Bridging the Future: I-74 Mississippi River Bridge Project

March 2019
Introductions

George Ryan, PE
I-74 Corridor Manager / Vice President

• 7 years with Wood
• Former Illinois DOT Deputy Director of Highways / Region 2 Engineer (central Illinois)
• Project manager for the $500 million reconstruction of I-74 in Peoria, Illinois (2006)
• B.S. Civil Engineering, Bradley University
Wood is a global leader

Providing technical, engineering and project services to infrastructure, industrial, energy, process and utility markets.

over 160 years of experience

over $10 B revenue

60,000+ people, 60 countries, 400+ offices worldwide
Performance-driven solutions, from concept to decommissioning, across a broad range of markets.
Working across diverse sectors

**Infrastructure**
- Transportation
- Water
- Built environment

**Industrial & manufacturing**
- Pulp & paper
- Aerospace
- Automotive
- Food & beverage
- Life sciences

**Government**
- Defense
- Marine
- Government agencies

**Mining**
- Base metals
- Precious metals
- Industrial minerals
- Other minerals

**Power**
- Conventional
- Nuclear
- Renewables
- Transmission and distribution

**Oil & Gas**
- Upstream
- Midstream
- Downstream
- Chemicals
The I-74 Mississippi River Bridge Project
Project Leads
Contractors

I-74 Mississippi River Bridge
Lunda Construction Co. - $322 million

Iowa Westbound Viaduct
Civil Constructors Inc. - $30 million

Iowa Mainline Expansion
McCarthy Improvement Co. - $34 million

Iowa Ramp And Retaining Wall
Valley Construction Co. - $2.7 million

Illinois Viaduct And Ramps
Kraemer North America - $82 million

Illinois Mainline And Ramps
Walsh Construction Co. - $84 million
Costs and Funding

• Estimated $1.2 Billion
• Federal and state monies, with communities funding local enhancements
History

Westbound bridge opened in 1935

Eastbound bridge opened in 1960
Existing Bridge

- Narrow with no shoulders
- Needs continuous repairs
New Bridge

State-of-the-art Mississippi River Bridge
Alignment
Side –by-Side Comparison
Four Lanes with Full-Width Shoulders
Arch Span

774’ 5”
LED Lighting
Pedestrian and Bicycle Accessibility

Multi-Use Path

14’

Scenic Overlook
Maintenance Waterline

SECTION AT BRANCH IB
LOOKING NORTH

1 1⁄4" CAN & GROOVE ADAPTOR AND CAP FOR UNDERRIDGE WASH, RUN ALONG INSPECTION PLATFORM, INSTALL AT 2'-6" ABOVE INSPECTION PLATFORM (TYP.)

2 1⁄2" (TYP.)

4" WATER MAIN

WATER HAMMER ARRESTER, TYP. FOR ALL BRANCHES SEE DESIGN SHEET 308

2 1⁄2" DRAIN VALVE WITH EXTENDED STEM (TYP. ALL BRANCHES) SEE NOTE 2 ON THIS SHEET AND DESIGN SHEET 307

GENERAl NOTES:
1. 4"" MAIN SHALL BE 1 DRAIN THE PIPE TIME DURING WINTER.
2. FOR BRANCHES AND E SHeETS 297 AND 298
3. FOR PIPING HANGER 1
4. HOSE FOR BRIDGE 1A & GROOVE TYPE QOU SEE DETAIL ON DESK

1981'-0 WELD
148'-0 & 187'-0 DE MAINTENAN
21
Construction Staging

- Complicated staging
- Construction started July 2017
- 3½ years
River Bridge – Lunda Construction Co.

- $322 million
- Construction started July 15, 2017
- Westbound bridge
Shafts and Footings
Concrete Pour

870 CY of concrete (arch ribs and crossbeam)
87 concrete trucks

1,532 CY concrete (pedestal)
154 concrete trucks

Concrete pour November 30, 2018
Completed concrete pours
Continuing to set steel girders and prepare for arch erection
• Challenges: flooding and cold temperatures
• Preparing foundations for arch erection
Fabricated arch segments delivered by barge
A presentation by Wood.
Stay Installation

INSTALL AND STRESS STAY 3

STAGE 13
Forming westbound and eastbound deck
Completed I-74 expansion south of Avenue of the Cities in Moline
Next Steps

- Complete arch foundations and begin arch erection
- Begin removal of westbound viaduct
- Expanding mainline westbound I-74
- Complete westbound bridge
A variety of methods will be used, largely determined by:

- Coordination with barge traffic
- Protection of surrounding environmentally sensitive areas
- Contractor’s methods for collection of debris
Questions?
2019 Construction Staging – Illinois
2019 Construction Staging – Iowa

Kimberly Road - Stage 2A

Westbound Local Traffic Management
2019 Construction Staging – Iowa

Stage 2B

CONSTRUCTION STAGING LEGEND
- WORK COMPLETED
- EXISTING ROADWAY
- ONGOING CONSTRUCTION
- I-74 TRAFFIC
- LOCAL TRAFFIC
Winter 2019/2020 Construction Staging – Iowa
2020 Construction Staging – Illinois
2020 Construction Staging – Iowa

CONSTRUCTION STAGING LEGEND
- WORK COMPLETED
- EXISTING ROADWAY
- ONGOING CONSTRUCTION
- 1-74 TRAFFIC
- LOCAL TRAFFIC
Thank you

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