

Project Summary:

February 6, 2009
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Recent Construction Highlights

Flatiron Constructors Intermountain began erecting the upstation form traveler at Pier 3 WB, placed the bottom slab, webs, and diaphragm portion of Span 5 WB, and began forming at Pier Table 4 WB. The following is a summary of the construction progress for the last month.

**Figure 1 – Pier Table 3 WB Falsework Removal–
January 14, 2009:**

The winches are installed on the top of the pier table, as seen from the tower crane. The winches will suspend the falsework to facilitate bent post removal, and then lower the falsework stringers in a single operation.



**Figure 2 – Pier Table 3 WB Falsework Removal –
January 19, 2009:**

The falsework stringers are lowered via the winches once all of the bent posts are removed. The winch cables are visible in the picture and three out of the four cables use blockouts in the deck for the form traveler tie-downs.

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Figure 3 – Pier Table 4 WB Construction – January 19, 2009:

The stringer installation begins for the pier table falsework at Pier 4 WB. The UPRR and BNSF mainline tracks are to either side of the pier table, and Railroad temporary clearances must be maintained once the falsework is complete. The Contractor coordinates with the Railroads for temporary track shut-downs. However, the tracks re-open at the end of each day.



Figure 4 – Span 5 WB Construction – January 22, 2009:

The carpenters complete installation of the interior web forms at Span 5 WB and continue forming the deviator diaphragms and anchor blocks. Pier 5 WB diaphragm formwork is in the background (looking downstation).

Figure 5 – Span 5 WB CIP Superstructure Construction – January 22, 2009:

This picture looks upstation towards Pier 5 WB diaphragm. The PVC pipes on the right side will be used for Flatiron's cooling system. Despite average ambient temperatures around 40-45 degrees Fahrenheit, the diaphragms still require a cooling system to prevent exceeding the allowable maximum concrete temperature.



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Figure 6 – Pier Table 3 WB Form Traveler Erection – January 22, 2009:

The rail is flown on to the deck to begin erection of the upstation form traveler. The downstation lower deck drive has been placed on temporary support towers. This will remain on the temporary supports until the downstation form traveler is erected.

Figure 7 – Pier Table 3 WB Form Traveler Erection – January 27, 2009:

The upstation form traveler saw-horses are installed. The form traveler is delivered by backing up flatbed trailers down the Railroad access road along the floodwall.



Figure 8 – Pier Table 3 WB Form Traveler Erection– January 27, 2009:

The form traveler crew uses the tower crane to install the rear transverse truss between the saw-horses.

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Figure 9 – Span 5 WB CIP Superstructure Construction– January 29, 2009:

Flatiron places the concrete for the webs, bottom slab, and diaphragms at Span 5 WB.

The overhead transmission lines at the abutment and Pier 5 (not visible) were shut down for the day for safety reasons.



Figure 10 – Pier Table 4 WB Construction– February 3, 2009:

With the falsework complete and the bottom soffit forms in place, the crew begins to erect the web forms for Pier Table 4 WB.

Figure 11 – Span 1 EB CIP Superstructure Construction– February 4, 2009:

The falsework crew erects the bents for Span 1 EB. Flatiron has indicated that formwork installation will not begin until Span 5 WB is completed in order to re-use materials.





Figure 12 – Cantilever 3 WB Form Traveler Erection– February 6, 2009:

The form traveler assembly continues at Cantilever 3 WB with the installation of the web and deck forms nearing completion. Casting of the first main-span segment is scheduled for late next week.

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Substructure Construction	<u>To</u> <u>Date</u>		<u>Total</u>	<u>Unit</u>	<u>% Complete</u>
48" Diameter Drilled Shafts (Monuments)	3	of	4	Each	75%
48" Diameter Drilled Shafts (Abutments)	11	of	14	Each	79%
60" Diameter Drilled Shafts (Pier 2 & 5)	6	of	8	Each	75%
96" Diameter Drilled Shafts (Pier 3 & 4)	8	of	8	Each	100%
Type I Footings (Pier 2 & 5)	3	of	4	Each	75%
Type II Footings (Pier 3 & 4)	4	of	4	Each	100%
3'-6" Piers (Pier 2 & 5)	3	of	4	Each	75%
7'-1" Piers (Pier 3 & 4)	4	of	4	Each	100%
Abutments	3/4	of	2	Each	38%

Superstructure Construction	<u>To</u> <u>Date</u>		<u>Total</u>	<u>Unit</u>	<u>% Complete</u>
Westbound					
End Span CIP Westbound	1½	of	2	Each	75%
Abutment Diaphragm Westbound	1½	of	2	Each	75%
Pier Diaphragm Westbound	1½	of	2	Each	75%
Pier Table Westbound	1	of	2	Each	50%
Cantilever 3 Segments Westbound	0	of	22	Each	0%
Cantilever 4 Segments Westbound	0	of	20	Each	0%
Closure Segments Westbound	0	of	3	Each	0%
Eastbound					
End Span CIP Eastbound	0	of	2	Each	0%
Abutment Diaphragm Eastbound	0	of	2	Each	0%
Pier Diaphragm Eastbound	0	of	2	Each	0%
Pier Table Eastbound	0	of	2	Each	0%
Cantilever 3 Segments Eastbound	0	of	22	Each	0%
Cantilever 4 Segments Eastbound	0	of	20	Each	0%
Closure Segments Eastbound	0	of	3	Each	0%



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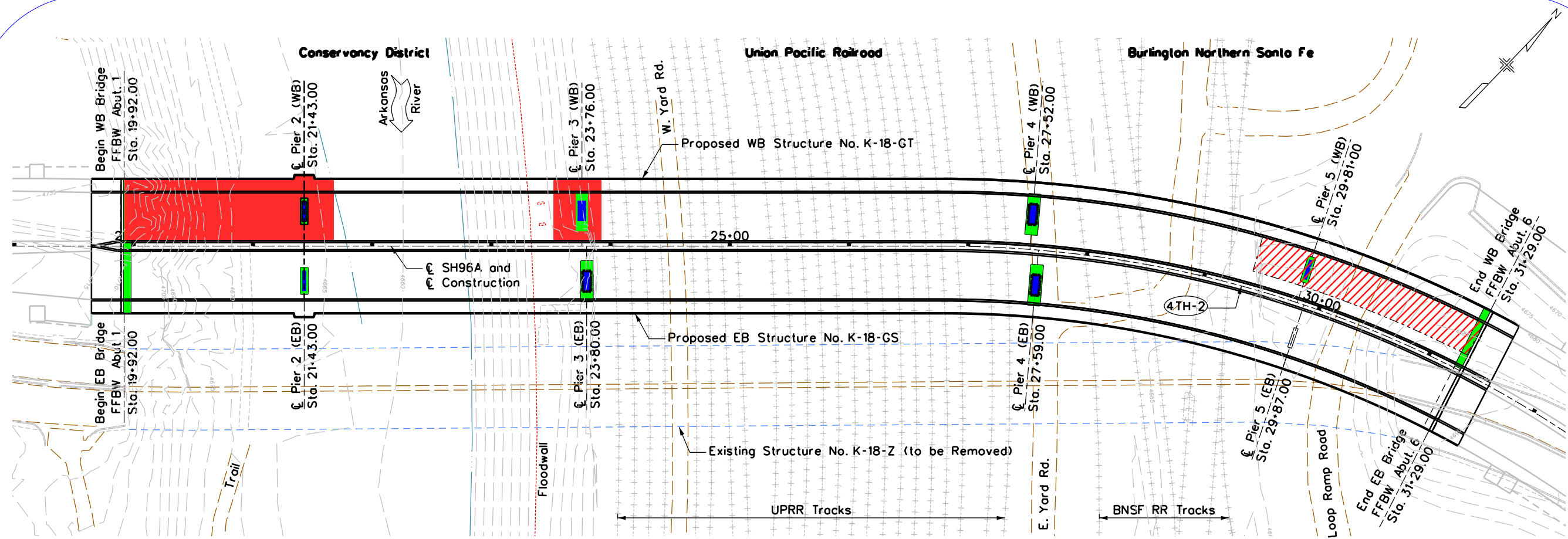
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Project Milestone Dates

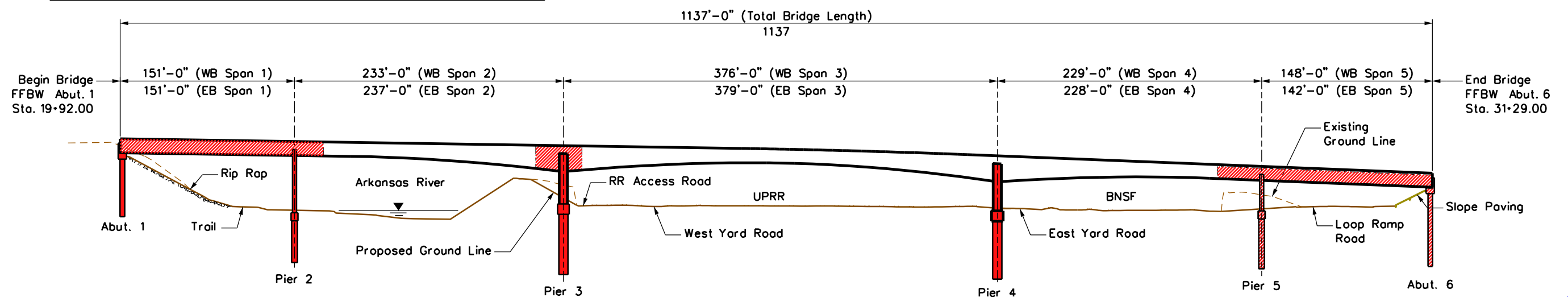
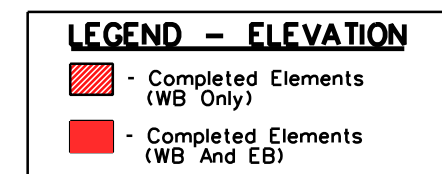
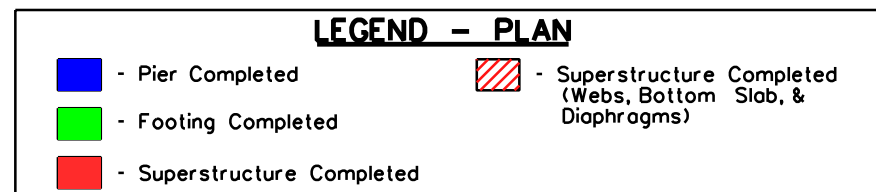
Milestone Event	April 2008 Baseline Finish Date	Actual
Project Award	October 18, 2007	October 18, 2007
Notice to Proceed	November 8, 2007	November 8, 2007
Abutment 1 Drill Caissons	February 15, 2008	February 15, 2008
Abutment 1 Cap Form/Rebar/Pour	March 6, 2008	March 6, 2008
Pier 2 EB Drill Caissons	March 3, 2008	March 3, 2008
Pier 2 WB Form/Rebar/Pour Footing	March 24, 2008	March 24, 2008
Pier 2 WB Column Form/Rebar/Pour	April 29, 2008	April 29, 2008
Pier 3 EB Drill Caissons	April 17, 2008	May 1, 2008
Pier 3 WB Form/Rebar/Pour Footing	May 15, 2008	June 4, 2008
Pier 3 WB Column Form/Rebar/Pour	July 1, 2008	August 5, 2008
Pier 4 EB Drill Caissons	May 8, 2008	July 1, 2008
Pier 4 WB Form/Rebar/Pour Footing	May 13, 2008	August 8, 2008
Pier 4 WB Column Form/Rebar/Pour	August 20, 2008	September 18, 2008
Pier 5 WB Drill Caissons	April 17, 2008	May 30, 2008
Pier 5 WB Form/Rebar/Pour Footing	April 21, 2008	June 12, 2008
Pier 5 WB Column Form/Rebar/Pour	October 21, 2008	July 11, 2008
Abutment 6 WB Drill Caissons	April 18, 2008	April 22, 2008
Abutment 6 WB Cap Form/Rebar/Pour	May 8, 2008	May 8, 2008
Span 1 WB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	June 17, 2008	August 29, 2008
Span 1 WB Form/Rebar/Pour Deck	July 8, 2008	October 10, 2008
Pier Table 3 WB Form/Rebar/Pour Bottom Slab	August 18, 2008	November 21, 2008
Pier Table 3 WB Form/Rebar/Pour Diaphragm & Webs	September 4, 2008	December 5, 2008
Pier Table 3 WB Form/Rebar/Pour Deck	October 7, 2008	December 31, 2008
Span 5 WB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	February 12, 2009	January 29, 2009
Span 5 WB Form/Rebar/Pour Deck	March 12, 2009	
Span 1 EB Form/Rebar/Pour Bottom Slab/Webs/Diaphragms	October 7, 2008	
Span 1 EB Form/Rebar/Pour Deck	October 27, 2008	
Form and Pour First Segment – W3-1E	November 19, 2008	
Form and Pour First Closure – Span 2 WB	May 19, 2009	
Shift Traffic to New WB Structure	February 17, 2010	
Install Last Drilled Caissons – Abutment 6 (EB Only)	April 26, 2010	
Form and Pour Last Segment – E4-10E	October 12, 2010	
Form and Pour Last Closure – Span 3 EB	November 16, 2010	
Complete Structure and Final Traffic Configuration	March 4, 2011	

All items are based on the April 2008 Baseline Schedule. All dates represent the “Finish” of the activity, unless otherwise noted.

The actual milestone dates are later than originally projected. This is mainly due to the drilled shaft subcontractor requiring more time for drilling the 8' diameter shafts than originally anticipated. Since cantilever construction is critical path, Flatiron intends to construct Pier 4 WB Pier Table falsework while constructing Cantilever 3 WB. Flatiron intends to staff up in early spring to help improve the schedule.



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