Bridge Alternatives

12 initial bridge structure types were selected for review.
A preliminary analysis determined 5 alternatives to carry forward.

A Continuous Steel I-Girder Superstructure

B Simple-Span Precast/Prestressed Concrete I-Girder Superstructure

C Continuous Steel Box Girder Superstructure

D Continuous Concrete Box Girder

E Tied Arch Main Span with Precast/Prestressed Concrete I-Girder Approaches

ALTERNATIVE A1 - Steel I-Girder, 5 Span

ALTERNATIVE A2 - Steel I-Girder, 4 Span

ALTERNATIVE B - Concrete I-Girder

Reasons Not Carried Forward:

a. Has minimal advantages over the continuous steel I-girder alternative

b. Higher design complexity

c. Increased construction risk

Reasons Not Carried Forward:

a. Deepest structure depth, resulting in increased grades and reduced sight distance on bridge compared to other alternatives

Reasons Not Carried Forward:

a. Reduced sight distance compared to other alternatives

b. Requires the most piers in the water compared to other structures, increasing risk in construction and environmental impacts

c. Increased complexity in design and maintenance

Steel I-Girder, 5 Span

Reasons Not Carried Forward:

a. Increased construction complexity and risk compared to 5 span alternative

b. Would likely require eight temporary structures to support bridge segments during construction, compared to four segments with the 5 span alternative

c. The location of temporary structures would greatly reduce the navigational opening below the bridge during construction

Reasons Not Carried Forward:

a. Required the most substructures of remaining alternatives

b. Could limit the number of potential fabricators because of long beams required for structure