

FEDERAL LANDS HIGHWAY BRIDGE

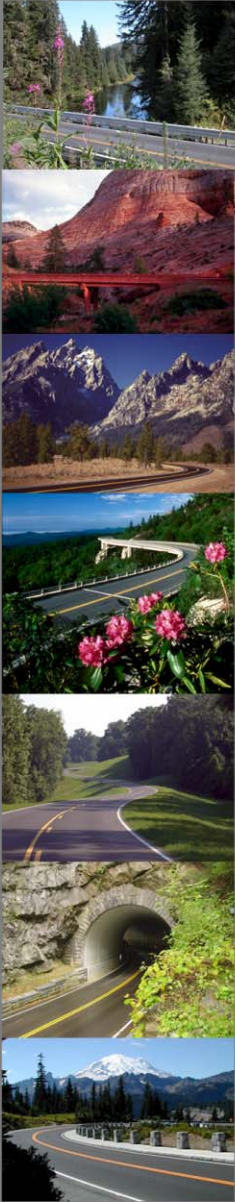
Seney National Wildlife Refuge

J to H Spillway Bridge

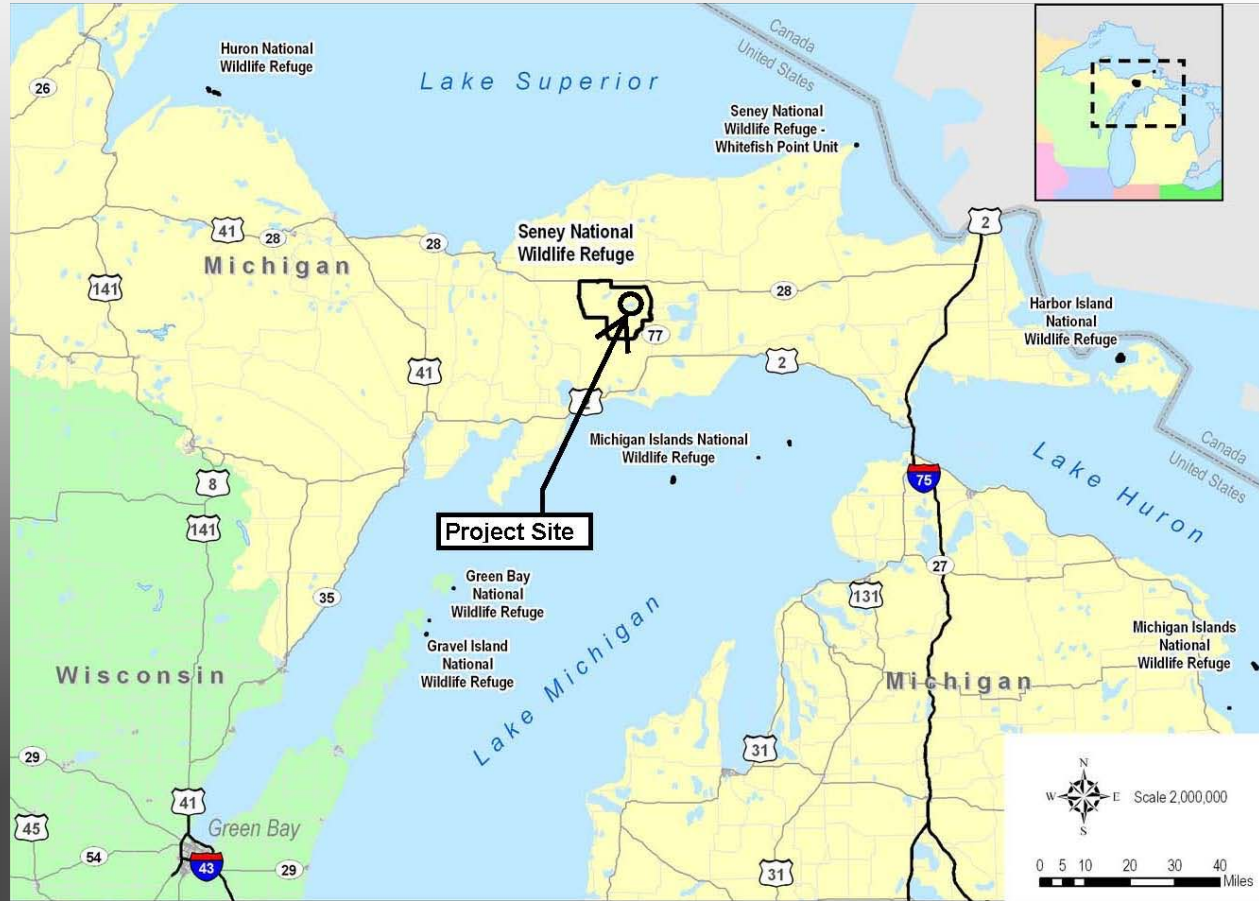


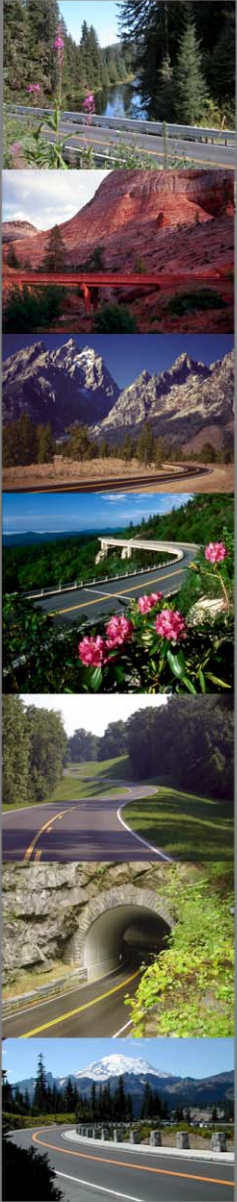
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Seney National Wildlife Refuge Michigan Upper Peninsula





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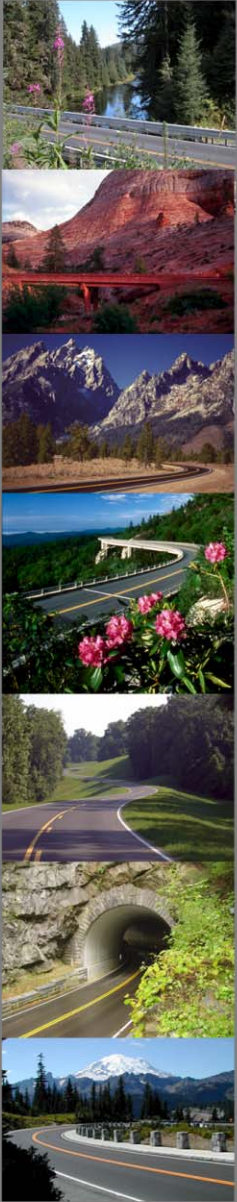
Existing Bridge:

- Built in 1943
- Bridge length: 111'-6" (10 spans)
- 11'-5" curb-to-curb
- Timber stringers and timber plank deck with longitudinal running boards



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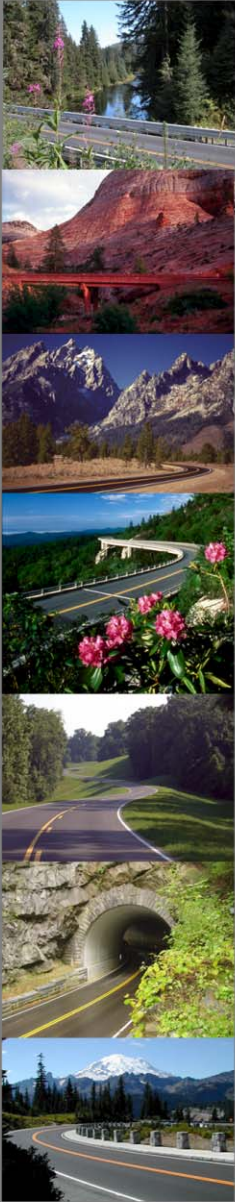
Existing Bridge (continued):

- Stoplog water control structure with concrete piers
- Provides vehicle, bicycle and pedestrian access to the refuge



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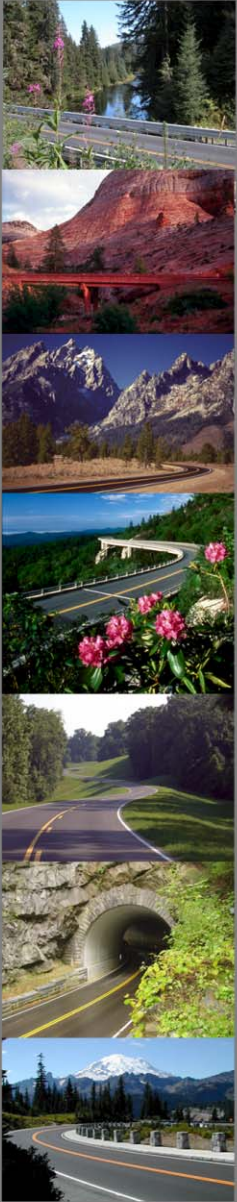


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Replacement Considerations:

- Stoplog water control structure to remain in place or be replaced with a new water control structure.
- Improve vehicle, bicycle and pedestrian access to the refuge.
- Maintain the natural characteristic of a wooden bridge.
- Increase span length to reduce wetland impacts.
- Increase curb-to-curb width from 11'-6" to 12'-0".
- Minimize the size and weight of the equipment required for construction.





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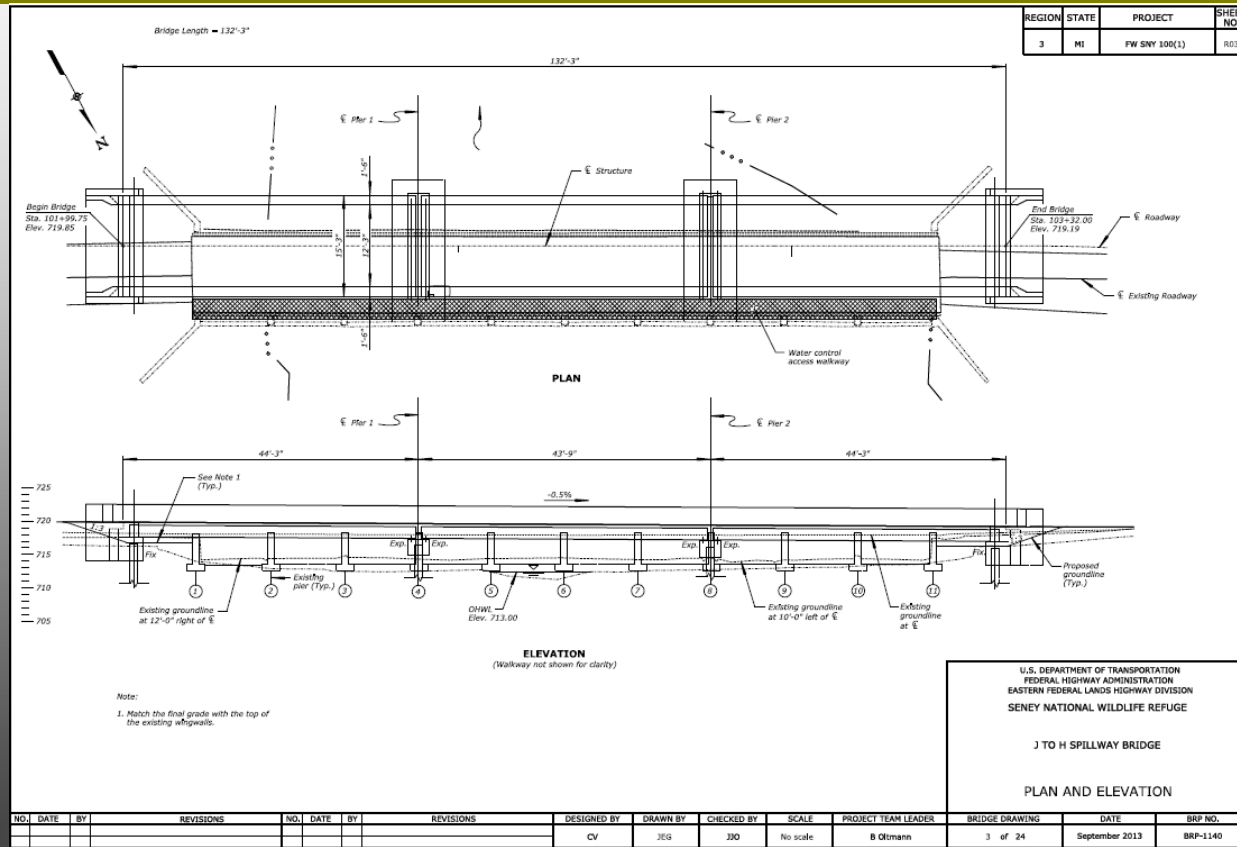
New Bridge:

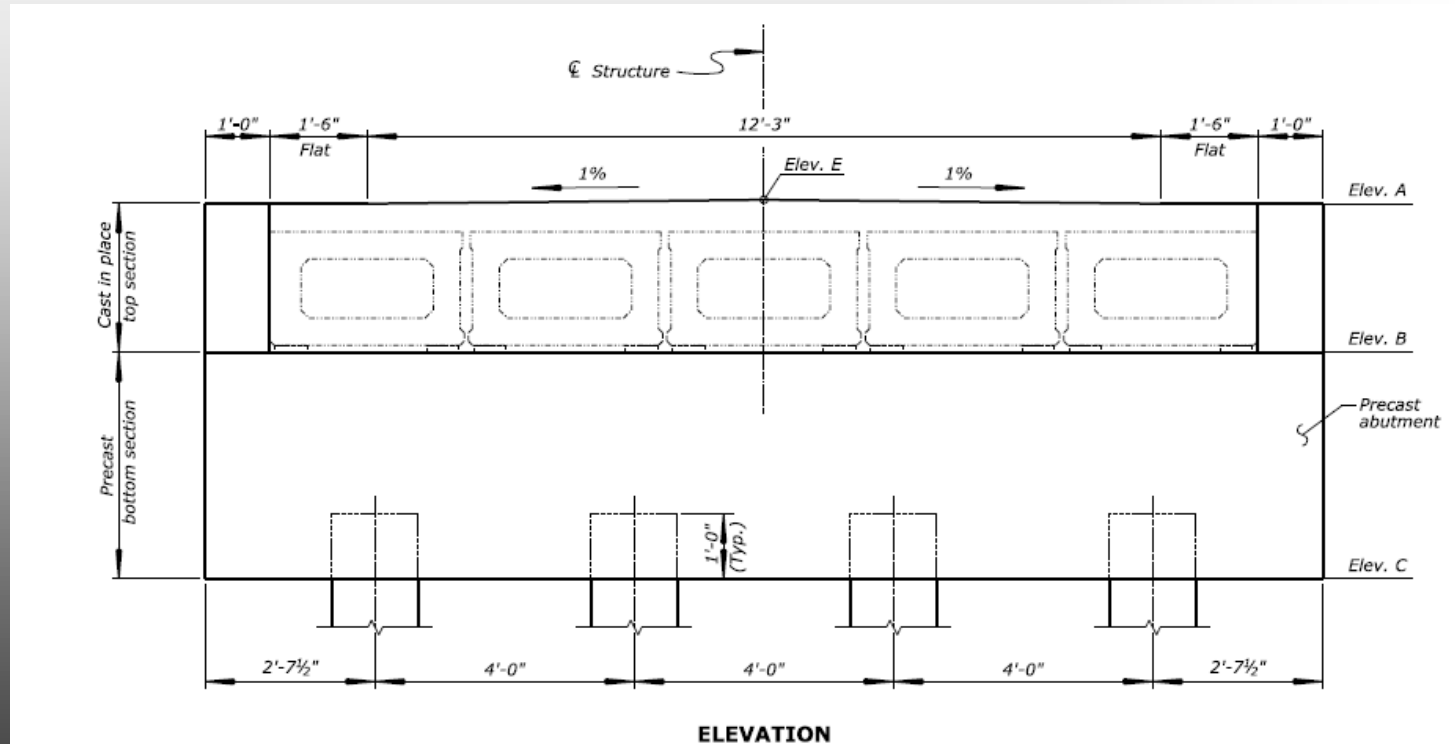
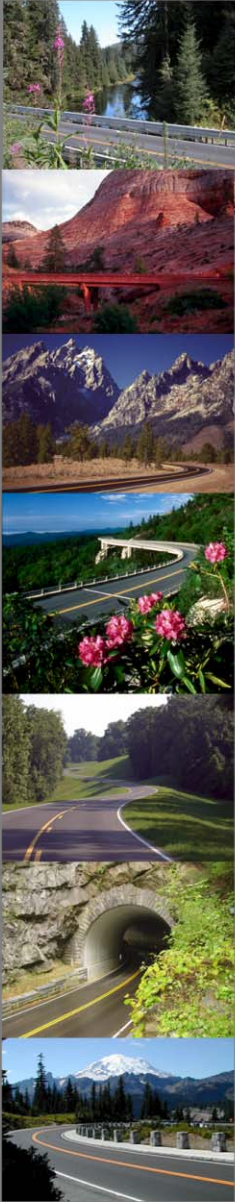
- The existing stoplog water control structure to remain in place
- Bridge length: 132'-3" (3 spans)
- 12'-0" curb-to-curb
- Wisconsin 21" box beams
- Parapets cast with beams
- 5 ½" reinforced CIP overlay
- Precast abutments, piles and pier caps
- Construction completed by December 1, 2014

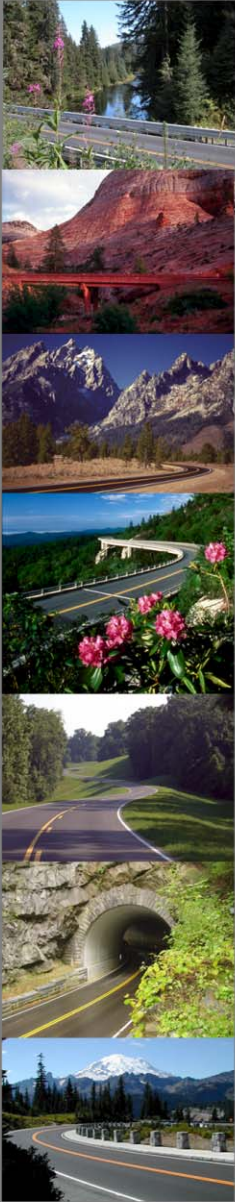




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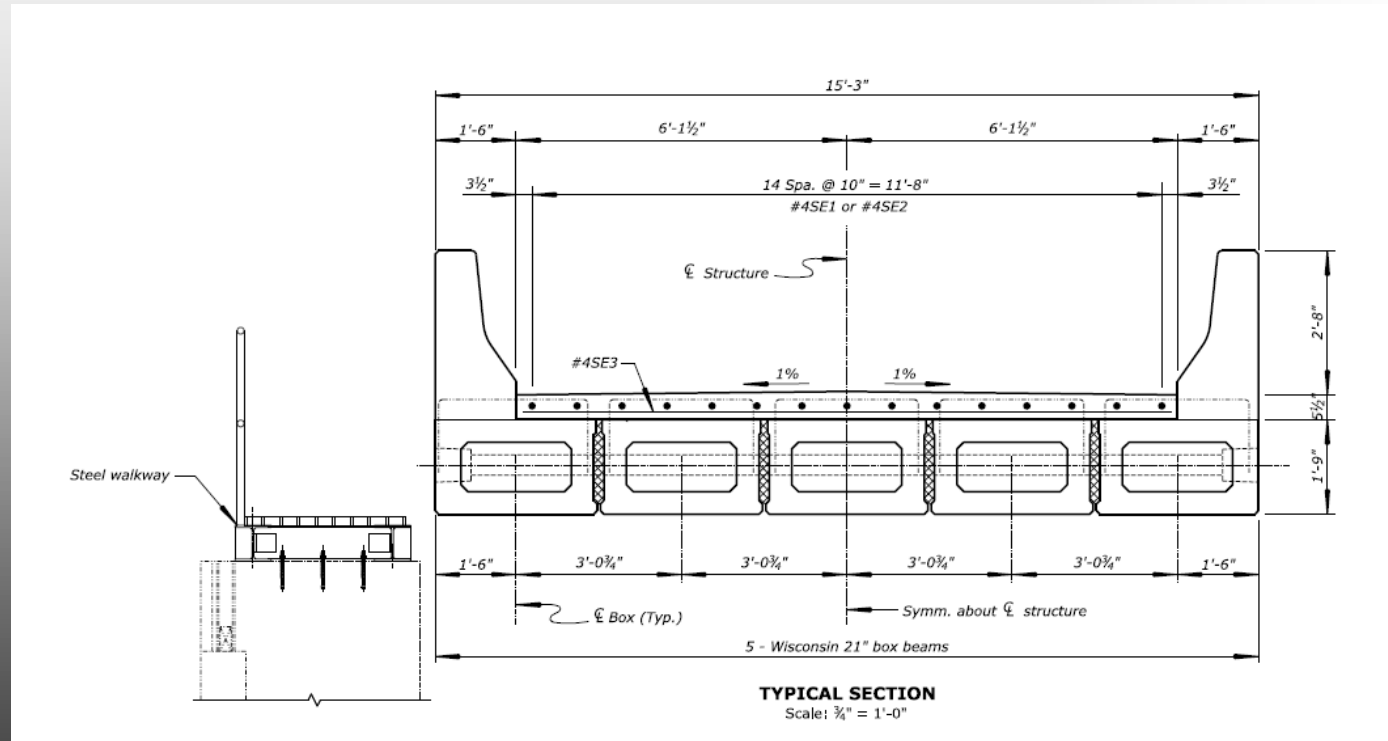
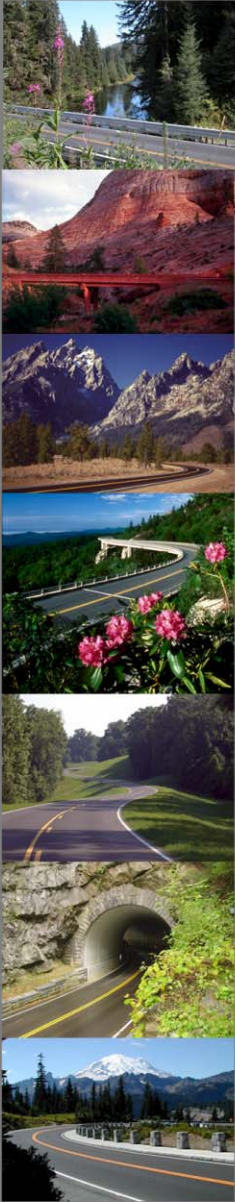


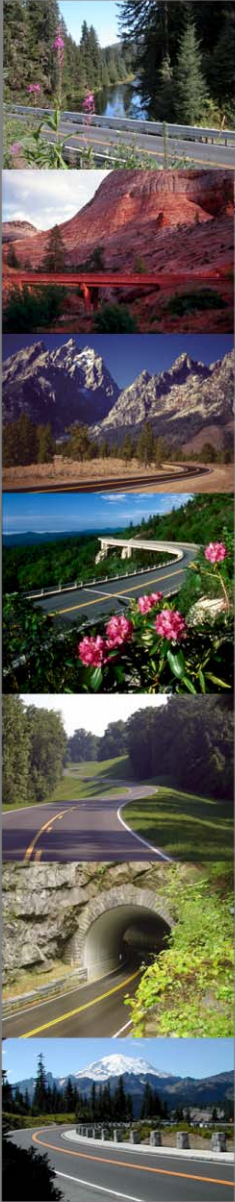
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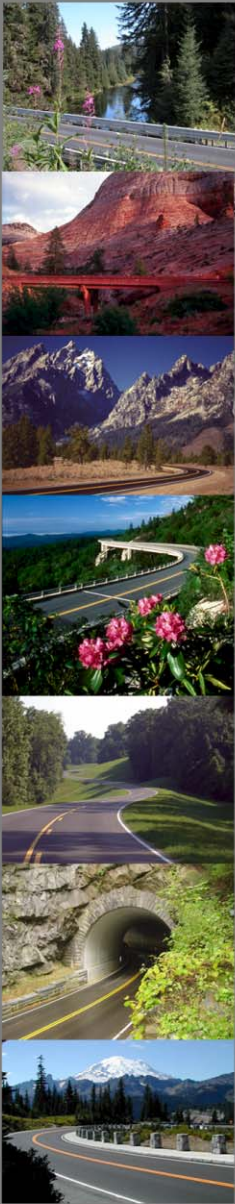


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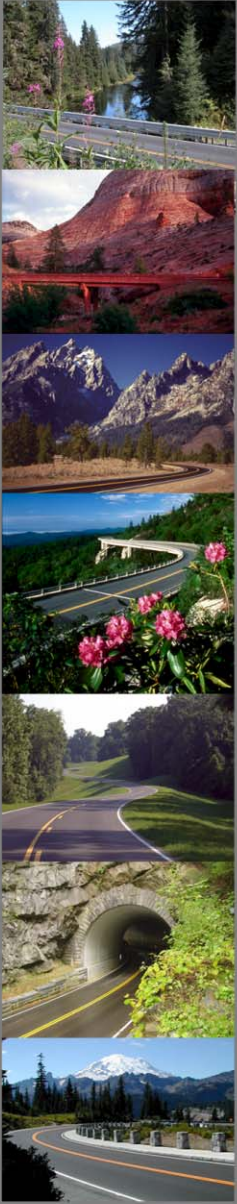
What was learned up to this point?

- The Tool Kit was very helpful in developing details, but we had to create them to conform to Federal Lands Standards. Additional details were also required compared to standard detailing. This ultimately required more time for design.
- The increase in design time was offset by a decrease in construction time and environmental impacts.
- The specifications took a significant amount of time to match FP-03 (Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects).
- Lowest bid was 30% over the Engineer's Estimate (demolition of the superstructure, removal of the concrete and mobilization accounted for 15% of the overrun).
- Construction will not be completed by December 1, 2014.



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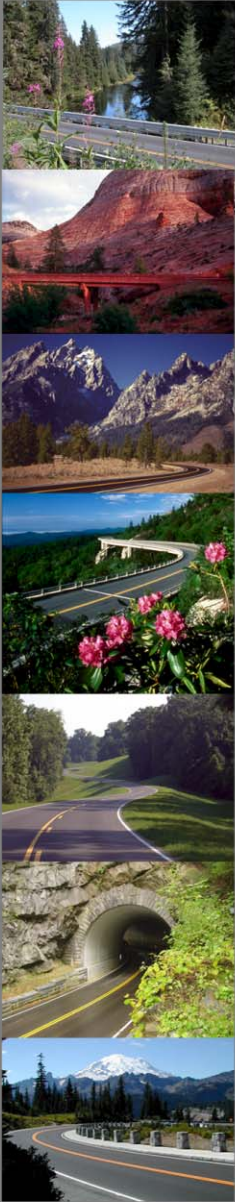
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So where are we?



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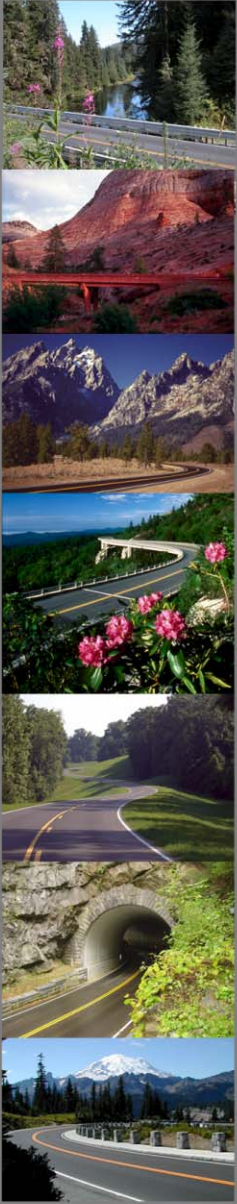


**Demo is
complete!**



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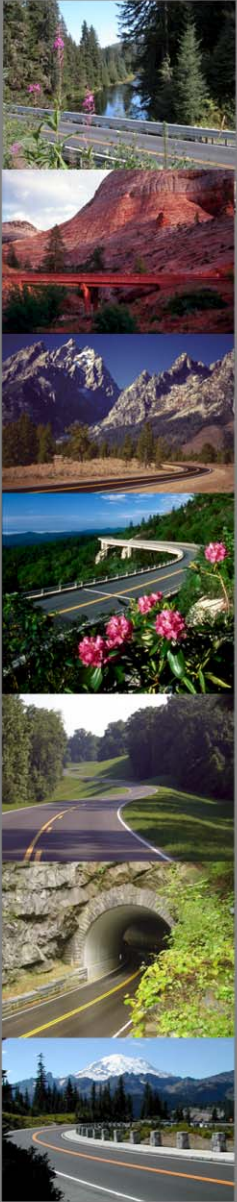


**The PBES has
arrived!**



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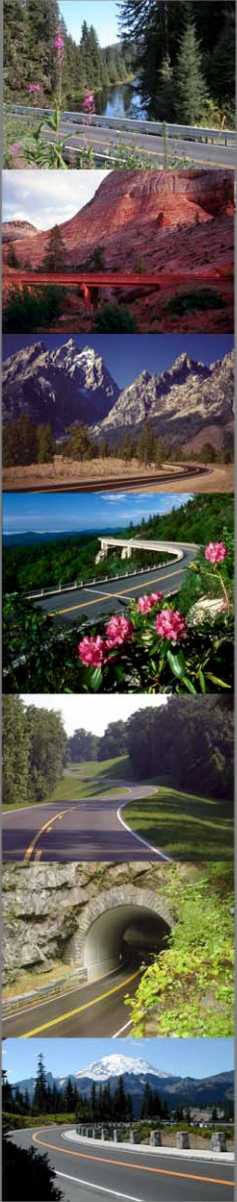
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Pile driving is
in progress!



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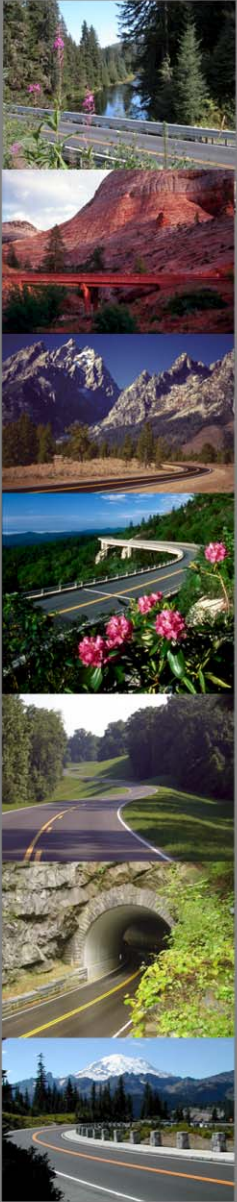


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Conclusion:

- We were not able to judge the true time savings.
- There was a learning curve for EFL Bridge Design to make the project conform to Federal Lands standard detail practices and specifications.
- The contractor may need more lead time to get the PBES elements cast and to the site.





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Questions?



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