

Tab H. Effects/Mitigation

The effects of the Preferred Alternative on historic resources were determined by NHDHR, MHPC, FHWA, NHDOT, and Maine DOT based on the Section 106 review process established by the NHPA of 1966 and outlined at 36 CFR 800.9. It was determined at a November 9, 2006, Cultural Resources Agency Coordination Meeting that the Preferred Alternative will have an adverse effect on historical resources. The project effects are outlined in a Memorandum of “Adverse Effect” as follows:

Memorial Bridge Historic District: The project will have an adverse effect on the setting of the National Register-qualifying characteristics and features of the Memorial Bridge Historic District, since the bridge is a key character-defining element of public vantage points at the river and riverfront. Those components of the district that are individually eligible for the National Register and effects on each element are described below.

Memorial Bridge (Lift Span and Flanking Spans): The proposed removal and modified in-kind replacement of the lift span will have an adverse effect on the location and setting of the National Register-qualifying characteristics and features of the bridge. This effect on the bridge stems from the loss of integrity of the original materials and components, the removal of mechanical systems, the addition of substitute materials that do not visually replicate historic features and materials, and the changes on the operating system.

[Portsmouth Approach] Scott Avenue Bridge: The removal and replacement of the Scott Avenue Bridge [Portsmouth Approach] was determined to have an adverse effect on the location and setting of the National Register-qualifying characteristics and features of the bridge, because it will be demolished and replaced. The proposed bridge replacement was viewed by NHDHR as a minimal adverse effect.

Memorial Park: Excavation for the Scott Avenue Bridge will temporarily disturb a portion of the northern triangle of the park, and the entire park will be temporarily disturbed during construction staging. The project was determined to have no adverse effect on the park conditional upon the park being restored upon completion of construction.

Kittery Approach Spans: The project will involve minor repairs to the Kittery Approach span. The project was determined to have a conditional no adverse effect on setting of the National Register-qualifying features of the structure.

Badgers Island Bridge: There will be no work on the Badgers Island Bridge, and no effects will occur to this historic structure. The proposed work will be contained entirely within the existing paved right-of-way and will not affect the historic qualities of the bridge.

John Paul Jones Memorial Park: The project will not involve any work affecting this historic resource and will have no effect on the park.

Portsmouth Historic District: The proposed replacement of the lift span was determined by NHDHR to have an adverse effect on location, setting, and use of the National Register-qualifying characteristics and features of the district, and an adverse effect on the district from the perspective of the integrity of design, setting, materials, workmanship, feeling, and association.

Archaeological Resources: Pre-construction archaeological investigations, beyond the Phase IB investigations in Memorial Park and monitoring of geotechnical borings that were performed, are not proposed. The Scott Avenue Bridge abutment consists of up to 28' of fill, the bottom of

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which appears to relate to demolition. Archaeological testing within and below the demolition area is impractical and will probably only confirm the presence of a demolition layer. Given the depth of the demolition layer, the effort it would take to conduct archaeological testing to confirm the level of disturbance, and the absence of any indication of intact surface horizons above the subsoil, it is not considered prudent or feasible to conduct additional archaeological investigation in this location during the pre-construction phase.

All necessary phases of archaeology will be completed. During construction, subsurface excavations reaching depths below existing fill will be monitored for the presence of archaeological features and artifacts. Excavations that are proposed within the northern triangle of the Memorial Park that exceed 4' will require archaeological monitoring during construction. Archaeological monitoring will also be performed for excavations performed along the waterfront below Scott Avenue.

1. Mitigation Measures

Mitigation for unavoidable impacts to historic resources will include a number of types of efforts. A Memorandum of Agreement has been prepared that includes the required mitigation measures for both archaeology and historical resources (Page H-19).

Mitigation efforts include:

- Revising the Historic Structures Report to include large format photographs of the Memorial Bridge and the original design sheets.
- Professional photography of the rehabilitation/reconstruction of the Memorial Bridge.
- An investigation of alternative design and construction methods and materials to minimize the loss of original materials and change in original appearance. Design mitigation includes the proposed replication of the character-defining elements of the lift span in the new replacement structure. Specifically, the vertical and diagonal members at the sides of the trusses and the upper laterals and sway bracing between the trusses will be replicated in the new lift span structure (Figures G-1 to G-4).
- Consultation with the City of Portsmouth as appropriate, regarding design elements, such as the lighting and railing for the Scott Avenue Bridge and the Memorial Park design.
- As mitigation, the visual appearance of the Scott Avenue replacement structure will be similar to that of the existing bridge, despite the changes in structure systems from concrete to steel and the loss of piers.
- Memorial Park will be restored to its current configuration at the completion of the project. NHDOT, FHWA, and NHDHR will coordinate with the City of Portsmouth on the design and implementation of the park plans.
- An interpretive sign will be developed and installed at the overlook within Prescott Park. This interpretive sign will commemorate the Memorial Bridge; J.A.L. Waddell, its designer; and vertical lift bridges as a bridge type. Coordination among NHDOT, FHWA, NHDHR, the City of Portsmouth, the Trustees of Trust Funds for Prescott Park, and the consulting party has been performed and will continue regarding the content and appearance of the proposed sign and its location. NHDRED has indicated that installation of the sign will not involve a Section 6(f) use of the park. In addition, the

Memorial Bridge Historic Structures Report

commemorative plaques on the Memorial Bridge and the plaque within Memorial Park will be removed during construction and reinstalled upon completion of construction.

- An archaeological monitoring protocol has been developed and will be adhered to during construction. Monitoring will be performed during bridge excavation and drainage and utility excavations. If archaeological deposits and artifacts are encountered, the archaeologist will determine the historical significance of the deposits. If the deposits are determined to be historically significant, they will be recovered.

2. Determinations of Eligibility/Effect

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Area:

Participants:

Town/City: Portsmouth

Map/Parcel:

Eligible Acreage:

Property name: Memorial Bridge (Lift and Tower/Flanking Spans) County: Rockingham

Address: Spanning Piscataqua River

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☐

☐ Eligible (district N/A)

☐

☐ Eligible, also in district

☐

☐ Eligible, only in district

☐

☐ Not evaluated for individual eligibility

☐

☐ Listed in the National Register of Historic Places

Districts

NR

SR

☐

☐ Eligible

☐

☐ Not eligible

☐

☐ Not evaluated as a district

☐

☐ Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: Memorial Bridge was determined eligible in 1988 utilizing the numerical scoring system that was developed by NHDHR, NHDOT, and FHWA for the New Hampshire Bridge Survey. On [date] the earlier determination of eligibility was confirmed by the NH DHR Determination of Eligibility Committee.

Under National Register Criterion A (Transportation), Memorial Bridge was the first modern, free, operable bridge linking New Hampshire and Maine along the great coastal highway, US Route 1, which had been designated in 1922, just prior to the opening of the bridge; Memorial Bridge greatly furthered interstate eastern seaboard travel. Designed for automobiles, electric trolley cars, and pedestrians, the span eliminated tolls over a private bridge upstream and provided a direct light rail connection over the Piscataqua River between Portsmouth and Kittery, supplanting the Portsmouth, Kittery & York Street Railway ferry. Providing direct and rapid transportation to the Portsmouth Navy Yard, the bridge simultaneously eliminated the Navy ferry. Under Criterion C, Memorial Bridge claimed many superlatives when new. It was designed by J. A. L. Waddell (1854-1938), one of the world's preeminent bridge designers, the developer of vertical lift bridges in the United States, and the holder of patents on most aspects of the operation of these bridges. Memorial Bridge was the first major vertical lift bridge in the eastern United States. At its dedication in 1923, it had the longest lift span in the country (297 feet), making it the direct prototype for later vertical lift bridges with clear spans of over 300 feet. Its lift towers, extending 210 feet above mean high water, were the highest in the nation, and its 135-foot vertical clearance was one of the highest. Today, Memorial Bridge is one of the oldest operational lift bridges in the United States. It retains physical integrity, with alterations limited largely to decks, railings, and mechanical systems. Memorial Bridge is also significant under Criterion A for its role in the history of transportation both locally and on a regional level. The bridge is significant in the development of the City of Portsmouth, and its construction represented the culmination of a long and difficult campaign on the part of the citizens of Portsmouth to link Kittery (and Portsmouth Naval Shipyard) with the town via a free bridge. The bridge may also have significance for its role in local maritime history. Finally, since the design intent of the original project was to create a memorial to World War I veterans, the bridge links memorial parks in both Maine and New Hampshire, and has ties to commemorative structures throughout the country.

Based upon the success of the Memorial Bridge design and two contemporary bridges in Newark, New Jersey, Waddell's vertical lift design was adopted in locations throughout the world where spans of greater than 300 feet were required. The bridge was also a stepping-stone towards the later, even longer lift spans, such as that over the Cape Cod Canal, which had openings of greater than 500 feet. The durability and simplicity of operation of the lift span design has been proven over time; many of the bridges built between 1910 and 1940 are still operating today and still have low operation and maintenance costs. The bridge retains its original main structure with alterations limited largely to the deck, railings and mechanical systems.

Memorial Bridge Historic Structures Report

As the approach to Memorial Bridge, the Portsmouth Approach Span (Scott Avenue Bridge) is a component part of an important engineering achievement, the central portion of which was designed by eminent engineer and originator of the long span vertical lift bridge, J.A.L. Waddell. However, the Portsmouth Approach Bridge is also significant in the area of engineering in its own right. It is one of very few access spans in the state. Compared to other bridges, it is the single longest concrete bridge built before 1925 extant in the state today. It is also the longest extant non-arched concrete bridge constructed in New Hampshire before 1935. It is the earliest identified concrete continuous slab bridge in New Hampshire and it appears to be the longest continuous span concrete bridge built before 1935 in the state. Of the over 300 pre-1930 concrete bridges in New Hampshire, it is the only five-span concrete bridge. It is also unique in its curved design. For these reasons, the Portsmouth Approach Bridge qualifies for listing on the National Register of Historic Places under Criterion C, for significance in the area of engineering.

The project area is sensitive for both Native American and Euroamerican archaeological resources. Euroamerican sensitivity is high, while sensitivity for Native American archaeological resources is moderate. While it is tempting to believe that urban settings offer no intact archaeological resources because of constant building and re-building, urban archaeologists have demonstrated that, in spite of massive undertakings, undisturbed sediments can lie buried beneath parking lots, old streets, building footprints, and bridge overpasses. In particular, Scott Avenue is built over a former neighborhood block, where beneath its deep fill prism, buried archaeological resources probably remain intact. Expected Euroamerican resources at the western approach include dwelling cellars and foundations, yard deposits, wells, privies, and other features related to 19th-century urban life along Portsmouth's waterfront.

Native American archaeological sensitivity depends on the location of the original shoreline. 19th-century maps indicate consistency in the shape and location of the shoreline. However, what the maps do not show is the original natural shoreline, which was probably at least partially built over and covered by wharves. Because the Memorial Bridge was erected on concrete piers, it is possible some of the underlying soils around the piers might still be intact. Possible resources within intact soils include sections of Euroamerican wharves, which in turn may cover sections of the original natural shoreline. Intact sections of shoreline could contain Native American shell middens or other types of food procurement sites.

The project area is sensitive for archaeological resources until it can be determined that the entire Area of Potential Effect has been disturbed by the 1920s bridge construction. The level of disturbance should be ascertained through mechanical trenching at the western end of the project area (where Euroamerican urban features are anticipated) and by archaeological monitoring at the east end to verify whether sections of the original, natural shoreline are still intact.

36 CFR 800.9 Criteria of Effect & Adverse Effect

- ☒ (a) **Effect:** undertaking may alter National Register-qualifying characteristics and features of:
☒ location ☒ setting ☐ use
- ☐ (b) **Adverse effect:** may diminish the integrity of ☐ design ☐ setting ☐ materials ☐ workmanship ☐ feeling ☐ association. Adverse effects include but are not limited to:
- (1) physical destruction, damage, or alteration of all / part of the property;
 - (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
 - (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
 - (4) neglect of a property resulting in its deterioration or destruction; and
 - (5) transfer, lease, or sale of the property.
- ☒ (c) **Otherwise adverse effects may be considered not adverse:**
- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
 - (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
 - (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: Rehabilitation alternatives: no adverse effect (floor replacement is done periodically for historic bridges and does not affect their overall historical and engineering integrity). Replacement alternatives: adverse effect: loss of integrity from loss of original materials and components, removal of mechanical systems, addition of substitute materials that do not visually replicate historic features and materials, and changes -- greater than for rehab alternatives -- on the operating system.

- ☐ Badgers Island Roadway, Badgers Island Bridge, John Paul Jones Park: No Effect (all alternatives)
- ☐ Maine Approach Span: No Adverse Effect (all alternatives)
- ☐ Portsmouth Approach Span / Scott Avenue Bridge & Memorial Park: Adverse Effect (all alternatives)

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- ☐ Memorial Bridge Lift Span (Rehabilitation alternative): No Adverse Effect; moving control house and loss of sheaves and ropes could be accommodated
- ☐ Memorial Bridge Lift Span & Tower/Lift Spans (Replacement alternative): Adverse Effect; substantial loss of original material and visual changes to the historic appearance of the bridge
- ☐ Portsmouth National Register Historic District: (Replacement alternative): Adverse Effect

Mitigation: (Rehabilitation and replacement alternatives) Complete HAER documentation; large format photography of bridge; and archival copies of original Waddell plans and historic views. In addition, for the replacement option, thoroughly investigate alternative design and construction methods and materials to minimize the loss of original materials and change in original appearance.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Area:

Participants:

Town/City: Portsmouth, NH and Kittery, ME

Map/Parcel:

Eligible Acreage:

Property name: Memorial Bridge Historic District

County: Rockingham

Address: Spanning Piscataqua River into Portsmouth, New Hampshire and Kittery, Maine

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☐

☐ Eligible (district N/A)

☐

☐ Eligible, also in district

☐

☐ Eligible, only in district

☐

☐ Not evaluated for individual eligibility

☐

☐ Listed in the National Register of Historic Places

Districts

NR

SR

☐

☐ Eligible

☐

☐ Not eligible

☐

☐ Not evaluated as a district

☐

☐ Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: There has never been a consideration of the Memorial Bridge Historic District as a whole. As noted on the inventory form for Memorial Park/Scott Avenue Bridge, "this larger district would include Memorial Bridge itself at least to the southernmost pier of its Maine approach span, and possibly the entire Route 1 transportation corridor as far as Government Street in Kittery, Maine." At a March 2, 2006 NHDHR/DOT meeting, it was agreed that an eligible historic district extends from Memorial Park in Portsmouth to John Paul Jones Park in Kittery. In addition to the two parks, this district would include the Scott Avenue approach spans, Memorial Bridge (tower/flanking spans and lift span), the Maine approach spans to Memorial Bridge, and the road connecting the Maine approach spans to the Badger Island Bridge. Since it dates from a different era it is not clear whether the Badger Island bridge would be a contributing element to the district.

36 CFR 800.9 Criteria of Effect & Adverse Effect

☒ (a) Effect: undertaking may alter National Register-qualifying characteristics and features of:

☐ location ☒ setting ☐ use

☒ (b) Adverse effect: may diminish the integrity of ☒ design ☒ setting ☒ materials ☒ workmanship

☒ feeling ☒ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☐ (c) Otherwise adverse effects may be considered not adverse:

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: Bridge rehabilitation alternatives: no adverse effect; bridge replacement alternatives: adverse effect. The bridge is a key character-defining element of public vantage points at the river and riverfront.

Mitigation: No mitigation is required, in addition to that for the Memorial Bridge, Scott Avenue Bridge, Memorial Park, and Portsmouth National Register Historic District.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #: POR0014

Date of group review: March 9, 2006

Area: Downtown/Local Historic District

Participants:

Town/City: Portsmouth

Map/Parcel:

Eligible Acreage: Less than one acre
(approximately 0.65 acres)

Property name: Scott Avenue Bridge

County: Rockingham

Address: Between Daniel and State Streets at the Piscataqua River

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☒

☒ Eligible (district N/A)

☐

☐ Eligible, also in district

☐

☐ Eligible, only in district

☐

☐ Not evaluated for individual eligibility

☐

☐ Listed in the National Register of Historic Places

Districts

NR

SR

☐

☐ Eligible

☐

☐ Not eligible

☒

☒ Not evaluated as a district

☐

☐ Listed in the National Register of Historic Places

Integrity: ☒ Location ☒ Design ☒ Setting ☒ Materials ☒ Workmanship ☒ Feeling ☒ Association

Criteria: ☐ A. Event ☐ B. Person ☒ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☒ State ☐ National

Description: The Scott Avenue Bridge was built in 1923 from designs by Portsmouth City Engineer W. A. McFarland. As the Individual Inventory Form states, "The Portsmouth Approach to Memorial Bridge qualifies for listing on the National Register . . . under Criterion C for significance in the area of engineering. As the approach span to Memorial Bridge, it is a component part of an important engineering achievement, the central portion of which was designed by eminent engineer J. A. L. Waddell. . . . It is one of very few access spans in the state. Compared to other bridges, it is the single longest concrete bridge built before 1925 extant in the state today. It is also the longest extant non-arched concrete bridge constructed in New Hampshire before 1935. It is the earliest identified concrete continuous slab bridge in New Hampshire and it appears to be the longest continuous span concrete bridge built before 1935 in the state. Of the over 300 pre-1930 concrete bridges in New Hampshire, it is the only five-span concrete bridge. It is also unique in its skewed [and variable width] design." The bridge has undergone periodic maintenance and had its cantilevered concrete sidewalks replaced and its surfaces coated with Gunitite in 1977. Yet the bridge retains its structural system of support on piles and subterranean concrete footings, and its pier and slab reinforcement of square and deformed round bars as designed for the stresses engendered by continuous construction. The bridge retains integrity relative to its structural system, which is the paramount element of its significance. Despite the alterations that have occurred through maintenance over time, the structure retains a typical level of physical integrity when compared to other examples of concrete bridge construction from its era. Because of its potential archaeological sensitivity, and because it was part of the plaza design of the bridge approach, the boundary is defined as beginning at the pier/abutment of Memorial Bridge, then extending west-southwest to include the closed U-shaped area defined by Daniel Street, State Street (and the area under the Approach where they meet), and Wright Avenue.

36 CFR 800.9 Criteria of Effect & Adverse Effect

☒ (a) Effect: undertaking may alter National Register-qualifying characteristics and features of:

☒ location ☒ setting ☐ use

☒ (b) Adverse effect: may diminish the integrity of ☒ design ☒ setting ☒ materials ☒ workmanship

☒ feeling ☒ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;

Memorial Bridge Historic Structures Report

- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☐ (c) **Otherwise adverse effects may be considered not adverse:**

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: Adverse effect: bridge will be removed and replaced.

Mitigation: visual appearance of the replacement structures will reflect the current appearance of the existing bridge, despite the changes in structure systems from concrete to steel. Lighting design should be developed in consultation with the City of Portsmouth lighting standards and, if possible, reflect the appearance of the acorn-type lighting shown in historic photos of the bridge. The goal for the new railing is to achieve a feeling of openness; choice of railing shall be made in consultation between NHDOT, FHWA, NHDHR, and the City of Portsmouth. Bridge is already documented in large-format photography and in the Historic Structure Report. Make archival copies of any newly-discovered historic photographs and any remaining historic plans. Replacement would affect the whole district, but does not require district-wide mitigation, because the mitigation would be specific to the bridge itself.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #: POR0014

Date of group review: March 9, 2006

Area: Downtown/Local Historic District

Participants:

Town/City: Portsmouth

Map/Parcel:

Eligible Acreage: Less than one acre
(approximately 0.65 acres)

Property name: Memorial Park

County: Rockingham

Address: Between Daniel and State Streets at the Piscataqua River

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☒

☒ Eligible (district N/A)

☐

☐ Eligible, also in district

☐

☐ Eligible, only in district

☐

☐ Not evaluated for individual eligibility

☐

☐ Listed in the National Register of Historic Places

Districts

NR

SR

☒

☒ Eligible

☐

☐ Not eligible

☐

☐ Not evaluated as a district

☐

☐ Listed in the National Register of Historic Places

Integrity: ☒ Location ☒ Design ☒ Setting ☒ Materials ☒ Workmanship ☒ Feeling ☒ Association

Criteria: ☒ A. Event ☐ B. Person ☒ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☒ State ☐ National

Description: In April of 2004, Memorial Park was determined eligible for the National Register of Historic Places as a component of the eligible Scott Avenue Bridge property, POR0014. Memorial Park was created in 1922-23 as part of the original design of the Scott Avenue Bridge, the Portsmouth approach to Memorial Bridge. Memorial Park was an integral part of a converging two-street bridge approach designed by Portsmouth City Engineer W. A. McFarland as a component of Scott Avenue Bridge. The eligible boundaries of the Scott Avenue Bridge are defined as beginning at the pier/abutment of Memorial Bridge, then extending west-southwest to include the closed U-shaped area defined by Daniel Street and State Street as far west as the western boundary of Wright Avenue.

36 CFR 800.9 Criteria of Effect & Adverse Effect

☒ (a) Effect: undertaking may alter National Register-qualifying characteristics and features of:

☐ location ☒ setting ☐ use

☐ (b) Adverse effect: may diminish the integrity of ☐ design ☐ setting ☐ materials ☐ workmanship

☐ feeling ☐ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☒ (c) Otherwise adverse effects may be considered not adverse:

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments:

Mitigation: archaeological resources are assumed to be present below four feet beneath existing grade; archaeological potential will be taken into account before and during construction; archaeologists will monitor the soil borings. Park will be returned to its current or earlier configuration at the completion of the project.

NHDOT, FHWA, and NHDHR will coordinate with the City of Portsmouth on the design and implementation of the park plans.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Area:

Participants:

Town/City: Portsmouth

Map/Parcel:

Eligible Acreage:

Property name: Portsmouth National Register Historic District County: Rockingham

Address: Downtown Portsmouth

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

- ☐
☐
☐
☐
☐

- ☐ Eligible (district N/A)
☐ Eligible, also in district
☐ Eligible, only in district
☐ Not evaluated for individual eligibility
☐ Listed in the National Register of Historic Places

Districts

NR

SR

- ☐
☐
☐
☐
☐

- ☐ Eligible
☐ Not eligible

☐ Not evaluated as a district
☐ Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: The Portsmouth Historic District was determined eligible by consensus, but no official Determination of Eligibility and therefore no green sheet has ever been written discussing the area's significance. In 2001, NHDHR reviewed the Court Street Area Form produced by Preservation Company and the green sheet for that project states:

The city center of Portsmouth is clearly eligible for the National Register under all three criteria. A National Register historic district would encompass the entire downtown and much of the surrounding residential areas. [The boundary for the local Historic District was drawn in 1976. According to the form, it is as follows:] The local district surrounds the downtown, extending north to Deer Street and includes the length of Middle Street and the south end below the South Mill Pond. Boundaries for an inclusive National Register district, defined according to the current standards, would cover an even larger area including residential neighborhoods of the west end and possibly extending north of the North Mill Pond.

36 CFR 800.9 Criteria of Effect & Adverse Effect

☒ (a) **Effect:** undertaking may alter National Register-qualifying characteristics and features of:

☒ location ☒ setting ☒ use [Bridge replacement alternatives only]

☒ (b) **Adverse effect:** may diminish the integrity of ☒ design ☒ setting ☒ materials ☒ workmanship

☒ feeling ☒ association. [Bridge replacement alternatives only] Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☐ (c) **Otherwise adverse effects may be considered not adverse:**

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: Bridge rehabilitation alternatives: no effect; bridge replacement alternatives: adverse effect.

Memorial Bridge Historic Structures Report

Mitigation: All alternatives: Returning Memorial Park (see form for Memorial Park) to current or previous appearance. Changes to the Scott Avenue Bridge could engender amelioration of the park by the City of Portsmouth, even to the removal of vehicular parking from the park. Develop and install an interpretive exhibit at Prescott Park, commemorating J.A.L. Waddell, the Memorial Bridge, and vertical lift bridges as a bridge type. The exhibit should be developed in coordination between NHDOT, FHWA, NHDHR and the City of Portsmouth.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Participants:

Area:

Town/City: Kittery, ME

Map/Parcel:

Eligible Acreage:

County: York

Property name: Maine Approach Span to Memorial Bridge

Address: Between Memorial Bridge and Badger's Island, ME

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

☐☐☐☐☐

SR

☐ Eligible (district N/A)

☐ Eligible, also in district

☐ Eligible, only in district

☐ Not evaluated for individual eligibility

☐ Listed in the National Register of Historic Places

Districts

NR

☐☐☐☐☐

SR

☐ Eligible

☐ Not eligible

☐ Not evaluated as a district

☐ Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: On Maine Historic Bridge Inventory Form #25-46, Memorial Bridge was found to be eligible for listing on the National Register of Historic Places under Criterion C for its engineering significance as a vertical lift bridge designed by J.A.L. Waddell. However, this inventory form does not separate the Maine approach span from the lift span. It includes the following summary statement of significance: "The 1921 vertical lift bridge designed by J.A. L. Waddell, the engineer who developed and popularized the movable bridge type, is the oldest of the 3 vertical lift bridges in the state. It is historically and technologically significant as a complete and typical example of this bridge type that involves complex engineering. The Memorial Bridge was used to illustrate period structural engineering text books including Otis Hovey's 1926 Movable Bridges. Built as a free interstate bridge, its capacity was exceeded by the 1930s, and in 1941, another vertical lift bridge, the Sarah Mildred Long Bridge was added upstream. The 1921 vertical lift bridge is judged to have high preservation priority because it is the earliest of the three examples of the type in the state, and it is complete."

Because the Maine approach was not evaluated independently, no determination was made as to its integrity, but the inventory form notes, "the Maine-side deck girder approach spans are supported on 2-column concrete bents with built-up steel caps. Several of the original concrete bent columns were replaced with sonotube-formed concrete columns ca. 1984."

36 CFR 800.9 Criteria of Effect & Adverse Effect

☒ (a) Effect: undertaking may alter National Register-qualifying characteristics and features of:

☐ location ☒ setting ☐ use

☐ (b) Adverse effect: may diminish the integrity of ☐ design ☐ setting ☐ materials ☐ workmanship

☐ feeling ☐ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☒ (c) Otherwise adverse effects may be considered not adverse:

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or

Memorial Bridge Historic Structures Report

- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments:

Mitigation: None required. Documentation materials that already have been completed (including the Historic Structures Report and large format photos) are sufficient.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Area:

Participants:

Town/City: Kittery, ME

Map/Parcel:

Eligible Acreage:

County: York

Property name: Badger's Island Bridge

Address: Island between Memorial Bridge and Kittery, ME

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☐

Eligible (district N/A)

☐

Eligible, also in district

☐

Eligible, only in district

☐

Not evaluated for individual eligibility

☐

Listed in the National Register of Historic Places

Districts

NR

SR

☐

Eligible

☐

Not eligible

☐

Not evaluated as a district

☐

Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: On historic bridge survey form #20-31, the State of Maine finds the Badger's Island Bridge to be eligible for the National Register of Historic Places under Criterion "C" as a significant example of a continuous design bridge. However, because the current Badger's Island bridge was constructed in 1938 to replace the original 1922 Bascule bridge, and was therefore not a part of the Memorial Bridge construction project, its significance does not relate directly to Memorial Bridge and the Memorial Bridge Historic District, .

The Maine DOT historic bridge survey states:

"The [Badger's Island] bridge is an early application of a continuous design by the MSHC [Maine State Highway Commission] under the leadership of state bridge engineer Max L. Wilder. Continuous design bridges began appearing in numbers nationally in the late 1920s and 1930s. The MSHC bridge division first applied continuous design principles in 1937 and 1938. The continuous designs achieved economy of material and design in a period of time when austerity and economy were needed because of the financial conditions of the Great Depression and the need to replace a large number of bridges following the March 1936 flood. The bridge is technologically significant as an early application of continuous design principles in the state context."

36 CFR 800.9 Criteria of Effect & Adverse Effect

☐ (a) **Effect:** undertaking may alter National Register-qualifying characteristics and features of:

☐ location ☐ setting ☐ use

☐ (b) **Adverse effect:** may diminish the integrity of ☐ design ☐ setting ☐ materials ☐ workmanship

☐ feeling ☐ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☐ (c) **Otherwise adverse effects may be considered not adverse:**

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: No effect; no 4(f). Work would be entirely within the existing paved right of way.

Memorial Bridge Historic Structures Report

Mitigation: None required. The significance of the Badgers Island Bridge, constructed later than the Memorial Bridge, does not relate to the Memorial Bridge, and it is not a contributing element within the Memorial Bridge Historic District. All work proposed would be contained within the existing paved right of way and would not affect the historic qualities of the bridge.

Memorial Bridge Historic Structures Report

(July 1993)

NHDHR Determination of Eligibility / Effect (36 CFR Part 800)

Project: Memorial Bridge, Portsmouth, NH – Kittery, ME, BHF-X-001-1(15), 13678 Inventory #:

Date of group review: March 9, 2006

Area:

Participants:

Town/City: Kittery, ME

Map/Parcel:

Eligible Acreage:

County: York

Property name: John Paul Jones Memorial Park

Address: Route 1 and Government Street, Kittery, ME

Agency:

Reviewed for: ☐ R&C DOT # 13678

Individual Properties

NR

SR

☐
☐
☐
☐
☐

- ☐ Eligible (district N/A)
☐ Eligible, also in district
☐ Eligible, only in district
☐ Not evaluated for individual eligibility
☐ Listed in the National Register of Historic Places

Districts

NR

SR

☐
☐
☐
☐
☐

- ☐ Eligible
☐ Not eligible

☐ Not evaluated as a district
☐ Listed in the National Register of Historic Places

Integrity: ☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria: ☐ A. Event ☐ B. Person ☐ C. Architecture/Engineering ☐ D. Archaeology ☐ E. Exception

Level: ☐ Local ☐ State ☐ National

Description: The John Paul Jones Memorial Park was listed on the National Register of Historic Places in October of 1997. The nomination states: "Originally dedicated on November 11 (Armistice Day), 1924, as a memorial to Maine's sailors and soldiers who served in World War I, the John Paul Jones Memorial Park is a two-acre trapezoidal green space that was named in 1927 by the State Legislature in memory of the commander of the first American warship. The park is the site of a striking granite and bronze war monument designed by sculptor Bashka Paeff. The installation of this original memorial has been followed by the erection of three smaller monuments in 1931, 1963 (a relocated monument), and 1984. The park meets criterion A for its association with the State of Maine's effort to honor its war veterans, and criterion C for its significance in art and landscape architecture. Criteria consideration F also applies by virtue of the park's commemorative purpose. The park was constructed using funds remaining from the construction of Memorial Bridge. It echoed the memorial theme of the bridge and of NH's Memorial Park and was seen, with the bridge, as the major gateway to Maine.

36 CFR 800.9 Criteria of Effect & Adverse Effect

☐ (a) **Effect:** undertaking may alter National Register-qualifying characteristics and features of:

☐ location ☐ setting ☐ use

☐ (b) **Adverse effect:** may diminish the integrity of ☐ design ☐ setting ☐ materials ☐ workmanship

☐ feeling ☐ association. Adverse effects include but are not limited to:

- (1) physical destruction, damage, or alteration of all / part of the property;
- (2) isolation from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- (3) introduction of visible, audible, or atmospheric elements that are out of character with the property or alter its setting;
- (4) neglect of a property resulting in its deterioration or destruction; and
- (5) transfer, lease, or sale of the property.

☐ (c) **Otherwise adverse effects may be considered not adverse:**

- (1) When the property is of value only for potential contribution to...research, and when such value can be substantially preserved through...appropriate research...in accordance with professional standards and guidelines;
- (2) when the undertaking is limited to rehabilitation of buildings & structures and is conducted in a manner that preserves the historical and architectural value of affected historic property through conformance with The Secretary of the Interior's Standards for Rehabilitation, and Guidelines for Rehabilitating Historic Buildings; or
- (3) when the undertaking is limited to transfer, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

Comments: No effect; no 4(f).

Mitigation: None required.

3. Memorandum of Agreement (MOA) (Adverse Effect Memo)

Memorial Bridge Historic Structures Report



CHARLES P. O'LEARY, JR.
COMMISSIONER

THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

Portsmouth-Kittery
BHF-X-T-0101(015)
13678

Adverse Effect Memo

Pursuant to meetings and discussions on March 7, 2002; September 4, 2003; October 9, 2003; February 15, 2004; September 9, 2004; October 7, 2004; September 1, 2005; March 2, 2006; March 9, 2006; April 13, 2006; June 8, 2006; September 7, 2006; September 14, 2006; November 2, 2006; December 7, 2006; and April 12, 2007 and for the purpose of compliance with regulations of the National Historic Preservation Act, as amended, and the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the NH Division of Historical Resources (NHIDHR), ME Historic Preservation Commission (MEHPC), ME Division of the Federal Highway Administration (ME-FHWA), and the NH Division of the Federal Highway Administration (NH-FHWA) have coordinated the identification and evaluation of historic and archaeological properties with plans to rehabilitate and reconstruct the Memorial Bridge (247/084) that carries US Route 1 over the Piscataqua River in Portsmouth, New Hampshire and Kittery, Maine. Consulting parties were invited to participate in the Section 106 process. The advice of consulting parties was solicited during the design and development of mitigation. The proposed action is the modified, in-kind replacement of the lift span and the rehabilitation of the flanking tower spans. The project also includes the replacement of the Scott Avenue Bridge at the south approach (246/083) and the rehabilitation of the Kittery approach spans at the north approach.

Based on a review pursuant to 36 CFR 800.4 of the architectural and historical significance of resources in the project area, we agree that the following resources are eligible for the National Register of Historic Places. Detailed documentation of these resources is on file at the New Hampshire Division of Historical Resources in Concord, New Hampshire.

Memorial Bridge Historic District, Portsmouth, NH and Kittery, Maine
Memorial Bridge (lift span and two flanking spans), Portsmouth, NH and Kittery, Maine
Scott Avenue Bridge, Portsmouth, NH
Memorial Park, Portsmouth, NH
Portsmouth National Register Historic District, Portsmouth, NH
Maine Approach Span to the Memorial Bridge, Kittery, Maine
John Paul Jones Memorial Park, Kittery, Maine
Badger's Island Bridge, Kittery, Maine

Applying the criteria of effect at 36 CFR 800.5, we have determined that the proposed action has the following effects on the eight resources listed above and has an overall adverse effect for the project.

No Adverse Effect:

Badger's Island Bridge, Kittery, Maine
John Paul Jones Memorial Park, Kittery, Maine
Maine Approach Span to the Memorial Bridge, Kittery, Maine (conditional)
Memorial Park, Portsmouth, NH (conditional)

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Adverse Effect:

Memorial Bridge Historic District, Portsmouth, NH and Kittery, Maine
Scott Avenue Bridge, Portsmouth, NH
Portsmouth National Register Historic District, Portsmouth, NH
Memorial Bridge (lift span and two flanking spans), Portsmouth, NH and Kittery, Maine

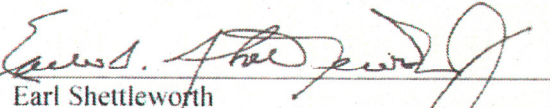
Mitigation for the adverse effects of the proposed action includes:

1. Revising the Historic Structures Report to include large format photographs of the bridge and the original design sheets.
2. An interpretive exhibit/sign whose form and content will be coordinated with the City of Portsmouth, City of Kittery, ME-FHWA, NH-FHWA, NHDHR, MEHPC and the NHDOT, to memorialize the bridge.
3. Professional photographs of the rehabilitation/reconstruction of Memorial Bridge.
4. All necessary phases of archaeology, including any areas of currently unplanned drainage work.
5. Consultation with the Cities of Portsmouth and Kittery concerning design elements such as lighting, bridge rail, and the Memorial Park design.
6. Mitigation through design of the modified in-kind replacement of the lift span (Proposed Action), which includes, modern laced members, cross-sway bracing, and upper lateral bracing.

In accordance with the Advisory Council's regulations, consultation will continue, as appropriate, as this project proceeds.

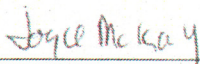


Linda Wilson, Deputy
State Historic Preservation Officer
Date: 6/7/2007

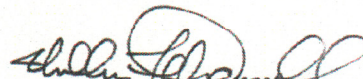


Earl Shettleworth
State Historic Preservation Officer
Date: 6/18/07

Concurred with by:



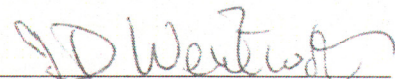
Joyce McKay, Cultural Resources Manager
New Hampshire Department of Transportation
Date: 6/18/07



for Kathleen O. Laffey, Administrator
NH Div. Federal Highway Administration
Date: 6/11/07



Jonathan McDade, Administrator
Maine Div. Federal Highway Administration
Date: 7/10/07



James Wentworth, Project Manager
Maine Department of Transportation
Date: 7/9/07

c.c. Signatories, Kevin Nyhan, Robert Landry, Addie Kim (HNTB),
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