

COCHECO WATERFRONT DEVELOPMENT
ADVISORY COMMITTEE
PEDESTRIAN BRIDGE SUBCOMMITTEE



RELOCATION STUDY
REPORT OF FINDINGS
May, 2009

TABLE OF CONTENTS

STUDY PURPOSE

BACKGROUND INFORMATION & MEETINGS

OPTION OVERVIEWS

EVALUATION MATRIX

RECOMMENDATION

NEXT STEPS

Figures

- 1 – Overall Option Locations Map
- 2 – Cochecho Cove
- 3 – Washington Street Crossing
- 4 – Young Street Crossing
- 5 – Upper Basin Crossing

STUDY PURPOSE

At a regularly scheduled meeting of the Cochecho Waterfront Development Advisory Committee (CWDAC), a Subcommittee was appointed to review alternative sites for relocation of the existing Pedestrian Bridge from its current location at the present terminus of Washington Street. The Pedestrian Bridge will be removed as a result of the new Washington Street Bridge construction with completion anticipated in June, 2010.

The existing 154 foot wooden structure, according to contract, is to be lifted from its current location and set on suitable temporary abutments and surrounded by a suitable vandal resistant fence on City-owned land. This parcel is slated for the proposed Cochecho Waterfront Development by Dickinson Development under the conditions of the recently signed Land Development Agreement. This Report of Findings is intended to provide insight regarding the potential sites evaluated by the Subcommittee, the merits and constraints of each site, and the Subcommittee's recommendation based on the available information and the parameters considered.

BACKGROUND INFORMATION & MEETINGS

The Subcommittee met on February 23, March 3 and March 23, 2009. A sitewalk of three (3) Of the four (4) alternatives was conducted prior to the March 3rd meeting.

Prior to the initial Subcommittee meeting, research of available information was completed. Generally, this data included:

Washington Street Bridge Replacement Engineering Study, dated January 20, 2006, prepared by The Louis Berger Group, Inc.

Dover Master Plan, Transportation Chapter, dated October, 2000

Downtown/Riverfront Redevelopment Traffic Circulation and Parking Plan (DRAFT), dated October 20, 2004, prepared by Rizzo Associates

Cochecho River Pedestrian Bridge Preliminary Report prepared for City of Dover, NH, dated September, 1995, prepared by H.E. Bergeron Civil Engineers, P.A.

Plans entitled “City of Dover, Conceptual Cochecho River Bank Restoration, Dover, New Hampshire”; dated 9/7/07; prepared by GeoInsight

Plans entitled “The Children’s Museum of New Hampshire, Butterfield Gym Renovation, Dover, NH; dated May 22, 2007; prepared by ARQ Architects

Aerial photos of the Downtown and Waterfront taken October 2005

The first meeting of the Subcommittee, on February 23rd, included a brief review and discussion of the above materials, a presentation by Brint Shone representing Great Mills Management, LLC, and discussion of a draft evaluation matrix. The evaluation matrix was developed initially with only two (2) options; however, based upon discussions, it was broadened to include the “Young Street Crossing” option (one of the original sites discussed for the pedestrian bridge in 1995) and any other locations within the Central Business District that were generally suitable to accommodate the current pedestrian bridge structure.

The Great Mills Management presentation included sketches and renderings of possible bridge orientations between Henry Law Park/Children’s Museum and One Washington Center. Further discussion of this option is presented in Section III of this report. Attendees included Earle Goodwin, interested citizen, and Gary Bannon, Recreation Department Director, as well as the Subcommittee members.

A second meeting was held on March 3rd at which time the Subcommittee met at the City-owned land on the easterly end of the current bridge location. The Subcommittee members toured two (2) of the bridge locations as permitted by the frozen snow conditions at that time. Immediately following the sitewalk the group reconvened at City Hall and Earle Goodwin made a presentation regarding the so-called “Cochecho Cove” option. A more complete description of this option is presented in Section III. The Subcommittee also discussed matrix parameters and the addition of a fourth option, the so-called “Upper Basin Crossing” (located west of the Central Avenue Bridge), based upon the river width and existing pedestrian bridge length. The Subcommittee also discussed available survey data provided by McEneaney Survey Associates as well as a telephone conversation with the pedestrian bridge design engineer Ed Bergeron regarding feasibility of bridge length modifications and estimated budgets. Attendees included Earle Goodwin, Gary Bannon, and Daniel Barufaldi as well as the Subcommittee members.

The March 23, 2009 Subcommittee meeting included a continuation of discussions relative to the Evaluation Matrix. Attendees included Earle Goodwin, Gary Bannon, Daniel Barufaldi, and the Subcommittee members.

The Subcommittee's deliberations were continued on March 30, 2009 with the majority of the discussion focused on the Evaluation Matrix and scoring of selected items.

OPTION OVERVIEWS

The following section provides an overview of the four (4) options considered by the Subcommittee. The option names and general locations are as follows:

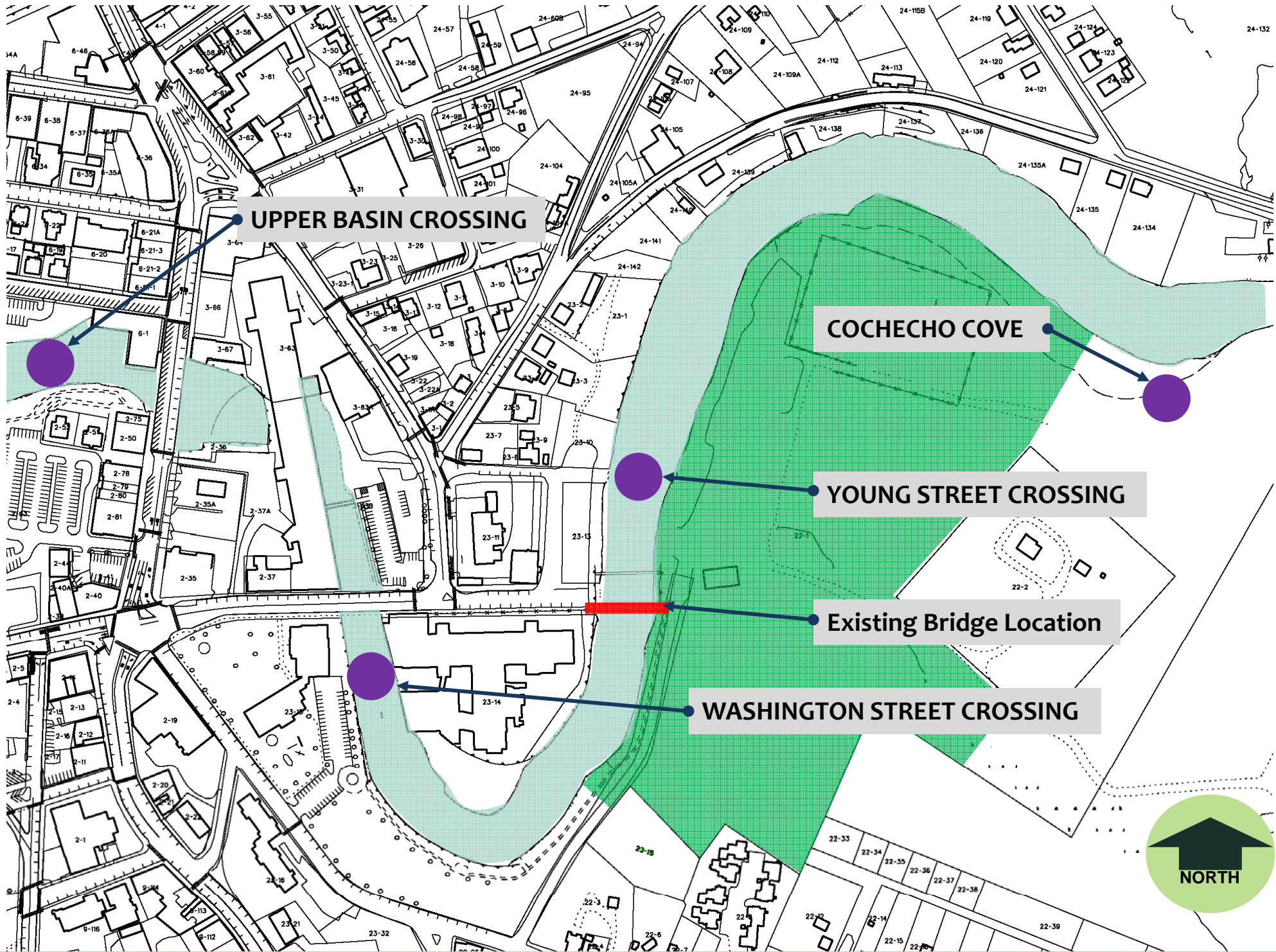
Option 1 – Cochecho Cove located at the far easterly side of the City-owned waterfront parcel adjacent to Maglaras Park

Option 2 – Washington Street Crossing spanning the Cochecho River between the Children’s Museum of New Hampshire and One Washington Center

Option 3 – Young Street Crossing located at the foot of Young Street, downstream of the current bridge location, and crossing to the City-owned waterfront parcel

Option 4 – Upper Basin Crossing located between the First Street parking lot and the upper portion of the Riverwalk near the southerly end of the Central Avenue bridge

An overview of the option locations within the Central Business District is attached as Figure 1



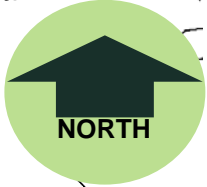
UPPER BASIN CROSSING

COCHECHO COVE

YOUNG STREET CROSSING

Existing Bridge Location

WASHINGTON STREET CROSSING



**Cochecho River Pedestrian Bridge Relocation Study
Overview Map**

OPTION 1 – Cochecho Cove

This option was originally presented to CWDAC by Earle Goodwin in 2007. Mr. Goodwin has prepared a considerable amount of background information and has taken an advocacy position with regard to this option.

As Figure 1 shows, the Cochecho Cove option is located to the east of the proposed Waterfront Development. This option is envisioned crossing an existing wetland area immediately adjacent to the southerly shoreline of the Cochecho River (see Figure 2). The area has recently been the site of river bank restoration efforts and is in close proximity of the area considered as a potential site for the UNH crew team boat house. If use by UNH should occur, a parallel vehicular access would most likely be required. The proposal put forth by Mr. Goodwin includes development of an additional park in the area surrounding the bridge.

This location will require construction of abutments and relocation of overhead utility wires to facilitate the vehicular transport of the bridge and final placement.

Pros

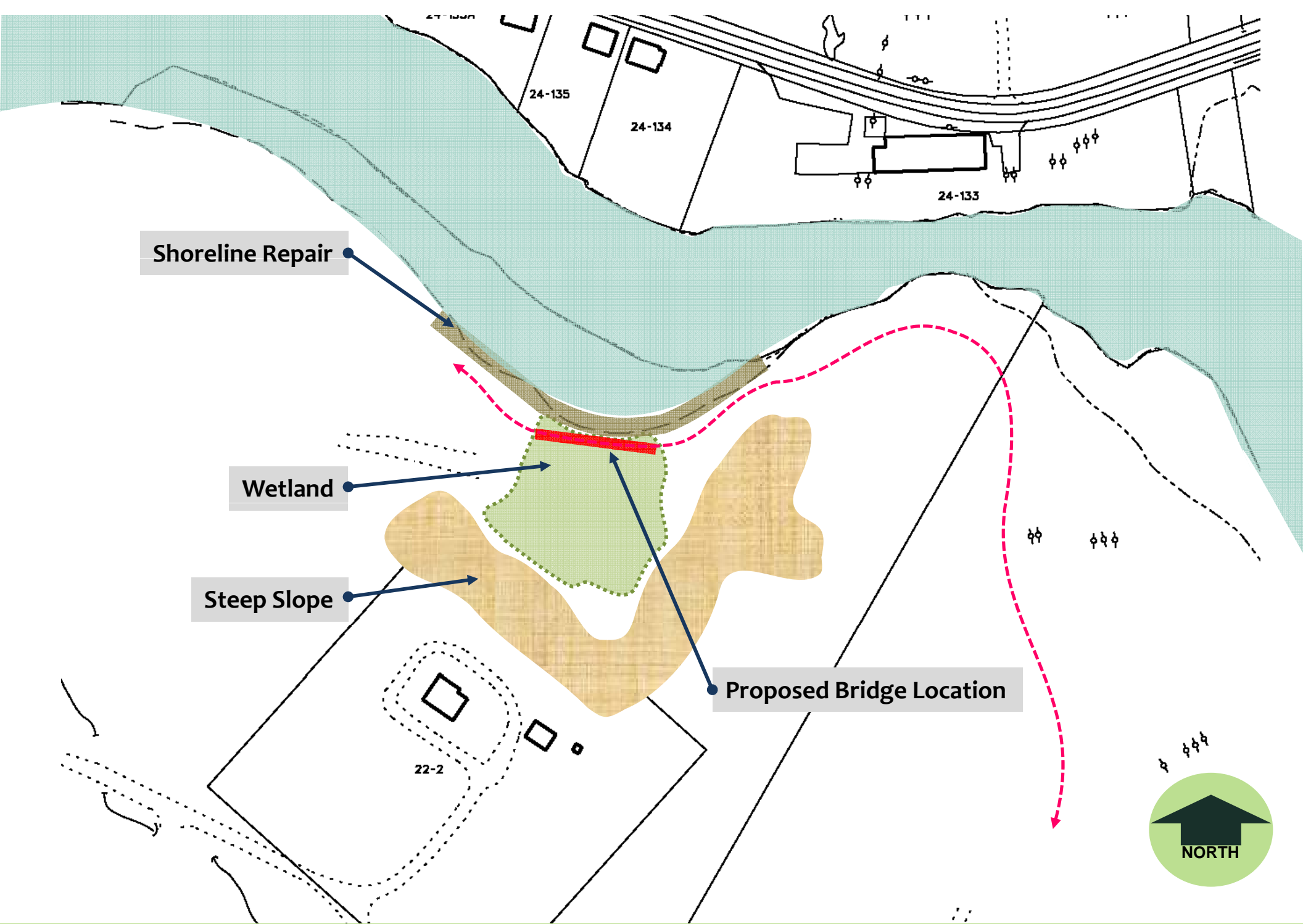
- Connection to future recreational areas
- Will not require accommodations by other property owners
- Long-term maintenance made easier as it is not over a water body
- “Accessibility” accommodations fairly easy

Cons

- Location is not likely to experience a high volume of pedestrian traffic
- Low visibility, not likely to become a landmark element
- Exposed to likelihood of vandalism due to isolated location
- Limited opportunities for outside funding

FIGURES AND PHOTOS – OPTION 1

Cochecho Cove





OPTION 2 – Washington Street Crossing

As shown in Figure 1, the Washington Street Crossing option connects the westerly shore of the Cochecho River, directly behind the Children’s Museum of New Hampshire and at the current terminus of the Riverwalk, to the easterly shore at One Washington Center. Generally, at this area of the river, the granite block bulkheads on each side are approximately 100 to 105 ft. apart. The shoreline on the easterly side is a paved area between Bidly Mulligan’s Pub and the Picker Building (offices and art studios at this time). The westerly shoreline is a sloping lawn area, 30-50 ft. wide, and is generally the northerly terminus of the brick Riverwalk in Henry Law Park.

This location can accommodate the full length of the pedestrian bridge if it is placed at an angle to the flow line of the river (see Figure 3). Shortening of the bridge, by removal of a panel from each end of the structure will allow a bridge alignment perpendicular to the flow line and more parallel to the existing Washington Street Bridge located about 150 ft. to the north. Provisions for bridge abutments and handicap accessibility are feasible on both ends of the pedestrian bridge.

Pros

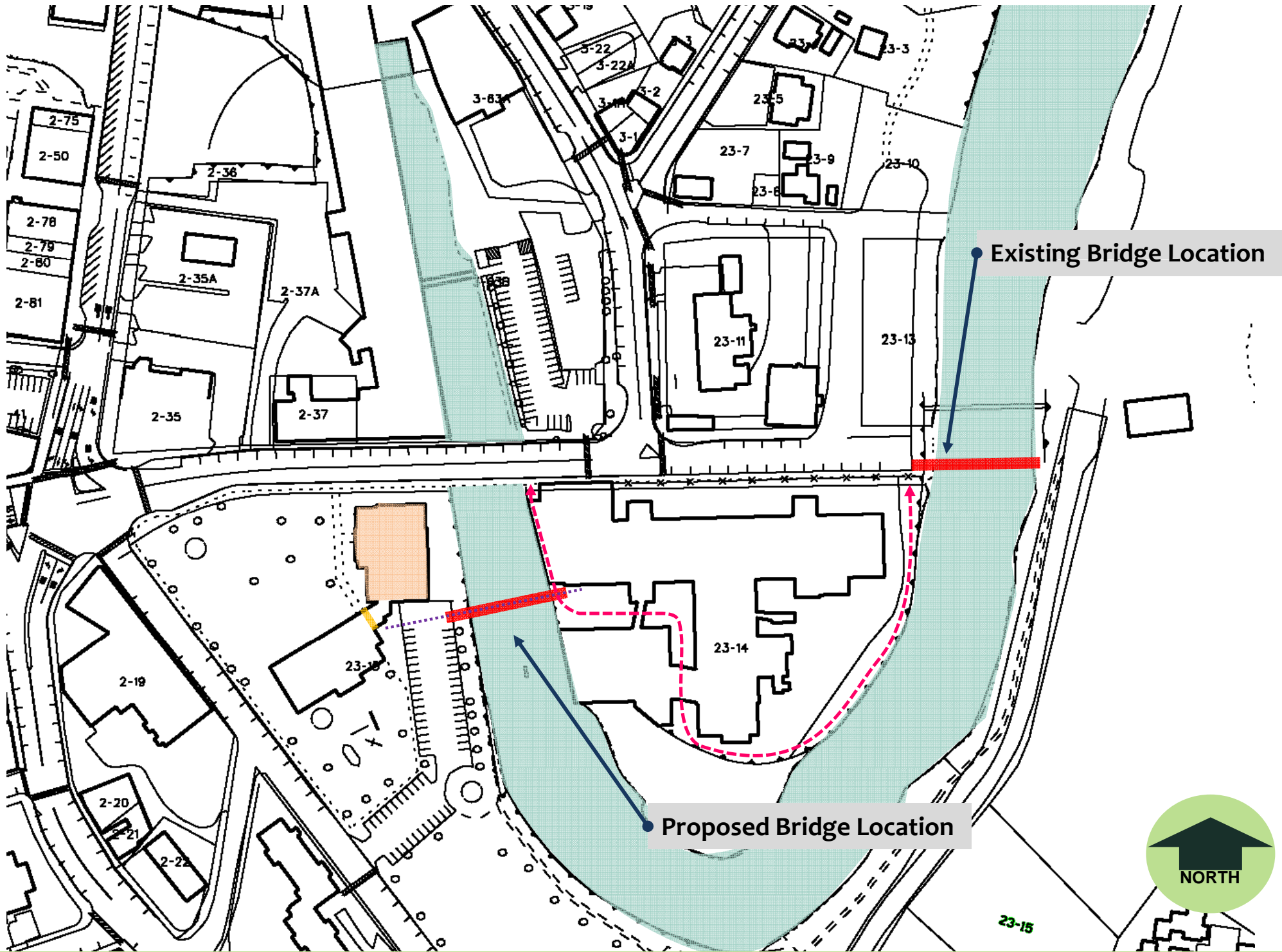
- Connection of areas of high pedestrian activity (Henry Law Park, Children’s Museum, Indoor Pool, and potential commercial development in urban center)
- Removal of a portion of heavy pedestrian traffic from narrow sidewalk on the existing Washington Street Bridge
- Bridge remains a landmark element in urban center
- High visibility makes the bridge less susceptible to vandalism
- Responsive to current Planning initiatives for pedestrian circulation and economic growth in the urban core

Cons

- Easement for perpetual public circulation on private property required
- Long-term maintenance moderately difficult
- Handicap accessibility accommodations require ramp system

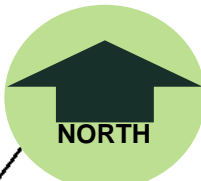
FIGURES AND PHOTOS – OPTION 2

Washington Street Crossing



Existing Bridge Location

Proposed Bridge Location







OPTION 3 – Young Street Crossing

As shown on Figure 1, the Young Street Crossing option connects the westerly shore of the Cochecho River, at the terminus of Young Street, to the easterly shore at City-owned property planned for development as a public park area associated with the Cochecho Waterfront Redevelopment project.

At this crossing point, the river width exceeds the pedestrian bridge length (see Figure 4). To accommodate the bridge, a pier will need to be constructed in the river and a short “secondary” bridge segment will need to be installed between a shoreline abutment and the relocated pedestrian bridge. Handicap accessibility is readily accommodated.

Pros

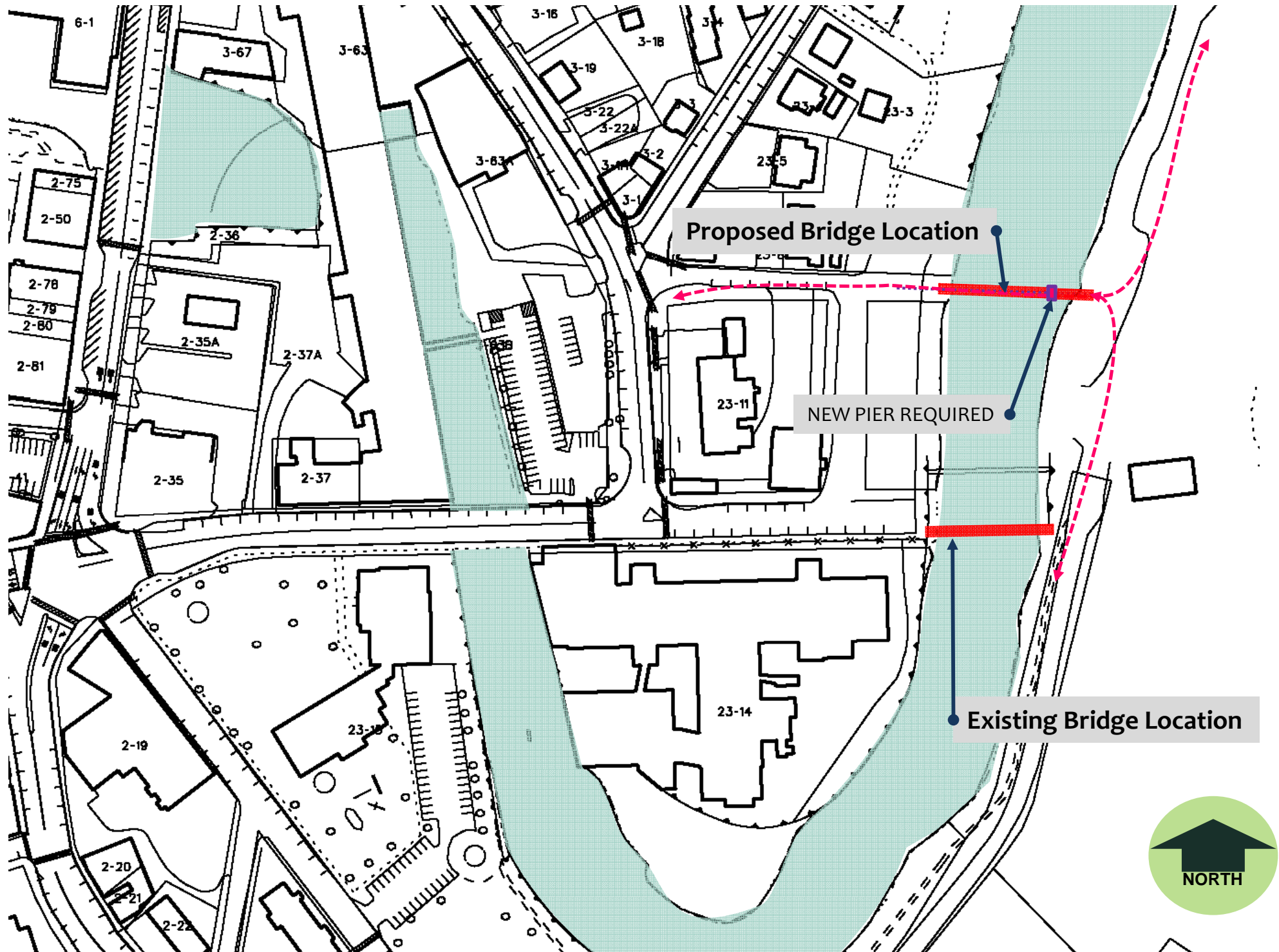
- Upon completion of initial phase of redevelopment efforts on City-owned land, the location is likely to experience relatively high pedestrian volumes
- The pedestrian bridge in this location will be highly visible and remain a landmark element in the urban center
- High visibility makes the bridge less susceptible to vandalism
- Subtlety of relocation retains “photo worthy” presence of pedestrian bridge

Cons

- Requires new pier in river and additional bridge structure and the costs and permitting requirements associated therewith
- Possible conflict with some larger vessel activity (proximity to turning basin)
- Long-term maintenance moderately difficult

FIGURES AND PHOTOS – OPTION 3

Young Street Crossing





OPTION 4 – Upper Basin Crossing

As shown on Figure 1, the Upper Basin Crossing is named according to its location relative to the dam/falls adjacent to Central Avenue. The option is located to the west of the Central Avenue Bridge and would span the Cochecho River between the southeasterly corner of the First Street parking lot (public parking) and the upper reach of the Riverwalk (see Figure 5).

This location was selected as an option for consideration because the river width is essentially equal to the pedestrian bridge length. This would imply that the bridge could be positioned at this point with relatively simple construction of appropriate bridge abutments and access ramps.

Pros

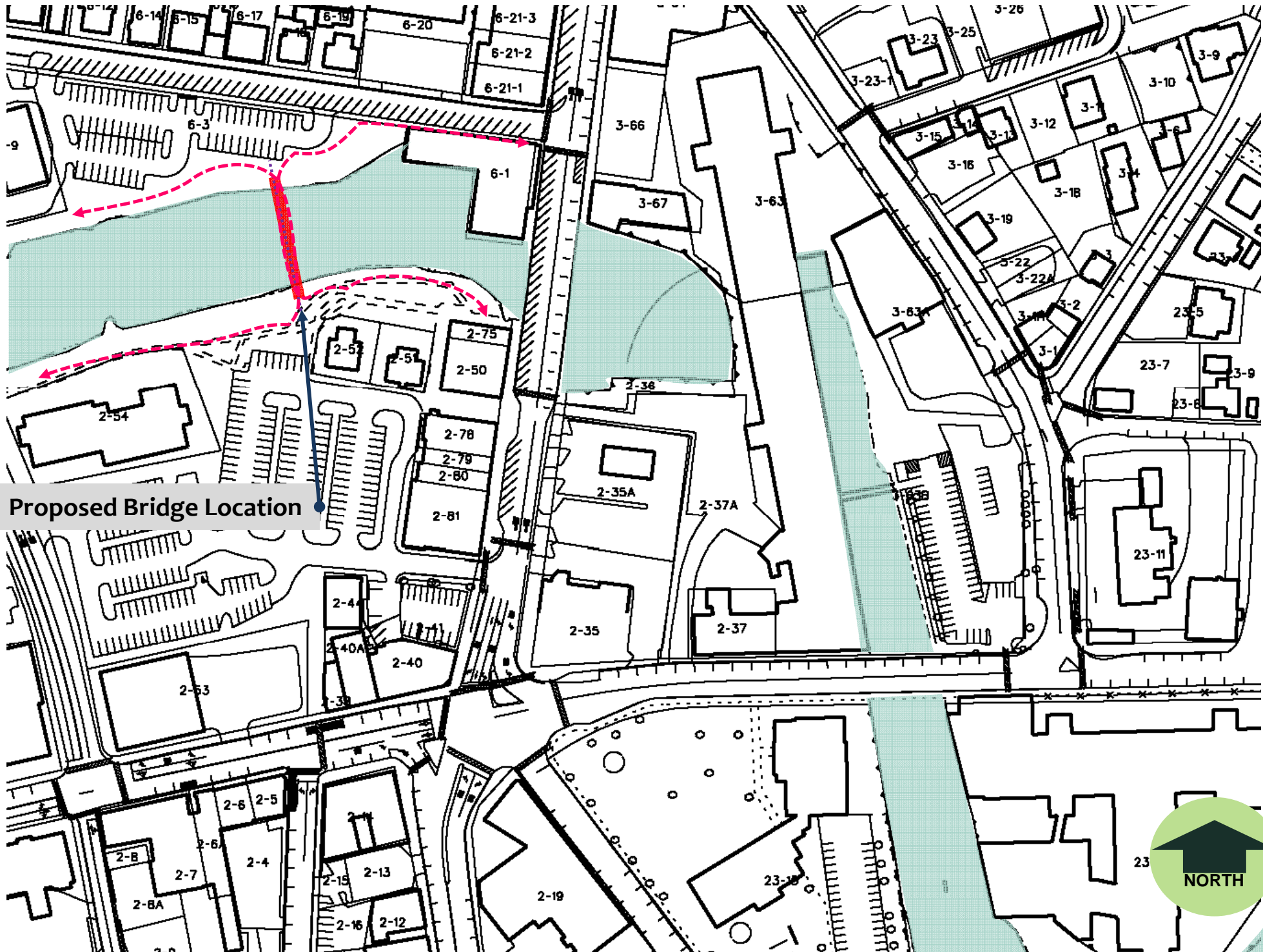
- Location is likely to experience considerable pedestrian traffic between public parking and points west (including the public transportation terminal on Chestnut Street) and the Lower Square area
- Highly visible location and certainty to remain a landmark element in the urban center
- Location is less susceptible to vandalism due to high visibility
- Responsive to current Planning initiatives for pedestrian circulation and economic growth in the urban core.
- Compliments surrounding built environment

Cons

- Logistical issues and costs associated with overland transport of bridge
- Long-term maintenance moderately difficult
- Handicap accessibility accommodations require ramp system

FIGURES AND PHOTOS – OPTION 4

Upper Basin Crossing



Proposed Bridge Location





EVALUATION MATRIX

EVALUATION MATRIX

Discussions by the Subcommittee early in the data review and analysis process focused on a presentation format to compare the selected options based on various elements and issues of interest. The attached Evaluation Matrix includes both a ranking system, 1 (lowest) thru 4 (highest), where comparisons were readily drawn for certain elements and issues, as well as commentary for other concerns based on a consensus of the Subcommittee members.

The point totals represent the summation of the ranks given to select elements and issues mentioned above.

Cochecho River Pedestrian Bridge Relocation Study

by: Cochecho Waterfront Advisory Committee

Saturday, March 07, 2009

Revised: October 8, 2009

Evaluation Matrix

	Location Option 1 Cochecho Cove	Location Option 2 Washington Street Crossing	Location Option 3 Young Street Crossing	Location Option 4 Upper Basin Crossing
Elements & Issues Considered				
1. The Bridge in this location is likely to experience a high volume of pedestrian traffic. (Rank scale 1-4).	1	4	2	3
2. The Bridge in this location will have great visibility and become a landmark element. (Rank scale 1-4)	1	3	2	4
3. The accommodations, including construction rigging and transportation logistics necessary to locate the Bridge in this location are (list):	Requires new bridge abutments, overland haul, crane lift and place, power lines	Requires new bridge abutments, water borne transport, shorten bridge, barge lift and place	Requires new bridge abutments, pier and approach extension, water borne transport, barge lift and place	Requires new bridge abutments, overland - roadway transport, possible dismantling & reassembly, crane lift and place
4. The anticipated cost of the above stated engineering accommodations are (estimated without benefit of engineering studies)	\$220,000	\$250,000	\$575,000	\$350,000
5. The regulatory permits necessary to move the Bridge to this location are: (ACOE, DES). Time frame	Local, State and Federal	Local, State and Federal	Local, State and Federal	Local, State and Federal
6. The acquisition of permits is expected to be difficult - easy. (Rank scale 1-4):	2	2	1	2
7. The Bridge placed in this location is (likely / not likely) to be exposed to vandalism. (Rank scale 1-4)	1	3	2	4
8. How is the Bridge in this location responsive to current Planning initiatives for pedestrian circulation and economic growth in the urban core? (Rank scale 1-4)	1	4	2	3
9. The Bridge in this location offers opportunities for outside funding ?	Unlikely - 1	Possible participation by One Washington as well as grant sources listed below - 4	Unlikely - 2	Possible grant sources listed below - 3

Cochecho River Pedestrian Bridge Relocation Study

by: Cochecho Waterfront Advisory Committee

Saturday, March 07, 2009

Revised: March 31, 2009

Evaluation Matrix

	Location Option 1 Cochecho Cove	Location Option 2 Washington Street Crossing	Location Option 3 Young Street Crossing	Location Option 4 Upper Basin Crossing
Elements & Issues Considered				
10. The Bridge in this location offers special advantages and benefits not available at alternate sites. These advantages are:	Connection to recreational path.	Connection to area of high pedestrian activity - potential commercial development	Connection to future river front park and new neighborhood - photoworthy	Connection between two active neighborhoods/parking
11. The Bridge placed in this location will / or will not impede water based recreational activities?	Will not - location does not span water	Will not - Water depth not sufficient for motorized craft, clearance sufficient for small craft.	Will - May conflict with some motorized craft, clearance sufficient for small craft.	Will not - Motorized craft not found in this upper basin, clearance sufficient for small craft.
12. The Bridge in this location requires accommodation by other property owners for its permanent use?	No	Yes, easement for perpetual public circulation required	No	No
13. The long term maintenance of the Bridge in this location will be easy - difficult.	Easy	Moderately Difficult	Moderately Difficult	Moderately Difficult
14. From an aesthetic perspective, the Bridge in this location complements the surrounding built environment?	Remote location, naturalized setting, limited surrounding built environment	Complements surrounding built environment	Complements surrounding built environment	Complements surrounding built environment
15. The Bridge in this location will require additional "accessibility" accommodations to make it fully functional and compliant.	Unlikely	Yes, ramp system is likely	Not likely	Yes, ramp system is likely
POINT TOTAL	11	23	12	21

Possible grant sources:

- 1) Transportation Enhancement Grant
- 2) CDBG Dover Economic Loan Pool (job creation)

RECOMMENDATION

As a result of discussions during the Subcommittee meetings, site visits, and development of the Evaluation Matrix, the Pedestrian Bridge Subcommittee recommends selection of Option 2, Washington Street Crossing. This recommendation is based on the following significant factors:

- This location, between the Children’s Museum and Henry Law Park to the west and One Washington Center to the east, will most likely experience a high volume of pedestrian traffic;
- The bridge will remain highly visible;
- The location is responsive to current Planning initiatives for pedestrian circulation and economic growth in the urban core;
- This location offers opportunities for outside funding (i.e. Transportation Enhancement Grant);
- Per a telephone conversation with the original bridge design engineer, bridge alterations, if required, can be accomplished within the relocation and abutment/access construction process.
- Relatively low cost compared to other locations

NEXT STEPS

The Evaluation Matrix indicates that this option received the highest point total from the Subcommittee. It should also be noted that perpetual public access easements will need to be obtained from the owners of One Washington Center. Other site preparation and funding arrangements should also be pursued. The Subcommittee recommends the following next steps:

1. Negotiate public access easements
2. Conduct studies, designs as required for abutments and access
3. Prepare designs and develop methodology for bridge alterations, if required, as well as the relocation process
4. Apply for funding opportunities