

**Project Summary:**

July 30, 2010  
Day 957 of 1278

**Recent Construction Highlights**

Flatiron Constructors Intermountain continued segment production at Cantilever 4 EB and cast Span 5 EB CIP Superstructure bottom slab, webs, and diaphragms. Bridge demolition continued, with one pier remaining within the UPRR property. The following is a summary of the construction progress for the last month.



**Figure 1 – Span 5 EB CIP Superstructure Construction – July 7, 2010:**

Looking downstation from Abutment 6, a portion of the bottom slab and most of the web and abutment diaphragm reinforcing is installed. The black steel projecting through the forms at the far end of the CIP portion is the pier steel where the pier diaphragm will be located.

**Figure 2 – Bridge Demolition – July 8, 2010:**

The demolition sub-contractor removes Pier 5 adjacent to the floodwall. Steel plates and crane mats are used to protect the tracks from the equipment and falling debris.



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**Figure 3 – Cantilever 4 EB Construction – July 8, 2010:**

A BNSF train passes below Cantilever 4 EB, while Segment E4-7E (right side of cantilever) is formed and reinforcing placed. Building from above allows Flatiron to continue segment production without delay and has no impact to the daily Railroad operations.

**Figure 4 – WB Bridge Staining – July 8, 2010:**  
The staining subcontractor begins to apply the first coat of stain to Span 5 WB, as seen from the Midtown Mall parking lot.



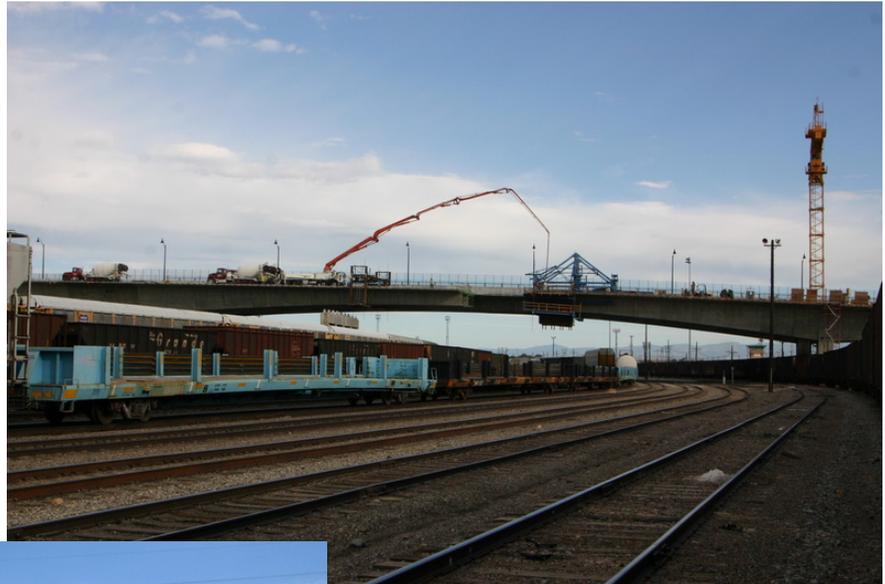
**Figure 5 – Span 5 EB CIP Superstructure Construction – July 13, 2010:**

As the reinforcing installation progresses, Flatiron prepares the deviator forms for installation at Span 5 EB.

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**Figure 6 – Cantilever 4 EB Construction – July 14, 2010:**  
Similar to the westbound bridge, Flatiron places concrete for the main-span segments at Cantilever 4 EB with a 52-meter pump truck placed on Cantilever 3 EB.



**Figure 7 – Span 5 EB CIP Superstructure Construction – July 14, 2010:**  
The ironworkers make final adjustments to Pier 5 EB diaphragm reinforcing before the bulkhead forms are installed.

**Figure 8 – Span 5 EB CIP Superstructure Construction – July 14, 2010:**  
Flatiron workers begin to install the interior web forms at Span 5 EB, as the ironworkers finish the deviator reinforcing installation.



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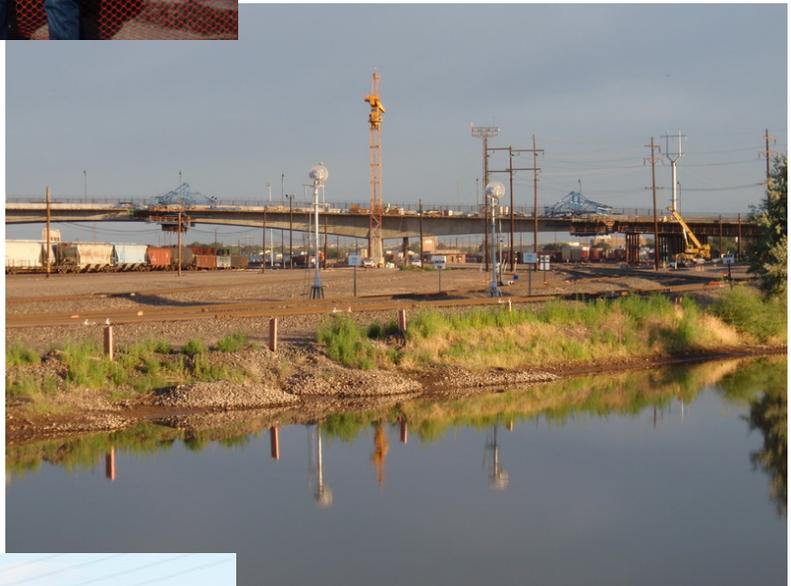
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**Figure 9 – Project Tour – July 17, 2010:**  
A few FIGG Western Regional Office staff visit the project, including (from left to right) Scott Fall, Steve Fultz, Russ Call, Courtney Oltman, and her husband Jonathan Oltman.

**Figure 10 – Cantilever 4 EB Construction – July 20, 2010:**

Work progresses on Cantilever 4 EB and Span 5 EB CIP Superstructure, as seen from the south end of the BNSF Railroad property.



**Figure 11 – WB Bridge Staining – July 20, 2010:**  
Span 5 WB staining is nearly complete, with only the traffic barriers remaining.



**Figure 12 – Cantilever 4 EB Construction – July 20, 2010:**

The upstation (right) form traveler approaches Span 5 EB CIP Superstructure. Span 5 EB CIP Superstructure is a critical path activity, since cantilever construction will be complete before the end span is completely cast, stressed, and the falsework removed.



**Figure 13 – Span 5 EB CIP Superstructure Construction – July 27, 2010:**

The webs, bottom slab, and diaphragm concrete is placed at Span 5 EB CIP Superstructure. Concrete placement began at midnight to take advantage of cooler ambient and concrete temperatures.

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**Figure 13 – Span 5 EB CIP Superstructure Construction – July 27, 2010:**

Concrete placement for the webs, bottom slab, and diaphragms nears completion at Span 5 EB CIP Superstructure. Flatiron anticipates casting the top slab in late August, followed by closure pours in September, which will be ahead of schedule.



**Figure 13 – Cantilever 4 EB Construction – July 30, 2010:**

The final cantilever segment, Segment E4-10E, is ready to receive concrete and the traveler crew takes a quick break during the set-up survey for a photo.



**Figure 14 – Cantilever 4 EB Construction – July 30, 2010:**

Following the pour, the CDOT Project Team joins Flatiron for a photo in front of the banner for this project milestone.



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<b>Substructure Construction</b>	<b><u>To</u> <u>Date</u></b>		<b><u>Total</u></b>	<b><u>Unit</u></b>	<b><u>% Complete</u></b>
48" Diameter Drilled Shafts (Monuments)	4	of	4	Each	100%
48" Diameter Drilled Shafts (Abutments)	14	of	14	Each	100%
60" Diameter Drilled Shafts (Pier 2 & 5)	8	of	8	Each	100%
96" Diameter Drilled Shafts (Pier 3 & 4)	8	of	8	Each	100%
Type I Footings (Pier 2 & 5)	4	of	4	Each	100%
Type II Footings (Pier 3 & 4)	4	of	4	Each	100%
3'-6" Piers (Pier 2 & 5)	4	of	4	Each	100%
7'-1" Piers (Pier 3 & 4)	4	of	4	Each	100%
Abutments	1 3/4	of	2	Each	88%

<b>Superstructure Construction</b>	<b><u>To</u> <u>Date</u></b>		<b><u>Total</u></b>	<b><u>Unit</u></b>	<b><u>% Complete</u></b>
<b>Westbound</b>					
End Span CIP Westbound	2	of	2	Each	100%
Abutment Diaphragm Westbound	2	of	2	Each	100%
Pier Diaphragm Westbound	2	of	2	Each	100%
Pier Table Westbound	2	of	2	Each	100%
Cantilever 3 Segments Westbound	22	of	22	Each	100%
Cantilever 4 Segments Westbound	20	of	20	Each	100%
Closure Segments Westbound	3	of	3	Each	100%
<b>Eastbound</b>					
End Span CIP Eastbound	1 1/2	of	2	Each	75%
Abutment Diaphragm Eastbound	1 1/2	of	2	Each	75%
Pier Diaphragm Eastbound	1 1/2	of	2	Each	75%
Pier Table Eastbound	2	of	2	Each	100%
Cantilever 3 Segments Eastbound	22	of	22	Each	100%
Cantilever 4 Segments Eastbound	20	of	20	Each	100%
Closure Segments Eastbound	1	of	3	Each	33%



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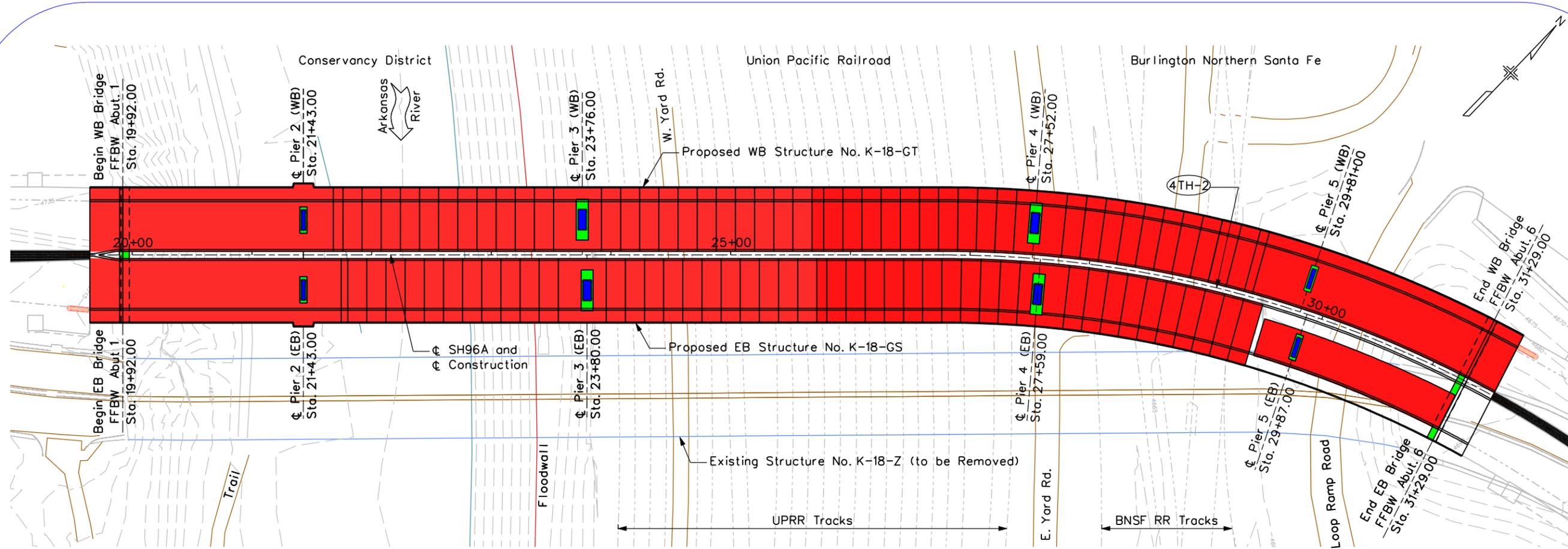
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**Project Milestone Dates**

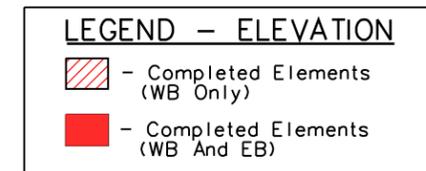
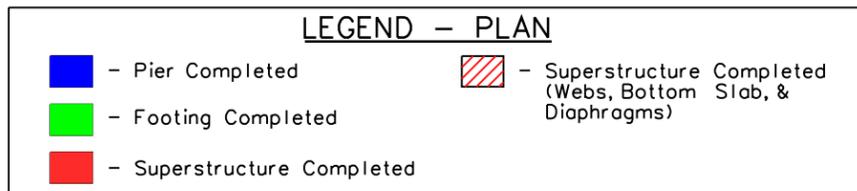
Milestone Event	April 2008 Baseline Finish Date	Actual
Project Award	October 18, 2007	October 18, 2007
Notice to Proceed	November 8, 2007	November 8, 2007
Form and Pour First Segment – W3-1E	November 19, 2008	February 16, 2009
Form and Pour First Closure – Span 2 WB W4-10E Post Tension	May 19, 2009	August 14, 2009
Span 4 WB Closure Form/Rebar/Pour	October 20, 2009	November 19, 2009
Span 3 WB Closure Form/Rebar/Pour	November 2, 2009	December 16, 2009
E3-1E Pour	November 13, 2009	January 7, 2010
Shift Traffic to New WB Structure	February 01, 2010	December 29, 2009
Bridge Demolition - Remove Bridge Deck	February 17, 2010	April 15, 2010
Install Last Drilled Caissons – Pier 5 EB	*April 20, 2010	May 23, 2010
Form and Pour Span 5 EB Bottom Slab/Webs/Diaphragms	*May 14, 2010	May 17, 2010
Form and Pour Last Segment – E4-10E	*August 9, 2010	July 27, 2010
Form and Pour Last Closure – Span 3 EB	*July 27, 2010	July 30, 2010
Complete Structure and Final Traffic Configuration	*October 26, 2010	
	*December 28, 2010	

**All items are based on the April 2008 Baseline Schedule, unless accompanied by an asterisk. See below for description. All dates represent the “Finish” of the activity, unless otherwise noted. Refer to the October 2009 Project Updates for previous milestone dates.**

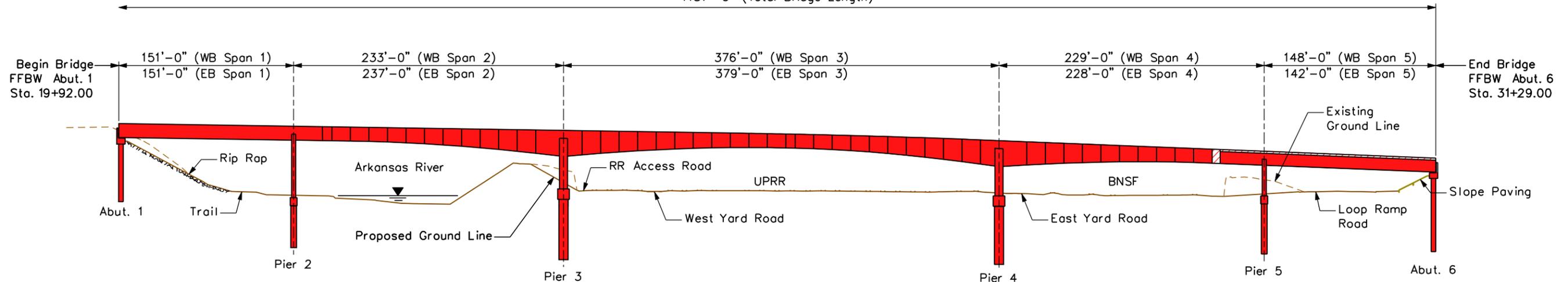
Cantilever construction is complete on the eastbound bridge with only traveler and counterweight removal remaining. The baseline schedule has changed with the traffic phasing modification for placing two lanes of traffic with pedestrians on the westbound bridge and the above dates with an asterisk (\*) are based on the April 2010 Schedule. These dates reflect an accelerated schedule from the April 2008 Baseline Schedule.



PLAN



1137'-0" (Total Bridge Length)



ELEVATION

4th Street Bridge Project - Project Completion Status - July 30, 2010

