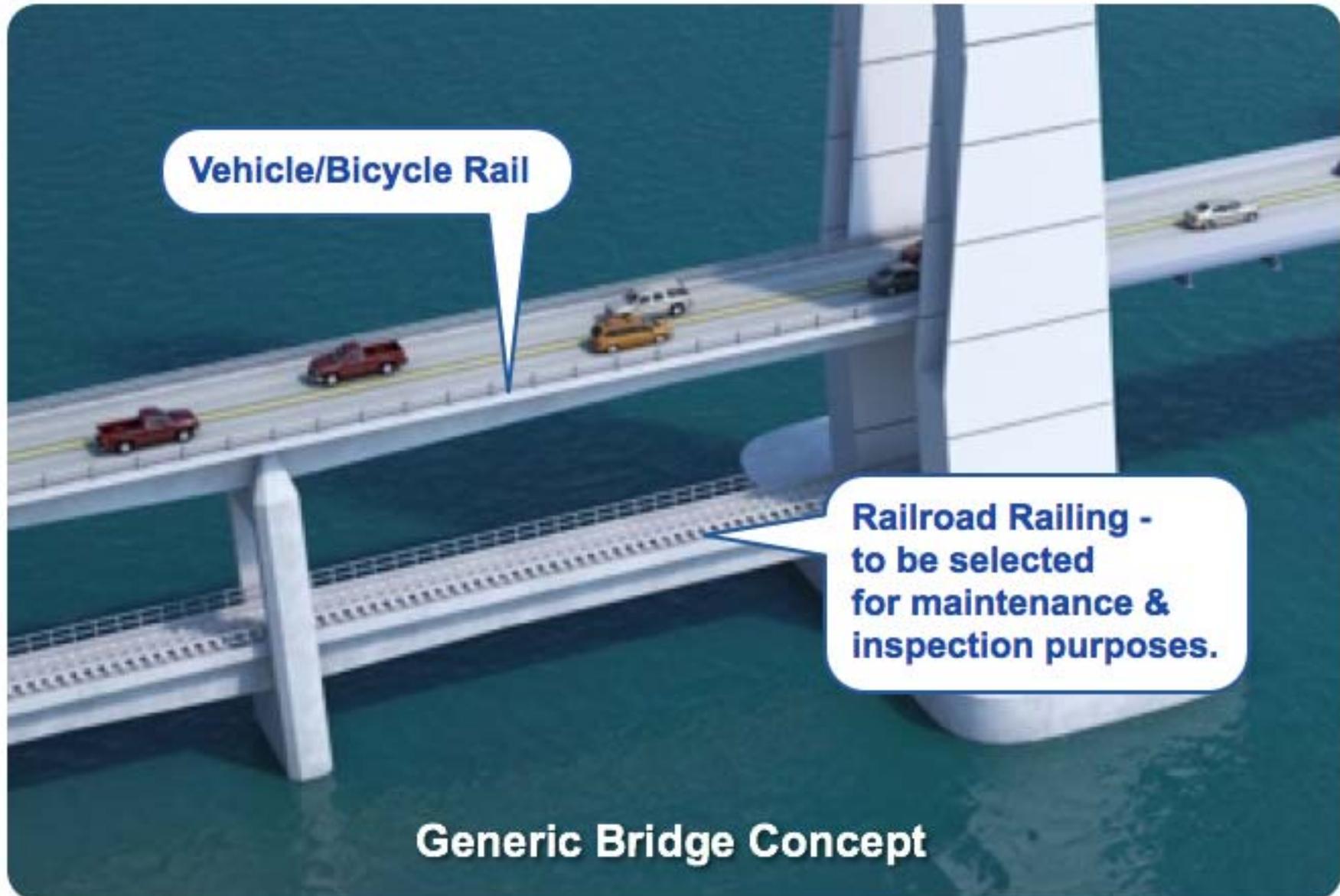


SARAH MILDRED LONG Bridge Replacement *The Regional River Crossing* Bridge Railing Preferences





New Bridge Rail Locations





Bridge Railing Types

View from Driver's Eye Level (Approx. 4'-6" above roadway surface)



**Fully Open
Bridge Rail**



**Partially Open
Bridge Rail**



**Solid Concrete
Bridge Rail**

Bridge Rail Preference



Design Workshop

SARAH MILDRED LONG Bridge Replacement

The Regional River Crossing

April 26, 2013

Preference 2 - Bridge Railing

Using the black pens provided, please fill in completely one red box for each railing that represents your preference. If no box is filled then a 5 will be recorded as Neutral. NOTE: 1 = Lowest Score (Dislike); 5 = Neutral; 10 = Highest Score (Like).

Fully Open Bridge Rail



Comments: _____

8.8



Partially Open Bridge Rail



Comments: _____

6.4

Solid Concrete Bridge Rail

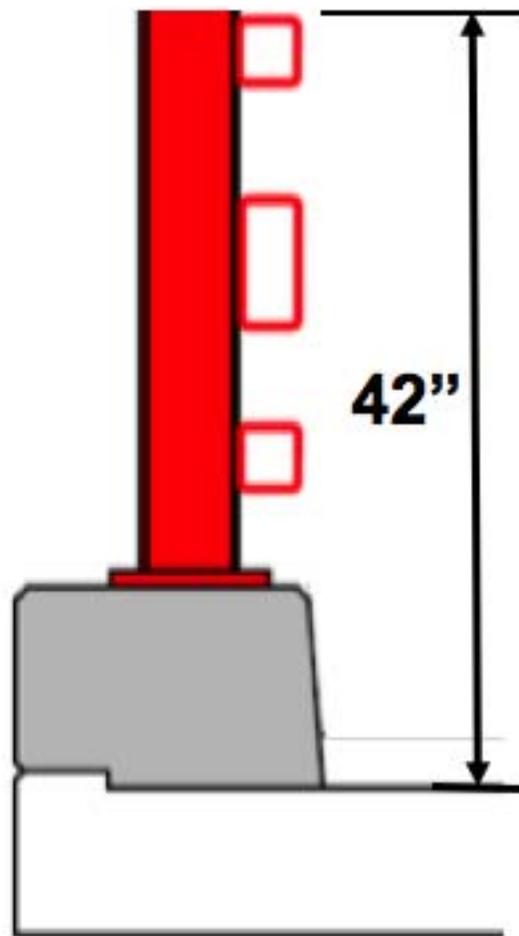


Comments: _____

2.2



Bridge Rail Strength and Height Requirements



TL-4 rated rail is required for the new bridge

The new standard bridge rail for vehicle traffic and bicycles is 42" (3'-6") high

New Bridge Cross Section

Fully Open Rail Concept



SARAH MILDRED LONG

Bridge Replacement

Your Bridge Will Be Designed Using Archetypal Principles

Use a Theme

Blend Shapes

Create Shadows

Select Appropriate Textures

Choose Pleasing Colors

Open New Vistas

Use Native Materials

Create Feature Lighting

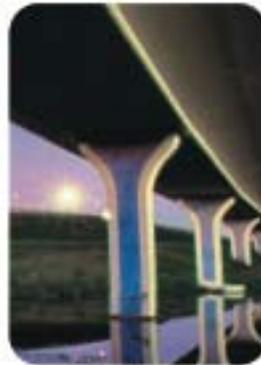
SHAPES & SHADOWS

Examples of bridge pier shapes with rounded/organic styles and angular styles:

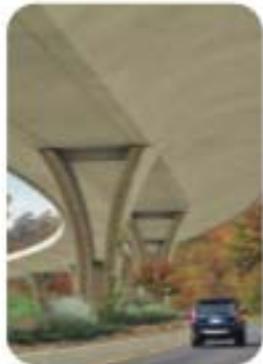
Rounded/Organic



Elliptical Pier with Glass Mosaic Tiles
Broadway Bridge,
Florida



Rounded Pier
Selmon Expressway, Florida



Curved/Open pier
US 280 Elevated Roadway,
Alabama



Sculptural Slender Pier
New I-35W Bridge,
Minnesota

Angular



Tapered Pier with Local Stone
Smart Road Bridge,
Virginia



Angular Pier
Victory Bridge,
New Jersey



Angular Slender Pier
17th Street Bridge,
Florida



Angular Pier
Wabasha Freedom Bridge,
Minnesota

COLOR

Proper use of local materials can create a bridge that blends into the natural landscape

Natural Colors Of The Earth



Bedrock Colors - Looking Towards Whaleback Lighthouse



Odiome Point State Park

Examples of bridges incorporating color:

Authentic bridge color comes from local sourcing of materials from nature



sand



water



cement



gravel



AirTrain JFK, New York



Victory Bridge, New Jersey



South Norfolk Jordan Bridge, Virginia

Accent in Eco-Stains



Allegheny River Bridge, Pennsylvania

Local stone earth colors create an accent on piers or railing



South Norfolk Jordan Bridge, Virginia



Allegheny River Bridge, Pennsylvania

Bridge Style Voting Results

Shapes, Shadows

Rounded/Organic Shapes

Angular Shapes

Textures

Abstract Texture

Masonry Texture

No Texture

Colors

Natural Color of Materials

Accent Colors in Eco-Stains



Design Workshop
SARAH MILDRED LONG Bridge Replacement
The Regional River Crossing
April 26, 2013

Preference 3 - Bridge Style (Shapes, Shadows, Textures, Colors)

Using the black pens provided, please fill in completely one red box for each item that represents your preference. If no box is filled then a 5 will be recorded as Neutral.
NOTE: 1 = Lowest Score (Dislike); 5 = Neutral; 10 = Highest Score (Like).



6.9



7.3



(each item)



5.5



7.5



4.9

(item)



8.4



5.1

BRIDGE AESTHETIC LIGHTING

These bridge examples show how lighting has been used in various places on the bridge to highlight certain features at night.

Tower Lighting



Pier Lighting



Superstructure Lighting



Colored Lighting



SARAH MILDRED LONG Bridge Replacement *The Regional River Crossing* Bridge Aesthetic Lighting



Design Workshop

SARAH MILDRED LONG Bridge Replacement
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April 26, 2013

Preference 4 - Bridge Aesthetic Lighting

Bridge Aesthetic Lighting Voting Results

Pier Lighting

1a. Pier Lighting



7.4 ★

1b. Tower Lighting



8.2 ★

Tower Lighting

SUPERSTRUCTURE LIGHTING (Please provide a preference for each item)

2. Superstructure Lighting



6.2

Superstructure Lighting

COLORED LIGHTING (Please provide a preference for one item only)

3. Subtle color in the lighting of Piers, Towers or Superstructure



7.7 ★

Colored Lighting

Vistas

SARAH MILDRED LONG Bridge Replacement AERIAL PLAN VIEW

MaineDOT in cooperation with the State of New Hampshire



Existing Sarah Mildred Long Bridge Views

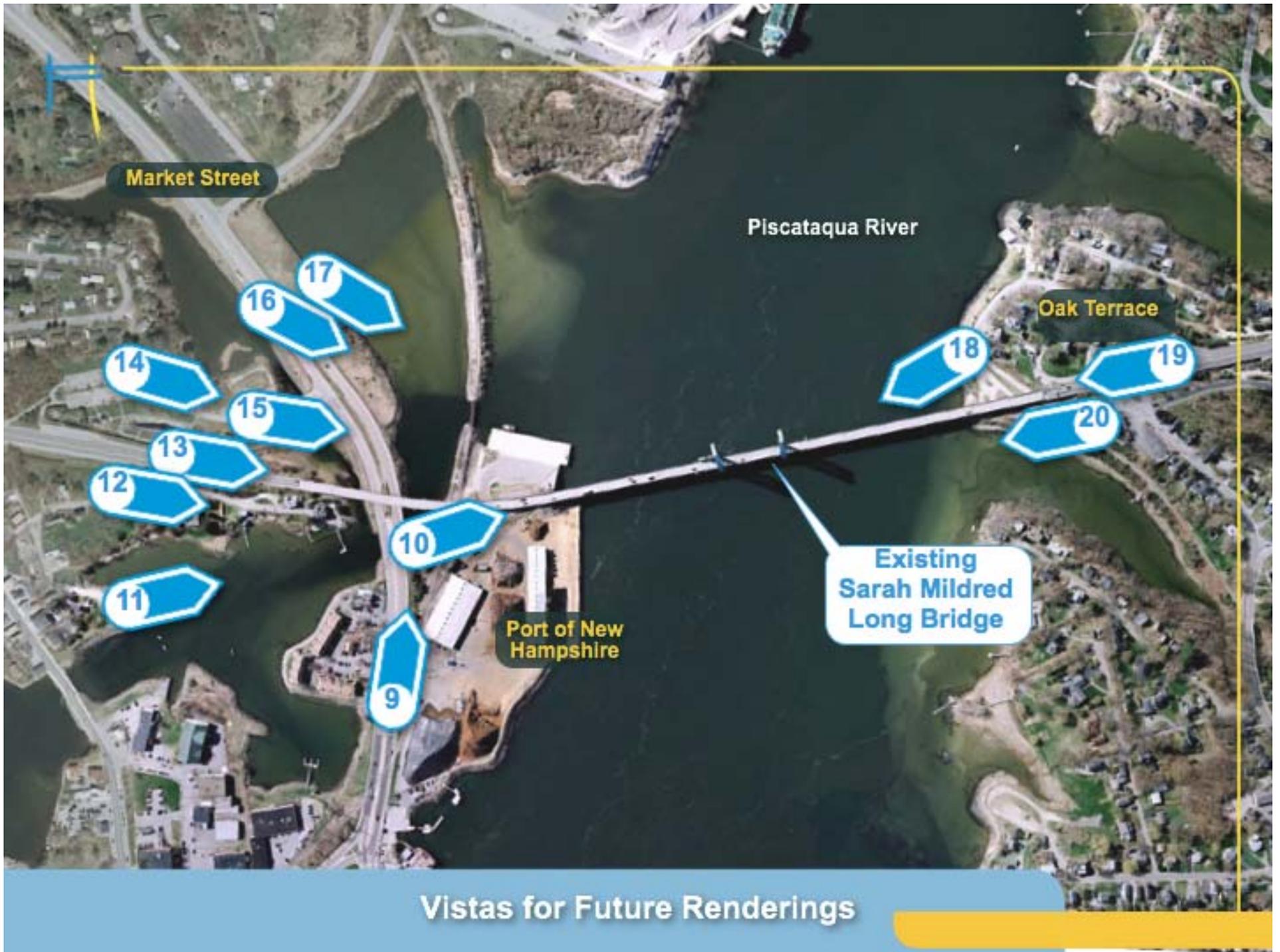


Looking North from Camp St in NH | Looking East from Albacore Park | Looking East from Albacore Park | Looking North from Newington Branch Railroad Line | Looking North from Bridger's Island | Looking Southwest from Market St in Maine | Looking West from Oak Terrace | Looking West from Pine Bluffs | Looking South from Bridge Street in Maine | Looking East from the Port of New Hampshire

Stakeholder Meeting, January 24, 2013 - Vista Recommendations

Vistas for Future Renderings





Market Street

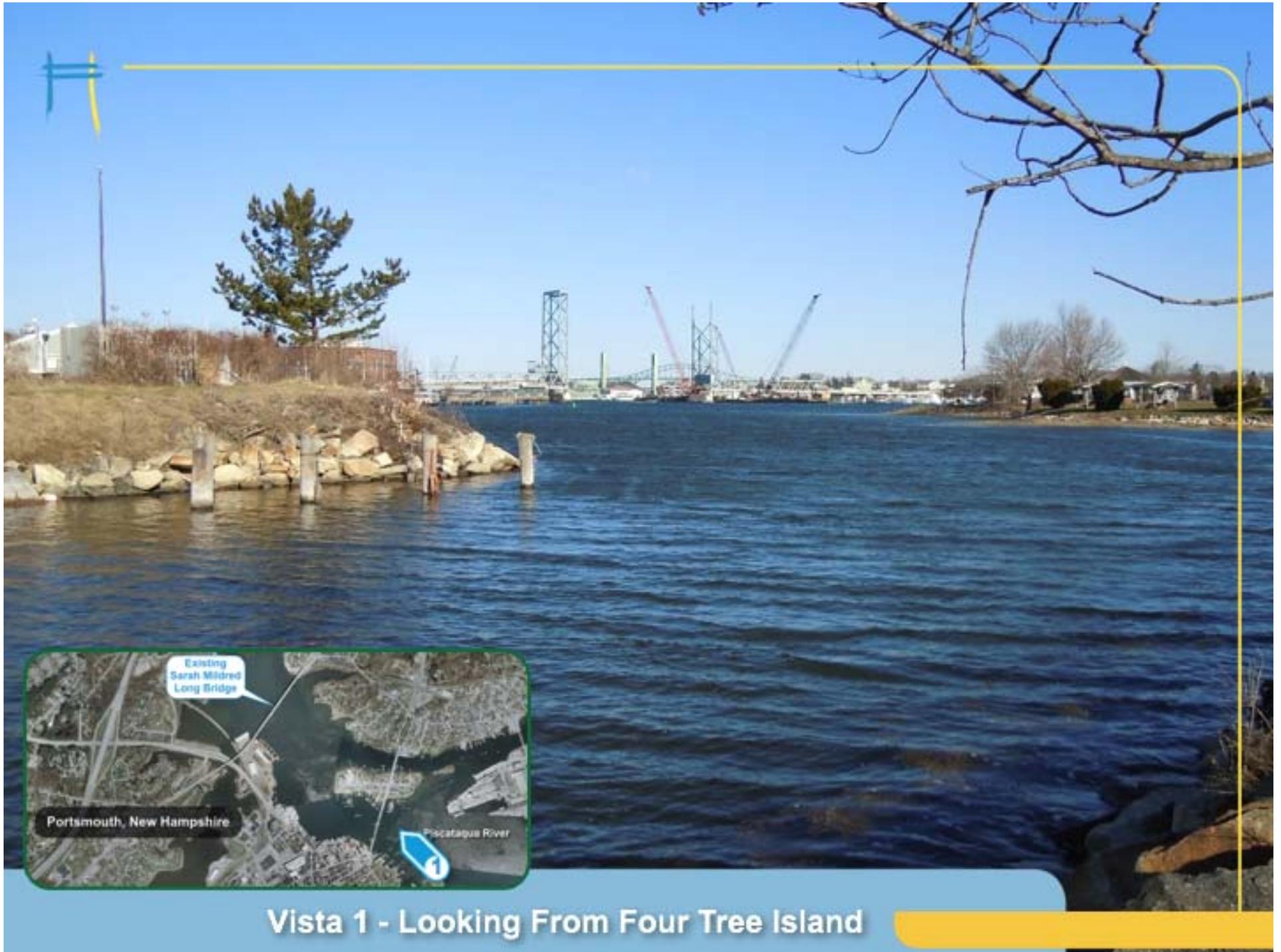
Piscataqua River

Oak Terrace

Port of New
Hampshire

Existing
Sarah Mildred
Long Bridge

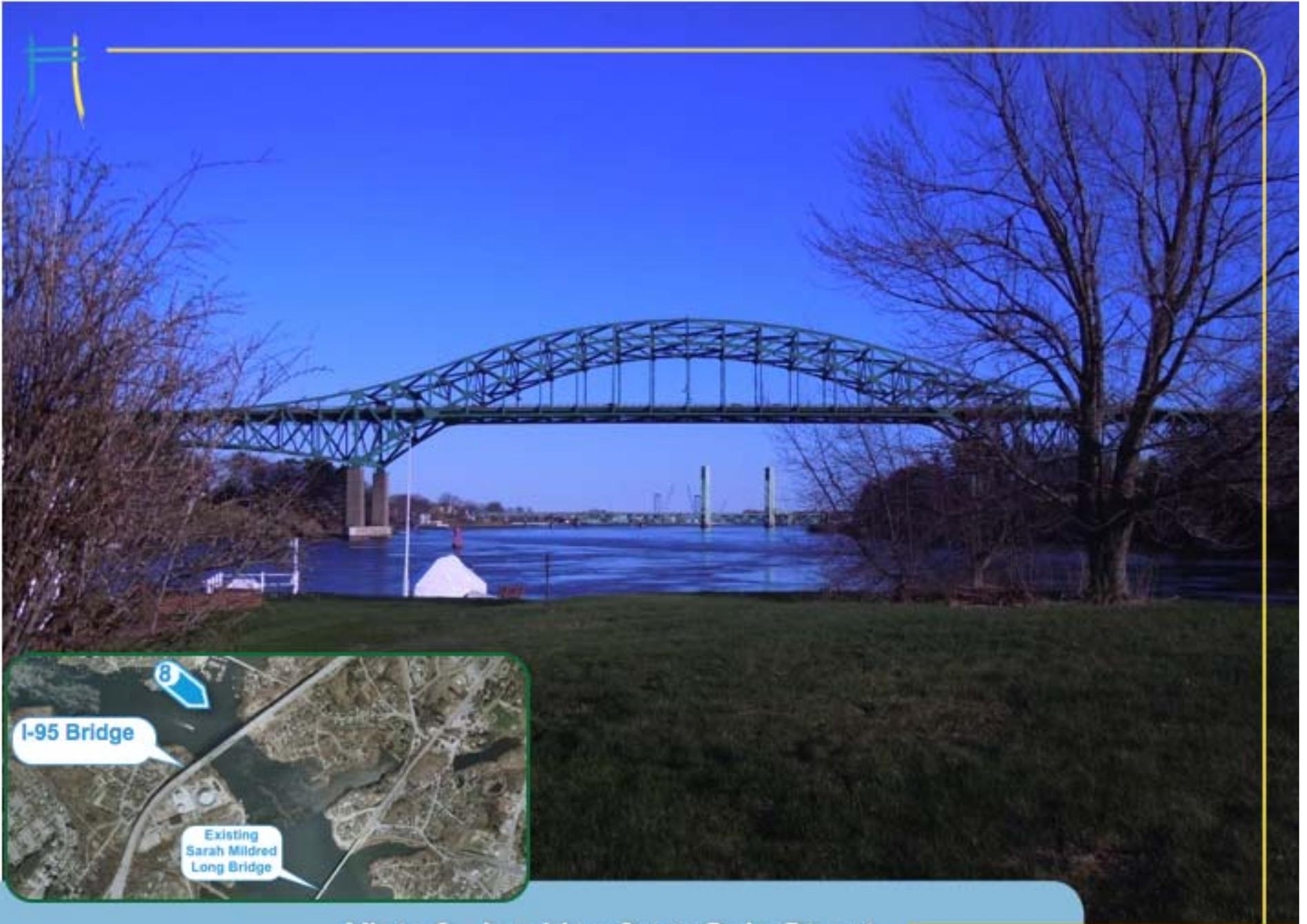
Vistas for Future Renderings



Vista 1 - Looking From Four Tree Island



Vista 3 - Looking from Ceres Street



I-95 Bridge

8

Existing Sarah Mildred Long Bridge

Vista 8 - Looking from Cole Street



Vista 13 - Looking From Rt. 1 Bypass in NH



Vista 18 - Looking From Oak Terrace



Chosen Project Theme

Vernacular
Simplicity

of the Working Waterway. Ecology and Maritime.



Definition of VERNACULAR



a : using a language or dialect native to a region or country rather than a literary, cultured, or foreign language

b : of, relating to, or being a nonstandard

language or dialect of a place, region, or country

c : of, relating to, or being the normal spoken form of a language

of, relating to, or **characteristic of a period, place, or group**;
especially : of, relating to, or being the **common building style** of a
period or place

Example: the vernacular architecture of the region



Direction Given by the Community

Reflect technology of our time

Be factual (no artificial mimicry)

Be humble, simple and deliberate

Be authentic and have purity of materials

Have nothing that is fake

Keep it simple

Magnificent Maritime

Simple, functional, efficient, pleasing

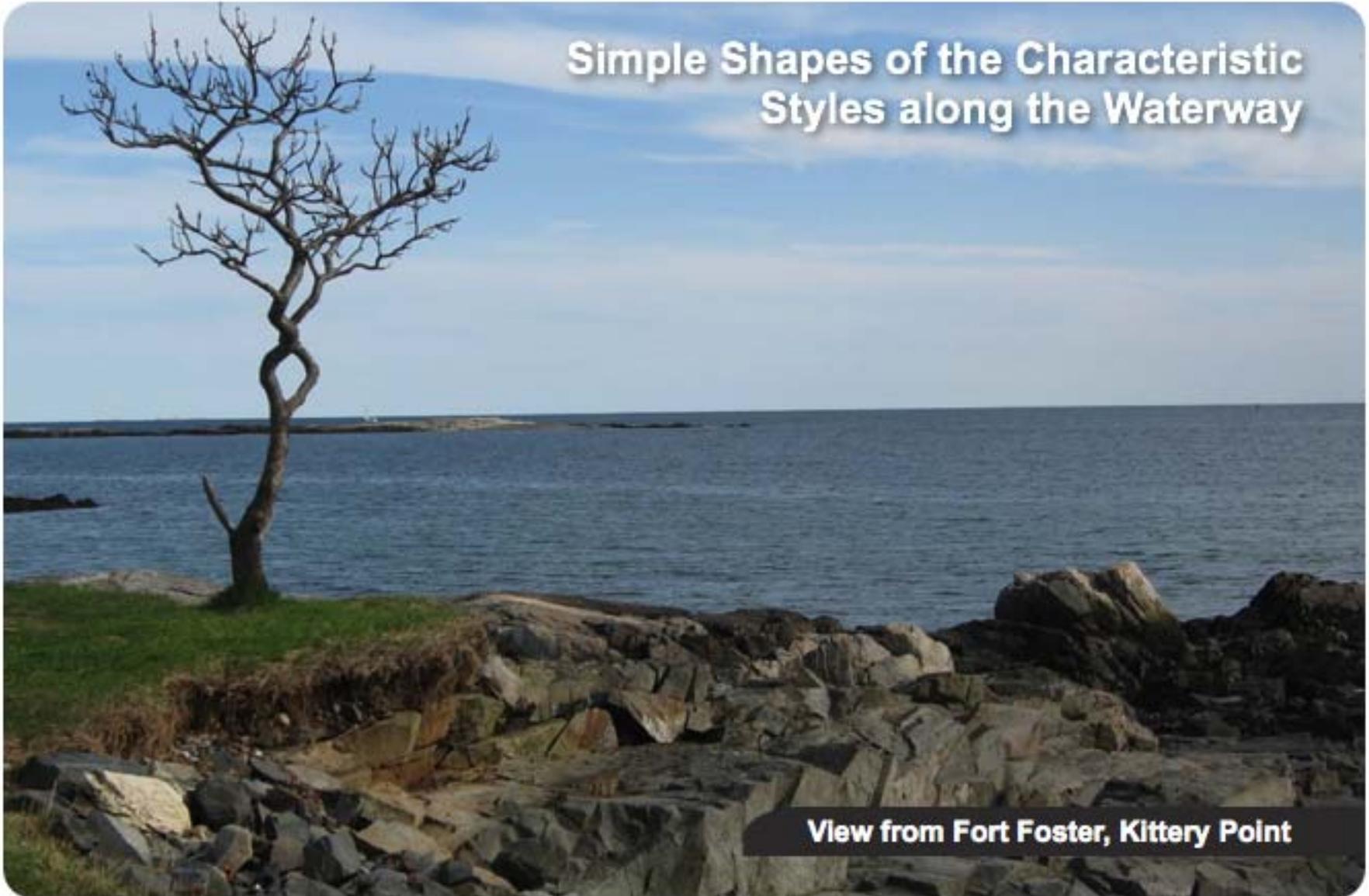
Relate to rock, water

Keeping with the idea of sails and the curves of wind-blown sails



Nature

**Simple Shapes of the Characteristic
Styles along the Waterway**



View from Fort Foster, Kittery Point

Maritime

Portsmouth Naval Shipyard



Simple Shapes of the Characteristic Styles along the Waterway



Sails



Schooner American Eagle



Sails



Piscataqua Sailing Association



USS Maine (SSBN-741)



USS New Hampshire (SSN-778)



Features in the Built Environment



Portsmouth



Features in the Built Environment

Badgers Island Marina, Kittery – Portsmouth Harbor





Chosen Project Theme

Vernacular
Simplicity

of the Working Waterway. Ecology and Maritime.



SARAH MILDRED LONG Bridge Replacement *The Regional River Crossing*

Summary of Preferences Selected
and Discussion of Next Steps





Stakeholder Meeting and Workshop Schedules

Stakeholder Meeting	January 24, 2013
Design Workshop	April 26, 2013
Stakeholder Meeting	May 30, 2013
Design Workshop	July 11, 2013
Stakeholder Meeting	September 2013

* Stakeholder Meetings are for input and information

* Design Workshops are cross section of the community to work with design team on selecting bridge features for final aesthetics



Upcoming Design and Workshop Process

Design Workshop - April 26, 2013

Select a Theme

Discuss overall bridge layout & configuration

Select direction for:

Shapes

Shadows/Textures

Vistas

Lighting

Other Features

Design Workshop - July 11, 2013

Based on previous Design Workshop preferences multiple design options are developed for selection

Final Selection of:

Shapes

Shadows/Textures

Vistas

Lighting

Other Features



BRIDGE TEAM

DESIGN WORKSHOP

Bridge
Aesthetics



Stakeholders Meeting
SARAH MILDRED LONG Bridge Replacement
The Regional River Crossing
May 30, 2013

**COMMENT FORM – Preferred Bridge Configuration (Alignment)
and Project Theme**

Please give us your thoughts on the chosen preferred configuration (alignment).

Please give us your thoughts on the chosen preferred project theme.

Any other comments or ideas?

Thank you for your input!

Name (optional): _____ Email: _____
please print



THANK YOU

for Participating in Creating Your Bridge Design!

