



REVIEW OF DELIVERABLES

The following materials presented at the meetings below are enclosed in the draft packet:

Comprehensive Planning Committee Meeting
Meeting Date: February 12, 2019

Public Meeting 2
Meeting Date: November 7, 2018

Public Meeting 1
Meeting Date: September 20, 2018

The background image shows a large steel truss bridge with a blue-green patina, spanning a river. The bridge's structure is reflected in the calm water below. In the distance, a smaller white truss bridge is visible across the river. The scene is surrounded by lush green trees and foliage, and the overall image has a soft, faded appearance.

Q&A

A photograph of a large steel truss bridge spanning a wide river. The bridge's structure is composed of numerous interconnected steel beams forming a complex truss pattern. The bridge is supported by concrete piers. The river's surface is calm, reflecting the bridge and the surrounding greenery. On the left bank, there is a stone retaining wall and some vegetation. The background shows a dense line of trees under a bright, overcast sky. The text "PRELIMINARY FEE PROJECTION" is overlaid in the center of the image in a bold, black, italicized font.

PRELIMINARY FEE PROJECTION

PRELIMINARY FEE PROJECTION

Ballpark Costs for Design & Engineering Services

OPTION 1: 100% CONSTRUCTION DOCUMENTS, BIDDING ADMINISTRATION, CONSTRUCTION ADMINISTRATION			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$240,000.00 <i>12% of Estimated Construction Cost</i>	LOW \$160,000.00 <i>8% of Estimated Construction Cost</i>
Construction Documents			
Bidding Administration			
Construction Administration			
ESTIMATED TOTAL		\$240,000.00	\$160,000.00

OPTION 2: WATERFRONT PERMITTING (FEDERAL, STATE, AND LOCAL PERMITS)			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$156,000.00 <i>65% of Design & Engineering Costs</i>	LOW \$104,000.00 <i>65% of Design & Engineering Costs</i>
Technical Documentation Necessary for Permitting (65% CD Set)			
<i>*not including Final Design or documentation beyond what's necessary for obtaining permits</i>			
ESTIMATED TOTAL		\$156,000.00	\$104,000.00

OPTION 3: (WATERFRONT PERMITTING) + (PHASE I CONSTRUCTION DOCUMENTS, BIDDING, CONSTRUCTION ADMINISTRATION)			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$156,000.00 <i>65% of Design & Engineering Costs</i>	LOW \$104,000.00 <i>65% of Design & Engineering Costs</i>
Technical Documentation Necessary for Permitting (65% CD Set)			
<i>*not including Final Design or documentation beyond what's necessary for obtaining permits</i>			
Phase I CD, BA, CA Includes:		\$20,000.00	\$15,000.00
Hand Carry Boat Access & Racks			
Limited Trails			
Picnic Area			
Car & Boat Trailer Parking			
Access Road			
Signage			
Crosswalk/Safety			
Some Landscape Planting			
<i>*Shoreline Stabilization Design Development and Permitting as part of the Maine CC Grant</i>			
ESTIMATED TOTAL		\$176,000.00	\$119,000.00



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019





MAINE COASTAL COMMUNITIES GRANT

COASTAL COMMUNITIES GRANT

Existing Condition



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019



COASTAL COMMUNITIES GRANT

Overall Schedule Summary

Bowdoinham - Coastal Communities Grant

Bowdoinham, Maine

Schedule

January 24, 2019
Richardson & Associates, Landscape Architects

- Data Collection
- Design
- Outreach

	2019												2020											
	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December
Task 1. Topographic Survey																								
Task 2. Ecological Assessment and Wetland Delineation																								
Task 3. Assessment of Flood Risk																								
Task 4. Design and Permitting of Slope Stabilization Measures																								
Task 5. Education and Outreach																								
Task 6. Overall Project Management																								

What are the common benefits of living shorelines?

- *Protect shorelines from erosion*
- *Provide habitat for fish and other living resources*
- *Improve water quality and store nutrients*
- *Increase stability over time*
- *Can outperform hardened shorelines during storm*
- *Attract natural wildlife*

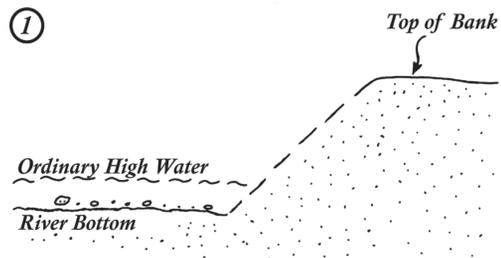


COASTAL COMMUNITIES GRANT

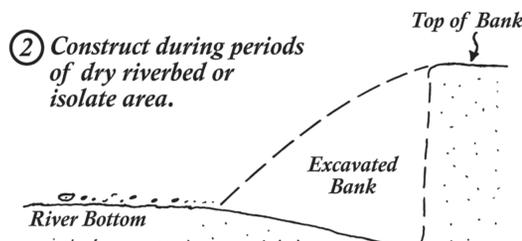
Living Shorelines

Root Wads Step-by-Step

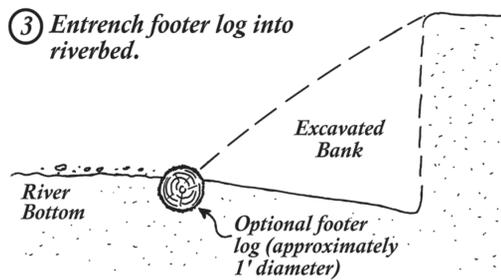
①



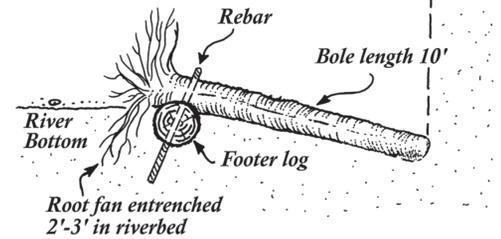
② Construct during periods of dry riverbed or isolate area.



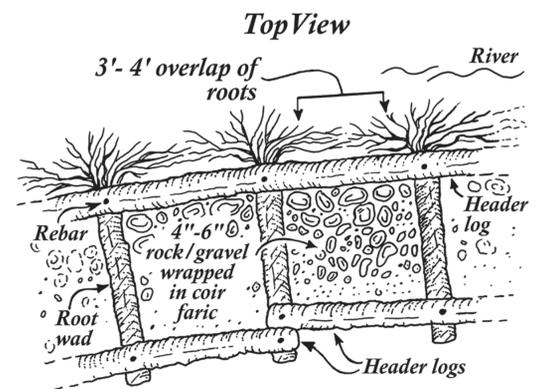
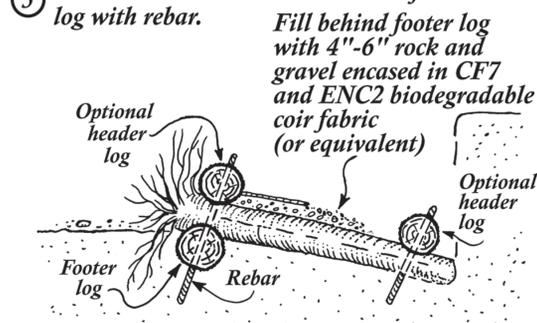
③ Entrench footer log into riverbed.



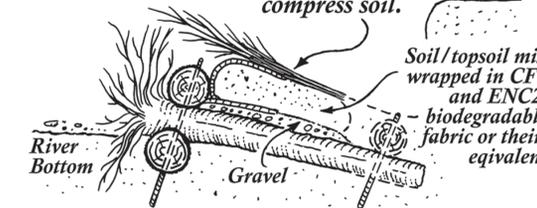
④ Place root wad; drill through root wad trunk and footer log and pin in place to footer log with rebar.



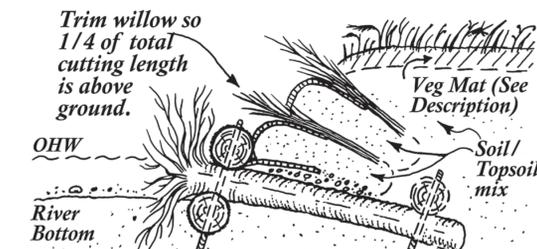
⑤ Pin root wad trunks to header and footer log with rebar.



⑥ Install dormant cuttings 15 stems per linear foot over wrapped soil. Deposit layer of top soil over cuttings. Water liberally and compress soil.



⑦ Repeat step 6 until desired height of bank is reached.

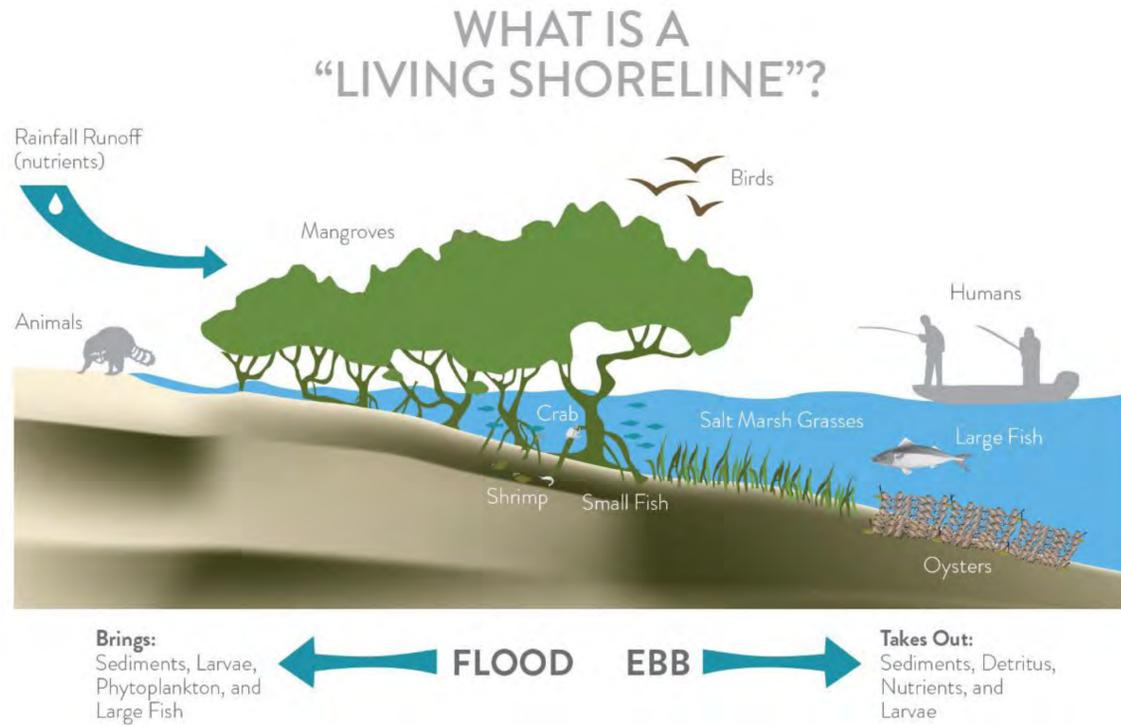


LIVING SHORELINES SUPPORT RESILIENT COMMUNITIES

Living shorelines use plants or other natural elements—sometimes in combination with harder shoreline structures—to stabilize estuarine coasts, bays, and tributaries.

- One square mile** of salt marsh stores the carbon equivalent of **76,000 gal of gas** annually.
- Marshes trap sediments from tidal waters, allowing them to **grow in elevation** as sea level rises.
- Living shorelines improve **water quality**, provide fisheries **habitat**, increase **biodiversity**, and promote **recreation**.
- Marshes and oyster reefs act as natural **barriers** to waves. **15 ft** of marsh can **absorb 50%** of incoming wave energy.
- Living shorelines are **more resilient** against storms than bulkheads.
- 33%** of shorelines in the U.S. will be **hardened** by **2100**, decreasing fisheries habitat and biodiversity.
- Hard shoreline structures like **bulkheads** prevent natural marsh migration and may create seaward **erosion**.

The National Centers for Coastal Ocean Science | coastalscience.noaa.gov



COASTAL COMMUNITIES GRANT

Living Shorelines



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019



Master Site Plan for Redevelopment of Public Works Property

Public Meeting 2
Meeting Date: November 7, 2018





***Master Site Plan for Redevelopment of
Public Works Property***



What You've Told Us... So Far

Survey Trends

BOARDWALKS

DOG WALKING

ALTERNATE
CONCERT VENUE

DOCK

ACCESSIBLE
TRAILS

NATURE PLAY

RELAXING

SWIMMING

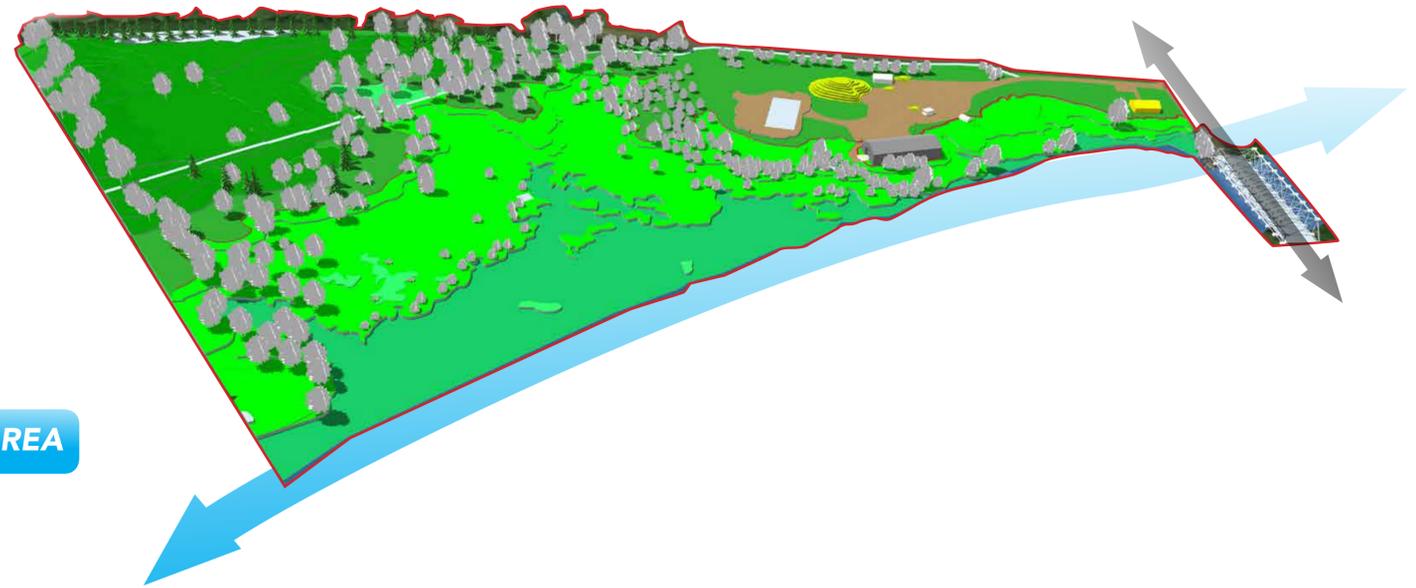
HAND-CARRY
BOAT ACCESS

FISHING

Art

Pub

PICNIC AREA



Uses you wanted to see at your **Waterfront Park**



BOARDWALK



NON-MOTORIZED BOAT ACCESS



DOG WALKING



NATURE PLAY



PICNIC AREA



SWIM ACCESS



DOCK



FISHING



PAVILION



OBSERVATION DECK

PROGRAM REVIEW

SURVEY RESULTS



Survey Questions:	79 Respondents			
REDEVELOPMENT OF THE WATERFRONT?	REDEVELOP 68	OTHER 2	SELL 2	
WHICH CONCEPT DO YOU LIKE BEST?	CONCEPT 1 30	CONCEPT 2 32	CONCEPT 3 8	
WHICH CONCEPT DO YOU LIKE LEAST?	CONCEPT 1 19	CONCEPT 2 10	CONCEPT 3 37	
KEEP OR REMOVE THE YELLOW CAPE?	KEEP 43	REMOVE 23		
PAVILION?	REMOVE Public Works Bldg / BUILD New Pavilion setback from the shoreline 29	REMOVE Public Works Bldg / BUILD New Pavilion in the SAME Place 6	INVESTIGATE Reuse of Public Works Bldg 20	NO Pavilion 16

 Most Preferred



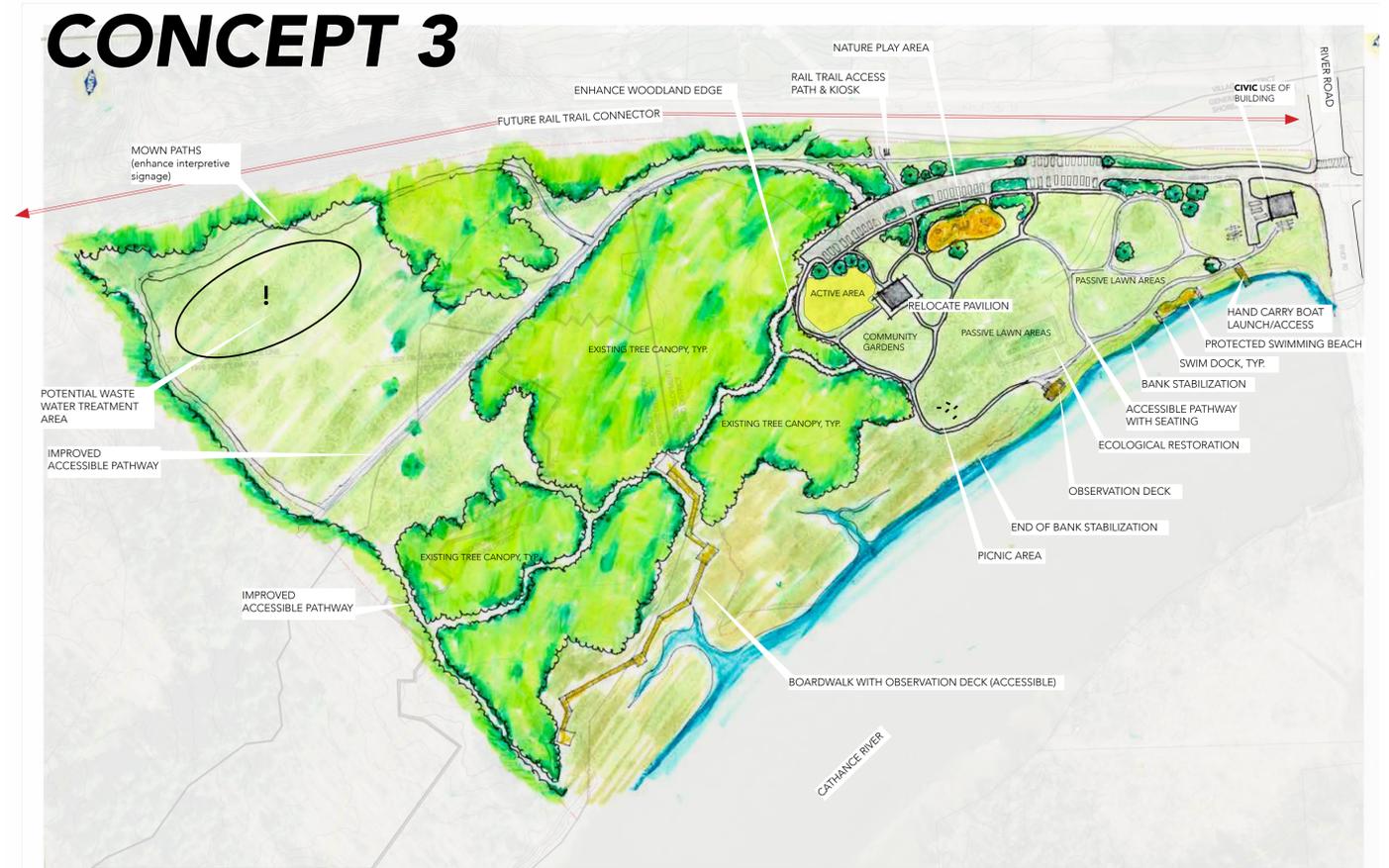
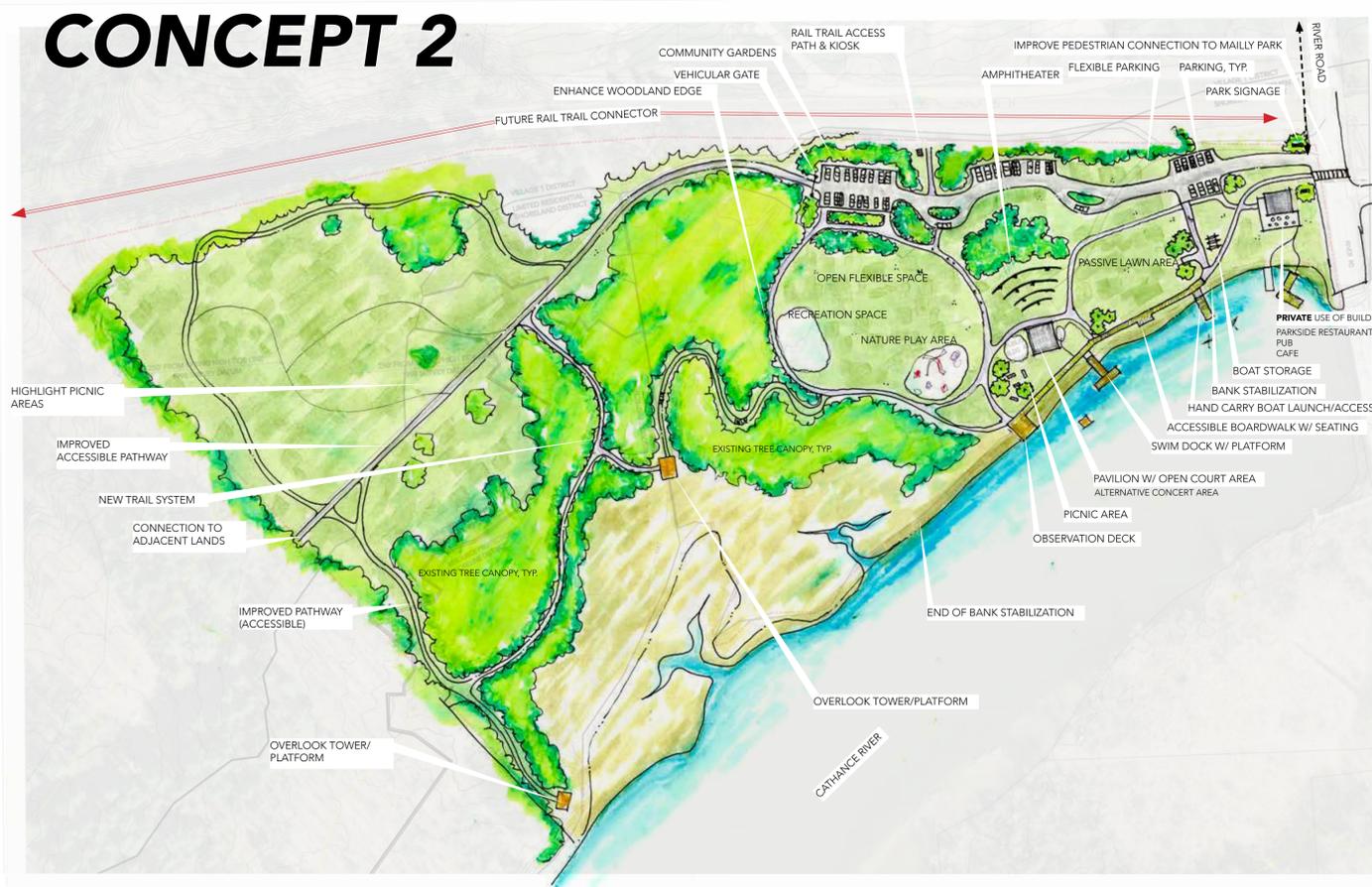
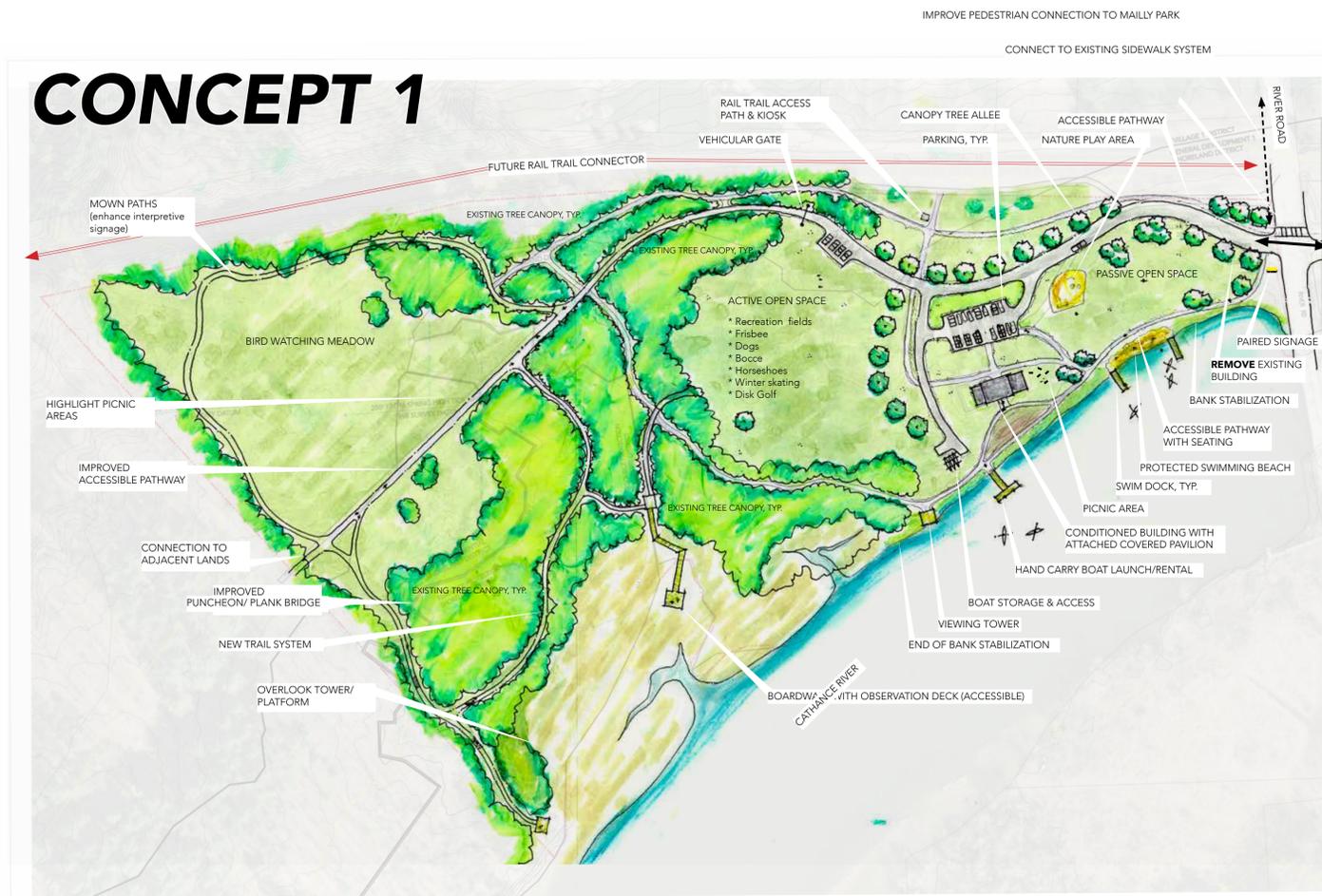


WATERFRONT PARK?

YES

NO

What We Have Shown You... So Far



Full Build



Richardson & Associates, Landscape Architects
 Original Issue Date: _____
 Issued for: _____
 Revision Dates: _____

Scale: 1"=60' (original drawing size)
 Original Drawing Size: 24" x 36"

CONCEPT PLAN **Full Build**
 Public Works Site Redevelopment
 Town of Bowdoinham, ME

Phase I



Phase I Recommendations

- Site Restoration
- Hand Carry Boat Access & Racks
- Minimal Shore Stabilization
- Limited Trails
- Picnic Area
- Car & Boat Trailer Parking
- Access Road
- Signage
- Crosswalk/Safety
- Landscape Planting

Richardson & Associates, Landscape Architects / 11 North Main St., Newry, ME 04957, 207.846.9724
 Original Issue Date: _____
 Issued for: _____
 Revision Dates: _____

Scale: 1"=60' (original drawing size)
 Original Drawing Size: 24" x 36"

CONCEPT PLAN Phase 1
 Public Works Site Redevelopment
 Town of Bowdoinham, ME

Phase II



Phase II Recommendations

- Pavilion (New)
- Pavilion (Adaptive Re-use)
- Access Road (to Pavilion)
- Continued Landscape Planting
- Connections to Rail Trail

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 400, Portland, ME 04101

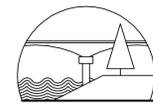
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CONCEPT PLAN **Phase 2**

Public Works Site Redevelopment
Town of Bowdoinham, ME

P2



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

Phase III



Phase III Recommendations

- Ice Skating
- Fire Pit
- Nature Play Area
- Overlook Improvements (Boardwalk)
- Continued Landscape Planting

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"



CONCEPT PLAN Phase 3
Public Works Site Redevelopment
Town of Bowdoinham, ME

Phase III



Phase III Recommendations

- Bocce
- Horseshoes
- Basketball Court

Richardson & Associates, Landscape Architects

Original Issue Date:

Issued for:

Revision Dates:

Scale: 1"=60' (original drawing size)

Original Drawing Size: 24" x 36"

CONCEPT PLAN Phase 3

Public Works Site Redevelopment
Town of Bowdoinham, ME



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Civil, Marine, and Structural Engineering

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P3

Phase IV



Phase IV Recommendations

- Shoreline Stabilization
- Swim Area
- Dock
- Continued Landscape Planting

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 400, Portland, ME 04101

Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"



CONCEPT PLAN Phase 4
Public Works Site Redevelopment
Town of Bowdoinham, ME

P4

A large steel truss bridge spans across a river. The bridge's structure is composed of numerous interconnected steel beams forming a complex truss pattern. The river below is calm, reflecting the bridge and the surrounding greenery. In the background, another smaller bridge is visible, and the far bank is covered in dense trees. The overall scene is serene and natural.

COST SUMMARY

Phase I COST SUMMARY



Phase I Recommendations

- Hand Carry Boat Access & Racks
- Minimal Shore Stabilization
- Limited Trails
- Picnic Area
- Car & Boat Trailer Parking
- Access Road
- Signage
- Crosswalk/Safety
- Landscape Planting

PHASE I INITIAL INVESTMENT

\$560,000 - \$700,000

* with 15% Contingency

Phase II COST SUMMARY



Phase II Recommendations

- Pavilion (New)
- Pavilion (Adaptive Re-use)
- Access Road (to Pavilion)
- Landscape Planting
- Connections to Rail Trail
- Additional Parking

PHASE II
ADDITIONAL INVESTMENT

\$306,000 - \$384,000

TOTAL INVESTMENT I & II

\$867,000 - \$1,084,000

* with 15% Contingency

Phase III COST SUMMARY



Phase III Recommendations

- Ice Skating
- Fire Pit
- Nature Play Area
- Overlook Improvements (Boardwalk)
- Continued Landscape Planting

PHASE III
ADDITIONAL INVESTMENT

\$222,000 - \$377,000

TOTAL INVESTMENT I & II & III

\$1,247,000 - \$1,312,000

* with 15% Contingency

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 400, Portland, ME 04101
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

CONCEPT PLAN Phase 3
Public Works Site Redevelopment
Town of Bowdoinham, ME

Phase III with ACTIVE RECREATION COST SUMMARY



Phase III Recommendations

- Bocce
- Horseshoes
- Basketball Court

PHASE III w/ Active Recreation
ADDITIONAL INVESTMENT

\$47,000 - \$58,000

TOTAL INVESTMENT I & II & III

\$1,294,000 - \$1,370,000

* with 15% Contingency



Phase IV COST SUMMARY



Phase IV Recommendations

- Shoreline Stabilization
- Swim Area
- Swim Dock

PHASE III
ADDITIONAL INVESTMENT

\$537,000 - \$690,000

TOTAL INVESTMENT I & II & III & IV

\$1,724,000 - \$2,269,000

* with 15% Contingency

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 202, Portland, ME 04101

Original Issue Date:

Issued for:

Revision Dates:

0' 60' 120' 180'

Scale: 1"=60' (original drawing size)

Original Drawing Size: 24" x 36"

CONCEPT PLAN Phase 4

Public Works Site Redevelopment

Town of Bowdoinham, ME



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

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P4

FUNDING OPPORTUNITIES

• **In-kind Donations**

- **Material**
- **Services**

• **Private Donors**

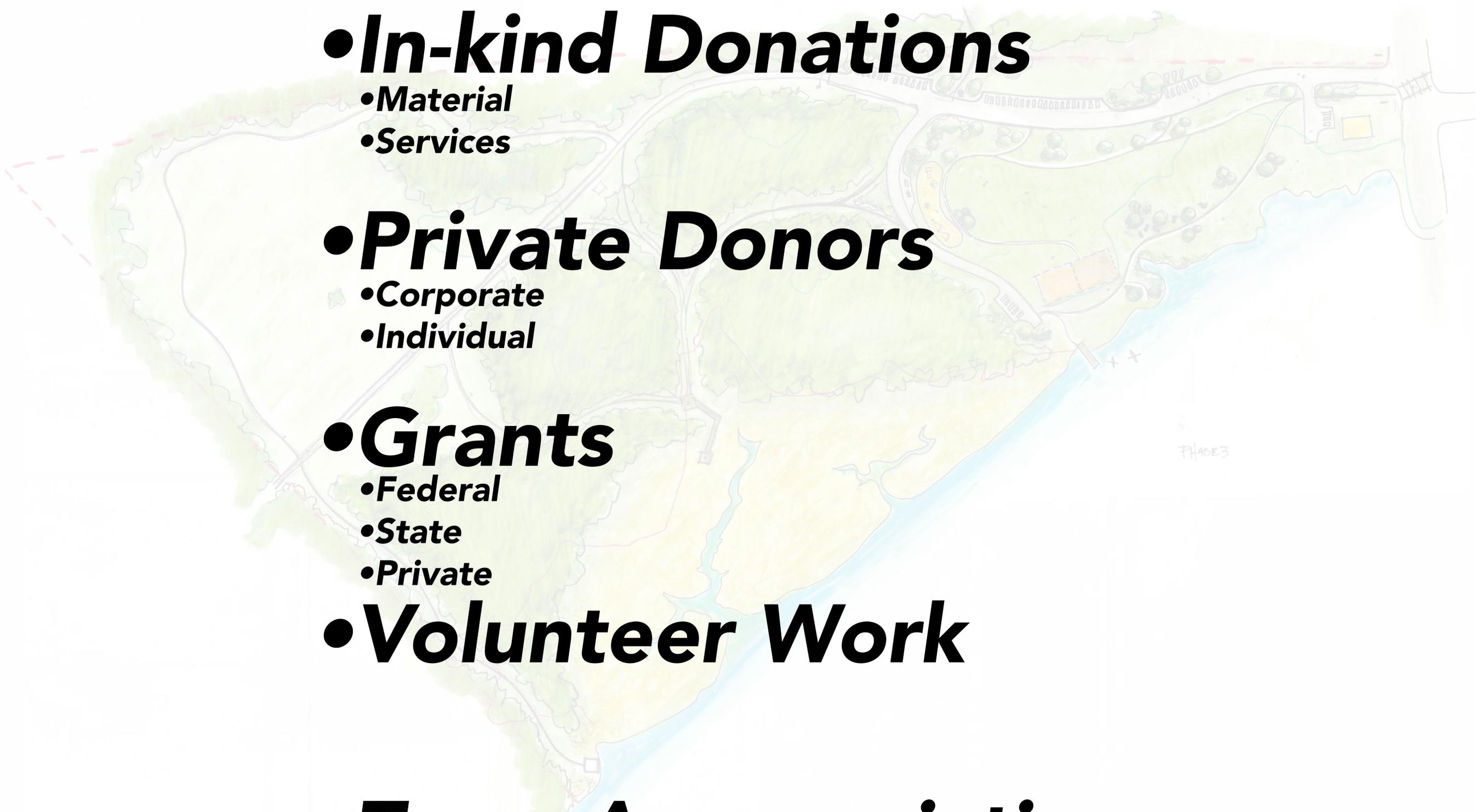
- **Corporate**
- **Individual**

• **Grants**

- **Federal**
- **State**
- **Private**

• **Volunteer Work**

• **Town Appropriation**

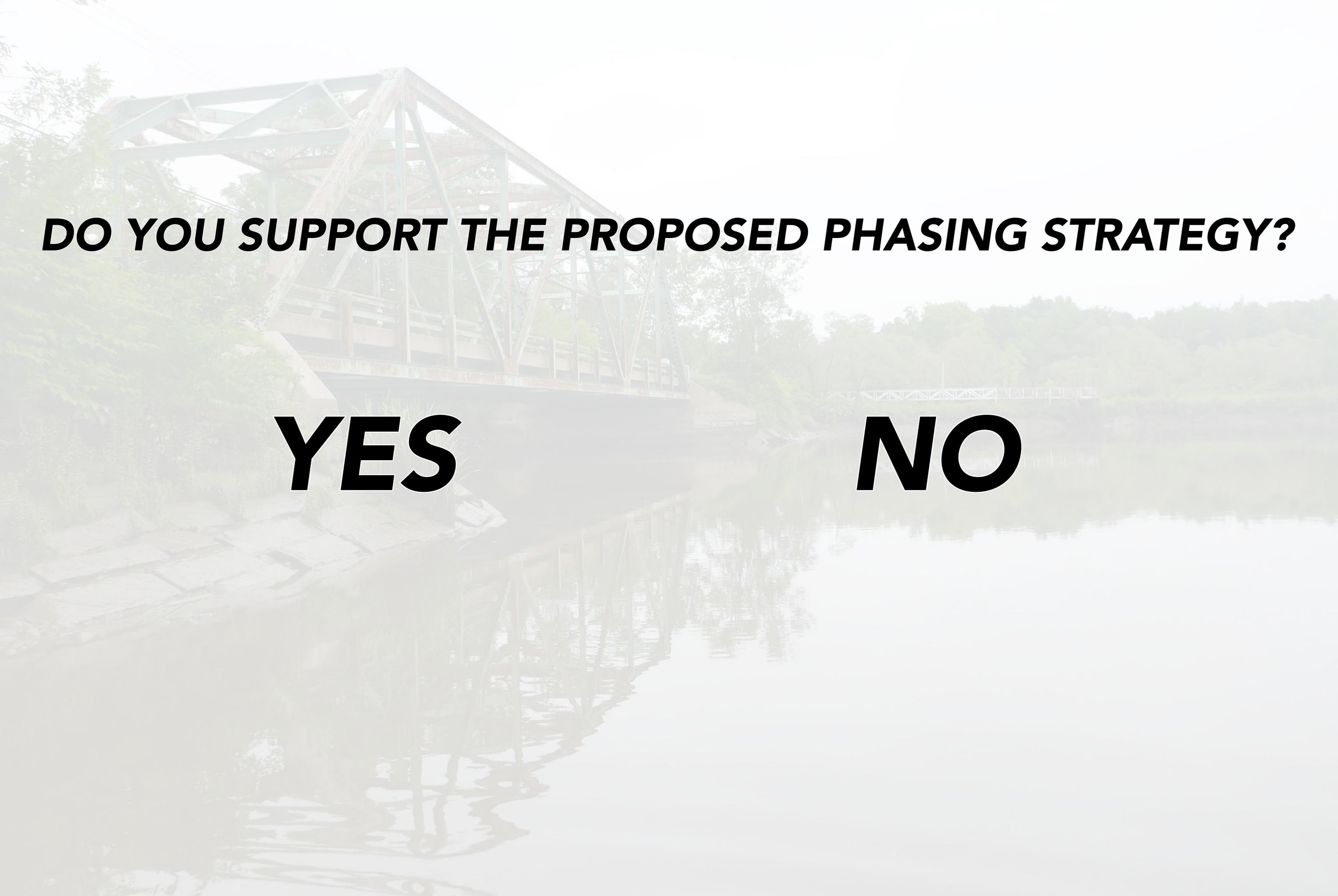


Richardson & Associates, Landscape Architects / 11 Maple Street, Suite 200, Portland, ME 04101
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

0' 60' 120' 180'
Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"



CONCEPT PLAN
Public Works Site Redevelopment
Town of Bowdoinham, ME

A large steel truss bridge spans across a wide river. The bridge has a complex lattice of steel beams. In the background, another smaller bridge is visible across the water. The surrounding area is lush with green trees and vegetation. The sky is overcast and grey.

DO YOU SUPPORT THE PROPOSED PHASING STRATEGY?

YES

NO

PAVILION?

YES

NO



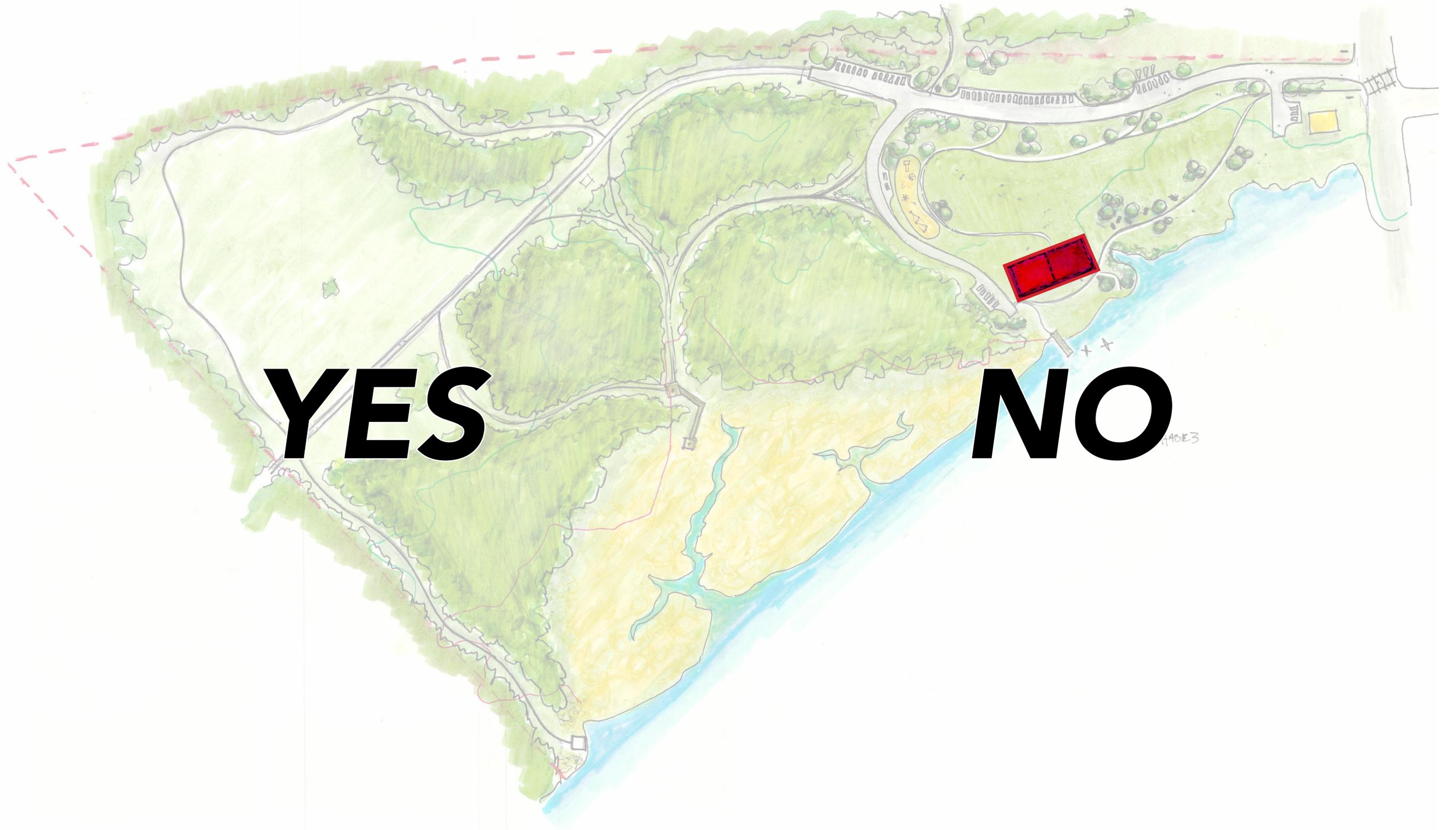
ADAPTIVE RE-USE OF EXISTING PUBLIC WORKS BUILDING?



YES

NO

NEW PAVILION AT SAME LOCATION?



YES

NO

NEW PAVILION IN DIFFERENT LOCATION



YES

NO