CRAIG CREEK BRIDGE REPLACEMENT

Accelerated Bridge Construction utilizing Precast P/S Adjacent Box Beams & Precast Abutments

Randip Bains, P.E.
CRAIG CREEK BRIDGE

- Existing structure built 1924
- 3 Span RC T-Beam
- Spread Footing supports
- Identified as Scour Critical Bridge
- Recommended for replacement
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Alternatives considered

CIP P/S 2-SPAN SLAB BRIDGE

• Limited construction window July 15th – Oct 15th
• CIP construction / stage construction would have required two construction seasons.
• Maintain two-lanes of traffic for extended construction duration.
• Stage construction required wider bridge width than needed
• Increased project cost due to
  - constructing wider structure
  - conforming roadway approaches
  - acquiring additional R/W
  - relocation of existing utilities
Alternatives considered

Adjacent Precast Prestressed Concrete Box Girder

- Minimize on-site construction duration
- Eliminate the additional bridge width needed for traffic handling
- Eliminate the need for falsework and formwork
- Eliminate the need for additional R/W
- Construction to be completed within single construction window
- Considered full closure of route 99 versus maintaining one lane of signalized traffic control.
- Sufficient lead time needed to ensure construction during work window
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- Precast Adjacent Box Beams
- Precast Abutment & Wingwall
- 2' CISS Piles
- Existing Abutments
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"A" Line - Existing Bridge
2'-5 3/4"

22'-6 1/4"

1'-5 3/4"

9'-0 1/2"

12'-0"

12'-0"

8'-0"

1'-5 3/4"

24'-0"

Stage 2 Construction

Stage 2 Removal

3'-0"

13'-2 1/4'

Stage 2 Traffic

Temporary Railing (Type K)
See "ROAD PLANS"

Profile Grade

Concrete Barrier

Concrete Box Beams

3'-6" x 4'-0" PC P/S

5" CIP Concrete Deck

Concrete Barrier Type 736
6" +/- Tolerance
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