Kosciuszko Bridge Project

Archaeological Area of Potential Effect

PIN X729.77
Kosciuszko Bridge over Newtown Creek
Kings & Queens Counties, New York
February 2013
Refinement of Archaeological Area of Potential Effect (APE)

Kosciuszko Bridge Replacement
Brooklyn and Queens
New York

Prepared For:
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I. INTRODUCTION

The New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), has prepared a Draft and Final Environmental Impact Statement (EIS) to study alternatives for the improvement of the Kosciuszko Bridge (KB). The Draft EIS presented several project improvement alternatives, and assessed the potential for archaeological resources within each alternative’s Area of Potential Effect (APE), a 1.1 mile segment of the BQE from Morgan Avenue in Brooklyn to the Long Island Expressway interchange in Queens (Figure 1). The APE for archaeology for the Draft EIS took into account the potential construction requirements for the proposed improvements to this section of the BQE for all five of the alternatives considered in the EIS.

In 2007, a Cultural Resources Survey Report (CRS) for the defined APE identified locations of potential precontact and historical mixed (moderate) archaeological sensitivity (Parsons 2007) for the five alternatives being considered. Because of this potential archaeological sensitivity, a Memorandum of Agreement (MOA) was established between the FHWA, the NYSDOT, and the New York State Historic Preservation Officer (NYSHPO) in October, 2008 to resolve the project’s Adverse Effect resulting from proposed removal of the National Register eligible Kosciuszko Bridge. The agreement also addresses obligations to identify and evaluate archaeological resources that may be affected by the project. The MOA defines stipulations that must be undertaken to address potential archaeological resources after the preferred alternative is selected. These stipulations are designated as III.A through III.C of the MOA, and include refining the direct APE of the preferred alternative and, based on this refinement, making modifications to a Draft Archaeological Work Plan (AWP) appended to the MOA.

The Final EIS was signed by the FHWA on November 25, 2008 and the Record of Decision to replace the bridge was signed on March 9, 2009. Alternative BR-5 as referenced in the FEIS and ROD will replace the existing bridge by constructing a new eastbound bridge that is parallel to and on the east side of the existing bridge, demolishing the existing structure and building a new westbound bridge within the footprint of the existing structure. This alternative has now been advanced into Final Design and the proposed KB replacement is indicated in Figure 2 and in the Preliminary Structure Plans dated February 2012 (Appendix A). This document describes the APE for the preferred Alternative BR-5, per the MOA stipulations, based on the proposed structure presented in the Preliminary Structure Plans.

II. REFINING THE APE

Preliminary design plans have been developed to a 40% design level for the project. The plans propose a Cable-Stayed Main Span crossing over Newtown Creek, concrete box girder approach spans, and low level connectors comprised of Expanded Polystyrene (EPS) fill (a lightweight synthetic fill material) and concrete girder spans at the at-grade street crossings. The project will also require two temporary bridges in order to maintain 6 lanes of traffic throughout construction. One temporary bridge will be located in Queens elevated over Laurel Hill Boulevard, and the other in Brooklyn elevated over eastbound Meeker Avenue.

In order to limit the increase in local truck traffic, it is anticipated that some construction materials will be delivered to the site via barge requiring temporary platforms in Newtown Creek along the Brooklyn and Queens shorelines. The project will also include at-grade street realignments, utility relocations and construction of a new drainage system.

The project will be completed as a design-build project and the design-build team will have the opportunity, except for the main span, to propose alternative structure types and different foundation types and locations. Although the structure types may change, the new structure will be required to be located within the footprint of the alignment presented in the preliminary design plans. The refined APE for direct effects takes account potential construction requirements for Alternative BR-5. It encompasses limits of ground disturbance (both horizontal and vertical) of all bridge components and approach ramps for the preferred alternative. The refined APE is shown in Figures 3 and 4, and is roughly 1.1 miles in length, with widths varying from 120 feet to 470 feet.

The proposed extent of impact within the Refined APE is detailed on Table 1 below.
Table 1. Area and Depth of Proposed Construction

<table>
<thead>
<tr>
<th>Construction Feature/Activity</th>
<th>Bridge Segment</th>
<th>Area of Ground Disturbance (approximate)</th>
<th>Depth of Disturbance below current grade (approximate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demolition of Existing Footings (each)</td>
<td>Connector</td>
<td>80 sf</td>
<td>2 ft</td>
</tr>
<tr>
<td></td>
<td>Approach</td>
<td>1,900 sf</td>
<td>2 ft</td>
</tr>
<tr>
<td></td>
<td>Main Span</td>
<td>6,200 sf</td>
<td>10 ft</td>
</tr>
<tr>
<td>Construction of New Pier Foundations (each)</td>
<td>Connector</td>
<td>70 sf</td>
<td>7 ft</td>
</tr>
<tr>
<td></td>
<td>Approach</td>
<td>900 sf</td>
<td>10 ft</td>
</tr>
<tr>
<td></td>
<td>Main Span</td>
<td>3,500 sf</td>
<td>12 ft</td>
</tr>
<tr>
<td>Installation of New Piles or Drilled Shafts (each)</td>
<td>Connector (Piles)</td>
<td>3 sf</td>
<td>70 ft</td>
</tr>
<tr>
<td></td>
<td>Approach (Piles)</td>
<td>3 sf</td>
<td>85 ft</td>
</tr>
<tr>
<td></td>
<td>Main Span (Drilled Shafts)</td>
<td>30 sf</td>
<td>180 ft</td>
</tr>
<tr>
<td>Construction of Temporary Foundations (each)</td>
<td>Queens Temporary Bridge</td>
<td>80 sf</td>
<td>5 ft</td>
</tr>
<tr>
<td></td>
<td>Brooklyn Temporary Bridge</td>
<td>80 sf</td>
<td>5 ft</td>
</tr>
<tr>
<td>Installation of Piles for Temporary Bridge (each)</td>
<td>Queens Temporary Bridge</td>
<td>3 sf</td>
<td>70 ft</td>
</tr>
<tr>
<td></td>
<td>Brooklyn Temporary Bridge</td>
<td>3 sf</td>
<td>70 ft</td>
</tr>
<tr>
<td>Installation of Piles to be removed (each)</td>
<td>Temporary Platforms</td>
<td>7 sf</td>
<td>85 ft</td>
</tr>
<tr>
<td>Utility Relocations</td>
<td>At-Grade Streets</td>
<td>13,000 sf</td>
<td>3 ft to 5 ft</td>
</tr>
<tr>
<td>Drainage System</td>
<td>At-Grade Streets</td>
<td>11,500 sf</td>
<td>3 ft to 7 ft</td>
</tr>
</tbody>
</table>

### III. CONCLUSIONS

The refinement of the APE has been completed based on the specifications of the preferred alternative, Alternative BR-5. The details of proposed archaeological testing based on the archaeological sensitivity within the refined APE are presented in the accompanying Revised Archaeological Work Plan.
IV. BIBLIOGRAPHY

Parsons Corporation and the Louis Berger Group (Parsons)  
Refinement of Area of Potential Effect (APE)  
Kosciuszko Bridge Replacement, Brooklyn and Queens, New York  

Figure 1: Project site on Brooklyn, N.Y. U.S.G.S. 7.5 Minute Quadrangle, 1999.