Slide LAT

BRIDGE
LATERAL MOVE
TECHNOLOGY

U.S. Department of Transportation
Federal Highway Administration

SLIDE IN BRIDGE CONSTRUCTION (SIBC) FROM THE CONTRACTOR/CONSTRUCTION PERSPECTIVE

March 6, 2014; 11:00am MST

SIBC Webinar Series

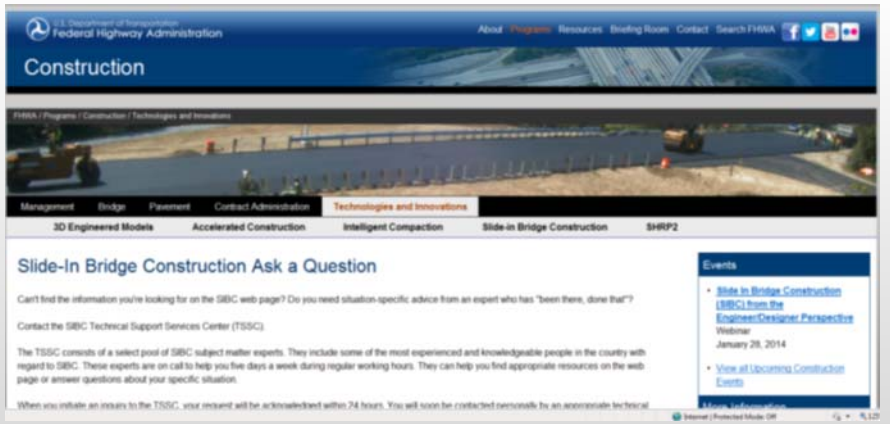
- Owner/Policy Maker Perspective
  - November 2013 (complete)
  - 2nd session scheduled later in year
- Engineer/Designer Perspective
  - January 2014 (complete)
  - 2nd session: April 3, 2014
  - 3rd session scheduled later in year
- Contractor/Constructor Perspective
  - March 2014 (today's webinar)
  - 2nd and 3rd sessions scheduled later in year

Webinar Agenda

- National Update (~2 min.)
- Featured Presentation: Contractor/Construction Perspective (~30 min.)
  - Mike Monroe, Kiewit Infrastructure Co., Denver, CO
- Questions & Answers (~15 min.)
- Next Steps (~3 min.)

National Update

- FHWA SIBC website operational
  - http://www.fhwa.dot.gov/construction/sibc/
  - SIBC Implementation Guide now available
- Technical Services Support Center (TSSC)
  - http://www.fhwa.dot.gov/construction/tssc/sibc/ask.cfm
  - Instructor-based training available in May 2014



ROCKY FORD, COLORADO BRIDGE SLIDES

Mike Monroe
Kiewit Infrastructure Co.

Presentation Outline

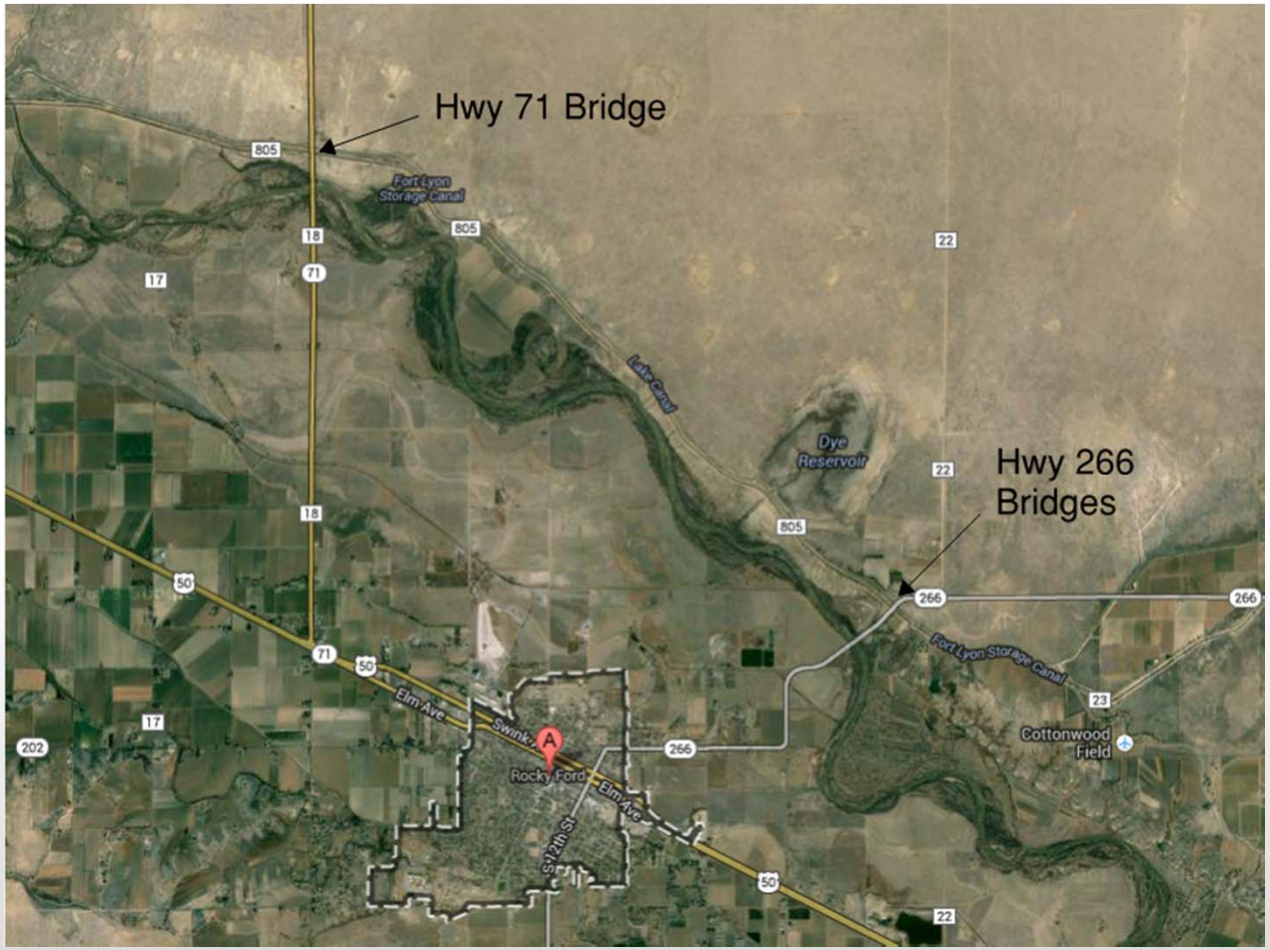
- Project overview
- Decision
- Construction methods
- Delivery method
- Lessons Learned

Project Overview

- $5,052,038 CM/GC contract
- $112,000 Pre-construction contract
- Pre-Construction Team: CDOT, Jacobs, & Kiewit
- Two bridges on Hwy 266 and one bridge on Hwy 71
- Project goals
- Design constraints

Project Overview

Project Overview



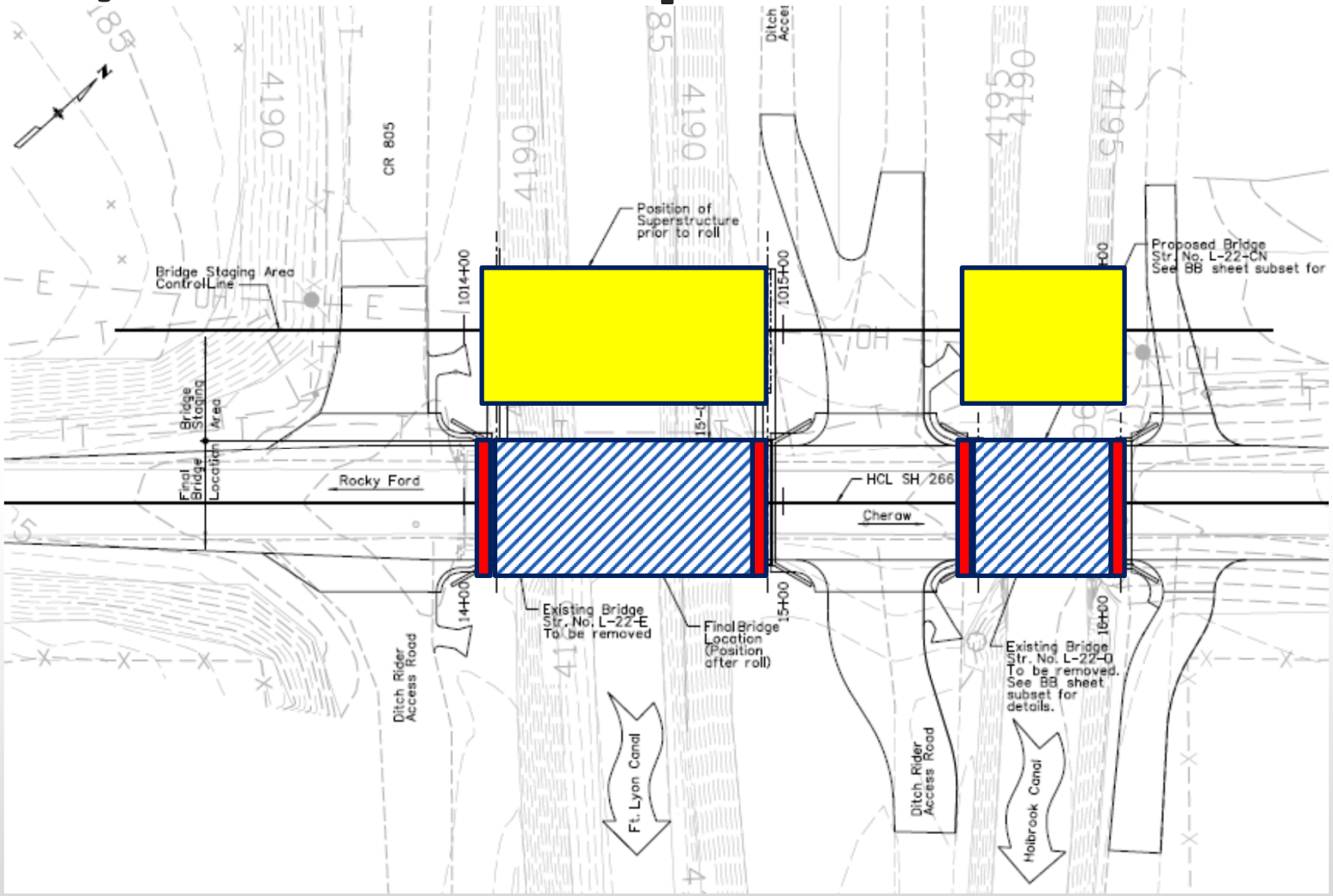
Project Overview – Video

- https://vihttps://vimeo.com/61848742meo.com/61848742

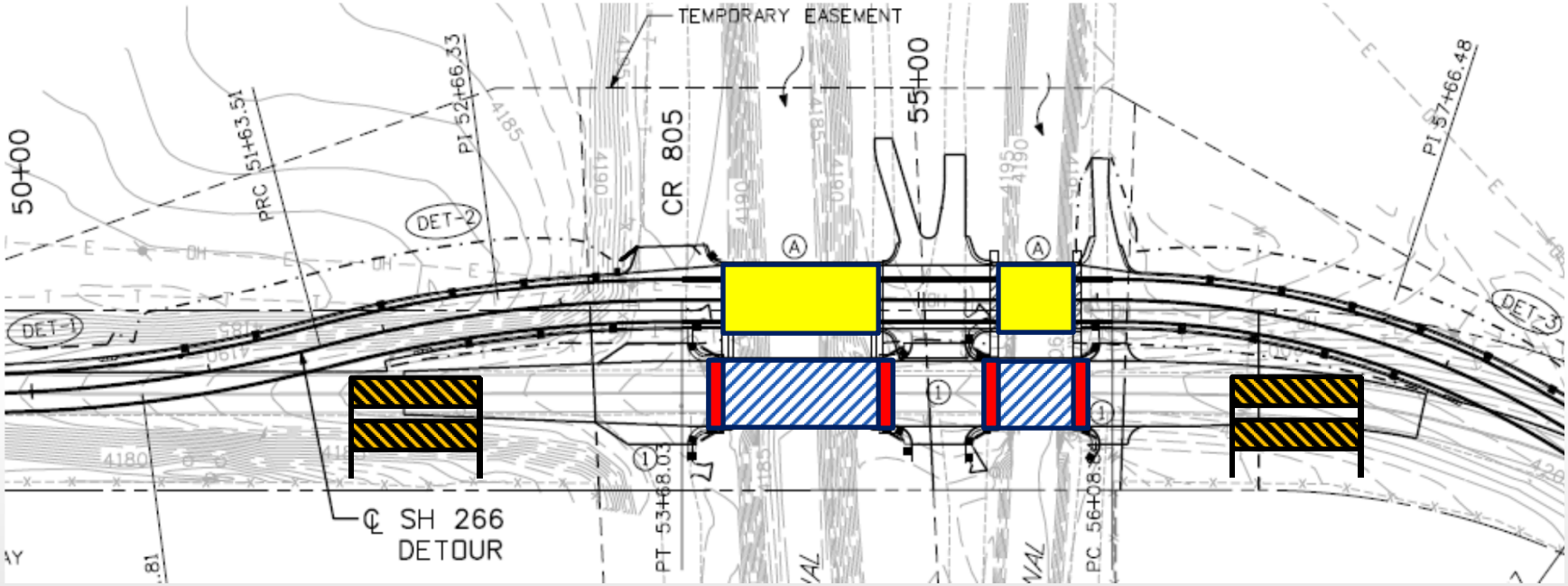
Decision

- Project at 30% design when Kiewit selected under CM/GC contract
- Test project for slide method
- CDOT goal: test innovation; reason for one slide and one roll
- Kiewit heavily involved in decisions on the slide methods

Slide / Roll - Concept



Slide / Roll – As Implemented



Roll Method – Ft Lyon Bridge

- Concrete box girders
- Length 87’
- Width 39’
- Weight 540 TN
- 4 EA 100 TN lifting jacks per abutment
- 2 EA 64 TN hollow cylinder double acting jacks

Roll Method – Ft Lyon Bridge

Roll Method – Ft Lyon Bridge

Roll Method – Ft Lyon Bridge

Roll Method – Ft Lyon Bridge

Roll Method – Ft Lyon Bridge

Slide Method – Holbrook Bridge

- Steel girders
- Length 53’
- Width 39’
- Weight 210 TN
- PTFE slide plates and bearings
- 2 EA 50 TN 20” stroke jacks

Slide Method – Holbrook Bridge

Slide Method – Holbrook Bridge

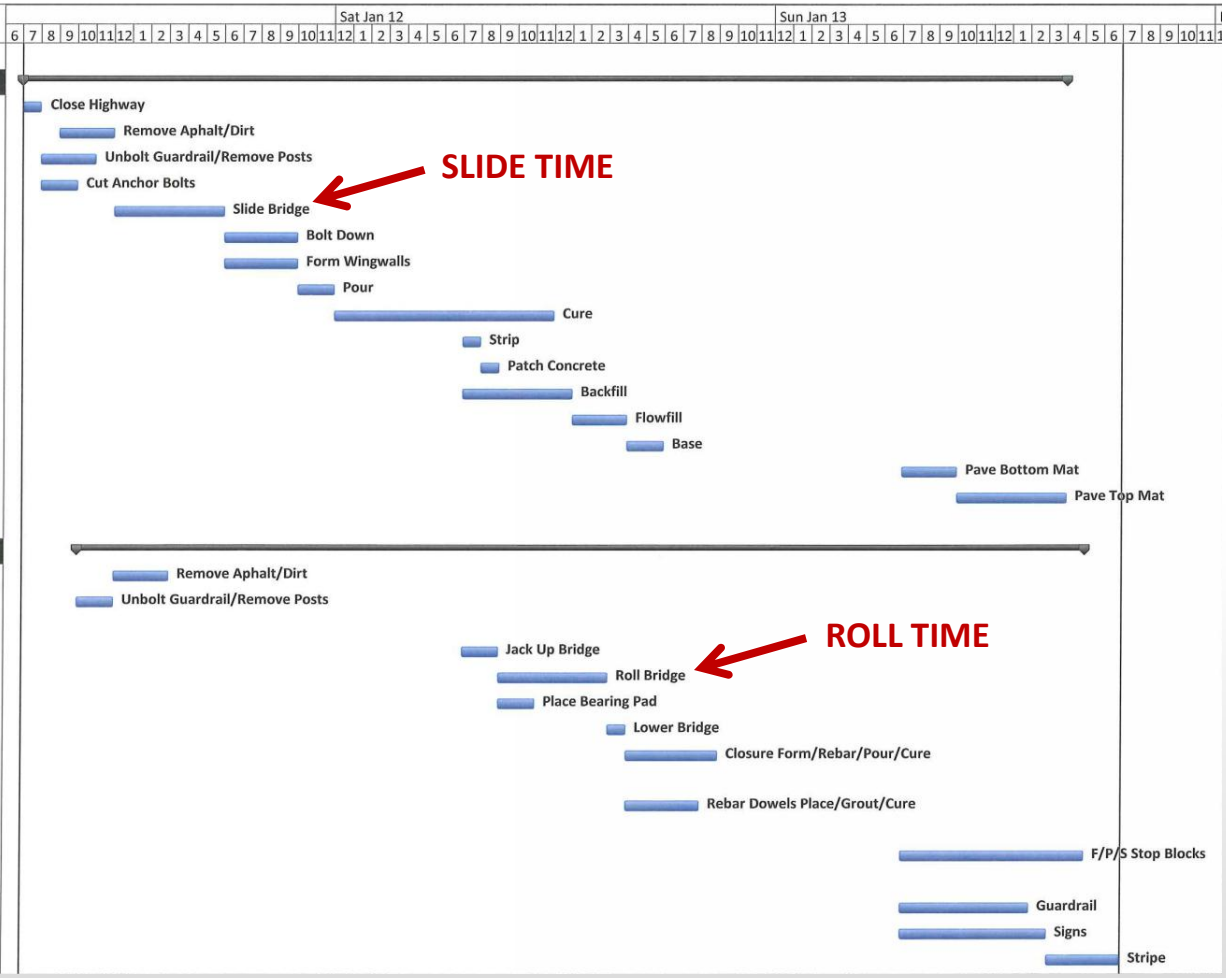
Slide Method – Holbrook Bridge

Slide Method – Holbrook Bridge

Slide Method – Holbrook Bridge

Schedule – Fri-Sun (1/11-13/2013)

ID	Task Name	Duration	Start	Finish
1				
2	**SH 266 Holbrook**	**57 hrs**	**Fri 1/11/13**	**Sun 1/13/13**
3	Close Highway	1 hr	Fri 1/11/13	Fri 1/11/13
4	Remove Aphalt/Dirt	3 hrs	Fri 1/11/13	Fri 1/11/13
5	Unbolt Guardrail/Remo	3 hrs	Fri 1/11/13	Fri 1/11/13
6	Cut Anchor Bolts	2 hrs	Fri 1/11/13	Fri 1/11/13
7	Slide Bridge	6 hrs	Fri 1/11/13	Fri 1/11/13
8	Bolt Down	4 hrs	Fri 1/11/13	Fri 1/11/13
9	Form Wingwalls	4 hrs	Fri 1/11/13	Fri 1/11/13
10	Pour	2 hrs	Fri 1/11/13	Sat 1/12/13
11	Cure	12 hrs	Sat 1/12/13	Sat 1/12/13
12	Strip	1 hr	Sat 1/12/13	Sat 1/12/13
13	Patch Concrete	1 hr	Sat 1/12/13	Sat 1/12/13
14	Backfill	6 hrs	Sat 1/12/13	Sat 1/12/13
15	Flowfill	3 hrs	Sat 1/12/13	Sat 1/12/13
16	Base	2 hrs	Sat 1/12/13	Sat 1/12/13
17	Pave Bottom Mat	3 hrs	Sun 1/13/13	Sun 1/13/13
18	Pave Top Mat	6 hrs	Sun 1/13/13	Sun 1/13/13
19				
20	**SH 266 Ft. Lyon**	**55 hrs**	**Fri 1/11/13**	**Sun 1/13/13**
21	Remove Aphalt/Dirt	3 hrs	Fri 1/11/13	Fri 1/11/13
22	Unbolt Guardrail/Remove	2 hrs	Fri 1/11/13	Fri 1/11/13
23	Jack Up Bridge	2 hrs	Sat 1/12/13	Sat 1/12/13
24	Roll Bridge	6 hrs	Sat 1/12/13	Sat 1/12/13
25	Place Bearing Pad	2 hrs	Sat 1/12/13	Sat 1/12/13
26	Lower Bridge	1 hr	Sat 1/12/13	Sat 1/12/13
27	Closure Form/Rebar/Pour/Cure	5 hrs	Sat 1/12/13	Sat 1/12/13
28	Rebar Dowels Place/Grout/Cure	4 hrs	Sat 1/12/13	Sat 1/12/13
29	F/P/S Stop Blocks	10 hrs	Sun 1/13/13	Sun 1/13/13
30				
31	Guardrail	7 hrs	Sun 1/13/13	Sun 1/13/13
32	Signs	8 hrs	Sun 1/13/13	Sun 1/13/13
33	Stripe	4 hrs	Sun 1/13/13	Sun 1/13/13



Delivery Methods

- Contract model
- Early contractor and designer involvement is key
  - Cost control
  - Means and methods evaluation
  - Self-performance vs. hiring subs
  - Identification of long lead time materials

Lessons Learned

- Early contractor involvement
- KISS principle
- Modular components
- Schedule constraints
  - Fast tracked schedule on experimental project
  - New techniques require more time
- New methods require commitment from entire org.

QUESTION & ANSWER PERIOD

Kevin Thompson, URS Moderator (~15 minutes)

Q&A Panel

- Kevin Thompson, P.E., URS Corporation
  916.993.7638, kevin.thompson@urs.com
- Mike Monroe, Kiewit Infrastructure Co.
  303.797.9330, mike.monroe@kiewit.com
- Jeffrey Dobmeier, P.E., S.E., Jacobs Engineering
  303.820.4892, jeffrey.dobmeier@jacobs.com
- Michael Arens, P.E., S.E., Michael Baker Jr., Inc.
  801.352.5981, marens@mbakercorp.com
- Travis Boone, P.E., URS Corporation
  303.740.2671, travis.boone@urs.com

NEXT STEPS

Kevin Thompson, URS (~3 minutes)

Websites/Resources

- SIBC Webinar Training Project Website
  - www.slideinbridgeconstruction.com
  - Webinar registration, a recording of today's webinar, presentation slides, video, and Q&A results will be posted within 10 business days
- FHWA SIBC Website
  - http://www.fhwa.dot.gov/construction/sibc/
  - SIBC Implementation Guide now available
  - Many other resources, case studies, etc. also available

FHWA SIBC Technical Services Support Center (TSSC)

- Request personal, professional answers to questions via TSSC
- Download topical resources
- Learn about instructor-based training courses (available beginning May 2014)

www.fhwa.dot.gov/construction/sibc/

or

search "**FHWA slide**"

Future SIBC Training

- Engineer/Designer Perspective
  - **2nd Session:** April 3, 2014, Jeff Dobmeier, Jacobs Eng.
- Contractor/Construction Perspective
  - **2nd Session:** Tentatively set for May 2014
- Owner/Policy Maker Perspective
  - **2nd Session:** Tentatively set for June 2014
- Web-based training modules available in spring 2014

SPECIAL NOTICE: Next FIU ABC Center Webinar *"Wisconsin DOT's Rawson Avenue Bridge Replacement using Precast Elements and Systems"*
Thursday, March 20, 2014 (1:00 – 2:00 p.m. Eastern)

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THANK YOU FOR YOUR PARTICIPATION!

For issues or questions regarding this training or the www.slideinbridgeconstruction.com website, please e-mail sibc@urs.com