

EAST END CROSSING

OHIO RIVER BRIDGES PROJECT



SUBMITTED TO:
INDIANA FINANCE AUTHORITY
C/O INDIANA GOVERNMENT CENTER SOUTH
CONFERENCE CENTER ROOM 25
402 W. WASHINGTON ST.
INDIANAPOLIS, IN 46204
ATTN: SILVIA PEREZ

SUBMITTED BY:
WVB EAST END PARTNERS
1260 EAST SUMMIT STREET
CROWN POINT, INDIANA 46307
PHONE: 315.207.3905

OCTOBER 26, 2012
3:00 PM EST

Exhibit E

SUMMARY AND ORDER OF PROPOSAL CONTENTS

Technical Proposal Component	Form (if any)	ITP Section Cross-Reference
A. Executive Summary		
Executive Summary (Exclude price information)	No forms are provided	<u>Exhibit B, Section 3.1</u>
B. Proposer Information, Certifications & Documents		
Proposal Letter	<u>Form A</u>	<u>Exhibit B, Section 3.2.1</u>
Authorization Documents	No forms are provided	<u>Exhibit B, Section 3.2.1</u>
Identification of Proposer and Equity Members	<u>Form B-1</u>	<u>Exhibit B, Section 3.2.2</u>
Information About Proposer Organization	<u>Form B-2</u>	<u>Exhibit B, Section 3.2.2</u>
Information About Major Participants, and Identified Contractors	<u>Form B-3</u>	<u>Exhibit B, Section 3.2.2</u>
Letter accepting joint and several liability, if applicable	<u>No forms are provided</u>	<u>Exhibit B, Section 3.2.2</u>
Responsible Proposer and Major Participant Questionnaire	<u>Form C</u>	<u>Exhibit B, Section 3.2.3</u>
Industrial Safety Record for Proposer and Major Participants	<u>Form D (as applicable)</u>	<u>Exhibit B, Section 3.2.4</u>
Personnel Work Assignment Form and Commitment of Availability	<u>Form E</u>	<u>Exhibit B, Section 3.2.5</u>
Letter(s) Regarding Pre-Proposal Submittals	No forms are provided	<u>Exhibit B, Section 3.2.6</u>
Non-Collusion Affidavit	<u>Form F</u>	<u>Exhibit B, Section 3.2.7</u>
Buy America Certification	<u>Form G</u>	<u>Exhibit B, Section 3.2.8</u>

Technical Proposal Component	Form (if any)	ITP Section Cross-Reference
DBE Certification	<u>Form H</u> No forms are provided for the DBE Performance Plan or Job Training Plan	<u>Exhibit B, Section 3.2.9</u>
Surety/Financial Institution Information	No forms are provided	<u>Exhibit B, Section 3.2.10</u>
Conflict of Interest Disclosure Statement	<u>Form I</u>	<u>Exhibit B, Section 3.2.11</u>
Equal Opportunity Employment Certification	<u>Form Q</u>	<u>Exhibit B, Section 3.2.12</u>
Lobbying Certification	<u>Form R</u>	<u>Exhibit B, Section 3.2.13</u>
Debarment and Suspension Certification	<u>Form S</u>	<u>Exhibit B, Section 3.2.14</u>
Insurance	<u>No forms are provided</u>	<u>Exhibit B, Section 3.2.15</u>
Confidential Contents Index	<u>No forms are provided</u>	<u>Exhibit B, Section 3.2.16</u>
C. Proposer Election of Termination for Convenience Calculation Method		
Election of Termination for Convenience Calculation Method	<u>Form V</u>	<u>Exhibit B, Section 3.4</u>
D. Volume 1 Appendices		
Copies of Organizational Documents	No forms are provided	<u>Exhibit B, Section 3.2.2</u>
Proposer Teaming Agreement or Key Terms	No forms are provided	<u>Exhibit B, Section 3.2.2</u>
Executed Contracts or Term Sheets/Heads of Terms	No forms are provided	<u>Exhibit B, Section 3.2.2</u>
E. Proposal Security (Proposal Bond or Proposal Letter of Credit)		
Proposal Bond	<u>Form K-1</u>	<u>Exhibit B, Section 3.3.1</u>
Proposal Letter of Credit	<u>Form K-2</u>	<u>Exhibit B, Section 3.3.2</u>

Technical Proposal Component	Form (if any)	ITP Section Cross-Reference
F. Escrow Agreement		
Escrow Agreement	<u>Form L</u>	<u>Exhibit B, Section 3.5</u>
G. Preliminary Performance Plans		
Preliminary Project Management Plan	No forms are provided	<u>Exhibit B, Section 4.1</u>
Preliminary Project Baseline Schedule for Design and Construction	No forms are provided	<u>Exhibit B, Section 4.1.4</u>
Completion Deadlines	<u>Form N</u>	<u>Exhibit B, Section 4.1.4</u>
Design-Build Plan	No forms are provided	<u>Exhibit B, Section 4.2</u>
Operations and Maintenance Plan	No forms are provided	<u>Exhibit B, Section 4.3</u>
H. Volume 2 Appendices		
Key Personnel Resumes	No forms are provided	<u>Exhibit B, Section 3.2.5</u>
Technical Drawings, Graphs and Data	No forms are provided	<u>Exhibit B, Section 4.2</u>

Financial Proposal

Proposers shall follow the order of the Financial Checklist in their submissions. A referenced copy of this document shall be submitted with the Financial Proposal.

	Financial Proposal Component	Location of information within submission documentation	
		Document Reference	Financial Model Sheet Reference
A.	Updated financial information Proposer must provide the corporate and financial information identified in <u>Section 2.0</u> of <u>Exhibit C</u> , for the Proposer and Equity Members	Financial Proposal Volume 1 of 2 Separated by Entity	
A1	Audited Fiscal Financial Statements for all periods subsequent to SOQ and unaudited interim financial statements (<u>Exhibit C, Section 2.0</u>)	Financial Proposal Volume 1 of 2 Section A1 for each Entity	
A2	Financially Responsible Party letters of support (as required) (<u>Exhibit C, Section 2.0</u>)	Financial Proposal Volume 1 of 2 Section A2 for each Entity	
A3	For publicly held companies, most recent SEC 10-K and 10-Q reports and any 8-Ks filed since the SOQs (<u>Exhibit C, Section 2.0</u>)	Financial Proposal Volume 1 of 2 Section A3 for each Entity	
A4	Credit Ratings (<u>Exhibit C, Section 2.0</u>)	Financial Proposal Volume 1 of 2 Section A4 for each Entity	
A5	Letter regarding material change in financial condition since submission of the SOQ and for next reporting period (<u>Exhibit C, Section 2.0</u>)	Financial Proposal Volume 1 of 2 Section A5 for each Entity	
A6	Letter disclosing all material off balance sheet liabilities (<u>Exhibit</u>	Financial Proposal Volume 1 of 2 Section A6	

	Financial Proposal Component	Location of information within submission documentation	
		Document Reference	Financial Model Sheet Reference
	<u>C, Section 2.0</u>)	for each Entity	
B	Financial Plan (<u>Exhibit C, Section 3.0</u>)	Financial Proposal Volume 2 of 2 Section B	
B1	Financial Plan Executive Summary (<u>Exhibit C, Section 3.1</u>)	Financial Proposal Volume 2 of 2 Section B1	
B1	Identity of Financial Institution (<u>Exhibit C, Section 3.2</u>)	Financial Proposal Volume 2 of 2 Section B1	
B2	Range of Financing Sources (<u>Exhibit C, Section 3.3</u>)	Financial Proposal Volume 2 of 2 Section B2	
B3	Details for Core Lender(s) and Lead Underwriter(s) Commitment Letters (<u>Exhibit C, Section 3.4</u>)	Financial Proposal Volume 2 of 2 Section B3	
B4	[Reserved]		
B5	Details of Equity Source and letters from Equity Members (<u>Exhibit C, Section 3.5</u>)	Financial Proposal Volume 2 of 2 Section B5	
B6	Financial Advisor letter (<u>Exhibit C, Section 3.6</u>)	Financial Proposal Volume 2 of 2 Section B6	
B7	Schedule for Commercial and Financial Close (<u>Exhibit C, Section 3.7</u>)	Financial Proposal Volume 2 of 2 Section B7	
B8	Summary Cost Table and Financial Plan Summary Forms (<u>Forms O and P, Exhibit C, Section 3.8</u>)	Financial Proposal Volume 2 of 2 Section B8	Tab Form O Tab Form P
C	MAP Proposal (Form J) (<u>Exhibit C, Section 4.0</u>)	Financial Model Section C	Tab Form J
D	Financial Model (<u>Exhibit C,</u>	Financial Model	

	Financial Proposal Component	Location of information within submission documentation	
		Document Reference	Financial Model Sheet Reference
	<u>Section 5.0)</u>	Section D	
D1	Financial Model (<u>Exhibit C, Section 5.1 to 5.2)</u>	Financial Model Section D1	Tab Output – Project Tab Output – Sources & Uses Tab Output – Accounts
D2	Financial Model Assumptions Book (<u>Exhibit C, Section 5.3)</u>	Financial Model Section D2	Tab Assumptions Book
D3	Instructions on operations of the Financial Model (<u>Exhibit C, Section 5.4)</u>	Financial Model Section D3	
E	Cost and Pricing Data (<u>Exhibit C, Section 6.0)</u> (to be submitted to escrow)	Escrow	
F	Independent Insurance Broker/Consultant Letter (<u>Exhibit C, Section 7.0)</u>	Financial Proposal Volume 2 of 2 Section F	

H. Volume 2 Appendices | Table of Contents

TECHNICAL PROPOSAL | VOLUME 2 APPENDICES

H. VOLUME 2 APPENDICES

Flash Drive with Project 3D Animation and P6 Schedule (inside front cover)

Project 3-D Animation

Key Personnel Resumes (3.2.5)

Preliminary Project Baseline Schedule (4.1.4)

East End Bridge Construction Sequencing (4.2.1.1)

Tunnel Construction Methods (4.2.2.2)

Roadway Conceptual Construction Staging Diagrams and Detailed Mot Schematics (4.2.1.3)

Aesthetic And Landscape Concept Master Plan (4.2.1.6)

Draft Project Plans

- Draft Project Management Plan (4.1)
- Draft DBE/Workforce and Diversity Plan (4.1.2/4.1.3)
- Draft Project Sustainability Plan (4.1.6.c.vi)

TABLE OF CONTENTS

Project 3D Animation

3-D ANIMATION

TUNNEL AND MAIN BRIDGE ANIMATION

A 3-D animation is provided on the attached flash drive to show IFA WVB’s vision of the construction phases and final renderings of the Drumanard Tunnel and the East End Bridge. The main construction sequences of these structures are shown with principles that have been studied for the Proposal.

DRUMANARD TUNNEL CONSTRUCTION ANIMATION



The proposed construction excavation methods of the Tunnel is by means of drill and blast operations. The Tunnel is split between two sections, top headings and lower bench. The top heading is then subdivided into three separate headings, which will be constructed first, with the middle heading, acting as the pilot. Following the excavation animation, is a final drive-through of the Northbound Tunnel heading and finishes at the North Portal.

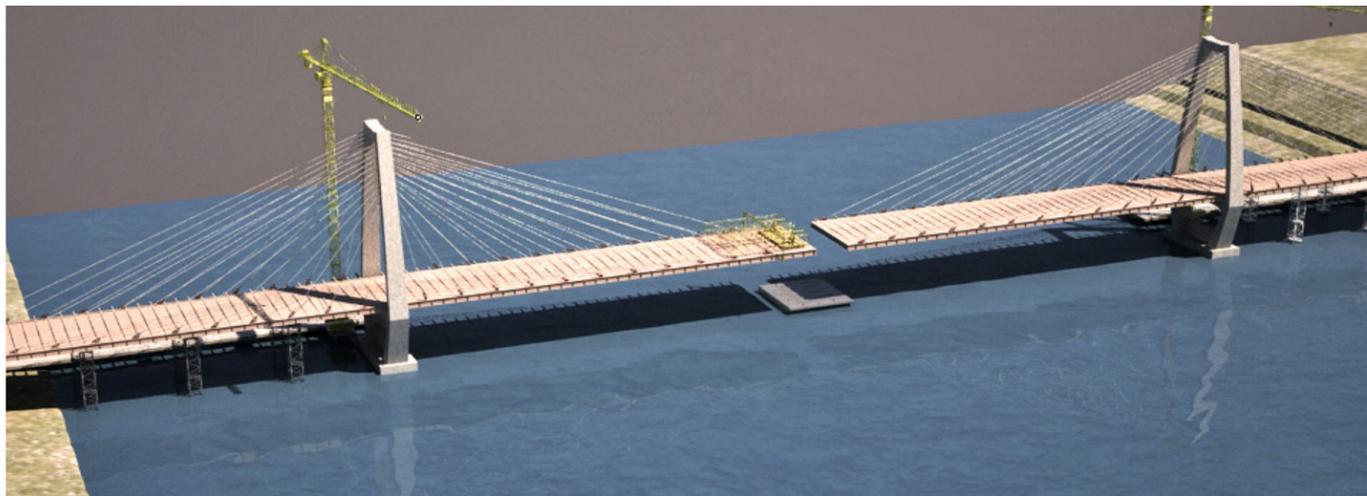
In the case of the cable stay bridge, the methodology illustrated is an alternative from the one described in our technical proposal that is being studied by the Walsh-VINCI CJV. Instead of building the two towers and starting to erect the deck elements from the towers by symmetrical balanced cantilever method, reflected in our technical proposal, the animation shows the back-spans being assembled and launched while the main towers are constructed, then the central span being erected from each of the towers by cantilever method and followed by the installation of the precast deck panels.

Both methods have been studied in detail and are feasible in our proposed schedule. The most appropriate one will be elected at design commencement stage. The purpose of the animation is also to highlight temporary structures, trestles and deck structure with cable erection sequences and to show cranes and barge movements on the Ohio River.

Subtitles of the animation include:

1. Global alignment of the project
2. Drumanard Tunnel construction animation
3. Drumanard Tunnel final animation
4. East End bridge construction animation
5. East End bridge final animation

EAST END BRIDGE CONSTRUCTION ANIMATION



DRUMANARD TUNNEL ANIMATION AT NORTH PORTAL



Following these sequences, the final drive-by animation is presented to provide a rendering of the structures in its environment. The cable stay bridge is shown by the eyes of a driver, a pedestrian, someone on a boat cruising on the Ohio River and from a bird’s eye view. Different cameras are moving around the structures in order to highlight WVB’s architectural vision.

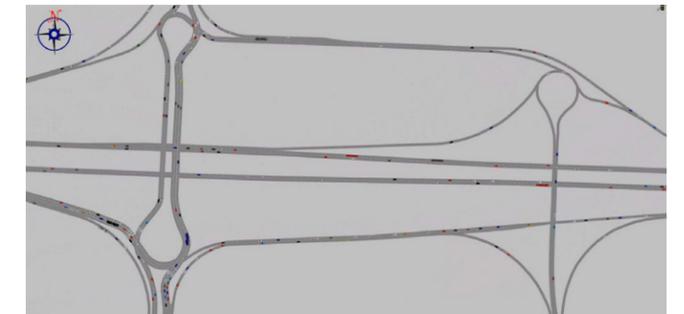
EAST END BRIDGE ANIMATION



SR 265/SR 62/PORT ROAD ROUNDABOUT

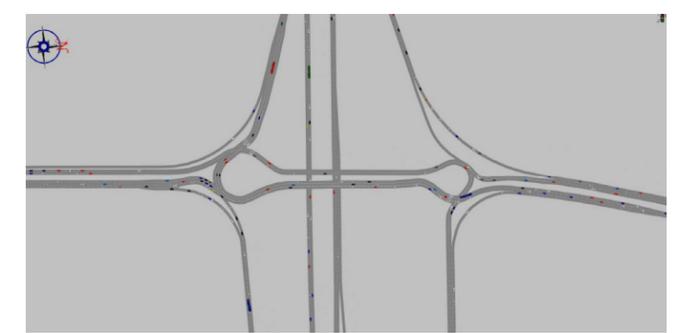
Also provided on the flash drive is a VISSIM traffic simulation video for design year (2030) traffic that helps visualize WVB’s proposed roundabout interchange design. WVB’s concept outperforms the RFP design and is supported by traffic analysis which provides traffic operations and level of service (LOS) along the system equal to, and in some instances better than, the operations of the RFP preliminary design.

ROUNDABOUT INTERCHANGE TRAFFIC ANALYSIS



A VISSIM simulation model was developed to check and confirm the capacities computed using the AR-CADY 8 and HCS2010 software for the respective design elements. The ramp movements were evaluated in VISSIM to ensure there is no queue backing from the off-ramp terminus onto the mainline freeway.

SR 62 ROUNDABOUT TRAFFIC ANALYSIS



The proposed design concept is much cleaner with fewer decision points for traffic exiting/entering (i.e. merging/diverging) the SR 265 mainline as compared to the RFP design, thus increasing the overall mobility and operational efficiency as well as enhancing safety. The proposed north roundabout at SR 62 & SR 265 as well as at Port Road & SR 265 will operate at LOS A in the AM and PM peaks during design year (2030). The proposed south roundabout at SR 62 & SR 265 will operate at LOS A in the AM Peak and LOS B in the PM peaks during design year (2030).

Key Personnel Résumés (3.2.5)

KEY PERSONNEL RESUMES

STAFF	ROLE/POSITION
 Sidney Florey	Project Executive
 David Sikorski, PE, PP	Project Manager
 Phil Malin, PE, MBA	Deputy Project Manager
 Bruce Williams	Deputy Project Manager - Technical
 Gregory Ciambrone	Deputy Project Manager - Financial Administration
 Kristof G.M. Van Loon	Financial Director
 Dan Hartlage	Public Information Coordinator
 Brenda Wolf	DBE Coordinator
 Marcos Loizias, PE	Lead Engineer
 Daniel Tassin, PE	Section 5: Lead Bridge Engineer
 Brij Goyal, SE	Section 4: Lead Tunnel Design Engineer

STAFF	ROLE/POSITION
 Brian Hoppel, PE	Construction Manager
 Pierre Morand	Bridge Construction Manager
 Frederic Sciblo	Section 4: Tunnel Construction Manager
 Martine Julia-Sanchez	Quality Manager
 John E. Reid	Construction Quality Control Manager
 Courtney Norris, PE	Construction Quality Manager
 Bruce Peterson, PE	Design Quality Control
 Michael Lawler, CSP	Safety Manager
 Gina Morris, PG	Environmental Compliance Manager
 Vincent Meyer	Operations and Maintenance Manager
 Mark Hedrick, PE	Utility Manager

Sidney Florey

Project Executive



PROFILE



Sidney is a Construction Professional with more than 41 years of experience – from hands-on field work to Senior Management. Sidney has worked on and managed some of the most difficult and significant heavy civil projects in the United States including the I-35 West Bridge Reconstruction in Minnesota, the Chicago Tunnel and Reservoir Projects, the Boston Central Artery Tunnel Projects, and the Washington DC Metro. Sidney is the North American Representative for VINCI Concessions managing its P3 activities throughout North America. Sidney's has experience on multiple delivery models including DB, DBF, DBFM, and DBFOM.

As Project Executive, Sidney will oversee and manage every facet of the East End Crossing Project, including: leading discussions for the Project Agreement; assuring the design includes recognition of the life cycle costs and maintenance considerations; and working with the construction team in coordinating and integrating requirements for operations and maintenance. The above activities connect the important balance between construction costs and long-term maintenance related costs.

RECENT PROJECT EXPERIENCE



West by Northwest Project, Atlanta, GA

Contract Value: \$1,200,000,000

Owner: Georgia Department of Transportation

Role: Project Executive

Sidney served as the Project Executive for the West by Northwest Development Partners for this \$1.2B DBFOM project and worked with the designer, contractor, concessionaire, and the client during the project development phase. Sidney used his construction experience to assist the project team in developing Alternative Technical Concepts to provide cost reduction opportunities and minimize cost and funds required during design, construction, and O&M periods. Sidney's role on the West by Northwest Project very is similar to his proposed position on the East End Crossing.

Education

Bachelor of Science,
Civil Engineering
Southern Illinois University

Years in Construction Industry

41 Years

Memberships:

American Society of Civil Engineers,
Served on various specification
committees in the Southeast States,
VP Virginia Road & Transportation
Builders, Member of the Design-Build
Institute of America

References

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Brian McKishine
District 7 Construction Engineer
Florida Department of Transportation
Department of Transportation
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Tallahassee, Florida 32399-0450
Phone: (813) 975-6294
Brian.McKishine@dot.state.fl.us



The Central Artery/Tunnel Projects, The Big Dig, Boston, MA

Contract Value: \$530,000,000

Role: Vice President of Construction

As vice president of construction, Sidney was involved in the construction of several significant projects on the Big Dig. Recognized as the largest, most complex, and most technically challenging highway project in the history of the United States, the Central Artery/Tunnel Project significantly reduced traffic congestion and improved mobility in one of America's oldest and most congested major cities. In addition, it helped improve the environment and established the groundwork for the continued economic growth of Massachusetts and all of New England.

Sidney was specifically involved in the \$250 million portion of the project that extended I-90 to Boston's Logan International Airport and Route 1A, which created more than 300 acres of open land and reconnected downtown Boston to the waterfront. Sidney also supervised the construction of the \$280 million portion of the South Boston project that included the construction of below-grade cut-and-cover tunnels as part of I-90 that connected the vital interstate link to downtown Boston.

I-35W Bridge Reconstruction, Minneapolis, MN

Contract Value: \$234,000,000

Role: Start-up Manager

Sidney was a the start-up manager for the \$234,000,000 fast-track, design-build I-35 River Bridge Reconstruction project. He negotiated project labor agreements, developed the scope of work and schedule for the critical path foundation elements, and negotiated and contracted the critical path subcontractors for this 12-month project. The I-35W project won America's Transportation Awards' Grand Prize (October 2009) and was named one of America's 10 best transportation projects (September 2009). The project finished more than three months early and exceeded the DBE participation goals.

Similar to the East End Crossing project, the I-35 River Bridge required significant approach work concurrent with the bridge construction. The project was the key link between the two shore lines that were connected both commercially and personally. As with the East End River Crossing, the State needed this important link to improve the "cross river mobility for safety and the traveling public". The project was under pressure to complete quickly due to the impacts in the local community and the movement of goods and commuters.

David Sikorski, PE, PP

Project Manager



PROFILE



David has over 25 years of experience in transportation engineering for large scale projects for departments of transportation, turnpike authorities and local agencies with particular expertise in Public Private Partnerships, highway design, planning and multi-disciplined project management. David was the lead highway specialist for the successful bid for the Indiana Toll

Road Concession as Lender's Advisor. He was technical lead for a Dulles Toll Road privatization bid and for three major PPP Highway Projects in Oregon. He also led lender's technical reviews for bids for the Pennsylvania Turnpike, Alligator Alley in Florida, and I-635 Managed Lanes Project in Texas.

RECENT PROJECT EXPERIENCE



IH-635 Managed Lanes, Dallas, TX

Owner: Texas Department of Transportation

Contract Value: \$2,600,000,000

Role: P3 Project Manager

P3 Project Manager to the Lenders for the project consisting of the construction of managed lanes, reconstruction of existing main lanes to provide the general purpose lanes, and construction of new frontage roads. Also included was the reconstruction of existing frontage roads, installation of tolling infrastructure, and the operation and maintenance of 17 miles of the IH 635 and IH 35E corridors in Dallas County, Texas. Work involved due diligence, design and construction reviews, and financial model verification.



Route 3 North Design-Build, Burlington, MA

Owner: Massachusetts Highway Department

Contract Value: \$385,000,000

Role: Senior Liaison Engineer

David served as the Senior Liaison Engineer between the design offices, the contractor and Massachusetts Highway Department for this design-build project. Project involved design, construction financing, and operation and maintenance to add one lane in each direction and a full shoulder adjacent to the high-speed lanes for a 21-mile section of Route 3 North between I-95 (Route 128) in Burlington, MA and Nashua, NH. The Project utilized 63-20 tax exempt financing.

Education

Bachelors of Science
Civil Engineering
Lehigh University

Masters of Business Administration
Finance
Seton Hall University

Years in Construction Industry
25 Years

License/Certifications/Registrations
Professional Engineer

References

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(Formerly with Cintra)



Route 21 Freeway Extension, Passaic County, NJ

Owner: New Jersey Turnpike Authority

Contract Value: \$136,000,000

Role: Project Engineer

This project was designed in three sections and the extension runs from the existing terminus in Passaic, NJ for 2 miles over the existing Dundee Canal and along the Passaic River to a proposed interchange with Route 46 in Clifton, NJ. As Project Engineer, David was responsible for all aspects of civil design including cost estimation, construction staging, maintenance and protection of traffic plans, and technical specifications.



I-287 20-Mile Corridor Design, Northern New Jersey

Owner: New Jersey Turnpike Authority

Contract Value: \$200,000,000

Role: Project Engineer

David was Project Engineer for the design of this 20-mile corridor that was broken into multiple construction packages. The highway successfully completed the Interstate connection from Northern New Jersey to the New York State border.



BHP Billiton Haul Road, Suriname, South America

Owner: BHP Billiton

Contract Value: \$100,000,000

Role: Deputy Project Manager

As Deputy Project Manager, David was the senior technical lead for the Design and Construction of a Mining Haul Road Bridge over the Suriname River and construction of 30 miles of haul roads in Suriname South America for BHP Billiton. The construction of this infrastructure will allow BHP-Billiton to expand their mining operations before existing mines are expended. Each Project package involved two phases: the Feasibility Study and Project Implementation Phase. The Feasibility Study included the preliminary design, the development of a construction cost estimate, project quantities, specifications and the development of a Feasibility Study Report. The Project Implementation Phase involved the development of a Bid Quality Performance Specification for a design/build contract.

Phil Malin, PE, MBA

Deputy Project Manager



PROFILE



Phil is responsible for the management and administration of construction and operations, contracts management, and operations activities in AFP/P3 concession projects for Bilfinger. This role includes the direct involvement in the projects in both the procurement and implementation stage, and support and oversight of dedicated project staff. Phil provides the primary commercial and contractual interface with the owner for significant project issues and ensures the presence of a competent, knowledgeable, and experienced individual representing the team for ongoing contractual matters.

Noted projects of involvement include Golden Ears Bridge in B.C., Kicking Horse Canyon Phase 2, in B.C., Northeast Stoney Trail, in Alberta, and Northwest Anthony Henday Drive, in Alberta.

He developed and/or managed the life-cycle/rehabilitation program on these projects and will be able to draw on such experience when developing a competitive life-cycle solution for the East End Crossing that provides value-for-money to IFA. These projects were availability-based P3 projects in North America with the primary goals of an efficient and accelerated delivery of infrastructure that would improve quality of life in the respective region, an innovative long-term D7C and O&M solution and the implementation of the project in a way that respects both people and the environment. Phil is highly experience in dealing with all the critical aspects of a large P3 project and will be able to cooperate effectively with IFA from day one.



RECENT PROJECT EXPERIENCE

Northwest Anthony Henday Drive, Alberta, ON

Owner: Ministry of Transportation

Contract Value: \$1,431,000,000

Role: Construction and Operations Director

This \$1.4B availability-based P3 project, which opened to the traveling public on November 1, 2011, includes 13 miles of highway, 29 bridges, eight interchanges, five flyovers, two rail crossings; and additional pre-grading for future interchanges. Phil was responsible for managing and

Education

University of Toronto School of Continuing Studies, Business Law, 2003/2004

University of Toronto, MBA Rotman School of Management, 1999

University of Toronto, B. Sc. Civil Engineering, 1989

Years in Construction Industry

41 Years

License/Certifications/Registrations

Professional Engineer in Ontario
Chartered Engineer – Engineering Council, UK

Member of the Institution of Civil Engineers

Member of the Chartering Management Institute

References

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david.beckley@translink.ca

fulfilling the direct reporting relationship to the owner. He supervised the implementation and operation of all project contracts and manages any material technical or commercial issues. He was also responsible for supervising the management of the public relations program. During the bid phase, Phil drove the design team to re-analyze question the traffic data provided by the owner which resulted in lower long-term costs and more value for money to the client. Phil also confirmed the optimum, whole-life pricing developed for construction, O&M and rehabilitation.



Kicking Horse Canyon, British Columbia, BC

Owner: Ministry of Transportation

Contract Value: \$139,000,000

Role: Construction and Operations Manager

This \$139 million availability-based DBFOM project involved the construction of 3.6 miles of Highway 1 near Golden, BC, including the replacement of the Park Bridge and the creation of over 100,000 SF of riparian and in-stream habitat, planting of 6,000 new trees, and reclamation of a 1.9-mile section of an abandoned highway to be reused for recreational trails. Upon final completion, the team became responsible for the O&M and rehabilitation of 16.1 miles of highway. One significant issue managed during the construction of this project was the validation of an innovative slope stability method. Having successfully completed Phase 2 construction and transitioned the project into the operations phase, Phil is currently managing the operational and contractual implications of the Province's Phase 3 works which are to be absorbed by the project company. This is the first time that the owner has passed the ongoing management of an asset constructed within an active concession to a private sector partner.

Northeast Stoney Trail , Alberta, ON

Owner: Ministry of Transportation

Dates: 2007 - Present

Contract Value: \$700,000,000

Role: Construction and Operations Director

Northeast Stoney Trail is a \$700M project which involved the construction of 13 miles of four and six-lane roadway with 23 bridges, six interchanges, and two new railway bridge structures. Upon the completion of the construction in November 2009, the team, took over operation of the new section and an additional nine miles, totaling 22 miles, for a period of 30 years. He enforced a high level of quality for the construction of the highway and, to this end, required that the construction contractor remove several miles of asphalt that did not meet the prescribed quality standards.

Bruce Williams

Deputy Project Manager - Technical



PROFILE



As Senior Project Manager, Bruce is responsible for the overall design, environmental compliance, construction, quality management, project safety, DBE commitments, and project administration, including project start-up, staffing, and contract negotiation with subcontractors. He will oversee design coordination, field installations, schedule requirements, cost accountability, and the establishment of management systems. It is his duty to successfully deliver this project to completion.

Bruce's extensive work experience on large urban highway projects, tunnels, and major river crossings will be directly applicable to the technical role he will fill on the East End Crossing.

RECENT PROJECT EXPERIENCE



Amelia Earhart Bridge, Atchison, KS

Contract Value: \$61,000,000

Owner: Kansas Department of Transportation

Role: Senior Project Manager

Bruce served as a the Senior Project Manager on the new Amelia Earhart Bridge carrying U.S. Highway 59 over the Missouri River, replacing the existing steel truss bridge that was constructed in 1939. The overall bridge length is approximately 2,500 linear feet. The main span of the new four-lane, steel tied arch bridge is 527 feet. The structure of the new bridge is a network arch in which inclined intersecting hangers are used to minimize bending and shear in the arch ribs. The project included the design of temporary works and included river cofferdams and access trestles, temporary stays, temporary towers, stay anchorages, stay connections to arch segments, temporary wind bracings, and jacking frames.



O'Hare International Airport, 10L-28R Runway Extension, Chicago, IL

Owner: City of Chicago Department of Aviation

Contract Value: \$76,000,000

Role: Senior Project Manager

Bruce served as the Senior Project Manager on this expansion project at Chicago O'Hare International Airport. While maintaining normal aircraft operations, Walsh extended the existing Runway 10L and adjacent taxiways surrounding the runway by 3,000 LF of new infrastructure, to a total of 13,001 LF. Scope of work included the following activities: demolition of existing fence and utilities, installation of new perimeter fence and access roads, earth excavation, lime stabilized sub grade, runway and taxiway electrical and lighting work, FAA communications and power installations, drainage and shoulder under drain, ATPB (asphalt-treated permeable base), bituminous base & shoulders, and approximately 220,000 SY of PCC pavement.

Education

Bachelor of Science
Civil Engineering, 1978
University of Nebraska - Lincoln

Years with Walsh

14

Years in Construction Industry

34

License/Certifications/Registrations

E.I.T., ASCE

Reference

Khaled Naja
Chicago Department of Aviation
CDA Operating Officer
10510 West Zemke Road
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Stan-Lee Kaderbek
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South Lake Shore Drive Reconstruction Program, Chicago, IL

Owner: City of Chicago Department of Transportation

Contract Value: \$140,000,000

Role: Project Manager

The program involved the reconstruction of Chicago's historic South Lake Shore Drive. Bruce was the overall Project Manager for five separate contracts that included pavement removal and replacement, storm sewers, roadway lighting, landscaping restoration and traffic control, demolition and reconstruction of bridges and installation of five pedestrian underpasses. Traffic staging required the use of a "movable concrete barrier wall system" that was relocated every day during rush hour traffic. The project also consisted of major landscaping and architectural elements including relocating/protecting existing trees, finish grading, spray irrigation systems, treatments such as precast and cast in place concrete, railings, lighting at underpasses, pedestrian paths, paved beach restoration, limestone block beachwalls, retaining walls, and intersection and parking lot improvements.



TARP Tunnels, Shafts and Structures, Chicago, IL

Owner: Metropolitan Water Reclamation District of Greater Chicago

Contract Value: \$167,000,000

Role: Senior Project Engineer

As Senior Project Engineer, Bruce was responsible for the majority of the day-to-day project management and managed all engineering functions including scheduling, cost control, subcontractor management, and technical support. He coordinated all field operations for this project, which consisted of 45,000 LF of TBM-mined tunnel, 22 rock shafts, 50 soft ground shafts, and all associated concrete linings and utilities.



Chicago and State Subway Station Modernization, Chicago, IL

Owner: City of Chicago Department of Transportation

Contract Value: \$28,000,000

Role: Project Manager

Bruce had overall management responsibility for all phases of this project. Work consisted of the partial demolition of the existing mezzanine and a 5,000 SF expansion, three new elevators and three new escalators, new electrical, lighting and signage, and new mechanical and plumbing systems. 18,500 SF of granite pavers and new street level entrance and exit kiosks were included, along with an extensive architectural finishes package which called for the installation of over 25,000 SF of structural glazed facing tile. All work was performed while maintaining full functionality of the existing subway station and surface street operations.



Central Artery North Area (CANa), Boston, MA

Owner: Massachusetts Department of Public Works

Contract Value: \$180,000,000

Role: Project Engineer

Bruce acted as Project Engineer for this phased cut-and-cover twin vehicular concrete box tunnel project. This project was the largest single contract awarded by MDPW at the time, and was successfully completed one year early as a result of innovative traffic maintenance phasing. Surface roadways, approaches, retaining walls, service and ventilation buildings and mechanical/electrical installations were all included.

Gregory Ciambrone

Deputy Project Manager - Financial Administration



PROFILE



Greg is responsible for coordinating, implementing, and managing all of the public/private business activities for The Walsh Group and its subsidiary companies. His extensive project finance experience brings a broad prospective and focused development with financial strategies for public/private business opportunities and real estate investment activities. He is responsible for The Walsh Group's development activities in the United States with a focus on government design/build/lease transactions with the United States General Services Administration and the United States Department of Veterans Affairs.



RECENT PROJECT EXPERIENCE

I-4/Lee Roy Selmon Crosstown Expressway Connector, Tampa, FL

Contract Value: \$389,000,000

Owner: Florida Department of Transportation

A P3 project to bid, build, and finance, the I-4/Lee Roy Selmon Crosstown Expressway Connector in Tampa, Florida. The financing requirements for this project were a challenge given the extended GAP financing period – the project would be completed in approximately 2.5 years but repayment would occur over 6.5 years. This extended financing GAP resulted from FDOT's set availability payment schedule based on funding authorization in FDOT's 10-year work plan. Greg was instrumental in the team's winning the bid by creating a financing solution that supported an accelerated construction schedule. Other bidders delayed construction to better align construction costs with the FDOT availability payments. Thus, even though the Walsh team's construction costs were higher than the other bidders, Walsh was awarded the project due to its shorter construction schedule. The award criteria was a "best value" A+B award (cost plus schedule). Greg also led the charge in reducing the financing costs for the project by structuring interest rate protection that allowed the team to benefit from the falling interest rate environment over the last 12 months. After running a full funding competition, this project was ultimately financed through a bank solution, which included Royal Bank of Scotland and Lloyds.

Education

University of Notre Dame
Bachelors of Business Administration,
Finance

DePaul University
Graduate School of Business
Masters of Business Administration

Years with Walsh

9 Years

Years in Banking/ Project Finance/Construction

15 Years

References

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Women's College Hospital, Toronto, ON

Contract Value: \$260,000,000

Owner: Women's College Hospital

Title: Principal-in-Charge

A P3 project to design, build, finance, and maintain, for the Province of Ontario a new ambulatory care hospital totaling over 639,000 square feet. Walsh participated as the lead Design-Build JV Partner on a team led by Bilfinger Berger. This project is relevant as it demonstrates Walsh's ability to successfully structure a financial support package for an Infrastructure Ontario project that would be acceptable to lenders and be price competitive. Greg was the primary interface between Bilfinger Berger and the DBJV for financial and administrative issues.



Federal Bureau of Investigation Field Office, Chesapeake/Norfolk, VA

Contract Value: \$45,000,000

Owner: United States General Services Administration

Title: Principal-in-Charge

A P3 project to design, build, finance, and maintain a 144,000 square foot office building that will be leased (20-year term) to the United States General Services Administration for the tenancy of the Federal Bureau of Investigations. Greg is the Principal-in-Charge of this project managing all aspects of development. This project is relevant as it demonstrates Greg's ability to arrange competitive financing which was a critical component in arriving at a winning bid. This project is also relevant as many financial options were explored – bank financing, bond financing, and combination construction/permanent financing – before a life insurance company financing option was selected.



Federal Bureau of Investigation Field Office, Honolulu, HI

Contract Value: \$51,000,000

Owner: United States General Services Administration

A P3 project to design, build, finance, and maintain a 155,000 square foot office building that will be leased (20-year term) to the United States General Services Administration for the tenancy of the Federal Bureau of Investigations. This project is relevant as it demonstrates Greg's ability to arrange competitive financing which was a critical component in arriving at a winning bid. This project is also relevant as many financial options were explored – bank financing, bond financing, and combination construction/permanent financing – before a life insurance company financing option was selected.

Kristof G.M. Van Loon

Financial Director

**PROFILE**

Kristof Van Loon has 13 years of experience in project finance, design, and construction, emphasizing complex transactions from different perspectives, whether financial, legal, or technical. He has built an extensive background in managing and coordinating proposals and closing processes for P3 infrastructure projects in challenging circumstances during the last seven years.

Kristof's main area of activity has been in greenfield P3 markets (Belgium, the Netherlands, Slovakia, and Russia) during the challenging period of the financial crisis between 2007 and 2009. He was instrumental in the realization and coordination of the proposal processes and subsequently, the financial close processes. In particular, he managed multidisciplinary proposal teams, headed the negotiations with the contracting authorities and financing institutions, and used his organizational skills to set up the most efficient contractual and financial structure of the consortium.

RECENT PROJECT EXPERIENCE**R1 Highway, Bratislava, Slovakia***Contract Value: \$1,954,000,000**Owner: The Ministry of Transport, Posts and Telecommunications of the Slovak Republic**Role: Deputy Project Manager, Financial Lead*

The R1 Project is the first DBFMO project in Slovakia and one of the first large-road P3 projects to close in Central Europe. The R1 concession agreement includes the development, operation, and maintenance of three sections of two by two-lane R1 expressway between Nitra and Tekovske Nemce, as well as the Banska Bystrica northern bypass.

The concession agreement has a duration of 30 years after the planned completion date of the first section and the partial start of operations. The total project costs amounted to \$1.95B, financed by \$1.32B of senior debt and \$200M of equity and subordinated debt. The remaining project costs will be financed by the partial unitary charge received during the construction period.

Kristof advised the bid manager on the bid submission and headed the negotiations with the lenders and the contracting authority during the financial close process. During the first 12 months after the financial close, Kristof acted as senior advisor to the CEO and CFO in order to prepare the smooth commencement

Education

MBA

Antwerp Business School, 1999

Master in Law

Catholic University of Leuven, 1998

Years with Vinci

4 Years

Years in Design/Construction

13 Years

References

Peter Brozek, Project Manager

The Ministry of Transport, Posts and Telecommunications of the Slovak Republic

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Ronald Siebrand, Proposal Manager

Rijkswaterstaat, Staat der Nederlanden

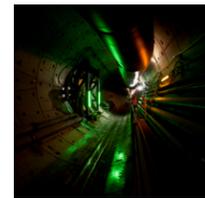
DHV, Engineering and Consultancy

Tel: +31 6 29 09 83 55,

Email: ronald.siebrand@dhv.com

of the project. The R1Motorway Project was awarded "European Infrastructure Deal of the Year 2009" in Project Finance International and "European Road Deal of the Year 2009" in Project Finance Magazine.

This project has many similarities to the East End Crossing including: design, construction, and maintenance of a high-traffic-volume road; availability payments; long-term concessions; and multi-source financing to be arranged with 15 different financial players, including European Bank for Reconstruction and Development.

**Liefkenshoek Rail Tunnel, Antwerp, Belgium***Contract Value: \$1,280,000,000**Owner: Infrabel S.A.**Role: Deputy Project Manager, Financial Lead*

The 9.9-mile double-track Liefkenshoek Rail Link connects Antwerp's new Deurganckdok container port with existing track in docks on the other side of the river, improving access to and from Antwerp. It involved boring a new 3.4-mile tunnel under the Scheldt River, the renovation of an existing 0.75-mile tunnel, and other tunneling work. The VINCI-led consortium, Locorail, performed all design, building, financing, and maintenance (DBFM) of the tunnel for a period of 42 years, including construction, which is expected to take four years.

Kristof advised the bid manager on the bid submission and headed the financial close negotiations with the lenders, the European Investment Bank, and the contracting authority after the Locorail consortium was awarded the project in July 2008. During the first 12 months after the financial close, Kristof acted as CFO and senior advisor to the CEO of the project company.

**Second Coentunnel Project, Netherlands***Contract Value: \$960,000,000**Owner: Rijkswaterstaat, Staat Der Nederlanden**Role: Deputy Project Manager, Financial Lead*

The project includes the construction of the 2nd Coentunnel, renovation of the 1st Coentunnel, extension of the adjacent sections of the A8 and A10, and introduction of a traffic management system. The project awarded to the VINCI-led consortium was implemented by a private sector party under a 29-year concession whose scope includes the design, construction, financing, and maintenance of the civil engineering and electro-mechanical objects.

Kristof was the co-bid manger on this project and was responsible for all legal and financial negotiations with the construction and maintenance parties, the financing parties, and the Contracting Authority. In this capacity, Kristof was the architect of the legal and financial structure of the agreement, and led the negotiation of all project and financial documents. During the first 12 months after Financial Close, Kristof acted as CFO and senior advisor to the CEO of the project company.

Dan Hartlage

Public Information Coordinator



PROFILE



Dan has 30 years of experience guiding the public communications efforts for clients involved in high-profile projects and public issues in Kentucky and in Southern Indiana. He will be responsible for leading a proactive and strategic public information initiative designed to strengthen and maintain stakeholder support for the East End Crossing. The public information initiative will identify and anticipate public issues resulting from the project, and Dan will lead the team in effectively addressing all such issues. He will work directly with the Proposer to implement and operate a successful information plan.

Dan successfully led the communications efforts of a major contractor for the KFC YUM! Center, and he played a key role in his firm's work as communications consultant for the Louisville International Airport rebuild and expansion. He has also assisted clients in Southern Indiana on land annexation and land use issues.

Education

Bachelor of Arts
Communication
University of Louisville, 1982

Reference

Trish Burke, Director of Public Relations
Louisville Regional Airport Authority
600 Terminal Drive
Louisville, KY 40209
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trish.burke@flylouisville.com

RECENT PROJECT EXPERIENCE



Louisville International Airport Expansion/Rebuild, Louisville, KY

Contract Value: \$800,000,000

Owner: Louisville Regional Airport Authority

Role: Communications Counsel

Dan and his public relations firm of Guthrie/Mayes Public Relations guided the strategic communications of this massive and high-profile public project. Communications for the Louisville Airport Improvement Project made certain that the approximately 2,800 families, churches and businesses to be relocated were informed and engaged through all phases of the project and ensured the strong and continuing support of all other stakeholders – the community at-large, the traveling public, business community, public officials and others. Surveys, focus groups, editorial comment and the support of public officials confirm that an entire metropolitan community was successfully engaged to understand and support the massive, long-term project. Dan and his firm continue to serve as communications consultants to the airport authority.



Toyota Motor Engineering Manufacturing, North America (TEMA)

Contract Value: Not Available (Private Owner)

Owner: Toyota Motor Engineering

Role: Communications Counsel

Guthrie/Mayes has worked with Toyota since the automaker opened its first U.S. plant in 1987, in Georgetown, Kentucky. For the last decade, Dan has played an integral communications role as Toyota has grown in Kentucky, as well as throughout the nation.

While continuing to provide communications counsel to the Georgetown plant which produces Toyota's successful Camry and Avalon models, Dan and his firm have grown Guthrie/Mayes' role with Toyota and today work closely with TEMA's North American headquarters in Erlanger, Ky., as Toyota has expanded its manufacturing facilities throughout the nation. Guthrie/Mayes provides communications and media relations guidance to Toyota manufacturing facilities in Princeton, Ind.; Buffalo, W. Va.; Huntsville, Ala.; Tupelo, Miss.; and San Antonio, Texas as well as others.

Dan, who heads the firm's media coaching practice area, has conducted media coaching sessions with literally hundreds of Toyota executives located throughout North and South America and Japan. Guthrie/Mayes was also involved in the communications strategy regarding consumer concerns about unintended vehicle acceleration.



Philip Morris USA & Parent Company Altria

Contract Value: Not Available (Private Owner)

Owner: Altria

Role: Communications Counsel

Dan has served Philip Morris USA (and its parent company, Altria) as a principal communications consultant for Kentucky, Tennessee and other areas in the Southeast for nearly 20 years. During those years, he has assisted the cigarette manufacturer as it has strived to reposition itself following the "Master Settlement Agreement" – the agreement between the nation's cigarette manufacturers and states' attorneys general. For Kentucky and other nearby states, Dan has assisted Philip Morris USA in communicating with media, state lawmakers, health advocacy organizations, state and federal regulators, retail and wholesale leadership, and agricultural leaders on a variety of tobacco-related issues. He also is involved in a variety of consumer-related issues, organizing dozens of training sessions throughout Kentucky and Tennessee for retailers.

Three years ago, when Altria acquired U.S. Smokeless Tobacco Company (USSTC), Dan developed and implemented a 12-month communications plan to guide Altria in its efforts to become more involved in the Nashville community, home of USSTC's largest manufacturing facility.

Brenda Wolf

DBE Coordinator



PROFILE



As the Indiana Regional EEO Officer/DBE Coordinator for Walsh Construction, Brenda is responsible for all EEO training within the region and ensuring all jobsites are compliant with job-site postings. She assists management to attain and maintain a diverse workforce while conducting internal onsite audits to assure compliance. Brenda is responsible for communicating with the Human Resources Department regarding investigations, training and audits, and assists in seeking out DBE firms for Walsh projects to help meet the DBE goals. As part of this effort, she works side by side with firms to introduce them to the DBE certification process. Her efforts continue throughout the construction process, overseeing DBE subcontracts to ensure the goals are met or exceeded.

RECENT PROJECT EXPERIENCE



Milton/Madison Bridge, Madison, IN
 Contract Value: \$103,000,000
 Owner: Indiana Department Of Transportation
 Role: EEO Officer/DBE Coordinator

Brenda assisted the estimating staff with the solicitation and inclusion of DBE firms in the bidding process by providing a source for their questions regarding the project and how the DBE firms could become involved. The project is under construction, and is currently exceeding the DBE goals. This design-build project is a unique effort to replace the deteriorating, 81-year-old US 421 Ohio River Bridge between Milton, Kentucky and Madison, Indiana. The Kentucky Transportation Cabinet and the Indiana Department of Transportation launched the Milton-Madison Bridge Project to replace the existing bridge with a new bridge that is widened to 40 feet with two 12-foot lanes, 8-foot shoulders, and a 5-foot sidewalk on the downstream side of the truss.



I-69 White River to CSX, Washington, IN
 Contract Value: \$98,807,246
 Owner: Indiana Department Of Transportation
 Role: EEO Officer/DBE Coordinator

This project consists of a 10-mile section of the new I-69 Interstate through southern Indiana. The project is a "green field" project being constructed through farm fields, forest, and across wetlands. The project includes 26 bridges, 4,000,000 cubic yards of earthwork, and 300,000 square yards of PCCP. Brenda serves the role of EEO Officer/DBE Coordinator on this project, which is meeting all contract DBE and EEO goals.

Education

Associate Degree
 Sawyer College of Business, 1984

Years with Walsh
 7 Years

Years in Construction Industry
 17 Years

Reference

Susan Miles, Manager
 Indiana Department of Transportation
 Contract Compliance
 100 North Senate Avenue
 Indianapolis, IN
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 smiles@indot.in.gov

Dell Ballard, EEO Officer
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 Indiana Department of Transportation
 185 Agrico Lane
 Seymour, IN 47274
 Phone: (812) 524-3730
 dballard@indot.in.gov

Frederick Lee, Owner
 C. Lee Construction
 P.O. Box 618
 Griffith, IN 46319
 Phone: (219) 922-7733
 cleec@cleecsi.com



Accelerate I-465, Indianapolis, Indiana
 Contract Value: \$92,000,000
 Owner: Indiana Department Of Transportation
 Role: EEO Officer/DBE Coordinator

This project is one of several contracts to reconstruct the aging I-465 system that circles Indianapolis, Indiana. The project included travel lanes, interchange modifications, and bridge replacements on I-465 from Airport Expressway to south of I-74. Project goals were to reconstruct an 11-mile corridor on the west side of Indianapolis between the I-70 interchange to just south of the 56th Street interchange. With the growth of Indianapolis and the increasing usage of this corridor, this project will expand transportation capacity, improve motorist safety and interstate access as will upgrade geometrics to current standards. Brenda serves the role of EEO Office/DBE Coordinator on this project which is nearing completion, and will meet the contract M/WBE goals, as well as all EEO goals.

Marcos Loizias, PE

Lead Engineer



PROFILE



Marcos will serve as Lead Engineer for the East End Crossing. He will provide overall design management, coordination, and technical leadership and will ensure the designs are completed in accordance with all design requirements. Marcos track record of success in the design and construction of many award-winning long-span bridges and tunnels will ensure a well-conceived, economical, and constructible design.

Marcos is a nationally-recognized bridge engineer with extensive experience in the design and construction of all types of steel and concrete long-span bridges (cable-stayed, girder, segmental), interchanges, and major viaducts. He has managed and performed preliminary and final designs, construction reviews, construction engineering, value engineering, and independent checking in 15 concrete and steel cable-stayed bridge projects, among them the award-winning Dames Point Bridge (1,300 foot center span), the Cooper River Bridge (1,550 feet), the Sidney Lanier Bridge (1,250 feet), the Cape Girardeau Bridge (1,150 feet), and the Maysville Bridge (1,050 feet). His tunnel experience includes cut-and-cover and mined/bored tunnels, including the Port of Miami Tunnel in Miami, FL, Bart Extension in San Francisco, CA and WMATA Blue Line Extension in Washington DC.

RECENT PROJECT EXPERIENCE



Route 7 WittPenn Bridge, Kearny and Jersey City, New Jersey

Contract Value: \$600,000,000

Owner: New Jersey Department of Transportation

Role: Principal Engineer: Engineer of Record for Contract 1 (River Works)

Marcos served as the Principal Engineer for the final design and plans for this 6,420-foot-long river crossing featuring an innovative steel orthotropic box girder main span over the navigation channel, flanked by east and west steel I-girder approach viaducts. The project includes four curved steel I-girder ramps, approach roadways, and retaining walls. Marcos developed the bridge concept for the vertical lift bridge and approach structures and provided technical supervision of all analyses and designs and managed the multi-discipline design team.

Education

M.S. Structural Engineering and Structural Mechanics
Cornell University, 1983

B.S., Civil and Environmental Engineering, Cornell University, 1981

Years with Jacobs

13 Years

Years in Design/Construction Industry

29 Years

License/Certifications/Registrations

PE: KY, IN, NY & 22 Other States

Reference

Pankesh Patel, PE, Project Manager
New Jersey Department of Transportation
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Fax: (609) 530-5774
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Route 36 Highlands Bridge, Boroughs of Highlands and Sea Bright, Monmouth County, New Jersey

Contract Value: \$135,000,000

Owner: New Jersey Department of Transportation

Role: Deputy Project Manager, Chief Engineer and Engineer of Record

Marcos was the Chief Engineer for the final design and construction support services for twin precast segmental concrete box girder bridges (each 1,610 feet long) built by balanced cantilever and supported on precast piers. The project also included segmental approach ramps, retaining walls, approach roadway and intersection improvements at each end, modifications to the existing Sandy Hook Park toll plaza, pedestrian/bicycle access paths on and off the bridge, and two pedestrian bridges. Marcos developed the bridge concept, directed the development of all analyses, designs and plan production, and managed the multi-discipline design team. The project was the recipient of numerous design awards.



Bandra Worli Sea Link, Mumbai, India

Contract Value: \$174,000,000

Owner: Maharashtra State Road Development Corporation

Role: Project Manager and Lead Engineer

Lead Engineer for the final design, plans, and construction support services for a 2.6-mile long eight-lane, twin precast segmental concrete box girder bridges over the Arabian Sea. The bridge featured a 1,970-foot-long two-span (single tower) precast segmental concrete cable-stayed main span bridge built by balanced cantilever while the approach viaducts were built by the span-by-span method of construction with a launching gantry. The project also included urban interchanges and a toll plaza. Responsibilities included full construction management and construction services.



Replacement of the Cooper River Bridges, Charleston, SC

Contract Value: \$550,000,000

Owner: South Carolina Department of Transportation

Role: Project Manager and Lead Engineer

Marcos was in charge of the preliminary design and design-build procurement services for the replacement of the existing twin truss bridges with a 7.2-miles-long high-level bridge across the Cooper River and Town Creek between Charleston and Mt. Pleasant. The project included a signature steel composite cable-stayed bridge with a center span of 1,550 feet high and low-level north and south approach viaducts, interchanges, and associated roadway in both cities. He managed a multi-discipline design team and was in charge of bridge designs, surveys and mapping, right of way and roadway plans, geotechnical studies including drilled shaft load tests, hydraulic studies, and re-evaluation of FEIS. He developed the concept for the steel composite cable-stayed bridge and reviewed the design-build contractor's design submissions.

Daniel Tassin, PE
Section 5: Lead Bridge Engineer



PROFILE



Daniel is President and Technical Director of International Bridge Technologies, Inc. (IBT), a bridge engineering firm headquartered in San Diego, California. He will serve as Lead Bridge Engineer for the river crossing. In this capacity, he will develop the key structural concepts and serve as the technical leader throughout the design and construction phases. Daniel's wealth of experience with similar types of design and procurement will ensure that all major considerations are properly addressed from the preliminary design through construction.

Daniel has over 39 years of comprehensive experience in the design and construction of major bridge projects throughout the world. He has been involved in the design and construction of both segmental concrete and cable-stayed bridges since their introduction to the United States, starting with his role as Design Representative on the Sunshine Skyway Bridge. He has been recognized for his leadership in the bridge community and for his numerous innovations and successful designs. He has worked primarily on design-build projects for the past two decades and has developed the design and management tools necessary to produce an efficient, constructible solution that successfully integrates construction methodologies into the final design.

Education
Advanced Degree, Prestressed Concrete Structures, Centre des Hautes Etudes de la Construction, Paris, France

Engineering Degree, Ecole Supérieure des Travaux Publics, Paris, France, 1971

Years with IBT
12 Years

Years in Design/Construction Industry
39 Years

License/Certifications/Registrations
PE: NY, CA, OR, WA, OH, KY, DE, WV, AK, FL, BC, Ontario, Canada

Reference
Transportation Investment Corp., BC
Stephen Socherty, Project Manager
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Vancouver, BC, V6E-4M3
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RECENT PROJECT EXPERIENCE



Hodariyat Bridge, Abu Dhabi, U.A.E.
Contract Value: \$120,000,000
Owner: Tourism Development & Investment Corp.
Role: Technical Director

Daniel served as the Technical Director for detailed design and construction engineering of the Hodariyat Bridge, which will connect Abu Dhabi to Hodariyat Island. The 0.8 mile-long bridge provides six lanes of traffic and two walkways. It consists of a 118 foot-wide single cell concrete box girder with stiffening struts inside and outside the box. The 656-foot-long main span is supported by a single plane of stay cables. The 180-foot-long concrete approach spans are built by incremental launching, while the main spans are built in balanced cantilever with precast concrete segments. This project utilized the design-build delivery method.



Port Mann Bridge, Vancouver, British Columbia
Contract Value: \$800,000,000
Owner: Transportation Investment Corporation, BC
Role: Deputy Chief Engineer

Daniel served as the Deputy Chief Engineer for detailed design of the 6,801-foot-long Port Mann Bridge in Vancouver, BC. The 213-foot-wide superstructure consists of two five lane decks, separated by a 32-foot median where the central pylons are located. Each roadway consists of a composite structure with steel edge girders and floor beams, with precast concrete panels. The approach spans consist of three parallel precast segmental box girders with cantilever construction over the water and span-by-span construction on land. Daniel is the Engineer of Record for the approach structures and portions of the cable-stayed main span.



Indian River Inlet Bridge, North Bethany, DE
Contract Value: \$120,000,000
Owner: Delaware Department of Transportation
Role: Technical Director

Daniel was the Technical Director for the new design-build bridge that carries the SR1 Coastal Highway across the Indian River Inlet in Delaware. The roadway includes four lanes of traffic with shoulders, a 12 foot sidewalk and a sand bypass system. The cable-stayed main bridge is 1750-foot-long, with a 950-foot-long main span. The superstructure components include concrete edge girders, floor beams and a concrete slab. It is supported by two vertical planes of stay cables anchored in the edge girders.



A25 Crossing, Montréal, Québec
Contract Value: \$150,000,000
Owner: Le Ministère des Transports du Québec
Role: Technical Director and Engineer-of-Record

Daniel served as the Technical Director for this detailed design and construction engineering of this P3 over the Rivière des Prairies, part of the A25 extension from Montréal to Laval. This bridge is comprised of a 918-foot composite main span and two 380-foot side spans. Daniel was the Engineer-of-Record for portions of the design and construction engineering.



Pitt River Bridge, Vancouver, British Columbia
Contract Value: \$198,000,000
Owner: British Columbia Ministry of Transportation
Role: Technical Director and Engineer-of-Record

Technical Director and Engineer-of-Record for the detailed design of this 1,246-foot cable-stayed bridge with a 623-foot-long main span. The 148-foot-wide roadway allows for seven lanes of traffic with a bike path and has a provision for eight lanes of traffic in the future. The bridge superstructure consists of a steel-concrete composite deck supported by three planes of stay cables in a "harp" arrangement.

Brij Goyal, SE

Section 4: Lead Tunnel Design Engineer



PROFILE



Brij will be responsible for the geotechnical interpretation for design and tunnel design including construction of the East End approach tunnel bores, approach structures including support of excavation, retaining walls, portals, and the structural slab in the approaches.

Brij has over 30 years of tunneling experience for hard rock and soft ground conditions. His tunneling expertise includes cut-and-cover tunnels, tunnels constructed by New Austrian Tunneling methods (NATM) for soft ground and rocks that need immediate support during excavation, and short tunnels and rock caverns excavated by drill-and-blast methods. He has directed designs and supervised construction of tunnels using road headers and tunnel boring machines (TBM). Brij has participated in diverse roles from initial design to construction management. He was chief structural engineer for the Central Artery/Tunnel in Boston and project manager and project engineer for the major hard rock/soft ground tunneling projects for the Tunnel and Reservoir Plan (TARP) in Chicago.

PREVIOUS PROJECT EXPERIENCE



Central Artery/Tunnel (CA/T), Boston, MA

Contract Value: \$14,600,000,000

Owner: Massachusetts Turnpike Authority

Role: Chief Structural Engineer

Brij managed the in-house personnel and subconsultants performing design and shop drawing review, coordinating with construction personnel, and performing quality assurance for this multibillion-dollar tunnel project. It included a seven-mile-long state-of-the-art, cut-and-cover tunnel design using slurry walls, ground freezing, NATM tunneling at the busy intersection of downtown Boston, and depressed highways. It also included jacked tunnels, immersed tube tunnels with multiple lanes for I-90 and I-93 expressways, bridges, surface arterial roads, ventilation systems, surface structures with sufficient redundancy for reliability, and infrastructure support facilities. The project included six multi-story ventilation buildings with the floor area of approximately 8,000 square feet each and a three-story traffic control building with an area of approximately 6,000 square feet.

Education

Ph.D., Structural Engineering, University of Dundee, Scotland, 1970

M.S., Structural Engineering, University of Roorkee, India (1963)

B.S., Civil Engineering, University of Roorkee, India (1958)

Years with Jacobs

1 Years

Years in Design/Construction Industry

41 Years

License/Certifications/Registrations

PE: MA (1993)

Reference

Anthony Duros, Director MHS Facilities
Massachusetts Turnpike Authority
185 Kneeland Street
Boston, MA 02111
Phone: (617) 377-7105
Fax: (617) 377-0100
Anthony.duros@state.ma.us

Ville Marie Trench Covering Highway, Montreal, Quebec, Canada

Contract Value: \$1,500,000,000

Owner: City of Montreal

Role: Project Manager

Brij has been the project manager and structural advisor on Ville Marie Trench Covering Highway feasibility studies for the city of Montreal. Jacobs is a sub-consultant on the project. The current phase of the work is essentially complete and waiting instructions from the City of Montreal for the final design.

Combined Sewer Abatement Program

Contract Value: \$115,000,000

Owner: City of Fall River, MA

Role: Project Manager

Brij directed the design and preparation of contract documents for 35,500 linear feet of a 20-foot-diameter tunnel; one 25-foot-diameter work shaft; three eight-foot-diameter access and vent shafts; 17 drop shafts; one extreme weather event overflow structure; and 17 diversion structures for capturing, conveying and treating sanitary flow during dry weather conditions and combined sanitary and storm flow during rain storms. The project also included a number of large underground structures constructed by drill-and-blast methods and wastewater treatment plant improvements to increase its capacity to 106 million gallons per day.

Singapore Underground Road System (SURS), Singapore

Contract Value: \$2,700,000,000

Owner: Singapore Public Works Department

Role: Structural and Geotechnical Lead

Brij managed structural and geotechnical ring road around the business district of Singapore to solve traffic congestion problems. The project was similar to the Central Artery Project and included tunnels, bridges, surface roads, ventilation system with ventilation buildings, and traffic control buildings. There were five multi-story ventilation buildings and traffic control buildings each approximately 4,500 square feet.

Calumet Tunnel and Reservoir Plan (TARP), Chicago, IL

Contract Value: \$200,000,000

Owner: Metropolitan Water Reclamation District of Greater Chicago

Role: Project Manager

The project included 12 miles of tunnels varying from 15 to 32 feet excavated diameter and 22 drop shafts varying from six feet to 32 feet excavated diameter in overburden and dolomite lime stone rock. Brij's responsibilities included preparation of construction documents, construction schedule, shop drawing review, quality assurance of design package, and management of subconsultants.

Brian Hoppel, PE

Construction Manager



PROFILE



As Construction Manager, Brian is responsible for the overall design, environmental compliance, construction, quality management, project safety, DBE commitments, and project administration, including project start-up, staffing, and contract negotiation with subcontractors. He will oversee schedule requirements, cost accountability, and the establishment of management systems. It is his duty to successfully deliver this project to completion.

Brian has been selected as our Construction Manager for the East End because of his superior record of performance on design-build, major urban highway, and signature bridgework projects throughout his 20-year career. Brian has extensive construction knowledge coupled with an engineering background that is perfectly suited for design-build delivery.

For nine years, Brian has worked in the State of Indiana mainly on projects for the Indiana Department of Transportation. Brian has a proven track record of safely delivering quality projects ahead of schedule. His intimate knowledge of INDOT standards will prove invaluable on the East End Project.



RECENT PROJECT EXPERIENCE

Accelerate I-465 Program

Contract Value: \$302,000,000

Owner: Indiana Department of Transportation

Role: Senior Project Manager

This fast-track, multi-year project is a combination of five contracts awarded to Walsh Construction to reconstruct aging I-465 that circles Indianapolis. This Major Moves project called for added travel lanes, interchange modifications, and bridge replacement on I-465 from Kentucky Avenue to south of 38th Street. With the growth of Indianapolis and with increasing usage of this corridor, this project will expand transportation capacity, improve motorist safety and interstate access, as well as upgrade geometrics to current standards. The project included 650,000 cubic yards of common excavation; 45,000 linear feet of pipe; 1,113,000 SYS of QC/QA pavement; 612,000 square feet of sound barrier; 470,250 square feet of MSE wall; 28,841 square yards of reinforced moment slabs; and 92,726 linear feet of barrier wall. Features included a continuously-slipped moment slab and coping that ranges in thickness from 12 inches to 30 inches. A soundwall was completed within one year, two years ahead of the originally intended three years, to construct decorative railing and concrete on the bridge's substructure and promenades, which also adds to the unique features of this project. Nearby residents benefited from added pedestrian crossings and noise barriers.

Education

Bachelor of Science,
Construction Engineering and
Management
Purdue University

Years with Walsh

9 Years

Years in Construction Industry

20 Years

License/Certifications/Registrations

PE: FL
Walsh achieved AISC Certified
Erector under his leadership
ASBI Certified Grouting Technician

References

Walter Land, Manager Major Projects
Indiana Department of Transportation
100 North Senate Avenue
Indianapolis, IN
Phone: (317) 233-3699
wland@in.dot.gov

Andrew J. Horstman,
Construction Manager
Volkert, Inc.
1428 Chestnut Street, Suite C
Chattanooga, TN 37402
Phone: (504) 214-0088
Fax: (423) 842-8630
andrew.horstman@volkert.com

John Pangallo, Project Manager
Indiana Department of Transportation
100 North Senate Avenue
Indianapolis, IN
Phone: (317) 234-5607
Fax: (317) 233-4929
jpangallo@in.dot.gov



Milton Madison Bridge, Milton, KY and Madison, IN

Contract Value: \$103,000,000

Owner: Indiana Department of Transportation

Role: Program Manager

This design build project is a unique effort to replace the deteriorating, 81-year-old US 421 Ohio River Bridge between Milton, Kentucky and Madison, Indiana. The 20-foot-wide road deck is obsolete and too narrow to handle present traffic. At 3,181 feet long, with two 10-foot lanes and no shoulder or sidewalk, the Kentucky Transportation Cabinet (KYTC) and the Indiana Department of Transportation (INDOT) launched the Milton-Madison Bridge Project in an effort to replace the bridge. The bridge will be widened to 40 feet with two 12-foot lanes, 8-foot shoulders, and a 5-foot sidewalk on the downstream side of the truss.

After a year of environmental studies and input from community, state and federal agencies, KYTC and INDOT determined that a method called "superstructure replacement" offered the fastest and most cost-effective way to build a safe new bridge, while having the least impact on the historic towns and the natural environment. Brian led the Walsh Team in providing innovative design and construction methods resulting in a 20% decrease in cost and a total of only 10 days of bridge closing during construction, rather than the anticipated 365-day closure.

Superstructure replacement involves building a new steel truss atop the existing piers, which will be brought up to modern standards. Using a method called "truss sliding," the new 2,426-foot-long truss will be moved along steel rails and plates and "slide" into place atop the existing piers, which will be rehabilitated. The new span is expected to be open to traffic in late 2012, making it the fastest modern-day bridge built across the Ohio River. The project was named one of the 2011 Top 10 Bridges by Roads & Bridges.



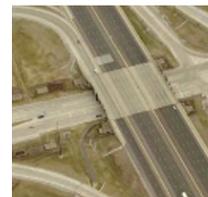
I-69 White River to CSX, Indiana

Contract Value: \$99,000,000

Owner: Indiana Department of Transportation

Role: Program Manager

This project consists of a 10-mile section of the new I-69 Interstate through southern Indiana. The project is a "green field" project being constructed through farm fields, through forest, and across wetlands. Included in this project are 26 bridges, 4,000,000 cubic yards of earthwork, and 300,000 square yards of PCCP. Brian's role as Program Manager is to oversee all operational aspects of the project. He oversees the project to ensure that the project team has the proper resources to meet the owner's expectations.



I-465 Northwest Fast Track, Indianapolis, IN

Contract Value: \$38,000,000

Owner: Indiana Department on Transportation

Role: Project Manager

The I-465 Fast Track Project called for the addition of travel lanes; replacement of the existing pavement; widening; construction of additional lanes to include a loop ramp in the northwest quadrant, and maintenance of traffic was performed through a variety of methods. Interchange ramps utilized temporary connections whenever possible. The project was completed 30 days ahead of schedule.

Pierre Morand

Bridge Construction Manager



PROFILE



Pierre will be responsible for the construction of the cable stayed bridge on Section 5 of the East End Crossing.

He has worked internationally for the past 20 years in various management positions. He has an extensive knowledge of cable-stayed bridges from his role as Engineering and Construction Manager on the Rion-Antirion multiple-span cable-stayed bridge and from his bid management of the Chacao cable-stayed bridge in Chile. He worked most recently on the EKPPT project in Greece that was composed of various interchanges, bridges, and tunnels.

Pierre has more than 20 years experience in both technical and construction management of large infrastructure projects including bridges, tunnels, and interchanges. His ability to manage the interface with local and national agencies regarding releases and approvals for construction, as well as coordination with local citizens and the traveling public, brings significant value to the East End Crossing.

Education

Business Administration graduate of "Institut d'Administration des Entreprises" (D.E.S.S.), 1990

Engineering graduate of "Ecole des Ponts et Chaussées", 1982

Engineering graduate Of the "Ecole Polytechnique", 1979

Years with VINCI
32 Years

Years in Design/Construction Industry
32 Years

Reference

Ministry of Infrastructures,
Transportation and Networks
Panayotis Papanikolas, CEO
Gefyra SA, Rizariou 2,
152 33 Chalandri, Athens, Greece
Phone: +30 210 68.58.196
Fax: +30 210 68.58.786

RECENT PROJECT EXPERIENCE



Rion Antirion Bridge, Greece

Contract Value: \$870,000,000

Owner: Ministry Of Infrastructures, Transportation and Networks

Role: Technical Manager – Engineering and Construction Manager

The Rion-Antirion bridge across Rion Strait (9,450-foot-long bridge including 7,385 feet multiple-span cable-stayed bridge and a main span of 1,840 feet) is the world's longest multi-span cable-stayed bridge. It is built with gravity based foundations laying on reinforced soil at sea bed level (-213 feet) and has two approach viaducts. Pierre was the Technical Manager and then transitioned to the management of engineering and construction.



Confederation Bridge (Northumberland Strait Crossing), Canada

Contract Value: \$559,000,000

Owner: Strait Crossing Development Inc.

Consulting Engineer: Buckland and Taylor

Role: Construction Manager

Construction of a bridge in prestressed concrete, across the strait between Prince Edward Island and New Brunswick. The eight mile project included a main bridge of 44 spans, each one 820 feet long, built in four heavy prefabricated components, with two access viaducts of 330-foot spans, built

in prefabricated segments by the cantilever method. Pierre oversaw the main bridge fabrication yard and was responsible for the construction of the approach viaducts, with a work force of 1,500 and a staff of 140 at peak.



EKPPT (Elefsina-Corinth-Patras-Pyrgos-Tsakona) Motorway, Greece

Contract Value: \$2,100,000,000

Owner: Ministry Of Infrastructures, Transportation and Networks

Role: Project Manager & Co-Administrator

This project included 175 miles of new roadway, including 32 miles of existing motorway to be upgraded, 14 million cubic yards of earthwork, 12 miles of tunnel, 70,000 square yards of main bridges, 330 crossings, 1,700,000 cubic yards of concrete.

Pierre was the Project Manager and Co-Administrator of this relevant Greek infrastructure project combining the best VINCI know how on geotechnical, design, tunnels, bridges with the VINCI concession's experience and financial support for financing. Pierre managed this project with ongoing innovation, cost and schedule efficiency, while maintaining high quality and safety goals. Through his efforts, VINCI maintains a long term relationship with the Greek Ministry of Infrastructures.

Frederic Sciblo

Section 4: Tunnel Construction Manager



PROFILE



Frédéric will be responsible for construction of the twin 2,000-foot-long tunnels passing beneath US 42 and the historic Drumanard Estate of the East End Kentucky approach.

Frederic is a Project Manager with a 15-year track record of successfully delivering complex heavy civil engineering projects, many in joint venture. He is a champion of self-performed work and is experienced in managing complex interfaces on multi-million dollar contracts delivered in diverse cultural environments such as the A86 roadway tunnel in France, the Rion-Antirion Bridge, and the Maliakos-Kleidi roadway in Greece. At the ongoing Maliakos-Kleidi roadway construction, he led mobilization, design development and organization for the self-performed work for the project. He is currently Project Manager responsible for a \$132M section that includes a tunnel and existing roadway replacement. He has built outstanding knowledge in terms of boring technology and rock excavation in urban sensitive areas. He is a technically astute and hands-on manager, driving productivity of heavy civil works to achieve schedule targets. He is an expert motivator of the teams he leads, caring for their safety and fair reward for shared achievements is of utmost importance to him.

Frederic's experience of turnkey contracts, his understanding of their constraints and purpose, his proven ability to continuously improve performance in construction, and his familiarity with permitting, environmental & historical concerns will bring significant benefits to the East End tunneling and civil works.

RECENT PROJECT EXPERIENCE



Rion Antirion Bridge (Harilaos Trikoupi Bridge), Greece

Contract Value: \$870,000,000

Owner: Ministry Of Infrastructures, Transportation and Networks

Role: Construction Manager

The Rion-Antirion Bridge is a 9,450-foot-long bridge and is the world's longest multi-span cable-stayed bridge. Construction required up to 800 employees at peak. Taking into account means and methods of construction, Frederic's first responsibility involved the construction of the footing of the four piers inside the dry dock and then in place. He completed the deck segments prefabrication, the lifting and erection in place (including cables stays and finishing), managing 200 carpenters, and 200 steel ironworkers at peak. Frederic brings innovation and improvement techniques introduced at Rion Antirion Bridge, where the team developed techniques to simplify complex works and increase safety and productivity. Extensive first-run studies and mock-ups were carried out in the yard to test and train the workforce, resulting in record-breaking productivity. On this major inter-regions river project, Frédéric's efforts resulted in proactive public relations, on-time permitting, environ-

Education

Graduate Civil Engineer: ECOLE SPECIALE DES TRAVAUX PUBLICS, 1993

Years with Vinci

17 Years

Years in Construction Industry

22 Years

References

Marc Milosevic, Chief Technical Officer
Greek Ministry of Infrastructures,
Transportation and Networks
Aegean Motorway SA (AMSA) -
Moschochori, 415 00 Larissa, Greece
Phone: +30 2410 741440
mmilosevic@aegeanmotorway.gr



Maliakos-Kleidi, Greece

Contract Value: \$1,300,000,000

Owner: Greek Ministry of Infrastructures, Transportation And Networks

Role: Tunnel Project Manager

The Maliakos Kleidi project, designed and constructed by VINCI, includes 150 miles of a tollway between the gulf of Maliakos and Kleidi town with three tunnels of 3.7, 2.5 and 1.3 miles. On this project, Frederic was Project Manager for design and construction, including civil, mechanical and electrical works for one tunnel. He proved his ability to optimize construction costs, respect traveling public safety, and reduce traffic disruptions.



SOCATOP - A 86 Paris West Motorway V12 Tunnel, Paris, France

Contract Value: \$860,000,000

Owner: SOCATOP

Role: Construction Manager

Designed and built by VINCI, operated, maintained and delivered under P3, this "Duplex tunnel" is divided horizontally into two superimposed levels for traffic. This 3.4-mile-long single tube urban roadway tunnel was bored using Herrenknecht earth/slurry pressure equipment. This project also included bridges, underpasses, rock excavation near sensitive structures, safety and traffic management, three main interchanges connections, and five shafts for ventilation and emergency. Frederic was responsible for the construction of one interchange (\$120M), connecting the main tunnel with the existing A86 road. He managed up to 250 employees at peak.

Martine Julia-Sanchez

Quality Manager



PROFILE



Martine Julia-Sanchez will be the Quality Manager for the East End Crossing and work for the Proposer in an overall project management role.

As a Director of VCGP in the UK, Martine is responsible for developing integrated management systems (IMS) and construction quality processes and procedures for new construction programs. She will be a key member of the WBV Team, and will bring extensive experience of leading teams from bid stage through pre-contract and mobilization phase into construction delivery.

An inspirational leader by example, Martine successfully mobilized the JV team and established the IMS for the current \$528M Lee Tunnel project in London, and has on-going responsibility for quality audits as the construction progresses. She undertook the same management role from tender to successful delivery of previous JV projects in the UK, including the \$449M M1 J25-28 widening and the \$158M Kincardine Upper Forth Crossing.

Martine has world-wide experience and in-depth understanding of all aspects of major civil projects delivered by multi-cultural teams. She has excellent knowledge of infrastructure proposals that encompass engineering and quality requirements.

Her proven experience, relevant knowledge, and ability to build effective systems for large teams from pre-construction to project delivery add considerable value to the ambitious and challenging East End Crossing Project.

RECENT PROJECT EXPERIENCE



Rion Antirion Bridge, Greece

Owner: Ministry of Infrastructures, Transportation & Networks

Contract Value: \$870,000,000

Role: Quality Manager

Martine served as the Quality Manager on the Rion-Antirion Bridge across Rion Strait (9,450-foot-long bridge including 7,385 feet multiple-span cable-stayed bridge and a main span of 1,840 feet), which is the world's longest multi-span cable-stayed bridge. Due to several unique engineering issues, the piers for this bridge were built with gravity based foundations on a reinforced soil-base at sea bed level (-213 feet) and has two approach viaducts. During construction, a structural Health Monitoring System with over 100 sensors was installed, providing around the clock surveillance of the structure. The bridge received the "2006 Outstanding Structure Award" from the International Association for Bridge and Structural Engineering.

Education

Graduate Engineer, Ecole Nationale des et Metiers d'Aix en Prvence

Years with Vinci

20 Years

Years in Construction Industry

20 Years

Reference

Roger Mitchell
Project Manager
CH2M Hill
+44 7810 174633
roger.mitchell@leetunnel.co.uk

Liz Sheerin
Project Manager
Scott Wilson
+44 7747 631238
liz.sheerin@scottwilson.com



M1 Widening from Juntion 25 to Juntion 28, Nottingham, England

Owner: Highways Agency

Contract Value: \$443,000,000

Role: Safety, Sustainability and Systems Director

The project involved widening the motorway, upgrading it from a dual 3-lane to a dual 4-lane configuration, and complete reconstruction between junctions 25 (Derby / Nottingham) and 28 (Mansfield). This required ensuring the safety of work teams behind removable guide rails along the entire 14 mile worksite, reducing the speed limit to 50 mph and restricting the flow of traffic to three lanes of reduced width. The introduction of the extra lane will alleviate the traffic congestion on this section of the M1, which currently carries between 105,000 and 125,000 vehicles each day. The works include the installation of new drainage, gantries, signage, lighting and motorway communications, plus new concrete safety barriers on the central reservation. The 45 existing bridge structures will be widened, strengthened or replaced to accommodate the widened motorway. Martine was the Project Director involved in developing winning tenders and then leading teams from pre-construction through mobilisation and into delivery.



Lee Tunnel, London, England

Owner: Thames Water

Contract Value: \$659,000,000

Role: Safety, Sustainability and Systems Director

Martine was the Safety Systems Director on this contract that called for the construction of a 4 mile tunnel for storm water and wastewater in east London. Located 180 feet to 248 feet below ground, the tunnel will have over 1 billion cubic feet of wastewater that is discharged annually into the River Thames by collecting it at its source. The contract also calls for the construction of deep shafts (between 65ft and 102ft diameter and up to 300ft deep using diaphragm wall construction), as well as supplying and installing the equipment and automation systems necessary for managing the effluents and lifting it more than 260 vertical feet.



Newport SDR, Wales

Contract Value: \$80,000,000

Role: Quality Manager

This project included the construction of a 5 mile rapid transit dual carriageway with the enlargement of the existing roads and structures to standard gauge and a 640ft bowstring bridge over the Usk River. Martine oversaw the Quality Management system that integrated the SPV and CJV.



Second Severn Crossing, England

Contract Value: \$500,000,000

Role: Quality Control Field Engineer

Design, construction, finance and operation of a 16,817ft long bridge system including a 3110ft cable-stayed bridge and 2 access viaducts. As a Quality Control Field Engineer, Martine was intimately involved in a challenging project that was built in an area where the tides are the highest in the world. Sophisticated methodologies were developed to avoid working in this tidal zone as much as possible, using massive precast caissons that were sunk into position at low tide. As an integral member of the Quality team, Martine was involved in all phases of the design and construction.

John E. Reid

Construction Quality Control Manager (CQCM)



PROFILE



As Construction Quality Control Manager, Mr. Reid will be responsible for initiating and overseeing the Quality Control Plan and Submittal Register and its upload into a Web-based project management system. He is assisted by a staff of quality control specialists and testing laboratories, will have authority on issues of construction quality; will manage the on-site shop drawing and submittal review process, and have responsibility for the three-phase control process for construction inspection and testing activities, pre-installation meetings and typical construction mockups. John will be responsible for coordinating the schedules of construction QC inspectors, testers and samplers with construction activities so as not to delay operations. Along with his team of consultants, he also assists the Project Manager during preconstruction phases in the review of design documentation.

RECENT PROJECT EXPERIENCE



Dan Ryan Expressway Reconstruction Program Chicago, IL
 Contract Value: \$724,000,000
 Owner: Illinois Department of Transportation
 Role: Construction QC Manager

This program included eight lanes of freeway for six miles that expands to 16 lanes of freeway for four miles and includes almost two miles of an elevated bridge section leading into the heart of downtown Chicago. It included 11.47 miles of interstate construction through the south side of Chicago, with retaining walls, frontage roads, cross street bridge construction, and deep shafts to facilitate utility re-location. John, as Quality Control Manager, was responsible for implementation of the Quality Management Plan, coordination of QC activities with IDOT and construction operations, assignment and supervision of qualified testing and inspection personnel, review and observation of placement, sampling, testing and storing procedures, and review of daily reports and test backup.

Education

Associates Degree
 Engineering Technology
 Morrison Institute of Technology

Years with Walsh Construction
 10 Years

Years in Construction Industry
 15 Years

License/Certifications/Registrations

ACI Level I Field Testing Technician
 IDOT Aggregate Technician
 IDOT Level I PCC Technician
 IDOT Level II PCC Technician
 IDOT Level III PCC Technician
 IDOT Hazardous Materials First Responder
 Troxler Radiation Safety Certification
 IL Certified Radiation Safety Officer
 USACE COM Certification
 National Highway Institute Mix Design Principals

Reference

William L. Trudeau
 North Airfield Site Manager / Quality Assurance Manager
 Harbour Contractors
 O'Hare Modernization Program
 (312) 656-1913
 trudeau@omp-cm.com



O'Hare Modernization Program

Contract Value: \$459,697,020
 Owner: City of Chicago Department of Aviation
 Role: Construction QC Manager

As the Construction Quality Control Manager for the large O'Hare International Airport Modernization Program (OMP), John has direct responsibility for 30+ Quality Control personnel including QC trade specialists/technicians, and the operation of an on-site aggregate, soils and concrete testing laboratory that meets the specifications and qualifications under necessary ASTM and AASHTO test methods. John coordinated 3 phase control activities (preparatory, initial, and follow-up) with contractors, including workplan and Inspection and Test Plan development, monitored materials and equipment installed by contractors, enforced quality standards through rigorous NCN and Corrective Action procedures, and ensured compliance with safety standards and contract requirements. These projects included construction of several new runways and taxiways at Chicago O'Hare International Airport as well as the construction of a new North Air Traffic Control Tower, Detention Basin Pump Station, a large-scale drainage ditch relocation, installation of new utility systems, and re-location of several active railway lines. All construction work, and all quality control activities were independently monitored by the OMP and the FAA



Midway Airport - Airside Pavement

Contract Value: \$50,000,000
 Owner: City of Chicago Department of Aviation
 Role: Construction QC Manager

As Quality Control Manager for this project, John's duties included managing onsite lab for conformance to AASHTO, ASTM and FAA standards and formulating responses to Quality Assurance issues, as well as the coordination of all testing and inspection personnel. The project involved the demolition of the existing terminal building, parking lots, and apron pavement, and replacement with new PCC apron pavement and all associated support utilities. Development and implementation of the Quality Plan, as well as coordination of all QC activities with the Owner's Representative, were included in John's responsibilities.

PREVIOUS EMPLOYER EXPERIENCE

GME Consultants, Inc.

Role: Quality Control Manager/Senior Materials Technician

As QC Manager and Senior Materials Technician, John's responsibilities included soil and aggregate testing, structural steel inspection including welded and bolted connections, material testing of light weight, normal, high strength and roller compacted concrete and CTPB, fireproofing, bituminous paving and special testing. John also reviewed daily field reports and test results, reviewed and submitted concrete and asphalt laboratory test results, and reviewed and compiled all test data.

Courtney Norris, PE
Construction Quality Manager



PROFILE



Serving as the Construction Quality Manager, Courtney manages the QA/QC team, developing a project specific QA/QC plan to ensure that installations are planned, coordinated, and executed per the contract documents to comply with the project specifications, safety program, manufacturers standards, industry best practices, and project commissioning plan. Courtney will

oversee the process of integrating testing procedures and compiling all required documentation, to dovetail the project's execution of the QA/QC plan into the Commissioning process.

As part of delivering a quality project, as Construction Quality Manager, Courtney will also manage the Method Of Procedure process to plan out critical work that has been identified as impacting existing systems or environments, minimizing risks to owner operations.

RECENT PROJECT EXPERIENCE



I-90 Cleveland Innerbelt Bridge
Cleveland, Ohio
Contract Value: \$288,000,000
Owner: Ohio Department of Transportation
Role: Construction Quality Control Manager

The I-90 Innerbelt Bridge Project includes construction of a new I-90 westbound bridge over the Cuyahoga River. The new westbound bridge will be 4,247 feet long and will stand about 120 feet over the Cuyahoga River Valley at its highest point. The existing I-90 bridge will remain open while the new bridge is constructed. When the new westbound bridge is complete, it will be used to carry both directions of traffic while the old I-90 bridge is demolished and a new eastbound bridge is designed and built. Once the new eastbound bridge is complete in 2016, each bridge will carry five lanes of traffic. By constructing two bridges, ODOT is able to maintain traffic on I-90 – a vital link into Downtown Cleveland.

As the Quality Control Manager, Courtney developed and implemented a Quality Management Plan that ensure that all elements of the work comply with the requirements of the contract documents and that all materials incorporated into the work will satisfactorily perform for the intended purpose. He is responsible for the construction inspection, testing, and associated documentation of all work to ensure compliance with project specifications. Courtney coordinates inspection and testing services with owner's representatives and the Independent Quality Firm, he serves as the single point of contact and liaison on all quality control matters for ODOT and the Independent Quality Firm, and performs quality checkpoint reviews to ensure conformance of all work.

Education
Master of Engineering
Case Western Reserve University

Bachelor of Science
Civil Engineering
Case Western Reserve University

Years with Walsh
1 Years

Years in Construction Industry
19 Years

License/Certifications/Registrations
PE: OH

Reference
Kirk Gegick, Project Engineer
Ohio Department of Transportation
1980 W. Broad Street
Columbus, Ohio 43223
Phone: (216) 452-5930
Kirck.Gegick@dot.state.oh.us

PRIOR PROJECT EXPERIENCE

State Route 49, Salem Avenue Bridge Replacement, Dayton, OH
Contract Value: \$7,000,000
Owner: Ohio Department of Transportation
Role: Project Manager/Engineer (Contractor)

Courtney served as Project Manager on this prototype project to construct the largest composite bridge in the United States. The work included the removal of the existing concrete deck and sidewalk, and replaced it with Fiber Reinforced Polymer (FRP) panels. The pre-fabricated 8' x 48' x 8" panels were provided by 4 separate suppliers. Each supplier's panel had unique characteristics that impacted the installation method and the retrofit process of the existing structural steel. Courtney assisted in overseeing the installation of strain gauges on the bridge so that the University of Cincinnati could monitor the behavior of the structure and analyze each supplier's performance for future use. Similar analytical methods will be utilized on the East End Crossing to assist with the operation and maintenance functions.

Euclid Corridor, Cleveland, OH
Contract Value: \$22,000,000
Owner: Greater Cleveland Regional Transit Authority (GCRTA)
Role: Project Engineer (Owner's Quality Control Representative)

First phase (of four) to construct dedicated bus lanes along a 6 mile stretch of Euclid Avenue, connecting downtown Cleveland with University Circle. Euclid Avenue is a major high traffic volume urban artery in Cleveland. As QC Representative, Courtney oversaw the complete reconstruction of existing Euclid Avenue, including the relocation of all existing utilities, sidewalk, and signalization. In addition to the addition of the dedicated bus lanes, the GCRTA station platforms were also constructed along the median of Euclid Avenue. Aesthetic enhancements included decorative curbing, sidewalk, tree planters, and cross walks.

Pettibone Road Reconstruction, Solon, OH
Contract Value: \$14,000,000
Owner: City of Solon, OH
Role: Project Construction Engineer (Owner's Quality Control Representative)

Full reconstruction of 3 miles of Pettibone Road that included widening and re-alignment, and signalization improvements. Due to utility conflicts and extremely soft subgrade conditions, a change order was negotiated between the owner and contractor to re-sequencing the project phasing to facilitate a timely completion. As the Owner's QC Representative, Courtney was directly involved in daily directives regarding subgrade soil remediation and drainage design changes that were required throughout the project limits prior to installation of the flexible pavement roadway and surface.

Bruce Peterson

Design Quality Control



PROFILE



Bruce's experience includes managing and performing design and plan preparation of preliminary and final plans for major highway and bridge projects through design-build and design-bid-build delivery. His relevant roles have included Construction Quality Manager for the I-494 improvements, Project Manager for project scope and preliminary engineering/visual quality and design oversight of the Hastings Bridge, and Bridge Design Manager for Hiawatha Light Rail Transit projects. Bruce has also served as a liaison between the designer and the resident engineer for rehabilitating the Skyway Bridge in Chicago. In addition, he is Jacobs's Minneapolis Office Quality Manager conducting project audits and managing office quality processes.

Education
Bachelor of Science, Civil Engineering,
University of Minnesota
Minneapolis, MN, 1985

Years with Jacobs
26 Years

Years in Design/Construction Industry
26 Years

License/Certifications/Registrations
Professional Engineer, MN, WI, NY

Reference
Keith Farquhar, PE
Minnesota Department of
Transportation
Bridge Design-Build Unit Leader
3485 Hadley Ave. N
Mail Stop 610
Oakdale, MN 55128-3307
Phone: (651) 366-4459
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keith.farquhar@state.mn.us

RECENT PROJECT EXPERIENCE



Hastings Bridge Design-Build Preliminary Engineering/Visual Quality Hastings, MN
Contract Value: \$225,000,000
Owner: Minnesota Department of Transportation
Role: Project Manager

The services narrowed the alternatives from four to a preferred alternative for replacing the Hastings Bridge over the Mississippi River. Bruce led detailed study of potential rehabilitation of the existing river bridge, initial screening and preliminary design for a cable stayed replacement structure, roadway profiles, hydraulic studies, and input to the visual quality process, bridge design criteria, concept refinement report, and design-build RFP support. Bruce's responsibilities included quality control checks of bridge design calculations and plan, and assisting the Bridge Design Manager to complete the project.



I-494 Design-Build, Hennepin County, MN
Contract Value: \$135,000,000
Owner: Minnesota Department of Transportation
Role: Construction Quality Manager

The project consisted of reconstructing approximately eight miles of I-494 on the original alignment with the addition of one lane in each direction, reconstructing five side roads and ramps affected by the I-494 widening, 12 bridge replacements, and reconstructing ramps and frontage roads along approximately 1 mile of I-394 near Ridgedale Shopping Center. Key milestone dates for traffic phasing and construction staging were achieved throughout the project. During the de-

Construction Quality Manager and was responsible for the overall construction quality of the project. He performed audits and directed construction quality assurance activities. In many cases specific interchange ramps were open to traffic early to facilitate improved traffic flow on local streets. The project met all contract dates for substantial and final completion. The project was completed on budget with zero claims.



Alexander Hamilton Bridge, New York City, NY
Contract Value: \$225,000,000
Owner: New York State Department of Transportation
Role: Senior Engineer

Bruce conducted quality control/assurance checks for the rehabilitation of the Alexander Hamilton Bridge which included 16 bridges on the Cross Bronx Expressway, and Coordinating Consultant for the entire CBE corridor rehabilitation projects. Jacobs provided detail final design and preparation of construction documentation for rehabilitating the main 505-foot span arch bridge over the Harlem River, replacing the complete deck of the 1,530-foot-long main bridge, replacing the tightly curved Ramp TE over the west approaches of the main bridge, and rehabilitating the connecting ramps between the Cross Bronx Expressway (I-95) and the Major Deegan Expressway (I-87).



Hiawatha Light Rail Transit Corridor, Minneapolis to Bloomington, MN
Contract Value: \$225,000,000
Owner: Minnesota Department of Transportation
Role: Bridge Design Manager

This project required design and construction of the 11.6-mile transit system. The project included design and construction of all civil works (excluding airport tunnel), trackwork, LRT systems (traction power, signals and communications), traffic control/management systems, an operation and maintenance facility and 15 passenger stations. Our primary roles included lead responsibilities for structural design of bridges and walls, traction power and overhead catenary systems, and overall system design quality assurance. As the Bridge Design Manager, Bruce led the bridge design group and was responsible for the overall quality of the bridge calculations and plans reviewing each package before submission.

Michael Lawler, CSP

Safety Manager



PROFILE



Michael is responsible for the implementation of company safety policies and procedures as part of an effective Safety Program to minimize or eliminate personal injuries and/or property damage on jobsites. He supervises a staff of safety professionals for all of Walsh's projects in the Midwest and Northeast areas of the United States. Michael and his staff conduct regular safety meetings with all personnel involved with the project, perform safety inspections, and ensure compliance to meet industry standards. Michael also performs accident investigations, monitors all subcontractors' insurance compliance, and manages Worker's Compensation insurance.

RECENT PROJECT EXPERIENCE



Thornton Composite Connecting Tunnels & Gates, Thornton, IL

Owner: Metropolitan Water Reclamation District
Contract Value: \$200,000,000
Role: Senior Safety Manager

The project connects the existing Calumet Indiana TARP Tunnel at the existing construction shaft to the Thornton Composite Reservoir. The project elements include a concrete lined tunnel, a concrete reinforced wet well shaft, four vertical lift wheel gates with two jet flow gates, one maintenance bulkhead, and bifurcated tunnel conduits with steel liners. Michael has effectively managed the safety program for this project from the preconstruction evaluations through construction operations.



Amelia Earhart Bridge, Atchison, KS

Owner: Kansas Department of Transportation
Contract Value: \$61,000,000
Role: Senior Safety Manager

Replacement of the U.S. 59 Amelia Earhart Bridge over the Missouri River between Atchison and Buchanan County, Missouri. The existing two-lane bridge will be replaced with a ¾ mile long four-lane bridge structure that will have tied steel arch for the main span. The new facility will be safer, consistent with current design standards and help to accommodate and sustain economic development within the area. Michael oversaw the implementation of the safety, fire prevention, and first-aid programs throughout the project and maintained working relationships with project management, contractors/subcontractors and insurance carrier representatives.

Education

Bachelor of Science
Occupational Safety
Illinois State University, 1993

Morton College, Associate of Science
(Business) 1991

Years with Walsh

7 Years

Years in Construction Industry

20 Years

License/Certifications/Registrations

CSP (Certified Safety Professional) by Board of Certified Safety Professionals
Authorized OSHA 10 & 30-Hour Trainer
Competent Person for excavation and lead activities and excavation
Certified Crane Safety Trainer by Crane Operator Certification Authority (COCA)
Completed 40 Crane Operators Course with Local 150 of the International Operators
ATSSA (MUTCD) Certified Traffic Supervisor

Reference

Michael Differding
Independent Mechanical Industries, Inc.
Safety Director
4155 North Knox Avenue
Chicago, IL 60641
Phone: (773) 447-3730
mdifferding@independentmech.com



Dan Ryan Expressway Reconstruction, Chicago, IL

Contract Value: \$724,000,000
Owner: Illinois Department of Transportation
Role: Senior Safety Manager

Walsh was the general contractor for the expressway that included eight lanes of freeway for six miles that expands to 16 lanes of freeway for four miles, and includes almost two miles of an elevated bridge section leading into the heart of downtown Chicago. It included over 11 miles of interstate construction, with retaining walls, frontage roads, cross street bridge construction, and deep shafts for utility relocation. Mike managed the overall project safety program for all construction which was performed while maintaining existing traffic flows. Extensive, complicated maintenance of traffic procedures were carefully coordinated with the construction and active subway rail system that runs down the middle of the Dan Ryan Expressway.



Cannelton Hydroelectric, Hawesville, KY

Contract Value: \$192,000,000
Owner: American Municipal Power Inc.
Role: Senior Safety Manager

The Cannelton Hydroelectric Project is located on the Kentucky side of the existing USACE Cannelton Locks and Dam facility on the Ohio River. The site is located approximately 10 miles southeast of Tell City, IN and 25 miles northeast of Owensboro, Kentucky. The Project will divert water from the locks and dam through a powerhouse to generate an average annual output of approximately 390 GWh. The powerhouse will house three horizontal Kaplan bulb type turbines and generating units with an estimated total rated capacity of 84 MW. Each turbine produces 130 GWh Per year. The maximum gross head at this plant is approximately 25 feet. Michael is the Senior Safety Manager for this project, and was responsible for the implementation of a detailed and complex project safety program for a private owner.



Milton/Madison Bridge, Madison, IN

Contract Value: \$103,000,000
Owner: Indiana Department Of Transportation
Role: Senior Safety Manager

This design-build project, currently under construction, is a unique effort to replace the deteriorating, 81-year-old US 421 Ohio River Bridge between Milton, Kentucky and Madison, Indiana. The Kentucky Transportation Cabinet and the Indiana Department of Transportation launched the Milton-Madison Bridge Project in an effort to replace the existing bridge. The bridge will be widened to 40 feet with two 12-foot lanes, 8-foot shoulders, and a 5-foot sidewalk on the downstream side of the truss. Michael is the Senior Safety Manager for this project, and is responsible for the implementation and oversight of the safety program on this project.

Gina Morris, PG

Environmental Compliance Manager



PROFILE



Gina Morris, PG, Third Rock Consultants project administrator and professional geologist, is a highly respected environmental professional with a diverse background in environmental assessment, permitting, and mitigation. Her expertise with federal and state environmental regulations has been demonstrated on a wide variety of projects, including highways, commercial and industrial site developments, municipal reservoir projects, and others. She has more than 35 years of experience with NEPA documentation and environmental permitting, and was responsible for environmental compliance on all Kentucky Transportation Cabinet (KYTC) projects for many years. Prior to joining Third Rock, she was Assistant Director of the KYTC Division of Environmental Analysis, where she was responsible for environmental compliance and permitting on all highway projects. Gina is also a Professional Wetland Scientist with extensive experience in wetland and stream assessment, permitting, and mitigation design and monitoring. As a consultant for the past 11 years, she has managed many successful environmental documentation, permitting, and mitigation projects for the Kentucky Transportation Cabinet, the Kentucky Finance and Administration Cabinet, and other clients.

RECENT PROJECT EXPERIENCE

Permitting and Stream Restoration

Gina has extensive experience with environmental permitting for stream and wetland impacts throughout Kentucky. She has prepared and coordinated Section 401 and Section 404 permit applications for hundreds of transportation projects, many of which included special conditions for minimizing impacts to environmentally sensitive features. She has prepared detailed stream assessments and compensatory mitigation plans to support permitting efforts. Her expertise with permitting regulations and requirements has been demonstrated on a wide variety of projects. She has also provided construction oversight to ensure that environmental commitments are met during construction and projects are constructed as designed.

In 2010 Gina was responsible for environmental permitting for the Milton-Madison Bridge replacement project on the Ohio River between Milton, Kentucky and Madison, Indiana. She prepared and coordinated the US Army Corps of Engineers 404 Individual Permit, 401 Water Quality Certification permits from the Indiana Department of Environmental Man-

Education

Master of Science, Geology
Eastern Kentucky University

Bachelor of Science, Geology
Eastern Kentucky University

Years with Third Rock Consulting
7 Years

Years in Environmental Industry
37 Years

License/Certifications/Registrations

Professional Geologist, Kentucky, #360
Professional Wetland Scientist, Society of Wetland Scientists, #590
Tennessee Department of Environment & Conservation Level I Certification in Erosion Prevention & Sediment Control, #117803

Reference

David Waldner, PE
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Susan Bush
Commissioner of Environmental Quality
Lexington Fayette Urban County Government
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Dave Harmon
Ecology and Permitting Branch Manager
Division of Environmental Analysis
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622
(502) 564-7250
dave.harmon@ky.gov

agement and Kentucky Division of Water, and Floodplain Construction Permits from the Indiana Department of Natural Resources and Kentucky Division of Water. Permits for the Milton-Madison Bridge project were approved in less time than normally required, although numerous environmental conditions were involved.

Gina has spent many years studying the hydrogeology of streams as a professional geologist. She has prepared detailed stream assessments using EPA's Rapid Bioassessment Protocol, USACE's Eastern Kentucky Stream Protocol, and other methods. She has assisted clients with avoidance and minimization of stream impacts and guided them through all phases of the permitting process. In addition to permitting, for projects with unavoidable stream impacts she has developed mitigation plans, designed stream restoration, supervised construction, and conducted post-construction monitoring studies. Her expertise with stream restoration has been demonstrated on projects such as Bolts Fork in Boyd County, Frozen Creek in Breathitt County, Upper Fork Trace Creek in Boyd County, tributaries of Laurel Creek in Elliott County, Cassidy Creek in Fleming County, and Lee's Branch in Woodford County. The latter is used by USACE as an example of a well-designed and constructed restoration. She has also been responsible for the evaluation of remedial needs for stream and wetland mitigation projects, including hydrologic modifications, additional tree planting plans, invasive species eradication, and in-stream structure alterations.



US 60 Bridge over the Tennessee River (Livingston - McCracken Co. KY)

In addition to permitting for the bridge replacement, Gina was responsible for the preparation of all environmental documentation, which included a mussel survey. Third Rock subsequently relocated over 40,000 mussels from a bridge pier location to an appropriate site selected 0.7 mile upstream of the bridge.



KY 22 Bridge over the Kentucky River at Gratz (Henry - Owen Co. KY)

Gina managed Third Rock's involvement in the preparation of the permitting documentation and permit applications for the Gratz Bridge replacement project, in addition to preparing all of the environmental studies and the NEPA document.

Prior Professional Experience

Gina's professional career has included a variety of environmental science applications. She worked in the Kentucky Transportation Cabinet's (KYTC) Division of Environmental Analysis from 1975 to 2001 in various capacities, including environmental permitting and mitigation, NEPA documentation, and project management. As Assistant Director of the Division, she was responsible for environmental compliance on all KYTC projects.

In 2001, Gina joined Palmer Engineering, where she was Director of Environmental Services. She has been a Project Manager at Third Rock since 2005.

Vincent Meyer

Operations and Maintenance Manager



PROFILE



Vincent has more than 16 years of experience in design, construction, operation, and maintenance of major transportation infrastructures. He will coordinate with the design and construction team from the beginning of the procurement process to ensure that the project is designed and constructed with long-term maintenance in mind.

Vincent is currently in charge of VINCI Concessions' technical department for P3 projects development. His recent experience on P3 proposals includes: Georgia DOT's West by Northwest Corridor, a managed lane project (toll concession project, 60 years); privatization of highways and bridges in Turkey with 1,242 miles of roadway and a major O&M risk to be managed (Brownfield acquisition, for 25 years, including the two major suspended bridges on the Bosphorus channel, each of them with central span over 3,000 feet).

Vincent also served as maintenance manager in charge of the eastern part of the ASF network in France (624 miles of highways with 2,000 civil works structures) from 2008 to 2011, where he was responsible for the entire Capital Maintenance Program with an annual budget exceeding \$40 million and a dedicated team.

His successful experience in O&M in addition to design, construction, and implementation of ISO 9001 and ISO 14001, provide assurances that he will develop and manage the optimum O&M organization for the East End Crossing Project.

RECENT PROJECT EXPERIENCE



West by Northwest Project, Atlanta, GA

Contract Value: \$1,200,000,000

Owner: Georgia Department of Transportation

Role: Operations and Maintenance Manager

Vincent joined the West by Northwest Development Partners team in July 2011 (Authorized Representative was Sid Florey), for the definition of the O&M organization for this \$1.2B DBFOM project. He worked with the designer and contractor on ITS and ETCS design, defining the functional requirements for the systems to operate smoothly and permanently securing the revenue collection. Similar to the East End Project, the WxNW was a DBFOM project with a long-term concession period requiring the construction of flyover bridges and 21 miles of new toll lanes. Life cycle costs and maintenance considerations were proactively addressed throughout design.

Education

Master's Degree, Civil Engineering
Ecole Centrale de Lyon (France)

Years with Vinci

9 Years

Years in Construction Industry

16 Years

License/Certifications/Registrations

French Association of Civil Engineering, French Association of Tunnels and Underground Works, AFGC and AFTES have shared activities with PIARC – World Road Association

Reference

Chip Meeks
Georgia Department of Transportation, P3 Division
cmeeks@dot.ga.gov
Phone: (404) 631-1300



ASF Highway Network, South of France Toll Concession

Contract Value: \$40,000,000

Owner: French Ministry of Ecology

Role: Head of the Heavy Maintenance Department

Vincent served as maintenance manager in charge of the eastern part of the ASF network (624 miles of highway with 2,000 civil works structures). He was responsible for the entire Capital Maintenance Program with an annual budget exceeding \$40 million with a dedicated team of six engineers, with supervisors and technicians specialized on roadway maintenance, including pavement inspections and repair, structural inspections, monitoring, and heavy maintenance, safety equipment maintenance, and maintenance and upgrade of environmental devices. Vincent led the certification process for his unit, to be awarded in 2011 the ISO 9001 and ISO 14001 certification. Similar to the East End Crossing, this project included O&M activities on significant highways and major structures while maintaining safety for drivers and workers.

Mark Hedrick, PE

Utility Manager



PROFILE



As an Assistant Project Manager with Walsh, Mark supervises on-site work forces and manages daily field operations. This includes management of project timelines, development of progress reports for owner meetings, and coordination/supervision of contractors. He monitors materials and equipment installed by contractors, enforces quality control, and ensures compliance with safety standards and contract requirements.

RECENT PROJECT EXPERIENCE



I-90 Cleveland Innerbelt Bridge, Cleveland, OH
 Contract Value: \$288,000,000
 Owner: Ohio Department of Transportation
 Role: Assistant Project Manager

Mark is the Assistant Project Manager for this design-build project that includes construction of a new I-90 westbound bridge over the Cuyahoga River. The new westbound bridge will be 4,247 feet long and will stand about 120 feet over the Cuyahoga River Valley at its highest point. The existing I-90 bridge will remain open while the new bridge is constructed. When the new westbound bridge is complete, it will be used to carry both directions of traffic while the old I-90 bridge is demolished and a new eastbound bridge is designed and built. Once the new eastbound bridge is complete in 2016, each bridge will carry five lanes of traffic. By constructing two bridges, ODOT is able to maintain traffic on I-90 – a vital link into Downtown Cleveland. Mark was actively involved during the proposal phase, and assisted with identifying potential utility issues. He worked with the project designers to ensure that the new design made the appropriate allowances to eliminate or minimize any impacts during construction. As work progressed, Mark supervises the work by any outside utilities, as well as Walsh workforces, for any utility relocation/new installation.



I-70 “Super 70” Design-Build, Indianapolis, IN
 Contract Value: \$178,000,000
 Owner: Indiana Department of Transportation
 Role: Assistant Project Manager

Mark served as the Structures Superintendent on this \$178M design-build project that included removal and replacement of concrete pavement, widening and increasing vertical clearances of 28 bridges, construction of two new bridges, reconstruction of six ramps and the removal/replacement of existing pipe and drainage structures. This six-mile section of roadway has an annual average daily traffic (AADT) of approximately 180,000 vehicles and was the largest design-build project in Indiana. The project was completed ahead of schedule due in part to an extensive pre-construction effort to identify and mitigate all potential utility conflicts. Mark was responsible for this effort, and continued to oversee all utility relocations while he supervised construction.

Education

B.S. in Civil Engineering – Fenn College of Engineering & Cleveland State University, 1997

Years with Walsh

8 Years

Years in Construction Industry

15 Years

License/Certifications/Registrations

Professional Engineer - Ohio

Reference

Cleveland Public Power
 Greg Horodyski, Consulting Engineer
 1300 Lakeside Avenue
 Cleveland, OH 44114
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 ghorodyski@cpp.org

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 bthompson@firstenergycorp.com

Preliminary Project Baseline Schedule (4.1.4)

PRELIMINARY PROJECT BASELINE SCHEDULE

This narrative report is submitted in accordance with Section 4.1.4 of the project's 'Technical Proposal Instructions' and the 'Narrative Reports' requirement referenced by INDOT's 'Recurring Special Provision 108(c)-2.15'.

OVERALL PLAN TO COMPLETE THE PROJECT

The WVB East End Partners' (WVB) developed a Preliminary Project Baseline Schedule (PPBS) through an iterative process during the development of the WVB proposal. Alternative Work Breakdown Structures (WBS) were developed and reviewed to determine a fitting preliminary outline that would accurately reflect the entire project's scope and provide a sensible and accurate tool for planning the East End Crossing project through completion.

CONTRACT ADMINISTRATION

IFA has provided a detailed outline of requirements that if followed, will ensure this project gets built in a manner that will meet the expectations of all the local stakeholders. Our schedule incorporates critical requirements to essentially provide a summary checklist for IFA & WVB as we meet each of the requirements for obtaining NTP1, Commercial Close, Commencement of Design Work, Financial Close, NTP2, and the Commencement of Construction. These significant deadlines, as listed in Form N of the WVB proposal, represent a collaborative commitment on the behalf of all our team's members.

SATISFYING NTP1 REQUIREMENTS: WVB has put together concise preliminary DBE and Worksite Diversity & Small Business Enterprise Performance Plans that are proven to be effective through numerous past efforts working on design-build contracts throughout the world and from our local experience working on INDOT projects. During the 30-day window from when the Preferred Proposer is announced to when we reach the Agreement Execution, we will take full advantage of additional coordination with IFA to fully develop our Performance Plans to meet the expectations of IFA's review team.

COMMENCEMENT OF DESIGN: WVB has developed a nearly complete Project Management Plan (PMP) within the Appendices of the proposal. Final approval of the WVB PMP and DBE Performance plans represent the most critical requirements for IFA to issue the Commencement to begin Design Work within 30 days of NTP1.

WVB is able to build upon our proven, past experiences developing similar plans. The time and personnel investment we made to develop these plans displays a commitment on our behalf to get this project moving towards design approvals as efficiently as possible.

Though our PMP is effectively ready to go, we will need an immediate coordination effort with IFA once identified as the Preferred Proposer. We have assumed a typical IFA review period for the PMP of 28 days in our Preliminary Baseline Schedule. This leaves a mere 2 days to submit the PMP following IFA issuing NTP1. Review times for IFA's initial review, incorporation of comments, and a secondary review are also accounted for but with fast-track durations that are required in order to get to NTP1 as required.

Finally, the Design Workshop and identifying the Design Units are a key priority that have to be scheduled immediately following issuing of NTP1 so that the Design Review Plan and Schedule can be incorporated into the PMP. With an immediate and collaborative effort, we will work closely with IFA to ensure we are prepared to begin Design Work by 1/19/13.

MEETING FINANCIAL CLOSE: Financial Close is expected to occur by April 1, 2013. The process to achieve this milestone is fully outlined within Volume 1 of WVB's bid proposal.

SATISFYING NTP2 REQUIREMENTS: Beyond the critical design requirements of satisfying NTP2 comes a number of other key submittals and coordinated efforts that must be completed. Many of these have already been partially or fully developed throughout the proposal process. WVB is confident in our ability to satisfy each of the listed requirements but makes specific note of the requirements to establish a temporary and permanent field office. Establishing an office location

and preparing the facility will be key in the satisfaction of all the critical stakeholders in this project and therefore, critical to the overall project's success. As noted in our proposal, we have already identified a location to support the project team throughout the project's duration. Having the permanent project office ready to go was a critical decision that was made to ensure the project gets started as quickly as possible and with minimal interim interruption.

COMMENCEMENT OF CONSTRUCTION: Starting construction on June 3, 2013 runs through getting approved design submittals. Primarily, the Temporary Traffic Control Plan, early Design Units for MOT Phase IA, Erosion Control Plans (to include Access/Egress design) and the accompanying approvals for the Rule 5 environmental permit submittals.

Other significant requirements include Part B sections of the PMP, the Quality Plan for construction operations, and the Blasting and Vibration Monitoring plan. Work on these items will begin at NTP1 and we expect to have them submitted and approved notably in advance of reaching the required design submittal approvals.

DESIGN (ALL SECTIONS)

As noted previously, hosting the Design Workshop and establishing a set of Design Units is critical immediately following NTP1. The design portion of WVB's preliminary baseline schedule is organized by what is effectively a proposed structure for Design Units on the project. This includes the following as early RFC packages:

- Section 4 Erosion and Sediment Control and Stormwater Pollution Prevention Plan
- Tunnel South Portal
- Section 5 Tower Foundations
- Section 4 Phase 1A MOT
- Ramp A Bridge and Roadway
- North river Road Drainage
- Harrods Creek Bridge Foundation

This was a key provision to be satisfied immediately following NTP1 and include as part of the Design Review Plan and PMP.

With the approval of the PMP and Design Work authorized to commence on 1/19/13, early design efforts will focus on performing the collection of engineering studies required to confirm the design criteria for the Main Span Bridge and Tunnel. Developing these reports include scheduling the Accident & Terrorist Vulnerability Assessment Workshop the first full week after New Year's. As the studies advance and design criteria is finalized, Stage 1 reviews are expected to begin in early March. The fast-track review process that will be coordinated with IFA is outlined in detail in Section 4.2.2.2. The design schedule was intricately developed using this philosophy, specifically for early-release packages.

WVB has gone through an iterative process between schedules to allow non-critical portions of the design schedule to be leveraged against the construction sequence. This process will continue through the development of the final baseline schedule and our coordination effort with IFA.

SECTION 4 - KENTUCKY APPROACH

TUNNEL CONSTRUCTION: Construction of the tunnel controls WVB's substantial completion date commitment. Accordingly, the start of construction in June will establish the proper erosion control methods in and around the South Portal, and begin excavation to the tunnel bench limit.

Blasting and excavation of the South Portal will work in parallel with an initial retaining wall application of rock bolts and wire mesh reinforced shotcrete. The walls will cover exposed shale and stabilize cut slopes during tunnel construction and is incorporated into the final installation. The South Portal wall will receive an aesthetic treatment later in the project once tunnel construction nears completion.

This early material, along with significant later portions from the North Portal, will be hauled offsite to be crushed and placed as fill for the Kentucky Approach.

Early portions will be used to construct stone access from River Road to Bridges 1 and 4 and to the Kentucky bank.

Once the initial portal excavation is complete, temporary operational support devices will be installed that will service tunnel lighting, ventilation, refueling, etc.

Excavation at the tunnel head is separated between the crown passage and the bench passage, with each section getting 3 and 2 pulls, respectively. Cycle times for each passage type have been developed to include the drilling, blasting, mucking, and temporary support requirements. These cycles are discussed in detail within Section 4.2 of the Technical Proposal. The included schedule durations are directly reflective of the cost development procedures our team went through in determining the appropriate productions that can be expected based upon the equipment that will be used and the existing geological conditions. This development procedure included 3 independent determinations of productions and costs that were ultimately reconciled into a single pricing structure and schedule. This practice increases the viability and confidence that the durations set forth in our schedule are historically reliable and obtainable under the expected project conditions.

Once the northbound tunnel head begins to advance, the southbound tunnel is expected to begin 20 days afterwards. The offset distance in the two tunnel heads is necessary to ensure a safe excavation and blasting distance between tunnels. This ultimately makes the start date of the Northbound Tunnel followed by the full construction of the Southbound Tunnel drive the critical path for the contract.

The crown and bench excavation cycles are scheduled to last approximately 21.5 months. Work required prior to the invert slab includes installing the drainage system and placing the subbase and mudslab. A shotcrete smoothing layer and waterproofing layer will then be installed along the liner section.

Pouring the invert slab will follow the waterproofing and provide a sound base to support the form traveler system used to place the concrete liner. A traveling form system will be utilized for placement of the concrete liner. A single system is currently anticipated for

use which creates a relationship tie between the liner placement of the NB and SB tunnels.

Approximately 6-months have been accounted for various finish work that follows the liner installation, including the ventilation system, fire suppression items, liner finishes, electrical conduit and lighting systems, barriers, sidewalk, and handrails. This duration was determined from feedback from multiple quoting suppliers and subcontractors at bid time.

ROADWAY CONSTRUCTION: We changed the RID MOT at the KY-841 & US-42 interchange. This decision was partially driven by the limited access haul trucks have to enter directly onto Southbound KY-841 traffic. This restriction will be endured through Phase IA until Ramp A can be opened to temporarily service Northbound & Southbound traffic access to US-42. Once this switch is complete, significant hauling efficiencies will be realized by adding the ability to exit truck traffic directly onto the Southbound direction.

At the start of MOT Phase IA in August 2013, the ramp currently servicing traffic from US-42 to KY-841 Southbound will be temporarily restriped and switched to accommodate the Northbound direction as well. This creates increased access to the South Portal excavation. South Portal excavation is scheduled to begin immediately following the release of approved erosion control plans and the related government approvals. As noted in the Tunnel discussion, this is critical to the project completion date.

With traffic switched and portal excavation ongoing, typical roadway activities will commence for the widened alignment of KY-841. Topsoil materials will be stripped and stockpiled while overburden will be hauled to the fill between River Road and the Approach Structure 4.

Due to construction of the roadway and bridge at Ramp A, the area from approximately Station 68+00 to the Eastern limits schedules ahead of the work limited to the same phase but from Wolf Pen to the South Portal. Based on actual construction progress, installing a median crossover at Station 68+00 may produce an opportunity to open additional winter weather work in 2014-2015 and complete more final construction during the 2015 construction season.

Our altered MOT sequence also eliminates the temporary bridge structure that was originally required to service Wolf Pen traffic over KY-841. As an alternative, our plan requires a temporary soil nail retaining wall be installed at the existing East abutment prior to the installation of a similar alignment for Diversion #1. Once traffic is switched onto the new diversion, additional shoring will be installed and the new bridge will be constructed adjacent to the diverted alignment. The work at Wolf Pen will be driven by the necessary utility relocations that are required to occur before the bridge can be constructed.

Materials from the mass excavation at the North Portal will be hauled over Structure 1 to the fill area required for the Kentucky Approach section. Executing this sequence requires that an early start on Structure 1 can occur, however, to avoid any conflicts with driving piling foundations at piers affected by the noise restrictions associated with the nearby Bald Eagle's nest.

In 2014 and prior to the mass fill of material to go into the Kentucky Approach area, crews will be installing the various MSE retaining walls that are required to support the abutment fills, the emergency access road, and the shared use path.

Work from Phase I continues into 2015 with a move into Phase II around mid-Summer. Once traffic is shifted onto the new Southbound lanes, a significant amount of work opens up to finish the Northbound lanes though paving operations will likely be impacted by the winter season and finish up in the Spring of 2016.

Construction of the toll gantries, the ITS connections, and the tunnel controls building are all expected to occur primarily from mid-2015 into early 2016 and be completed in coordination with the systems installation that occur at the tunnel throughout the remainder of 2016.

BRIDGE CONSTRUCTION: At Structure 1 over Harrod's Creek and River Road, an early Design Unit for foundations will allow for pile driving prior to the Eagle's Nest Restriction that starts on November 1, 2013. As noted above, construction of at least one direction of the twin bridges provides access for excavated material from the North Portal to be hauled to the approach fill at Structure 4.

Access to construct this bridge is built once Section 4 erosion control plans are released. The required coffer dams and drilled shaft foundations and the follow-on substructure work will be performed through the winter months and into Summer 2014. The schedule is linked based upon the use of one set of pier cap forms which ultimately controls the beam and superstructure placement for each bridge.

Construction of the Ramp A bridge has also been identified as an early Design Unit to allow for bridge construction to begin subsequent to the South Portal excavation required to begin tunneling. Construction of the bridge as scheduled is a key component to controlling hauling costs in that area by providing for better access from the mass excavation to the EB travel direction. Accordingly, the required anchor walls will be constructed by separate crews in parallel to expedite getting the end foundations for the bridge constructed. An aggressive duration of the superstructure construction is also represented due to the available savings that will be realized with an early completion and traffic switch onto the new alignment.

Structure 3 at Wolf Pen is shown to be flexible in the schedule but is key to opening up significant fill areas that need to be hauled primarily offsite and used to generate rock base. Utility relocations drive the temporary MOT configurations required to construct a temporary shoring wall for the existing overpass and shift traffic onto the Diversion #1 setup by late 2014 Spring. This shift will initiate the 6-month restriction limit for Wolf-Pen traffic to allow for construction of the new bridge during good summer weather months so that the available materials under the bridge can get subsequently excavated through the following winter season. As with the Ramp A bridge, two crews will be constructing the rock anchor walls at either abutment to keep pace with the pier construction.

Starting foundation construction for the Kentucky Approach at Structure 4 is controlled by the ending of the Eagle's Nest Restriction on June 30, 2014. Piling crews will work from the river bank towards River Road to complete all bridge foundation work for Section 4. Due to the non-critical nature of constructing this bridge, a single form set for the pier caps again controls the substructure construction that will last into early 2015. Six months are allotted for the steel

erection and completion of the superstructure work with the bridge being completed by September 2015.

SECTION 5 - OHIO RIVER BRIDGE

Prior to beginning permanent construction operations, crews will install shore access trestles and launch barges and a rig to perform the Drill Shaft Load Test. Piling will be driven for the crane tower foundation and other temporary needs. An offsite fabrication and docking facility will be constructed throughout 2013 in anticipation of beginning permanent foundation work in the late fall and winter of 2013-2014.

FOUNDATIONS: Our design uses a precast concrete tub to facilitate foundation construction. The details of this tub design is covered more extensively within Section 4.2.1.1 of the Technical Proposal. Fabrication of the tub will occur at the offsite facility which helps to reduce the amount of river work by not requiring the installation of a temporary cofferdam.

The tub serves as a template for the drilled shaft locations. The tub will be secured by temporary pilings vibrated into the river bed. Permanent casings will be installed through the template holes in the tub and rock corings will be performed to verify anticipated conditions are met.

Shaft cycles have been determined to operate one a 4-day cycle: 1-day soil drilling, 1-day rock drilling, 1-day setting reinforcing, 1-day placing concrete. Shaft integrity testing will be performed continuously during installation to verify the soundness of shafts and to identify potential issues as early as possible.

Once all shafts have been installed, the tolerance annulus between the casings and the tub will be sealed. The tub now serves as a form enclosure for the bridge footing foundation. Sections of pre-tied reinforcing will be set in the forms and prepped for the required two pours. The footing pours are expected to be performed under cold weather conditions. Temperature differentials will be monitored and controlled by heating elements placed throughout the pour section. The use of the tub will provide increased insulation to the poured concrete and help control the unwanted variances.

Due to available float in the bridge schedule compared to the tunnel schedule, our team took advantage by eliminating the added cost associated with bringing a second drill rig onsite and staged the Tower 4 shafts to be installed after the completion of Tower 3 shafts. This creates a consistent 3-month offset of activities between towers.

Once foundations for Towers 3 & 4 are completed. The drilled shaft operations will relocate to Anchor Piers 2 then 5 to begin the pier sequence construction at those locations. Construction of the anchor piers are expected to last a span of approximately 9 months and are available to be constructed well in advance of the limiting requirement when the Superstructure is set to tie-in.

STAY TOWERS: Construction of the foundations and footings that will support the two tower cranes occurs during the same time the shafts and waterline footing are completing. Access to both the tower and the foundation will be available from the trestles.

A gang form system will be used to form the tower base and legs. Cycle times are scheduled at 5-6 days with 15 days included to account for the initial setup of the first base pour. The start dates are offset to allow for specific crews to bounce from left-to-right legs and reduce the amount of crew downtime during cycle patterns.

Once the 2nd of 5 base leg lifts are poured out, a separate crew will erect a panel form system to construct the bottom tower wall. This tower wall needs to be in place and cured to begin erecting falsework towers that are required to construct the tower strut cross beam. The tower base and strut are completed with the removal of the falsework. A semi-permanent stair column tower to service the construction of the tower legs is erected afterwards.

Similar to the cycle sequence reviewed for the tower base legs, tower legs will be initially offset and follow a strict cycle sequence that has been developed down to the hour. These cycles extend for approximately 8 months with times allowed for to erect three temporary struts. Access ladders and platforms are installed both outside and inside the tower as the construction progresses upward. The top cross beam will be poured

in three lifts and include an access hatch to facilitate stressing and future inspections.

SUPERSTRUCTURE & ERECTION SEQUENCE: The Superstructure sequence starts at the offsite assembly and staging yard. Crews will construct a series of 8 templates to service the 4 segment erections that are anticipated to occur each two weeks during peak construction.

At the jobsite, steel erection will follow the completion of the tower heads and begin by setting the bearings and center beam at the Tower Strut. A single frame section starting into the mainspan will be piece erected. The composite beam segment erection sequence is then initiated with a balanced sequence working away from each tower. The CPM relies on a 7-day erection cycle. This cycle was developed using an hourly breakdown of activities and is discussed more extensively within the bridge section of the Technical Proposal. The cycle includes activities to assemble the steel framework offsite, place precast panels, and pour the joints between the panels on the deck. A 6-day calendar has been assigned to the superstructure to reduce the time associated with having the higher capacity floating cranes it will take to perform the balanced cantilever method.

As the Superstructure erection extends outward from the towers, Segment 5 shows an extended duration on the backspan to allow for the tie-down procedure to the previously installed temporary tie-down tower. At the anchor piers, anchor ballasts will be installed on previously constructed shoring. This pour sequence must occur prior to setting the final main span sections and closure segment to properly counter-balance the final extension.

An overhang crew will be working immediately behind the deck panel/joint placement operation to construct the permanent concrete overhang that exists outside of the precast segments. This operation will include the installation of a safety handrail system for the entire bridge that will remain in place until the parapets are poured and the permanent handrails are complete.

While the segments are hung, a self-lifting C-shaped access platform will be installed on each tower leg. This platform will be accessible from the Tower Crane support tower and will provide needed outside access

for the post tensioning sequence of the cable stays. Twenty percent of cables will be erected and stressed at each stay immediately following the segment hanging. The remaining cables will be erected and stressed upon the appropriate curing strength of the deck segment.

Once the closure segment erection completes the superstructure, deck post tensioning at the center span and each Tower will be installed, stressed, and grouted.

FINISHES AND AESTHETICS: The bridge schedule allows for what is effectively a 5-month duration to complete the remaining roadway and aesthetic finishes to the bridge prior to the October 31, 2016 committed completion date. This work includes placement of the concrete barriers and roadway lighting, installation of the deck drainage system and inspection walkways, placement of the deck overlay, any final painting elements, hand-rail and sidewalk installation, and final lighting elements to highlight the bridges aesthetic features.

SECTION 6 - INDIANA APPROACH

ROADWAY CONSTRUCTION: Significant construction efforts are not scheduled to occur until late into the 2013 season. This was generally conceded due to the non-critical nature of this portion of the project towards the project as a whole and as an effort to more fully dedicate staff resources to getting tunnel and bridge construction fully underway as scheduled in 2013. If Sections 4 & 5 initiate smoothly as anticipated, WVB sees opportunity to begin construction ahead of schedule in Section 6 but will coordinate that decision once the project has started.

General site preparation is expected to begin in mid-2013 with significant earthwork operations picking up once all stripping and erosion control measures are implemented, including the construction of the haul road and various creek crossings that are required throughout the greenscape areas.

Closure and reconstruction of Utica-Sellersburg Road is scheduled to begin in early 2014 in order to facilitate getting the traveling public over the project excavation requirements and reduce the requirement to flag haul traffic through this area during the significant earthmoving operations.

Additionally, the Salem Road interchange will be under heavy construction during late 2013 and early 2014. This mid-point of the greenscape portion of the project will provide key access to the mainline off the newly constructed ramps so that deliveries to and from the PCC Batch Plant and the temporary crushing site can occur throughout roadway construction. Several key large drainage structures will be required to be installed in late 2013 to ensure quality drainage control is available in this area.

With the majority of the preparatory work performed by early 2014, earthwork operations are expected to begin near the Eastern Limits. This area requires larger excavations to be completed but includes more significant limestone removals compared to other sections of the project. The schedule analysis based on the volume of earth to move and roadway to build indicate the paving elements through the greenscape areas should complete by mid-to-late 2015.

Construction of the I-265/SR-62/Port Rd. interchange operates largely independent of the rest of the project, requiring phased construction to accommodate existing traffic.

Phases IA & IB exist to construct temporary MOT access for the following flows of traffic:

- Temporarily widen SB SR-62 to median and outside to accommodate both directions of travel
- Construct temporary access for traffic to utilize existing ramp from SR-62 NB to Port Road
- Temporarily widen I-265WB to accommodate temporary barrier

Once the temporary traffic configurations are available, Phase II allow the first set of partial bridge constructions can begin along widened sections of I-265. Permanent construction of the northbound lanes of SR-62 occurs during this phase along with significant portions of the ramp system that will accommodate the Port Road round-a-bout interchange access. Note that several sections of ramp will remain to be constructed in future phases as a result of providing existing traffic movements throughout the phased construction.

Following the permanent construction during Phase II, several areas will have temporary pavement sections constructed in anticipation of the required traffic patterns of Phase III.

Prior to switching traffic on I-265 into Phase III, final ramp access for Port Road to I-265 WB and SR-62 must be completed. This configuration creates the available access that allow the remaining permanent widenings of I-265 and the construction of the Southbound SR-62 lanes. The remaining bridge widening work will be completed during this phase along with the full construction of the new ramp from I-265 EB that connects to the new SR-62 round-a-bout intersection.

Phase IV requires some additional permanent widening of I-265 previously unavailable the remaining sections of ramps. Short term traffic shifts will be required to perform the removals of remaining temporary pavement and finish the aesthetic landscaping elements around the new round-a-bout intersections.

BRIDGE CONSTRUCTION: As noted above, Bridge 14 at Utica-Sellersburg is constructed early in 2014. The schedule is sequenced to allow the foundation crew to relocate from Bridge 14 heading East, anticipating that all bridge locations will be prepared during the sitework preparations made in late 2013.

Bridge construction for Structures 6, 7, 9, 10, & 12 then follow as the appropriate resources will allow, considering substructure formwork and crew availability. A portion of Structure 13 will also be constructed at this time though the remainder of the bridge will remain to be completed after a temporary phase that carries Brookhollow traffic temporarily over Bridge 12. Once this temporary diversion is in place, the remaining portion of Bridge 13 and Bridge 11 is constructed. Note that this configuration is required only if ATC 4 is not utilized.

Work at the abutments and MSE walls of Structures 25 & 26 can start right away in early 2014 as they are being constructed outside of the current traffic pattern. Early construction of these bridges open up added roadway areas to be prepared and finished early in the planned construction period.

The remaining structures, Bridges 15, 16, 17, 19, & 20 are built in the appropriate traffic Phases II and III with several being built over existing railroads. Added time has been included in the schedule for the phase line sheeting that will be required for the bridges along I-265. Particular effort will be put forth in constructing these widening as they will likely control the traffic switches for this interchange and the overall schedule for opening to traffic.

WVB SUBSTANTIAL COMPLETION VS. IFA SUBSTANTIAL COMPLETION

WVB is committed to opening the East End Crossing Project by the end of 2016, 6 months ahead of IFA's required Substantial Completion date.

CLOSURE PERIODS

Activity ID 04.MOT.WP000 indicates a 180-day duration in accordance with the allowable 6-month period, as outlined in Section 12.4.8 of the Technical Provisions, that Wolf Pen is allowed to be in a restricted traffic condition. Activity 04.MOT.WP210 represents the anticipated switch date at the end of the closure period to realign traffic over the new Wolf Pen bridge.

Activity ID 06.MOT.US100 indicates a 180-day duration in accordance with the allowable 6-month period, as outlined in Section 12.4.8 of the Technical Provisions, that Utica Sellersburg Road is allowed to be close during construction of the bridge overpass. Activity ID 06.FIN.US300 represents re-opening Utica Sellersburg near the end of the anticipated closure period.

PLANNED WORK SCHEDULE

WORKDAYS PER WEEK: Tunnel Construction = 5 production days, 1 non-production day (Saturday) anticipated for maintenance requirements

Section 5 Bridge Foundations = 6 productions days

Section 5 Bridge, Other = 5 production days

Section 4 Roadway = 6 productions days through 2013/South Portal Excavation. 5 production days afterwards. Limited night work as needed to accommodate MOT restrictions.

Section 4 Bridges = 5 production days

Section 6 Roadway = 5 production days

Section 6 Bridges = 5 production days

SHIFTS PER DAY: Tunnel excavation operations are expected to operate with 3 crews, each working 8-hour shifts.

All other areas are expected to operate primarily on single shift procedures with extended 10-12 hour durations as needed and weather allows. Schedule durations determined using 10-hour production rates. Night shifts and weekend work will be incorporated on a limited basis as needed for select project operations.

PLANNED HOLIDAY SCHEDULES : (The following represent 'non-working days' in accordance with INDOT Provision 108-C-585)

- New Year's Day
- Good Friday
- Memorial Day
- July 4th (1-2 days)
- Labor Day
- Thanksgiving + 1
- Christmas Eve through New Year's Eve

WINTER AND ADVERSE WEATHER SCHEDULE: Tunnel excavation and interior activities are scheduled without any winter/adverse weather conditions.

Ohio River Bridge activities and all other bridge activities in Sections 4 & 6 are scheduled with calendars restricted to include 60 non-work days on a 5-day work-week calendar. Additionally, Saturdays are anticipated for use as needed.

In addition, Ohio River Bridge activities impacted by high water levels are scheduled with a river calendar restricting an additional 23 work days.

Roadway activities has been scheduled and/or constrained to ensure weather sensitive work is not scheduled during typical winter season months. Temperature and precipitation considerations based upon actual weather historical information have been used to

restrict the number of anticipated work days for each month.

CALENDARS:

ORB 5-Day Workweek: Primary calendar assigned to construction activities

ORB 6-Day Workweek: Calendar assigned to construction activities critical to initiate tunnel construction and to heavy floating equipment on the river performing segment erection

ORB 7-Day Workweek - ADMIN: Primary calendar assigned within the WBS for ‘Contract Administration’ activities.

ORB 5-Day Workweek - RIVER: Calendar assigned to temporary construction activities affected by high water restrictions

ORB - INDOT Inclement Weather, Roadway: Calendar assigned to Finish and Landscaping of Slopes in Section 6

ORB 5-Day Workweek - TUNNEL: Primary calendar assigned to tunnel construction activities that are production driven. Includes basic holidays only; downtime and equipment maintenance absorbed during weekends

ORB 6-Day Workweek - RIVER: Calendar assigned to permanent construction activities affected by high water restrictions

ORB 6-Day Workweek - TUNNEL: Unused calendar at this time

ORB Jacobs 7-day Calendar: Calendar assigned to all Design activities

ORB Jacobs Std 5-Day Work Week with Basic Holidays: Unused calendar at this time

WORK COMPLETED DURING EACH CONSTRUCTION SEASON & WINTER MONTHS: The overall plan description as outlined above addresses this requirement. Accommodations have been made to continue working through all seasons, including winter months, once construction

has been initiated in a given area. Calendars reflect significant non-work days during these periods and constraints have been added to activities in a reasonable way to push work that will likely be delayed due to weather restrictions.

UNRESOLVED ACTUAL OR ANTICIPATED PROBLEMS: None at this time.

UNRESOLVED ACTUAL OR ANTICIPATED DELAYS: None at this time.

CRITICAL PATH DESCRIPTION:

Tunnel (Project Critical)

- Contract Administration to Initiate Design and Construction
- Excavation of South Portal as required to facilitate tunnel construction
- Northbound Tunnel Excavation
- Northbound Drainage, Invert, and Liner Installation
- Southbound Liner Installation
- Southbound Liner Finishing System, Lighting Fixtures and Conduit
- Systems Testing and Integration

Ohio River Bridge (Near Critical)

- Contract Administration to Initiate Design and Construction
- Fabrication of Temporary Floating Tub
- Tub and Foundation Installation at Tower 4
- Construction of and Superstructure Erection at Tower 4
- Grouting of PT, Barrier, Deck Overlay, and Lighting

Critical Path Layouts using Total Float=0 and Longest Path have been included on the electronic submittal.

SCHEDULE CONSTRAINTS: Schedule Constraints are used on 52 activities:

- Various Environmental and Restricted Work Zone Activities (15 total)
- Initial O&M Activities (29 total)

- 00.MST.01140 IFA RFP Baseline Substantial Completion
- 00.MST.01160 WVB 120-day Notice for IFA Tolling
- To Initiate Section 6 MOT in early 2014 to reduce weather impacts
 - 06.MOT.1A100 Restripe and Install Temp. Barrier Wall along SB Lanes
 - 06.MOT.1A500 Construct Shoulder Widening
- To Ensure Paving Operations are Scheduled during an Appropriate Season
 - 04.RDY.41452 Install 6” Underdrain Sta. 20+00 to Wolf Pen
 - 06.RDY.61520 Install 6” Underdrain Sta. 212+75 to 255+18
 - 06.RDY.62510 Install 6” Underdrain Sta. 259+81 to 296+08
 - 06.RDY.WP200 Install 6” Underdrain



REVIEW OF ‘LAG’ USAGE: Lag has been used as needed within the ‘Contract Administration’ section of the schedule to provide an appropriate depiction of the anticipated critical items and to account for a portion of the restrictions set forth within the PPA and Technical Proposal.

Extensive lag use has been made within the O&M portion of the schedule to cycle recurring activities appropriately without the use of constraints.

Minimal lag use has been included within the construction portion of the schedule. In select long duration earthwork, subgrade, and drainage activities, reasonable lag periods have been included to better reflect the parallel construction that occurs over large ground areas.

Critical construction areas also see minimal use of lag relationships to better reflect the overlap anticipated during actual construction and to ensure the appropriate items are identified as critical. This practice was utilized for the tunnel subgrade placement as an example.

PROPOSED EXCEPTIONS: The Preliminary Project Baseline Schedule includes activities in excess of the 20-day duration outlined within INDOT Special Provision 108(c)-2.15. This exception was allowed from an answer to a question posed to IFA during the development period. Note our WBS structure easily allows for expanding activities if it is found to be beneficial once the final baseline schedule gets developed.

Bridge superstructure activities also have been limited to a single activity, as they do not generally schedule accurately without using multiple SS-Lag relationships.

WVB has elected to include calendars based upon actual anticipated weather conditions and our own anticipated pursuit of the project work. Our experience working on INDOT contracts has proven the Inclement Weather specification cited by the CPM Special Provision can be interpreted in a number of ways and ultimately provides overly conservative assumptions in the anticipated schedule gains that can be made in weather restricted months, provided proper planning takes place.

A number of activities include FS relationships and lag. These activities are generally limited to account for administration and design coordination, not construction activities.

Similarly, select items have been set with negative lag, primarily to initiate start dates for activities with known durations and where other activities drive the finish

date as opposed to the start date. For example, MOT meeting has logic for -12 lag to the Commencement of Construction milestone to represent the Technical Provision that requires this meeting to be hosted a minimum of 10 days before the start of construction. This relationship helps show the meeting date as a function of construction which is more accurate than showing the start of construction resulting from the meeting.

FURTHER EXPLANATIONS: When viewing the log generated from ‘scheduling’ the project, there is a listing included that states ‘Milestone Activities with invalid relationships’. This listing is a result of direct logic that is included in the schedule that links milestones as predecessors to other milestones. For example, making NTP2 predecessor to Commencement of Construction would generate this ‘invalid relationship’. If requested, this could be corrected but these are typically actual constraints as required by the contract and therefore make sense to be included.

Some activities under the ‘Contract Administration’ WBS represent periods of time an activity may occur. For example, activity ID 00.NTP.02210 for ‘Utility Owner Meetings’ is a 30-day duration as a result of the Technical Provision to host meetings within 30 days of NTP1. Our schedule is effectively conservative on these items by assuming these events occur at the latest possible date but due to the unknowns of coordinating a specific date, this seemed like the most reasonable approach to take for the project startup.

The P6 software has limitations in areas when dates extend beyond 2049. It seems that actual recorded dates can be made past this limit, but settings associated with the Timescale and Constraints limit the selections and instead, revert to a 1951 date as opposed to the desired 2051. For this reason, you may note that our O&M schedule printout extends only to the end of 2049 while the actual recorded times are in fact shown to occur into 2050 & 2051.

The electronic copy of the schedule is transmitted along with added layouts that assist in better viewing items identified as critical. This includes a layout for ‘Longest Path’ and ‘0 Float’ type calculations. When running ‘0 Float’, some unintended items associated with environmental restrictions and O&M activities

qualify. A ‘Critical Path Add-On’ filter has been developed to exclude these activities for more appropriate viewing of critical activities on the project.

Portions of the design schedule are rolled-up into design ‘Stage’ WBS summary bars to reduce the schedule printout to a more manageable length. Examples for the cycle of activities that are included for typical design elements are unrolled under Section 4 Roadway-North, Stage 1 Tunnel - Reports/Studies, Bridge Structure No. 1 - Harrods Creek Bridge, and the Engineering Studies and Stage 1 development associated with the Main Span Bridge design. These details should provide assurance of the level of detail WVB has prepared for this project. Of course, all other design activities are available for full viewing through the included electronic format that has been provided.

O&M SCHEDULE

The section of the schedule for O&M activities is developed to indicate the anticipated frequency of recurring rehabilitation work that will occur on the project. These activities occur separately from the annual and continuous maintenance items. The work is generally considered performance based and ultimately will be the result from the annual or bi-annual inspections of the roadway and bridge elements, respectively.

EAST END CROSSING

PRELIMINARY

WVB TECHNICAL PROPOSAL

OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

VOLUME 2 APPENDICES

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017								
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
East End Crossing - WVB Preliminary Baseline Schedule						9802	26-Oct-12	31-Oct-51	0																					
Contract Administration						933	26-Oct-12	30-Jun-17	0																					
Milestones						1709	26-Oct-12	30-Jun-17	0																					
00.MST.01000	Price Proposal Due: October 26, 2012	0	26-Oct-12		0	◆ Price Proposal Due: October 26, 2012																								
00.MST.01010	IFA Review and Preferred Proposer Announcement	26	26-Oct-12	20-Nov-12	0	■ IFA Review and Preferred Proposer Announcement																								
00.MST.01020	Agreement Execution	30	21-Nov-12	20-Dec-12	0	■ Agreement Execution																								
00.MST.01030	Effective Date	0		20-Dec-12	0	◆ Effective Date																								
00.MST.01100	Notice to Proceed 1	0		20-Dec-12	0	◆ Notice to Proceed 1																								
00.MST.01135	Commercial Close	0		27-Dec-12	46	◆ Commercial Close																								
00.MST.01150	Start of Design	0		19-Jan-13	0	◆ Start of Design																								
00.MST.01090	Financial Close	0	01-Apr-13		46	◆ Financial Close																								
00.MST.01110	Notice to Proceed 2	0		08-May-13	21	◆ Notice to Proceed 2																								
00.MST.01120	Commencement of Construction	0		03-Jun-13	0	◆ Commencement of Construction																								
00.MST.01501	Complete Main Span Pier Foundations	0		08-Aug-14	20	◆ Complete Main Span Pier Foundations																								
00.MST.01502	Complete Tunnel Excavation & Initial Liner	0		10-Jul-15	73	◆ Complete Tunnel Excavation & Initial Liner																								
00.MST.01504	Complete Section 6 Roadway	0		05-Oct-15	392	◆ Complete Section 6 Roadway																								
00.MST.01503	Complete Main Span Towers	0		09-Oct-15	20	◆ Complete Main Span Towers																								
00.MST.01506	Complete Final Tunnel Liner	0		09-May-16	0	◆ Complete Final Tunnel Liner																								
00.MST.01507	Complete Main Span Superstructure Erection	0		13-May-16	23	◆ Complete Main Span Superstructure Erection																								
00.MST.01160	WVB 120-day Notice for IFA Tolling	120	04-Jul-16	31-Oct-16	0	■ WVB 120-day Notice for IFA Tolling																								
00.MST.01505	Complete Section 4 Roadway	0		21-Jul-16	102	◆ Complete Section 4 Roadway																								
00.MST.01130	WVB Baseline Substantial Completion	0		31-Oct-16	0	◆ WVB Baseline Substantial Completion																								
00.MST.01509	Punchlist & Final Acceptance	120	01-Nov-16	28-Feb-17	0	■ Punchlist & Final Acceptance																								
00.MST.01550	Demobilization and Closeout	180	01-Nov-16	29-Apr-17	62	■ Demobilization and Closeout																								
00.MST.01140	IFA RFP Baseline Substantial Completion	0		30-Jun-17*	0	◆ IFA RFP Baseline Substantial Completion																								
Conditions for NTP1						56	26-Oct-12	20-Dec-12	0																					
00.NTP.01100	Preliminary DBE Performance Plan	1	26-Oct-12	26-Oct-12	0	■ Preliminary DBE Performance Plan																								
00.NTP.01120	Preliminary WD & SBE Performance Plan	1	26-Oct-12	26-Oct-12	0	■ Preliminary WD & SBE Performance Plan																								
00.NTP.01170	DBE Performance Plan	55	27-Oct-12	20-Dec-12	0	■ DBE Performance Plan																								
00.NTP.01180	WD & SBE Performance Plan	55	27-Oct-12	20-Dec-12	0	■ WD & SBE Performance Plan																								
00.CCC.00170	Insurance Policies	1	11-Dec-12	11-Dec-12	9	■ Insurance Policies																								
Conditions for Design						530	20-Nov-12	27-Jul-15	261																					
00.NTP.02180	Design Workshop	1	21-Dec-12	21-Dec-12	0	■ Design Workshop																								
00.NTP.02190	Design Unit Identification	1	21-Dec-12	21-Dec-12	29	■ Design Unit Identification																								
00.NTP.01150	Project Management Plan (A Requirements)	2	21-Dec-12	22-Dec-12	0	■ Project Management Plan (A Requirements)																								
00.NTP.02200	Design Review Plan/Schedule	2	21-Dec-12	22-Dec-12	0	■ Design Review Plan/Schedule																								
00.NTP.01110	DBE Performance Plan, IFA Comments	14	21-Dec-12	03-Jan-13	0	■ DBE Performance Plan, IFA Comments																								
00.NTP.01130	WD & SBE Performance Plan, IFA Comments	14	21-Dec-12	03-Jan-13	0	■ WD & SBE Performance Plan, IFA Comments																								
00.NTP.02240	Environmental Compliance & Mitigation Training Program	30	21-Dec-12	19-Jan-13	0	■ Environmental Compliance & Mitigation Training Program																								
00.NTP.01160	Project Management Plan, IFA Approval	28	23-Dec-12	19-Jan-13	0	■ Project Management Plan, IFA Approval																								
00.NTP.01190	Design Review Plan, IFA Approval	28	23-Dec-12	19-Jan-13	0	■ Design Review Plan, IFA Approval																								
00.NTP.02110	DBE Performance Plan, Required Revisions	2	04-Jan-13	05-Jan-13	0	■ DBE Performance Plan, Required Revisions																								
00.NTP.02130	WD & SBE Performance Plan, Required Revisions	2	04-Jan-13	05-Jan-13	0	■ WD & SBE Performance Plan, Required Revisions																								
00.NTP.02120	DBE Performance Plan, Final Submittal	7	06-Jan-13	12-Jan-13	0	■ DBE Performance Plan, Final Submittal																								
00.NTP.02140	WD & SBE Performance Plan, Final Submittal	7	06-Jan-13	12-Jan-13	0	■ WD & SBE Performance Plan, Final Submittal																								

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ▼ Summary

Technical Proposal

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017							
						Q3	Q4	Q1	Q2	Q3	Q4																		
00.NTP.02290	DBE Performance Plan, IFA Final Approval	7	13-Jan-13	19-Jan-13	0																								
00.NTP.02300	WD & SBE Performance Plan, IFA Final Approval	7	13-Jan-13	19-Jan-13	0																								
Jacobs Design Management		963	20-Nov-12	27-Jul-15	456																								
Preliminary Milestones & Completion Deadlines		963	20-Nov-12	27-Jul-15	456																								
PW10010	Notice of Award	0	20-Nov-12	20-Nov-12	42																								
PW10150	Begin NTP 1 Work	0	21-Dec-12	20-Nov-12	12																								
PW10560	Design Reports and Studies Development	48	20-Jan-13	08-Mar-13	0																								
PW10850	Final Design Complete	0		06-Feb-15	456																								
PW10880	Design Revisions and Optimization	169	07-Feb-15	27-Jul-15	456																								
Design Summary & Sections Coordination		526	21-Dec-12	08-Jun-14	694																								
PW10590	Tunnel Outline and Development Plan	90	21-Dec-12	22-Mar-13	86																								
Accident & Terrorist Vulnerability Assessment - (ATVA)		92	06-Jan-13	07-Apr-13	0																								
PW10870	Conduct ATVA Workshop	3	06-Jan-13	08-Jan-13	0																								
S5-10070	Threat Analysis	36	09-Jan-13	13-Feb-13	0																								
S5-10270	Vulnerability Analysis	22	07-Feb-13	28-Feb-13	0																								
S5-10360	Develop Risk Matrix	22	22-Feb-13	15-Mar-13	0																								
S5-10450	Terrorist Risk Analysis Workshop	3	16-Mar-13	18-Mar-13	0																								
S5-10460	Update Risk Matrix	20	19-Mar-13	07-Apr-13	0																								
Environmental		450	09-Mar-13	08-Jun-14	694																								
Permitting		45	09-Mar-13	22-Apr-13	0																								
PW10270	Update 401 / 404 Permit & Submit	45	09-Mar-13	22-Apr-13	0																								
PW10280	Update Wetland Permits & Submit	45	09-Mar-13	22-Apr-13	0																								
PW10290	Update Access Permits	45	09-Mar-13	22-Apr-13	0																								
Design Survey		43	21-Dec-12	03-Feb-13	12																								
PW10310	Assess Mapping Requirements (12/21/12)	7	21-Dec-12	28-Dec-12	12																								
PW10320	Prepare Survey Files for Design	43	21-Dec-12	03-Feb-13	12																								
PW10630	Conduct Field Survey	35	30-Dec-12	03-Feb-13	12																								
Geotechnical		245	04-Feb-13	09-Oct-13	932																								
PW10530	Geotechnical Planning Memorandum Report	47	04-Feb-13	22-Mar-13	12																								
S5-10600	Develop Drill Shaft Load Test Plans (Main Span Bridge)	60	09-Mar-13	07-May-13	18																								
PW10690	IFA Review of Final Planning Report	14	23-Mar-13	05-Apr-13	12																								
PW10700	Field Investigations Begin	1	06-Apr-13	06-Apr-13	12																								
PW10710	Review Geotech Final Design Report (Level of Effort)	183	07-Apr-13	09-Oct-13	932																								
PW10715	Finalize Design Memorandum (follows individual reports within ...)	45	25-Aug-13	09-Oct-13	932																								
PW10860	Geotech Design Memorandum Complete	0		09-Oct-13	932																								
ITS (All Sections)		105	09-Mar-13	22-Jun-13	106																								
Financials		97	28-Dec-12	03-Apr-13	61																								
00.MST.01080	Financial Close Period	94	28-Dec-12	31-Mar-13	46																								
00.MST.01050	Financial Model Authentication	1	31-Dec-12	31-Dec-12	138																								
00.MST.01060	Financial Escrow/Model Update/Data Deposit	1	11-Jan-13	11-Jan-13	138																								
00.MST.01040	Financial Model Audit Update	1	03-Apr-13	03-Apr-13	61																								
Conditions for NTP2		139	21-Dec-12	08-May-13	26																								
00.NTP.02160	Establish Interim Project Office	30	21-Dec-12	19-Jan-13	130																								
00.NTP.02210	Utility Owner Meetings	30	21-Dec-12	19-Jan-13	130																								
00.NTP.02220	(Initial) Utility Relocation Master Plan	30	21-Dec-12	19-Jan-13	130																								
00.NTP.02250	Environmental Compliance Plan	30	21-Dec-12	19-Jan-13	130																								
00.NTP.02260	Public Involvement Plan	30	21-Dec-12	19-Jan-13	81																								

█ Remaining Level of Effort █ Critical Remaining Work
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EAST END CROSSING

OHIO RIVER BRIDGES PROJECT

PRELIMINARY

PROJECT BASELINE SCHEDULE

WVB TECHNICAL PROPOSAL

VOLUME 2 APPENDICES

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017							
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
00.NTP.02270	Emergency Plan	60	21-Dec-12	18-Feb-13	100																								
00.NTP.01140	Team Building Workshop	90	21-Dec-12	20-Mar-13	75																								
00.NTP.02170	Establish Project Office	90	21-Dec-12	20-Mar-13	70																								
00.NTP.02230	Project Baseline Schedule	90	21-Dec-12	20-Mar-13	21																								
00.NTP.02280	Safety Plan	90	21-Dec-12	20-Mar-13	21																								
00.NTP.02150	Field Office Coordination Meeting	1	05-Jan-13	05-Jan-13	144																								
00.NTP.02310	IFA Approval of NTP 2 Requirements	28	21-Mar-13	17-Apr-13	21																								
00.CCC.00150	Payment Bond/Performance Security	1	01-Apr-13	01-Apr-13	58																								
00.CCC.00160	Guarantee(s) in Favor of IFA	1	01-Apr-13	01-Apr-13	58																								
00.CCC.00190	Warranties of Developer	1	01-Apr-13	01-Apr-13	58																								
00.NTP.02320	Address IFA Review Comments and Resubmit	7	18-Apr-13	24-Apr-13	21																								
00.NTP.02330	IFA Approval of NTP2 Resubmittals	14	25-Apr-13	08-May-13	21																								
Conditions for Commencement of Construction		243	21-Dec-12	20-Aug-13	429	20-Aug-13, Conditions for Commencement of Construction																							
00.CCC.00210	Written Policies for Ethical Standards	90	21-Dec-12	20-Mar-13	75																								
00.CCC.00100	Project Management Plan (B Requirements)	60	23-Dec-12	20-Feb-13	103																								
00.CCC.00110	Quality Plan	60	23-Dec-12	20-Feb-13	103																								
00.CCC.00200	Access & Mobility Plan	1	21-Mar-13	21-Mar-13	46																								
00.CCC.00300	Mobilize Equipment (Not Conditional Item)	75	01-Apr-13	14-Jun-13	46																								
00.CCC.00330	Temporary Traffic Control Plan	60	04-Apr-13	02-Jun-13	0																								
00.CCC.00220	Section 4: Erosion and Sediment Control Plan	28	24-Apr-13	21-May-13	0																								
00.CCC.00230	Section 4: Risk Management Plan	28	24-Apr-13	21-May-13	0																								
00.CCC.00240	Section 4: KY Pollution Discharge Elimination System	28	24-Apr-13	21-May-13	0																								
00.CCC.00250	Section 5: Rule 5 Pollution Discharge Elimination System	28	24-Apr-13	21-May-13	0																								
00.CCC.00120	Government Approvals for Construction	5	09-May-13	13-May-13	21																								
00.CCC.00130	Right of Entry Agreement(s)	5	09-May-13	13-May-13	21																								
00.CCC.00140	NEPA Approval	5	09-May-13	13-May-13	21																								
00.CCC.00270	Site Surveys & Investigations	5	09-May-13	13-May-13	21																								
00.CCC.00280	Material Certifications / Fabricator List	5	09-May-13	13-May-13	21																								
00.CCC.00290	MOT Meeting	1	21-May-13	22-May-13	13																								
00.CCC.00260	Section 6: Rule 5 Pollution Discharge Elimination System	28	24-Jul-13	20-Aug-13	429																								
Environmental Considerations		1551	01-Apr-13	29-Jun-17	0	29-Jun-17, Environmental Considerations																							
00.ENV.20000	Channel Work Restriction - Fish Spawning 2013	91	01-Apr-13*	30-Jun-13	0																								
00.ENV.10000	Indiana Bat Work Restriction - 2013	137	01-Apr-13*	15-Aug-13	0																								
00.ENV.20010	Channel Work Restriction - Fish Spawning 2014	91	01-Apr-14*	30-Jun-14	0																								
00.ENV.10010	Indiana Bat Work Restriction - 2014	137	01-Apr-14*	15-Aug-14	0																								
00.ENV.20020	Channel Work Restriction - Fish Spawning 2015	91	01-Apr-15*	30-Jun-15	0																								
00.ENV.10020	Indiana Bat Work Restriction - 2015	137	01-Apr-15*	15-Aug-15	0																								
00.ENV.20030	Channel Work Restriction - Fish Spawning 2016	91	01-Apr-16*	30-Jun-16	0																								
00.ENV.10030	Indiana Bat Work Restriction - 2016	137	01-Apr-16*	15-Aug-16	0																								
00.ENV.10040	Indiana Bat Work Restriction - 2017	90	01-Apr-17*	29-Jun-17	0																								
00.ENV.20040	Channel Work Restriction - Fish Spawning 2017	90	01-Apr-17*	29-Jun-17	0																								
Section 4 - Kentucky Approach		777	21-Dec-12	31-Oct-16	21	31-Oct-16, Section 4 - Kentucky Approach																							
Right of Way Acquisitions		46	21-Dec-12	31-Mar-13	652	31-Mar-13, Right of Way Acquisitions																							
04.ROW.43095	Parcel 95: Temporary Easement Restriction - Filed Suit	1	21-Dec-12	21-Dec-12	704																								
04.ROW.43071	Parcel 71: Temporary Easement Restriction - Filed Suit	11	21-Dec-12	31-Dec-12	1273																								

█ Remaining Level of Effort █ Critical Remaining Work
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OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

VOLUME 2 APPENDICES

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017							
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
04.ROW.44125	Parcel 125: Temporary Easement Restriction	11	21-Dec-12	23-Jan-13	147																								
04.ROW.44127	Parcel 127: Permanent Easement Restriction	11	21-Dec-12	23-Jan-13	147																								
04.ROW.42049	Parcel 49: Permanent/Temporary Easement Restriction - Filed ...	101	21-Dec-12	31-Mar-13	911																								
04.ROW.42058	Parcel 58: Temporary Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	400																								
04.ROW.42060	Parcel 60: Temporary Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	78																								
04.ROW.43050	Parcel 50: Permanent Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	604																								
04.ROW.44115	Parcel 115: Permanent Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	604																								
04.ROW.44117	Parcel 117: Permanent Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	604																								
04.ROW.44120	Parcel 120: Temporary Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	718																								
04.ROW.44121	Parcel 121: Permanent Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	179																								
04.ROW.44110	Parcel 110: Permanent Easement Restriction - Filed Suit	101	21-Dec-12	31-Mar-13	688																								
Utility Relocations		896	21-Dec-12	04-Jun-15	350	▶ 04-Jun-15, Utility Relocations																							
Springdale Road		896	21-Dec-12	04-Jun-15	298	▶ 04-Jun-15, Springdale Road																							
04.UTL.00100	AT&T at Springdale Road, Type 1	30	21-Dec-12	19-Jan-13	355																								
04.UTL.00125	Louisville Water Co. at Springdale Road, Type 1	284	21-Dec-12	30-Sep-13	688																								
04.UTL.00120	Louisville G&E (Electric) at Springdale Road, Type 3	896	21-Dec-12	04-Jun-15	298																								
04.UTL.00110	AT&T at Springdale Road, Type 3	161	20-Jan-13	29-Jun-13	355																								
Wolf Pen Road		413	21-Dec-12	06-Feb-14	559	▶ 06-Feb-14, Wolf Pen Road																							
04.UTL.00150	Louisville G&E (Electric) at Wolf Pen, Type 3	116	21-Dec-12	15-Apr-13	856																								
04.UTL.00130	Insight Communications at Wolf Pen, Type 2	130	21-Dec-12	29-Apr-13	842																								
04.UTL.00160	Louisville Water Co. at Wolf Pen, Type 1	150	21-Dec-12	19-May-13	822																								
04.UTL.00140	Louisville G&E (Gas) at Wolf Pen, Type 3	186	21-Dec-12	24-Jun-13	786																								
04.UTL.00170	Metropolitan Sewer District at Wolf Pen, Type 1	284	21-Dec-12	30-Sep-13	609																								
04.UTL.00350	AT&T at Wolf Pen, Type 3	413	21-Dec-12	06-Feb-14	480																								
US-42		120	21-Dec-12	19-Apr-13	821	▶ 19-Apr-13, US-42																							
04.UTL.00500	AT&T at US-42, Type 1	120	21-Dec-12	19-Apr-13	821																								
04.UTL.00510	Louisville G&E (Electric) at US-42, Type 1	120	21-Dec-12	19-Apr-13	146																								
Shadowwood Subdivision		576	21-Dec-12	19-Jul-14	670	▶ 19-Jul-14, Shadowwood Subdivision																							
04.UTL.00190	AT&T at Shadowwood Subdivision, Type 1	131	21-Dec-12	30-Apr-13	415																								
04.UTL.00200	Insight at Shadowwood Subdivision, Type 1	131	21-Dec-12	30-Apr-13	415																								
04.UTL.00210	Louisville G&E (Gas) at Shadowwood, Type 1	131	21-Dec-12	30-Apr-13	415																								
04.UTL.00220	Louisville G&E (Electric) at Shadowwood, Type 1	131	21-Dec-12	30-Apr-13	415																								
04.UTL.00250	Metropolitan Sewer District at Shadowwood, Type 2	255	21-Dec-12	01-Sep-13	291																								
04.UTL.00240	Louisville Water Co. at Shadowwood, Type 2	284	09-Oct-13	19-Jul-14	670																								
River Road		702	21-Dec-12	22-Nov-14	521	▶ 22-Nov-14, River Road																							
04.UTL.00260	AT&T at River Road, Type 1	131	21-Dec-12	30-Apr-13	149																								
04.UTL.00270	Insight at River Road, Type 1	131	21-Dec-12	30-Apr-13	149																								
04.UTL.00280	Louisville G&E (Electric) at River Road, Type 1	131	21-Dec-12	30-Apr-13	961																								
04.UTL.00290	Louisville Water Co. at River Road, Type 2	410	09-Oct-13	22-Nov-14	521																								
Transylvania Ave. & Sta. 186+50		702	21-Dec-12	22-Nov-14	521	▶ 22-Nov-14, Transylvania Ave. & Sta. 186+50																							
04.UTL.00300	AT&T at Transylvania Ave., Type 1	131	21-Dec-12	30-Apr-13	1092																								
04.UTL.00310	Louisville G&E (Electric) at Transylvania Ave., Type 1	131	01-May-13	08-Sep-13	961																								
04.UTL.00360	Louisville Water Co. at Trans Ave., Type 2	410	09-Oct-13	22-Nov-14	521																								
Transylvania Beach Road		131	21-Dec-12	30-Apr-13	1092	▶ 30-Apr-13, Transylvania Beach Road																							
04.UTL.00320	AT&T at Transylvania Beach Road, Type 1	131	21-Dec-12	30-Apr-13	1092																								
04.UTL.00330	Insight at Transylvania Beach Road, Type 1	131	21-Dec-12	30-Apr-13	1092																								

█ Remaining Level of Effort █ Critical Remaining Work
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OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2																
S4-13480	RFC Review Submittal	14	31-Aug-13	14-Sep-13	13																				
S4-13490	DQAM Review and Finding Resolution	14	31-Aug-13	14-Sep-13	13																				
Early RFC Review Package - Harrods Creek Bridge		17	14-Sep-13	01-Oct-13	13																				
S4-13920	RFC Review Complete	0		14-Sep-13	13																				
S4-13940	IFA Review & Comment	10	15-Sep-13	24-Sep-13	13																				
S4-13950	DQAM Review and Finding Resolution	10	15-Sep-13	24-Sep-13	13																				
S4-14320	Address Comments	3	25-Sep-13	27-Sep-13	13																				
S4-14430	IFA Final Review / Approval	4	28-Sep-13	01-Oct-13	13																				
S4-14570	Early Release to Contractor - Harrods Creek Approach Bridge F...	0		01-Oct-13	13																				
RFC Design - Harrods Creek Bridge		38	21-Sep-13	28-Oct-13	344																				
S4-15150	General Notes	7	21-Sep-13	27-Sep-13	358																				
S4-15510	Design / Detail Interior Bents - Sections & Details	17	21-Sep-13	07-Oct-13	348																				
S4-15140	QC Beam Design	21	21-Sep-13	11-Oct-13	344																				
S4-15170	Construction Sequence	21	21-Sep-13	11-Oct-13	344																				
S4-16440	Design / Detail Interior Bents - Bill of Reinforcement	10	08-Oct-13	17-Oct-13	348																				
S4-18160	QA / QC RFC Design	14	08-Oct-13	21-Oct-13	344																				
S4-18320	Address Stage 2 Review Comments	7	10-Oct-13	16-Oct-13	349																				
S4-16290	Release for Beam / Girder Fabrication	10	12-Oct-13	21-Oct-13	344																				
S4-18560	DQAM Review and Finding Resolution	4	22-Oct-13	25-Oct-13	344																				
S4-18800	RFC Review Submittal	3	26-Oct-13	28-Oct-13	344																				
RFC Review Package - Harrods Creek Bridge		27	28-Oct-13	24-Nov-13	344																				
S4-16780	RFC Review Complete	0		28-Oct-13	344																				
S4-16840	DQAM Review and Finding Resolution	7	29-Oct-13	04-Nov-13	344																				
S4-16830	IFA Review & Comment	15	29-Oct-13	12-Nov-13	344																				
S4-17480	Address Comments	5	13-Nov-13	17-Nov-13	344																				
S4-17950	IFA Final Review / Approval	7	18-Nov-13	24-Nov-13	344																				
S4-18210	Release to Contractor - Harrods Creek Approach Bridge Found...	0		24-Nov-13	344																				
Final Design - Harrods Creek Bridge		115	29-Oct-13	23-Feb-14	380																				
S4-18910	BR-01 - Bridge Load Ratings - Section 4	14	29-Oct-13	11-Nov-13	473																				
S4-18300	Framing Plan / BT Beam Report	42	25-Nov-13	08-Jan-14	380																				
S4-18310	Slab Design / Details	42	25-Nov-13	08-Jan-14	380																				
S4-20150	Estimate Quantities & Bearing Seat Elevations	28	09-Jan-14	05-Feb-14	380																				
S4-20160	Railing Design / Details	28	09-Jan-14	05-Feb-14	380																				
S4-20170	Approach Slab Design / Details	28	09-Jan-14	05-Feb-14	380																				
S4-20180	Deck Drains Design / Details	28	09-Jan-14	05-Feb-14	380																				
S4-20190	Miscellaneous Details	28	09-Jan-14	05-Feb-14	380																				
S4-21530	Superstructure - Bill of Materials	10	06-Feb-14	15-Feb-14	380																				
S4-21540	Construction Elevations	10	06-Feb-14	15-Feb-14	380																				
S4-21550	Bearing Assembly Details	10	06-Feb-14	15-Feb-14	380																				
S4-21860	QA / QC Final Design	5	11-Feb-14	15-Feb-14	380																				
S4-22270	Assemble & Submit Final Design	3	16-Feb-14	18-Feb-14	380																				
S4-21940	Final Design Submittal	7	17-Feb-14	23-Feb-14	380																				
S4-21950	DQAM Review and Finding Resolution	5	19-Feb-14	23-Feb-14	380																				
Final Design Review / Approval - Harrods Creek Bridge		23	23-Feb-14	18-Mar-14	380																				
S4-22360	Final Design Complete	0		23-Feb-14	380																				
S4-22370	IFA Document Completion Review	1	24-Feb-14	24-Feb-14	380																				

█ Remaining Level of Effort █ Critical Remaining Work
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EAST END CROSSING

PRELIMINARY

OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2																
S5-10060	Wind Climate Analysis	21	06-Mar-13	26-Mar-13	78																				
S5-10100	Sectional Model Test	49	06-Mar-13	23-Apr-13	59																				
S5-10290	Buffeting Analysis of Completed Bridge	21	17-Apr-13	07-May-13	59																				
S5-10300	Cable Vibration Assessment	21	17-Apr-13	07-May-13	151																				
S5-10380	Aeroelastic Model Test of Completed Bridge	70	08-May-13	18-Jul-13	151																				
S5-11000	Aeroelastic Model Test - Two Critical Construction Stages	56	19-Jul-13	13-Sep-13	151																				
Hydraulic Studies		78	06-Mar-13	22-May-13	21																				
S5-10130	Hydraulic Modeling / Analysis	50	06-Mar-13	24-Apr-13	21																				
S5-10370	Scour Analysis	14	25-Apr-13	08-May-13	21																				
S5-10420	Hydraulic Report	14	09-May-13	22-May-13	21																				
Main Span Bridge		616	20-Jan-13	06-Oct-14	540																				
Stage 1 Concept Design - (Cable-Stayed Bridge & Transition Spans)		149	20-Jan-13	18-Jun-13	18																				
S5-10030	Bridge Design Criteria	45	20-Jan-13	05-Mar-13	99																				
S5-10040	Value Engineer Bridge Design	45	20-Jan-13	05-Mar-13	21																				
S5-10090	Refine Bid Design	28	06-Mar-13	02-Apr-13	71																				
S5-10050	Develop Design Package	78	09-Mar-13	25-May-13	18																				
S5-10430	QA / QC Stage 1 Design	14	26-May-13	09-Jun-13	18																				
S5-10490	Assemble & Submit Stage 1 Design	3	10-Jun-13	12-Jun-13	18																				
S5-10500	DQAM Review and Finding Resolution	5	13-Jun-13	17-Jun-13	18																				
S5-10520	Stage 1 Design Submittal	1	18-Jun-13	18-Jun-13	18																				
Stage 1 Design Review Package		16	18-Jun-13	05-Jul-13	42																				
S5-10530	Stage 1 Design Complete	0		18-Jun-13	42																				
S5-10580	IFA Document Completion Review	1	19-Jun-13	19-Jun-13	42																				
S5-10670	IFA Review & Comment	15	20-Jun-13	05-Jul-13	42																				
Cable-Stayed Bridge		467	19-Jun-13	06-Oct-14	368																				
Foundations		208	19-Jun-13	17-Jan-14	441																				
Pier 2 Foundations		183	19-Jun-13	21-Dec-13	431																				
Stage 2 Design		50	19-Jun-13	08-Aug-13	431																				
Stage 2 Design Review Package		16	08-Aug-13	24-Aug-13	431																				
RFC Design		52	09-Aug-13	30-Sep-13	431																				
RFC Review Package		27	01-Oct-13	27-Oct-13	485																				
Final Design		58	01-Oct-13	27-Nov-13	431																				
Final Design Review Package		23	27-Nov-13	21-Dec-13	431																				
Tower 3 Foundations		149	19-Jun-13	16-Nov-13	84																				
Stage 2 Design		59	19-Jun-13	17-Aug-13	18																				
S5-10630	Tower 3 Foundation Design	50	19-Jun-13	08-Aug-13	18																				
S5-10810	Address Stage 1 Review Comments	10	06-Jul-13	15-Jul-13	42																				
S5-11190	QA / QC Stage 2 Design	14	26-Jul-13	08-Aug-13	18																				
S5-11350	Assemble & Submit Stage 2 Design	3	09-Aug-13	11-Aug-13	18																				
S5-11420	DQAM Review and Finding Resolution	5	12-Aug-13	16-Aug-13	18																				
S5-11480	Stage 2 Design Submittal	1	17-Aug-13	17-Aug-13	18																				
Stage 2 Design Review Package		16	17-Aug-13	03-Sep-13	18																				
S5-11400	Stage 2 Design Complete	0		17-Aug-13	18																				
S5-11430	IFA Document Completion Review	1	18-Aug-13	18-Aug-13	18																				
S5-11450	IFA Review & Comment	15	19-Aug-13	03-Sep-13	18																				
RFC/Final Design		76	09-Aug-13	24-Oct-13	84																				
S5-12990	Tower 3 Foundation Design	60	09-Aug-13	08-Oct-13	84																				

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OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

VOLUME 2 APPENDICES

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Superstructure																									
	Superstructure	299	20-Jun-13	19-Apr-14	669	19-Apr-14, Superstructure																			
	RFC Design	179	20-Jun-13	18-Dec-13	669	18-Dec-13, RFC Design																			
	RFC Review Package	27	19-Dec-13	16-Jan-14	669	16-Jan-14, RFC Review Package																			
	Final Design	70	17-Jan-14	27-Mar-14	669	27-Mar-14, Final Design																			
	Final Design Review Package	23	27-Mar-14	19-Apr-14	669	19-Apr-14, Final Design Review Package																			
Section 5 - ITS																									
	Section 5 - ITS	276	07-Jun-13	14-Mar-14	106	14-Mar-14, Section 5 - ITS																			
	Stage 2 Design	70	07-Jun-13	16-Aug-13	106	16-Aug-13, Stage 2 Design																			
	Stage 2 Design Review Package	37	08-Aug-13	14-Sep-13	106	14-Sep-13, Stage 2 Design Review Package																			
	RFC Design	79	15-Sep-13	03-Dec-13	106	03-Dec-13, RFC Design																			
	RFC Review Package	27	04-Dec-13	31-Dec-13	106	31-Dec-13, RFC Review Package																			
	Final Design	49	02-Jan-14	19-Feb-14	106	19-Feb-14, Final Design																			
	Final Design Review Package	23	19-Feb-14	14-Mar-14	106	14-Mar-14, Final Design Review Package																			
Construction																									
	Construction	756	21-Jan-13	11-Oct-16	12	11-Oct-16, Construction																			
	05.CON.00100 Permit and Develop Offsite Pre-Cast Yard	110	21-Jan-13	01-Aug-13	54	Permit and Develop Offsite Pre-Cast Yard																			
Manufacturer Shop Drawings/Product Details																									
	Manufacturer Shop Drawings/Product Details	164	09-Jun-14	02-Apr-15	61	02-Apr-15, Manufacturer Shop Drawings/Product Details																			
	05.SHP.00100 Structural Steel Plate Design/Requirements	30	09-Jun-14	08-Jul-14	234	Structural Steel Plate Design/Requirements																			
	05.SHP.00110 Structural Steel Fabrication Shop Drawings	90	07-Oct-14	02-Apr-15	61	Structural Steel Fabrication Shop Drawings																			
Material Procurement / Fabrication																									
	Material Procurement / Fabrication	418	09-Sep-13	04-Oct-15	54	04-Oct-15, Material Procurement / Fabrication																			
	05.MAT.00120 Early Reinforcing Steel Release for Tub/Shafts	20	09-Sep-13	10-Oct-13	12	Early Reinforcing Steel Release for Tub/Shafts																			
	05.MAT.00100 Release/Production of Plate Material from Steel Mill	90	09-Jul-14	06-Oct-14	234	Release/Production of Plate Material from Steel Mill																			
	05.MAT.00130 Fabrication of PT Strand/Anchor Heads	270	07-Oct-14	03-Jul-15	67	Fabrication of PT Strand/Anchor Heads																			
	05.MAT.00110 Structural Steel Fabrication	240	07-Feb-15	04-Oct-15	111	Structural Steel Fabrication																			
Initial Erosion Control and Shore Access																									
	Initial Erosion Control and Shore Access	10	25-Jun-13	11-Jul-13	68	11-Jul-13, Initial Erosion Control and Shore Access																			
	05.ENV.00100 Launch Barges and Setup Drill Rig/Cranes	10	25-Jun-13	11-Jul-13	68	Launch Barges and Setup Drill Rig/Cranes																			
Approach Substructure																									
	Approach Substructure	534	23-Sep-13	31-May-16	21	31-May-16, Approach Substructure																			
End Pier 1																									
	End Pier 1	45	01-Jul-14	12-Sep-14	320	12-Sep-14, End Pier 1																			
	04.EP1.01100 Install H-Pile Foundations	15	01-Jul-14	24-Jul-14	246	Install H-Pile Foundations																			
	04.EP1.01120 F/P/S Footing	10	25-Jul-14	08-Aug-14	320	F/P/S Footing																			
	04.EP1.01130 F/P/S Columns	10	11-Aug-14	26-Aug-14	320	F/P/S Columns																			
	04.EP1.01140 F/P/S Pier Cap	10	27-Aug-14	12-Sep-14	320	F/P/S Pier Cap																			
Anchor Pier 2																									
	Anchor Pier 2	222	23-Sep-13	24-Oct-14	295	24-Oct-14, Anchor Pier 2																			
	05.AP2.02130 Construct Land Access to Pier 2	15	23-Sep-13	15-Oct-13	269	Construct Land Access to Pier 2																			
	05.AP2.02100 Install Drilled Shaft Foundations	20	07-Jul-14	04-Aug-14	132	Install Drilled Shaft Foundations																			
	05.AP2.02110 F/P/S Footing	10	05-Aug-14	21-Aug-14	195	F/P/S Footing																			
	05.AP2.02120 F/P/S Columns	10	22-Aug-14	08-Sep-14	195	F/P/S Columns																			
	05.AP2.02150 Install Falsework for Pier Cap	5	09-Sep-14	16-Sep-14	195	Install Falsework for Pier Cap																			
	05.AP2.02160 F/P/S Pier Cap	10	17-Sep-14	30-Sep-14	195	F/P/S Pier Cap																			
	05.AP2.02190 F/P/S Pier Bearing Wall	10	02-Oct-14	17-Oct-14	195	F/P/S Pier Bearing Wall																			
	05.AP2.02180 Install Bearing Assemblies	3	20-Oct-14	22-Oct-14	297	Install Bearing Assemblies																			
	05.AP2.02200 Remove Pier Cap Falsework	5	20-Oct-14	24-Oct-14	195	Remove Pier Cap Falsework																			
Anchor Pier 5																									
	Anchor Pier 5	252	24-Oct-13	11-Feb-15	245	11-Feb-15, Anchor Pier 5																			
	05.AP5.05130 Construct Land Access to Pier 5	15	24-Oct-13	15-Nov-13	269	Construct Land Access to Pier 5																			
	05.AP5.05100 Install Drilled Shaft Foundations	20	05-Aug-14	08-Sep-14	132	Install Drilled Shaft Foundations																			
	05.AP5.05110 F/P/S Footing	10	27-Oct-14	10-Nov-14	195	F/P/S Footing																			
	05.AP5.05120 F/P/S Columns	10	11-Nov-14	26-Nov-14	195	F/P/S Columns																			
	05.AP5.05150 Install Falsework for Pier Cap	5	01-Dec-14	10-Dec-14	195	Install Falsework for Pier Cap																			
	05.AP5.05160 F/P/S Pier Cap	10	12-Dec-14	07-Jan-15	195	F/P/S Pier Cap																			
	05.AP5.05190 F/P/S Pier Bearing Wall	10	09-Jan-15	30-Jan-15	195	F/P/S Pier Bearing Wall																			

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ▼ Summary

Technical Proposal

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Utility Relocations						▼ 16-Sep-15, Utility Relocations																			
River Road						▼ 30-Apr-13, River Road																			
06.UTL.00100	AT&T at River Road, Type 1	131	21-Dec-12	30-Apr-13	34	AT&T at River Road, Type 1																			
06.UTL.00120	Duke Energy at River Road, Type 1	131	21-Dec-12	30-Apr-13	34	Duke Energy at River Road, Type 1																			
06.UTL.00130	Insight at River Road, Type 1	131	21-Dec-12	30-Apr-13	34	Insight at River Road, Type 1																			
Station 244+50						▼ 25-Dec-13, Station 244+50																			
06.UTL.00140	Vectren Transmission crossing @ Sta. 244+50, Type 3	260	21-Dec-12	06-Sep-13	579	Vectren Transmission crossing @ Sta. 244+50, Type 3																			
06.UTL.00150	Watson Rural Water Co. crossing @ Sta. 244+50, Type 2	370	21-Dec-12	25-Dec-13	469	Watson Rural Water Co. crossing @ Sta. 244+50, Type 2																			
Salem Road						▼ 25-Feb-13, Salem Road																			
06.UTL.00160	Jeffersonville Wastewater at Salem Road, Type 1	67	21-Dec-12	25-Feb-13	660	Jeffersonville Wastewater at Salem Road, Type 1																			
BrookHollow Subdivision						▼ 24-Aug-13, BrookHollow Subdivision																			
06.UTL.00230	Watson Rural Water Co. at Brookhollow, Type 2 or 3	188	21-Dec-12	26-Jun-13	719	Watson Rural Water Co. at Brookhollow, Type 2 or 3																			
06.UTL.00220	Vectren Distribution at Brookhollow, Type 3	210	21-Dec-12	18-Jul-13	697	Vectren Distribution at Brookhollow, Type 3																			
06.UTL.00170	AT&T at Brookhollow, Type 2	230	21-Dec-12	07-Aug-13	677	AT&T at Brookhollow, Type 2																			
06.UTL.00190	Clark Co. REMC at Brookhollow, Type 2 or 3	230	21-Dec-12	07-Aug-13	677	Clark Co. REMC at Brookhollow, Type 2 or 3																			
06.UTL.00210	Insight at Brookhollow, Type 2	230	21-Dec-12	07-Aug-13	677	Insight at Brookhollow, Type 2																			
06.UTL.00250	Duke Energy at Brookhollow, Type 3	230	21-Dec-12	07-Aug-13	677	Duke Energy at Brookhollow, Type 3																			
06.UTL.00180	Jeffersonville Wastewater at Brookhollow, Type 2 or 3	180	26-Feb-13	24-Aug-13	660	Jeffersonville Wastewater at Brookhollow, Type 2 or 3																			
Utica Sellersburg						▼ 24-Jan-14, Utica Sellersburg																			
06.UTL.00290	Vectren Distribution at Utica Sellersburg, Type 3	220	21-Dec-12	28-Jul-13	760	Vectren Distribution at Utica Sellersburg, Type 3																			
06.UTL.00240	AT&T at Utica Sellersburg, Type 2	230	21-Dec-12	07-Aug-13	750	AT&T at Utica Sellersburg, Type 2																			
06.UTL.00260	Clark Co. REMC at Utica Sellersburg, Type 1	230	21-Dec-12	07-Aug-13	783	Clark Co. REMC at Utica Sellersburg, Type 1																			
06.UTL.00280	Insight Communications at Utica Sellersburg, Type 2	230	21-Dec-12	07-Aug-13	750	Insight Communications at Utica Sellersburg, Type 2																			
06.UTL.00300	Watson Rural Water Co. at Utica Sellersburg, Type 2	315	21-Dec-12	31-Oct-13	665	Watson Rural Water Co. at Utica Sellersburg, Type 2																			
06.UTL.00270	Level 3 at Utica Sellersburg, Type 2	400	21-Dec-12	24-Jan-14	580	Level 3 at Utica Sellersburg, Type 2																			
Station 358+00						▼ 10-Dec-14, Station 358+00																			
06.UTL.00310	Duke Energy crossing @ Sta. 358+00, Type 3	720	21-Dec-12	10-Dec-14	463	Duke Energy crossing @ Sta. 358+00, Type 3																			
06.UTL.00390	Clark Co REMC @ Sta. 358+00, Type 3	200	25-May-14	10-Dec-14	516	Clark Co REMC @ Sta. 358+00, Type 3																			
SR-62 / 265 / Port Road						▼ 16-Sep-15, SR-62 / 265 / Port Road																			
06.UTL.00320	AT&T at SR-62 / 265 / Port Road, Type 2	230	21-Dec-12	07-Aug-13	572	AT&T at SR-62 / 265 / Port Road, Type 2																			
06.UTL.00350	IN American Water at SR-62 / 265 / Port Road, Type 2	284	21-Dec-12	30-Sep-13	518	IN American Water at SR-62 / 265 / Port Road, Type 2																			
06.UTL.00330	Jeffersonville Wastewater at SR-62 / 265 / Port Road, Abandon...	365	21-Dec-12	20-Dec-13	437	Jeffersonville Wastewater at SR-62 / 265 / Port Road, Abandonment																			
06.UTL.00360	Level 3 at SR-62 / 265 / Port Road, Type 2	365	21-Dec-12	20-Dec-13	437	Level 3 at SR-62 / 265 / Port Road, Type 2																			
06.UTL.00380	Watson Rural Water Co. at SR-62 / 265 / Port Road, Type 2	365	21-Dec-12	20-Dec-13	437	Watson Rural Water Co. at SR-62 / 265 / Port Road, Type 2																			
06.UTL.00340	Duke Energy at SR-62 / 265 / Port Road, Type 3	1000	21-Dec-12	16-Sep-15	396	Duke Energy at SR-62 / 265 / Port Road, Type 3																			
Restricted Work Zones						▼ 31-Dec-13, Restricted Work Zones																			
06.RWZ.06100	Boulder Creek Sanitary Sewer Pump Station	0		31-Dec-13*	0	◆ Boulder Creek Sanitary Sewer Pump Station																			
06.RWZ.06200	Excavation Restriction along SR-62 for Sanitary Sewer Relocation	0		31-Dec-13*	0	◆ Excavation Restriction along SR-62 for Sanitary Sewer Relocation																			
Design						▼ 07-May-14, Design																			
Roadwork - South						▼ 10-Mar-14, Roadwork - South																			
Roadway						▼ 20-Feb-14, Roadway																			
Stage 1 Design - Roadway						▼ 03-Jun-13, Stage 1 Design - Roadway																			
Stage 1 Design Review Package - Roadway						▼ 26-Jun-13, Stage 1 Design Review Package - Roadway																			
Stage 2 Design - Roadway						▼ 20-Sep-13, Stage 2 Design - Roadway																			
Stage 2 Design Review Package - Roadway						▼ 13-Oct-13, Stage 2 Design Review Package - Roadway																			
RFC Design - Roadway						▼ 23-Nov-13, RFC Design - Roadway																			
RFC Review Package - Roadway						▼ 21-Dec-13, RFC Review Package - Roadway																			

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ▼ Summary



EAST END CROSSING

PRELIMINARY

OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2																
	Bridge Structures No. 14																								
	Stage 2 Design Review Package - Bridge Structures No. 14	29	21-Jul-13	18-Aug-13	569																				
	RFC Design - Bridge Structures No. 14	43	21-Jul-13	01-Sep-13	569																				
	RFC Review Package - Bridge Structures No. 14	29	01-Sep-13	01-Oct-13	569																				
	Final Design - Bridge Structures No. 14	31	02-Oct-13	01-Nov-13	662																				
	Final Design Review / Approval - Bridge Structures No. 14	23	01-Nov-13	24-Nov-13	662																				
	Bridge Structures No. 15																								
	Stage 1 Design - Bridge Structures No. 15	43	14-Aug-13	26-Sep-13	421																				
	Stage 1 Design Review Package - Bridge Structures No. 15	29	27-Sep-13	25-Oct-13	428																				
	Stage 2 Design - Bridge Structures No. 15	50	27-Sep-13	15-Nov-13	421																				
	Stage 2 Design Review Package - Bridge Structures No. 15	29	16-Nov-13	15-Dec-13	421																				
	RFC Design - Bridge Structures No. 15	43	16-Nov-13	30-Dec-13	421																				
	RFC Review Package - Bridge Structures No. 15	29	30-Dec-13	29-Jan-14	421																				
	Final Design - Bridge Structures No. 15	30	30-Jan-14	28-Feb-14	421																				
	Final Design Review / Approval - Bridge Structures No. 15	23	28-Feb-14	23-Mar-14	421																				
	Bridge Structures No. 16																								
	Stage 1 Design - Bridge Structures No. 16	48	07-Apr-13	24-May-13	596																				
	Stage 1 Design Review Package - Bridge Structures No. 16	29	25-May-13	23-Jun-13	603																				
	Stage 2 Design - Bridge Structures No. 16	50	25-May-13	15-Jul-13	596																				
	Stage 2 Design Review Package - Bridge Structures No. 16	29	16-Jul-13	13-Aug-13	596																				
	RFC Design - Bridge Structures No. 16	43	16-Jul-13	27-Aug-13	596																				
	RFC Review Package - Bridge Structures No. 16	29	27-Aug-13	26-Sep-13	596																				
	Final Design - Bridge Structures No. 16	31	27-Sep-13	27-Oct-13	596																				
	Final Design Review / Approval - Bridge Structures No. 16	23	27-Oct-13	19-Nov-13	596																				
	Bridge Structures No. 17																								
	Stage 1 Design - Bridge Structures No. 17	48	19-May-13	07-Jul-13	534																				
	Stage 1 Design Review Package - Bridge Structures No. 17	29	08-Jul-13	05-Aug-13	552																				
	Stage 2 Design - Bridge Structures No. 17	61	08-Jul-13	07-Sep-13	534																				
	Stage 2 Design Review Package - Bridge Structures No. 17	29	08-Sep-13	06-Oct-13	541																				
	RFC Design - Bridge Structures No. 17	50	08-Sep-13	27-Oct-13	534																				
	RFC Review Package - Bridge Structures No. 17	29	27-Oct-13	25-Nov-13	534																				
	Final Design - Bridge Structures No. 17	35	26-Nov-13	02-Jan-14	539																				
	Final Design Review / Approval - Bridge Structures No. 17	23	02-Jan-14	25-Jan-14	539																				
	Bridge Structures No. 19																								
	Stage 1 Design - Bridge Structures No. 19	43	28-Apr-13	10-Jun-13	576																				
	Stage 1 Design Review Package - Bridge Structures No. 19	30	11-Jun-13	11-Jul-13	582																				
	Stage 2 Design - Bridge Structures No. 19	50	11-Jun-13	31-Jul-13	576																				
	Stage 2 Design Review Package - Bridge Structures No. 19	30	01-Aug-13	30-Aug-13	576																				
	RFC Design - Bridge Structures No. 19	44	01-Aug-13	14-Sep-13	576																				
	RFC Review Package - Bridge Structures No. 19	29	14-Sep-13	13-Oct-13	576																				
	Final Design - Bridge Structures No. 19	37	14-Oct-13	19-Nov-13	576																				
	Final Design Review / Approval - Bridge Structures No. 19	23	19-Nov-13	13-Dec-13	576																				
	Bridge Structures No. 20																								
	Stage 1 Design - Bridge Structures No. 20	43	10-Jun-13	23-Jul-13	541																				
	Stage 1 Design Review Package - Bridge Structures No. 20	30	24-Jul-13	22-Aug-13	546																				
	Stage 2 Design - Bridge Structures No. 20	49	24-Jul-13	11-Sep-13	541																				
	Stage 2 Design Review Package - Bridge Structures No. 20	30	12-Sep-13	11-Oct-13	541																				
	RFC Design - Bridge Structures No. 20	44	12-Sep-13	25-Oct-13	541																				
	RFC Review Package - Bridge Structures No. 20	29	25-Oct-13	23-Nov-13	541																				
	Final Design - Bridge Structures No. 20	31	24-Nov-13	26-Dec-13	541																				
	Final Design Review / Approval - Bridge Structures No. 20	23	26-Dec-13	19-Jan-14	541																				
	Bridge Structures No. 25																								
	Stage 1 Design - Bridge Structures No. 25	212	22-Aug-13	25-Mar-14	665																				

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ▬ Summary

Technical Proposal



EAST END CROSSING

PRELIMINARY

OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017			
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Construction						07-Apr-16, Construction																			
06.CCC.00100	Construct Temporary Yard - Indiana Approach	25	17-Jun-13	25-Jul-13	311	Construct Temporary Yard - Indiana Approach																			
06.CCC.00300	Construct Haul Road/Creek Crossings from Salem Rd. to River ...	20	17-Jan-14	26-Feb-14	217	Construct Haul Road/Creek Crossings from Salem Rd. to River Bank																			
06.CCC.00200	Setup Crushing Plant at Salem Road Interchange	20	03-Apr-14	06-May-14	312	Setup Crushing Plant at Salem Road Interchange																			
06.CCC.00400	Setup PCC Batch Plant at Salem Road Interchange	30	08-May-14	27-Jun-14	409	Setup PCC Batch Plant at Salem Road Interchange																			
06.CCC.00210	Acquire INDOT Aggregate Plant Producer ID	30	08-May-14	27-Jun-14	312	Acquire INDOT Aggregate Plant Producer ID																			
Manufacturer Shop Drawings/Product Details						09-May-14, Manufacturer Shop Drawings/Product Details																			
06.SHP.00170	Bridge 14: Prestressed Beams and Overhang Designs	20	02-Oct-13	21-Oct-13	578	Bridge 14: Prestressed Beams and Overhang Designs																			
06.SHP.00160	Bridge 13: Prestressed Beams and Overhang Designs	20	24-Nov-13	13-Dec-13	542	Bridge 13: Prestressed Beams and Overhang Designs																			
06.SHP.00200	Bridge 17: Prestressed Beams and Overhang Designs	20	26-Nov-13	15-Dec-13	543	Bridge 17: Prestressed Beams and Overhang Designs																			
06.SHP.00280	Bridge 14: MSE Wall	30	03-Jan-14	01-Feb-14	602	Bridge 14: MSE Wall																			
06.SHP.00150	Bridge 12: Prestressed Beams and Overhang Designs	20	29-Jan-14	17-Feb-14	518	Bridge 12: Prestressed Beams and Overhang Designs																			
06.SHP.00270	Bridge 11/12: MSE Wall	45	29-Jan-14	14-Mar-14	428	Bridge 11/12: MSE Wall																			
06.SHP.00180	Bridge 15: Prestressed Beams and Overhang Designs	20	30-Jan-14	18-Feb-14	495	Bridge 15: Prestressed Beams and Overhang Designs																			
06.SHP.00240	Bridge 25: Prestressed Beams and Overhang Designs	20	03-Feb-14	22-Feb-14	741	Bridge 25: Prestressed Beams and Overhang Designs																			
06.SHP.00290	Bridge 25: MSE Wall	30	03-Feb-14	04-Mar-14	679	Bridge 25: MSE Wall																			
06.SHP.00260	Bridges 9/10: MSE Wall	30	04-Feb-14	05-Mar-14	766	Bridges 9/10: MSE Wall																			
06.SHP.00140	Bridge 11: Prestressed Beams and Overhang Designs	20	18-Feb-14	09-Mar-14	818	Bridge 11: Prestressed Beams and Overhang Designs																			
06.SHP.00120	Bridge 9: Prestressed Beams and Overhang Designs	20	19-Feb-14	10-Mar-14	648	Bridge 9: Prestressed Beams and Overhang Designs																			
06.SHP.00250	Bridge 26: Prestressed Beams and Overhang Designs	20	23-Feb-14	14-Mar-14	764	Bridge 26: Prestressed Beams and Overhang Designs																			
06.SHP.00300	Bridge 26: MSE Wall	30	05-Mar-14	03-Apr-14	701	Bridge 26: MSE Wall																			
06.SHP.00130	Bridge 10: Prestressed Beams and Overhang Designs	20	11-Mar-14	30-Mar-14	648	Bridge 10: Prestressed Beams and Overhang Designs																			
06.SHP.00100	Bridge 6: Prestressed Beams and Overhang Designs	20	31-Mar-14	19-Apr-14	658	Bridge 6: Prestressed Beams and Overhang Designs																			
06.SHP.00110	Bridge 7: Prestressed Beams and Overhang Designs	20	20-Apr-14	09-May-14	792	Bridge 7: Prestressed Beams and Overhang Designs																			
Material Procurement / Fabrication						08-Jun-14, Material Procurement / Fabrication																			
06.MAT.00170	Bridge 14: Prestressed Beams and Embeds	30	22-Oct-13	20-Nov-13	741	Bridge 14: Prestressed Beams and Embeds																			
06.MAT.00200	Bridge 17: Prestressed Beams and Embeds	30	16-Dec-13	14-Jan-14	543	Bridge 17: Prestressed Beams and Embeds																			
06.MAT.00160	Bridge 13: Prestressed Beams and Embeds	30	15-Jan-14	13-Feb-14	543	Bridge 13: Prestressed Beams and Embeds																			
06.MAT.00280	Bridge 14: MSE Wall	30	02-Feb-14	03-Mar-14	602	Bridge 14: MSE Wall																			
06.MAT.00150	Bridge 12: Prestressed Beams and Embeds	30	18-Feb-14	19-Mar-14	518	Bridge 12: Prestressed Beams and Embeds																			
06.MAT.00180	Bridge 15: Prestressed Beams and Embeds	30	19-Feb-14	20-Mar-14	495	Bridge 15: Prestressed Beams and Embeds																			
06.MAT.00240	Bridge 25: Prestressed Beams and Embeds	30	23-Feb-14	24-Mar-14	741	Bridge 25: Prestressed Beams and Embeds																			
06.MAT.00290	Bridge 25: MSE Wall	30	05-Mar-14	03-Apr-14	679	Bridge 25: MSE Wall																			
06.MAT.00250	Bridge 26: Prestressed Beams and Embeds	30	15-Mar-14	13-Apr-14	764	Bridge 26: Prestressed Beams and Embeds																			
06.MAT.00270	Bridge 11/12: MSE Wall	30	15-Mar-14	13-Apr-14	428	Bridge 11/12: MSE Wall																			
06.MAT.00140	Bridge 11: Prestressed Beams and Embeds	30	21-Mar-14	19-Apr-14	807	Bridge 11: Prestressed Beams and Embeds																			
06.MAT.00130	Bridge 10: Prestressed Beams and Embeds	30	31-Mar-14	29-Apr-14	648	Bridge 10: Prestressed Beams and Embeds																			
06.MAT.00300	Bridge 26: MSE Wall	30	04-Apr-14	03-May-14	701	Bridge 26: MSE Wall																			
06.MAT.00120	Bridge 9: Prestressed Beams and Embeds	30	14-Apr-14	13-May-14	764	Bridge 9: Prestressed Beams and Embeds																			
06.MAT.00100	Bridge 6: Prestressed Beams and Embeds	30	30-Apr-14	29-May-14	648	Bridge 6: Prestressed Beams and Embeds																			
06.MAT.00260	Bridges 9/10: MSE Wall	30	04-May-14	02-Jun-14	707	Bridges 9/10: MSE Wall																			
06.MAT.00110	Bridge 7: Prestressed Beams and Embeds	30	10-May-14	08-Jun-14	792	Bridge 7: Prestressed Beams and Embeds																			
Initial Erosion Control and Clearing						15-Jan-14, Initial Erosion Control and Clearing																			
06.INI.10000	Install Pre-Clearing Erosion Control Measures	20	27-Sep-13	29-Oct-13	217	Install Pre-Clearing Erosion Control Measures																			
06.INI.10100	Tree Clearing	10	30-Oct-13	14-Nov-13	217	Tree Clearing																			
06.INI.10200	Topsoil Stockpiling & Sitework Preparation	15	30-Oct-13	22-Nov-13	217	Topsoil Stockpiling & Sitework Preparation																			

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ▼ Summary

Technical Proposal



EAST END CROSSING

PRELIMINARY

WVB TECHNICAL PROPOSAL

OHIO RIVER BRIDGES PROJECT

PROJECT BASELINE SCHEDULE

VOLUME 2 APPENDICES

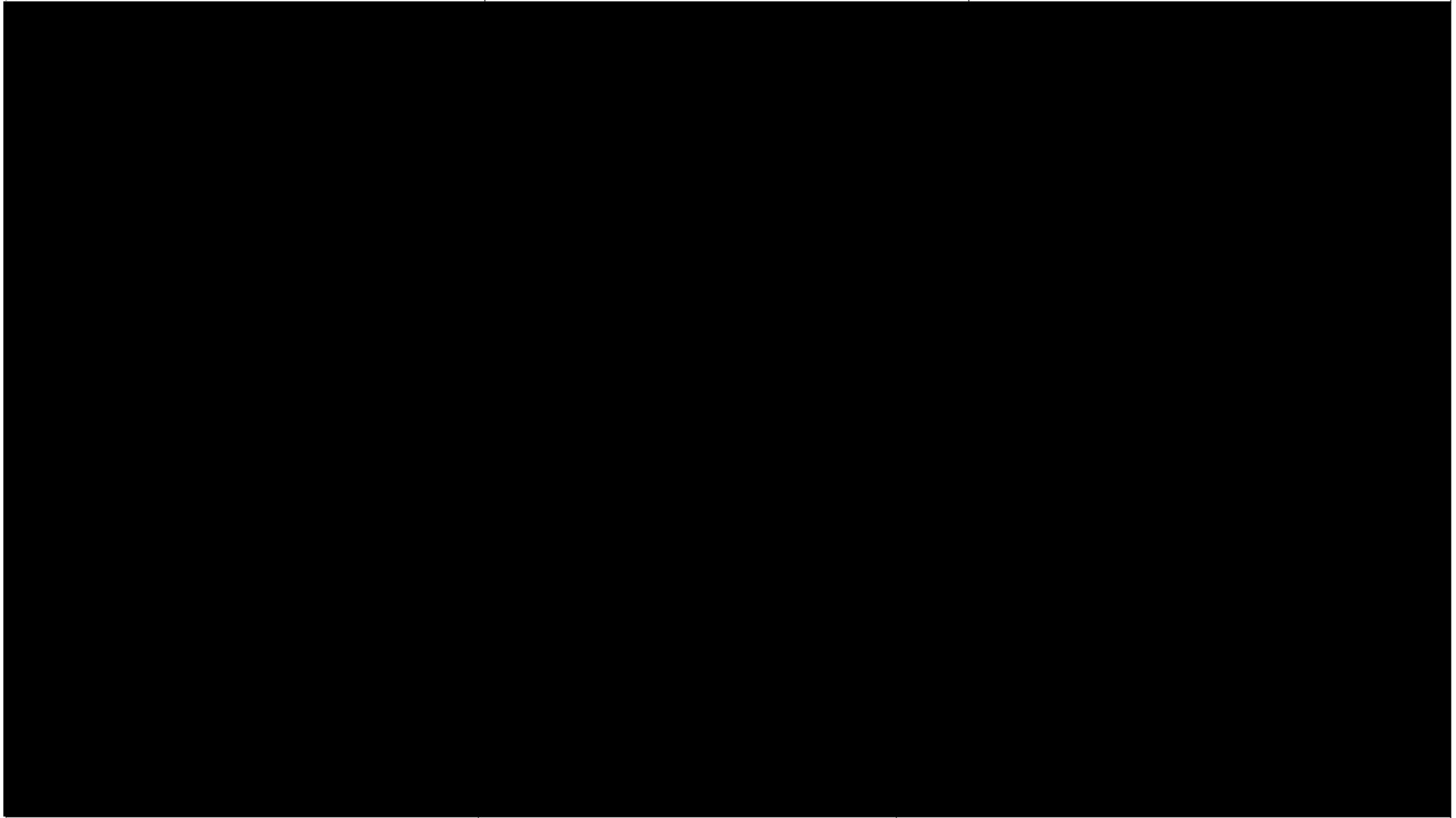
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2013		2014				2015				2016				2017								
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Utica Sellersburg Road						107	01-Apr-14	27-Sep-14	287	<ul style="list-style-type: none"> Remove Pavement and Excavate for Foundations Construction of Utica Sellersburg Bridge Six-Month Closure for Overpass Construction Construct Approach Embankments Subgrade Treatment Install 6" 53 Subbase Install 6" Underdrain Install and Trim 3" Subbase PCC Paving Install Class IV Drives & Curb Place Shoulder Stone and Finish Slopes Install Guardrail and End Treatments Final Strip and Open to Traffic 																		
06.BRG.14050	Remove Pavement and Excavate for Foundations	20	01-Apr-14	05-May-14	289	<ul style="list-style-type: none"> 27-Sep-14, Utica Sellersburg Road Remove Pavement and Excavate for Foundations 																						
06.MOT.US110	Construction of Utica Sellersburg Bridge	102	01-Apr-14	19-Sep-14	289	<ul style="list-style-type: none"> Construction of Utica Sellersburg Bridge 																						
06.MOT.US100	Six-Month Closure for Overpass Construction	180	01-Apr-14	27-Sep-14	537	<ul style="list-style-type: none"> Six-Month Closure for Overpass Construction 																						
06.RDY.US100	Construct Approach Embankments	20	06-May-14	10-Jun-14	325	<ul style="list-style-type: none"> Construct Approach Embankments 																						
06.RDY.US110	Subgrade Treatment	4	12-Jun-14	17-Jun-14	325	<ul style="list-style-type: none"> Subgrade Treatment 																						
06.RDY.US120	Install 6" 53 Subbase	2	19-Jun-14	20-Jun-14	325	<ul style="list-style-type: none"> Install 6" 53 Subbase 																						
06.RDY.US130	Install 6" Underdrain	2	23-Jun-14	24-Jun-14	325	<ul style="list-style-type: none"> Install 6" Underdrain 																						
06.RDY.US140	Install and Trim 3" Subbase	3	25-Jun-14	27-Jun-14	325	<ul style="list-style-type: none"> Install and Trim 3" Subbase 																						
06.RDY.US150	PCC Paving	8	30-Jun-14	14-Jul-14	325	<ul style="list-style-type: none"> PCC Paving 																						
06.RDY.US160	Install Class IV Drives & Curb	5	15-Jul-14	21-Jul-14	325	<ul style="list-style-type: none"> Install Class IV Drives & Curb 																						
06.FIN.US100	Place Shoulder Stone and Finish Slopes	2	22-Jul-14	23-Jul-14	325	<ul style="list-style-type: none"> Place Shoulder Stone and Finish Slopes 																						
06.FIN.US200	Install Guardrail and End Treatments	2	22-Sep-14	23-Sep-14	289	<ul style="list-style-type: none"> Install Guardrail and End Treatments 																						
06.FIN.US300	Final Strip and Open to Traffic	1	24-Sep-14	24-Sep-14	289	<ul style="list-style-type: none"> Final Strip and Open to Traffic 																						
Line D-1						8	12-Jun-14	24-Jun-14	345	<ul style="list-style-type: none"> 24-Jun-14, Line D-1 																		
06.RDY.US500	Place Embankment and Finish Grade	3	12-Jun-14	16-Jun-14	345	<ul style="list-style-type: none"> Place Embankment and Finish Grade 																						
06.RDY.US510	Type IIIA Subgrade	2	17-Jun-14	19-Jun-14	345	<ul style="list-style-type: none"> Type IIIA Subgrade 																						
06.RDY.US520	Asphalt Pave Drive	3	20-Jun-14	24-Jun-14	345	<ul style="list-style-type: none"> Asphalt Pave Drive 																						
Structures						291	03-Apr-14	01-Sep-15	238	<ul style="list-style-type: none"> 01-Sep-15, Structures 																		
Bridge 6: I-265 EB over Utica-Charleston						167	11-Sep-14	16-Jul-15	268	<ul style="list-style-type: none"> 16-Jul-15, Bridge 6: I-265 EB over Utica-Charleston 																		
06.BRG.06100	Install Piling Foundation, Bent 1	5	11-Sep-14	17-Sep-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Bent 1 																						
06.BRG.06200	F/P/S Abutment, Bent 1	10	18-Sep-14	02-Oct-14	273	<ul style="list-style-type: none"> F/P/S Abutment, Bent 1 																						
06.BRG.06110	Install Piling Foundation, Pier 2	5	03-Oct-14	10-Oct-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Pier 2 																						
06.BRG.06280	Install Slope Stabilization Riprap, Bent 1	5	03-Oct-14	10-Oct-14	273	<ul style="list-style-type: none"> Install Slope Stabilization Riprap, Bent 1 																						
06.BRG.06120	Install Piling Foundation, Pier 3	5	13-Oct-14	20-Oct-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Pier 3 																						
06.BRG.06220	F/P/S Footing, Pier 2	6	13-Oct-14	21-Oct-14	249	<ul style="list-style-type: none"> F/P/S Footing, Pier 2 																						
06.BRG.06250	F/P/S Footing, Pier 3	6	21-Oct-14	28-Oct-14	244	<ul style="list-style-type: none"> F/P/S Footing, Pier 3 																						
06.BRG.06230	F/P/S Columns, Pier 2	8	22-Oct-14	31-Oct-14	249	<ul style="list-style-type: none"> F/P/S Columns, Pier 2 																						
06.BRG.06260	F/P/S Columns, Pier 3	8	29-Oct-14	10-Nov-14	244	<ul style="list-style-type: none"> F/P/S Columns, Pier 3 																						
06.BRG.06240	F/P/S Pier Cap, Pier 2	10	03-Nov-14	18-Nov-14	249	<ul style="list-style-type: none"> F/P/S Pier Cap, Pier 2 																						
06.BRG.06130	Install Piling Foundation, Bent 4	5	04-Nov-14	11-Nov-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Bent 4 																						
06.BRG.06270	F/P/S Pier Cap, Pier 3	10	11-Nov-14	26-Nov-14	244	<ul style="list-style-type: none"> F/P/S Pier Cap, Pier 3 																						
06.BRG.06210	F/P/S Abutment, Bent 4	10	13-Nov-14	01-Dec-14	238	<ul style="list-style-type: none"> F/P/S Abutment, Bent 4 																						
06.BRG.06290	Install Slope Stabilization Riprap, Bent 4	5	03-Dec-14	12-Dec-14	238	<ul style="list-style-type: none"> Install Slope Stabilization Riprap, Bent 4 																						
06.BRG.06500	Erect Bridge Beams	6	15-Dec-14	23-Dec-14	238	<ul style="list-style-type: none"> Erect Bridge Beams 																						
06.BRG.06600	Install Bridge Superstructure	90	02-Jan-15	19-Jun-15	238	<ul style="list-style-type: none"> Install Bridge Superstructure 																						
06.BRG.06900	Install Approach Slab, Bent 1	8	22-Jun-15	02-Jul-15	268	<ul style="list-style-type: none"> Install Approach Slab, Bent 1 																						
06.BRG.06910	Install Approach Slab, Bent 4	8	06-Jul-15	16-Jul-15	268	<ul style="list-style-type: none"> Install Approach Slab, Bent 4 																						
Bridge 7: I-265 WB over Utica-Charleston						192	18-Sep-14	01-Sep-15	238	<ul style="list-style-type: none"> 01-Sep-15, Bridge 7: I-265 WB over Utica-Charleston 																		
06.BRG.07100	Install Piling Foundation, Bent 1	5	18-Sep-14	24-Sep-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Bent 1 																						
06.BRG.07110	Install Piling Foundation, Pier 2	5	25-Sep-14	02-Oct-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Pier 2 																						
06.BRG.07200	F/P/S Abutment, Bent 1	10	25-Sep-14	10-Oct-14	358	<ul style="list-style-type: none"> F/P/S Abutment, Bent 1 																						
06.BRG.07220	F/P/S Footing, Pier 2	6	03-Oct-14	13-Oct-14	344	<ul style="list-style-type: none"> F/P/S Footing, Pier 2 																						
06.BRG.07140	Install Slope Stabilization Riprap, Bent 1	5	13-Oct-14	20-Oct-14	358	<ul style="list-style-type: none"> Install Slope Stabilization Riprap, Bent 1 																						
06.BRG.07230	F/P/S Columns, Pier 2	8	14-Oct-14	24-Oct-14	344	<ul style="list-style-type: none"> F/P/S Columns, Pier 2 																						
06.BRG.07120	Install Piling Foundation, Pier 3	5	21-Oct-14	27-Oct-14	238	<ul style="list-style-type: none"> Install Piling Foundation, Pier 3 																						

█ Remaining Level of Effort █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work ── Summary

Technical Proposal

Page 56 of 63

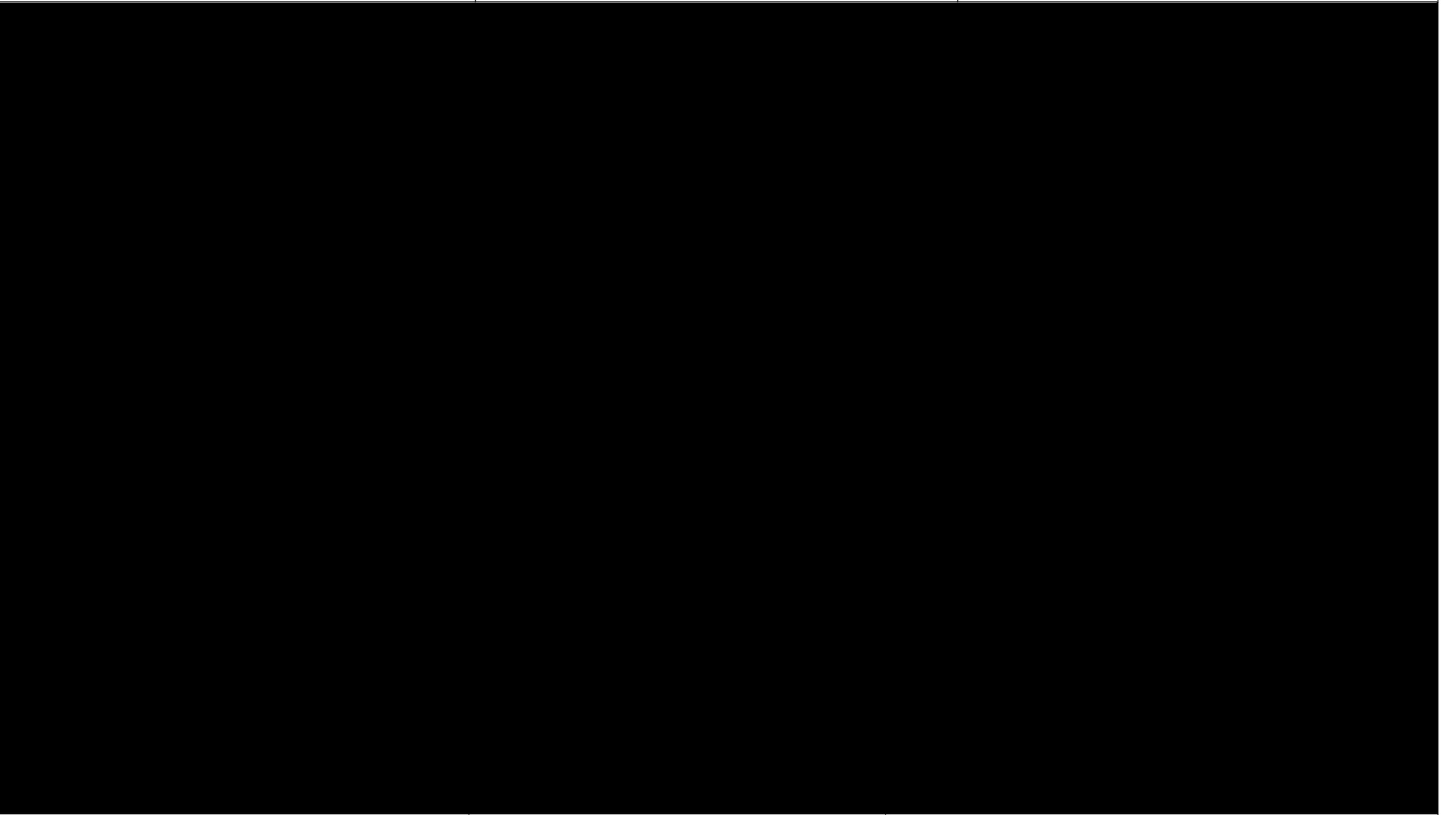




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 1 of 10

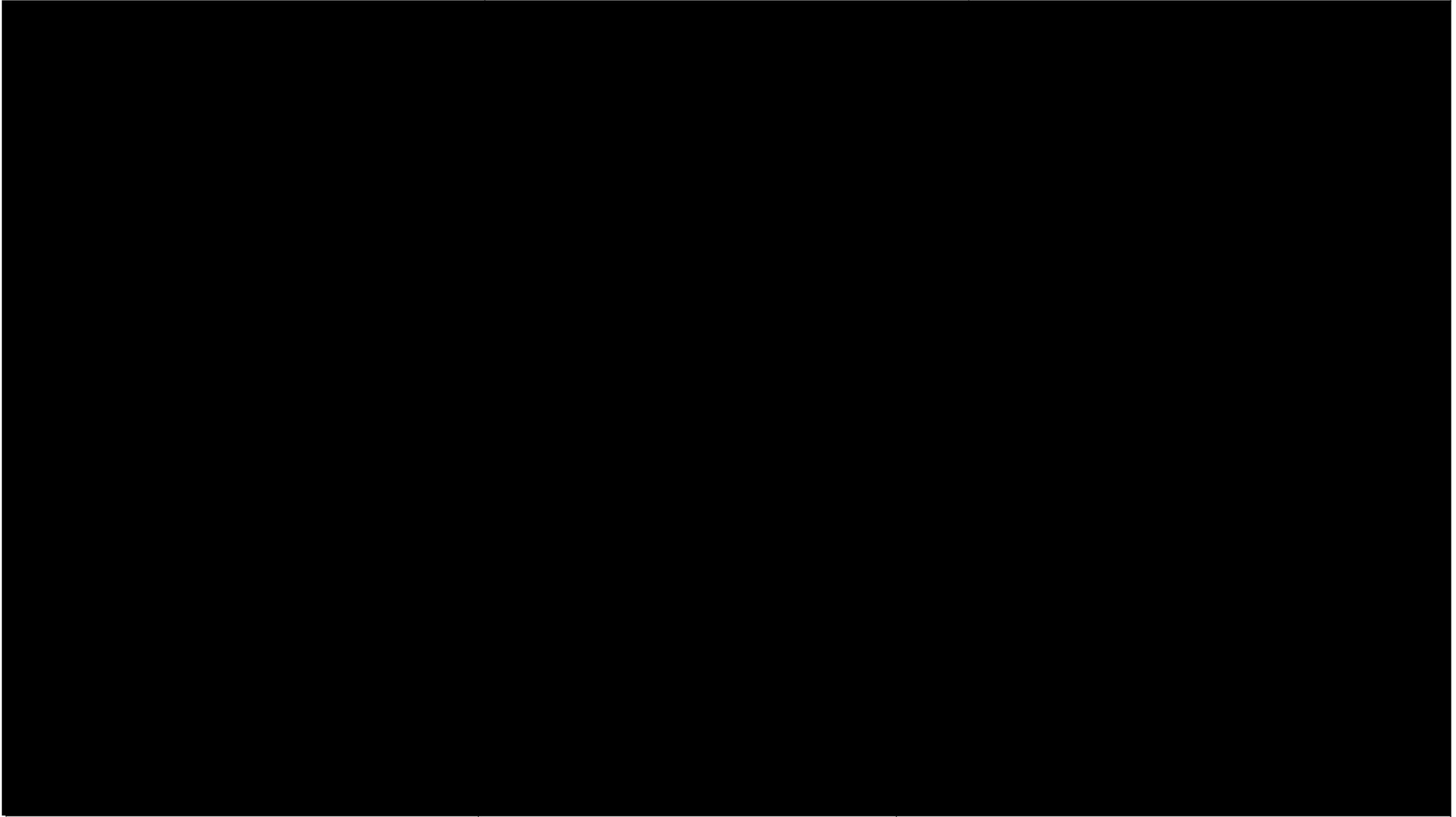




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 2 of 10

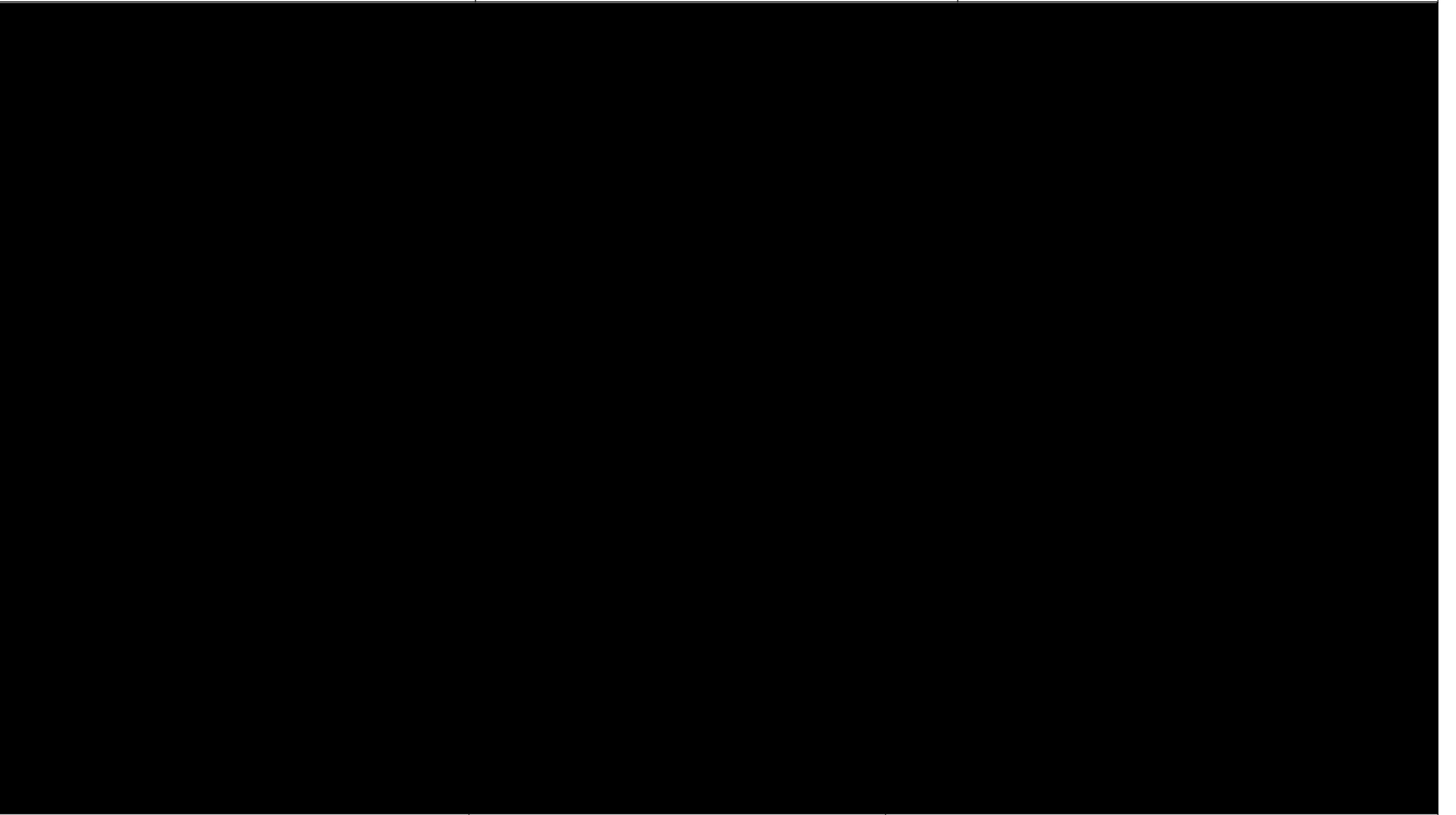




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

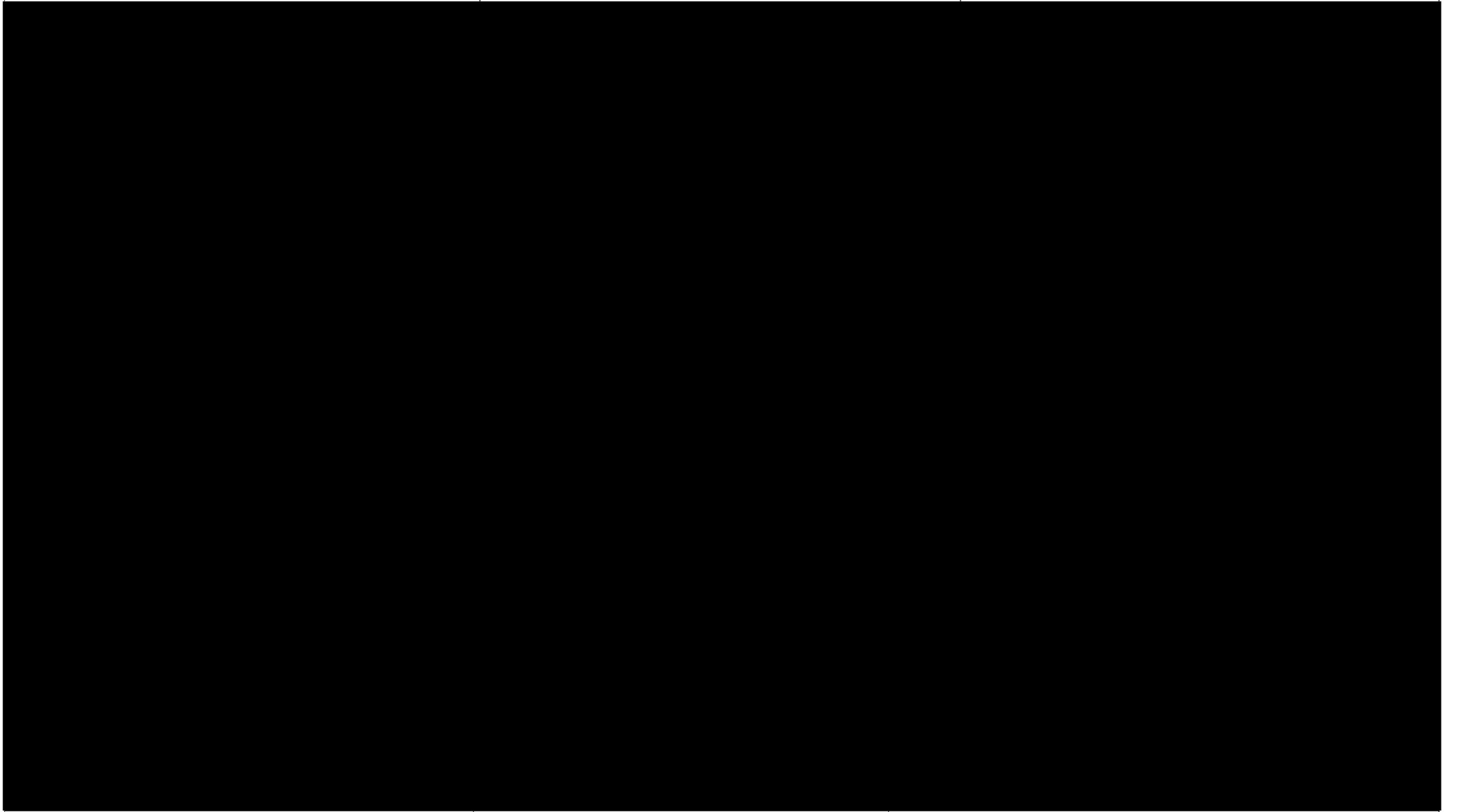
O&M Schedule
Page 3 of 10





Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

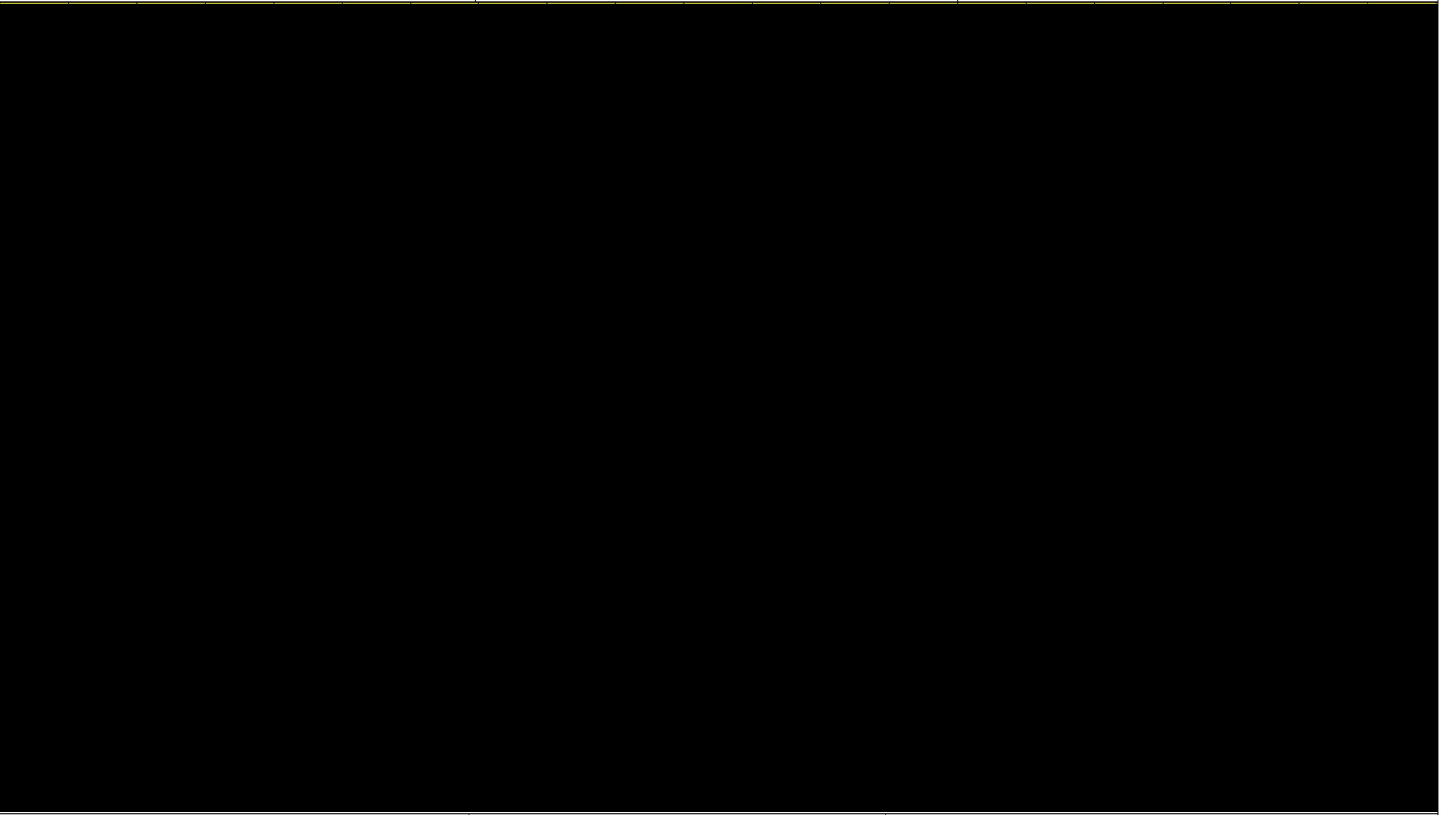
O&M Schedule
Page 4 of 10



Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 5 of 10

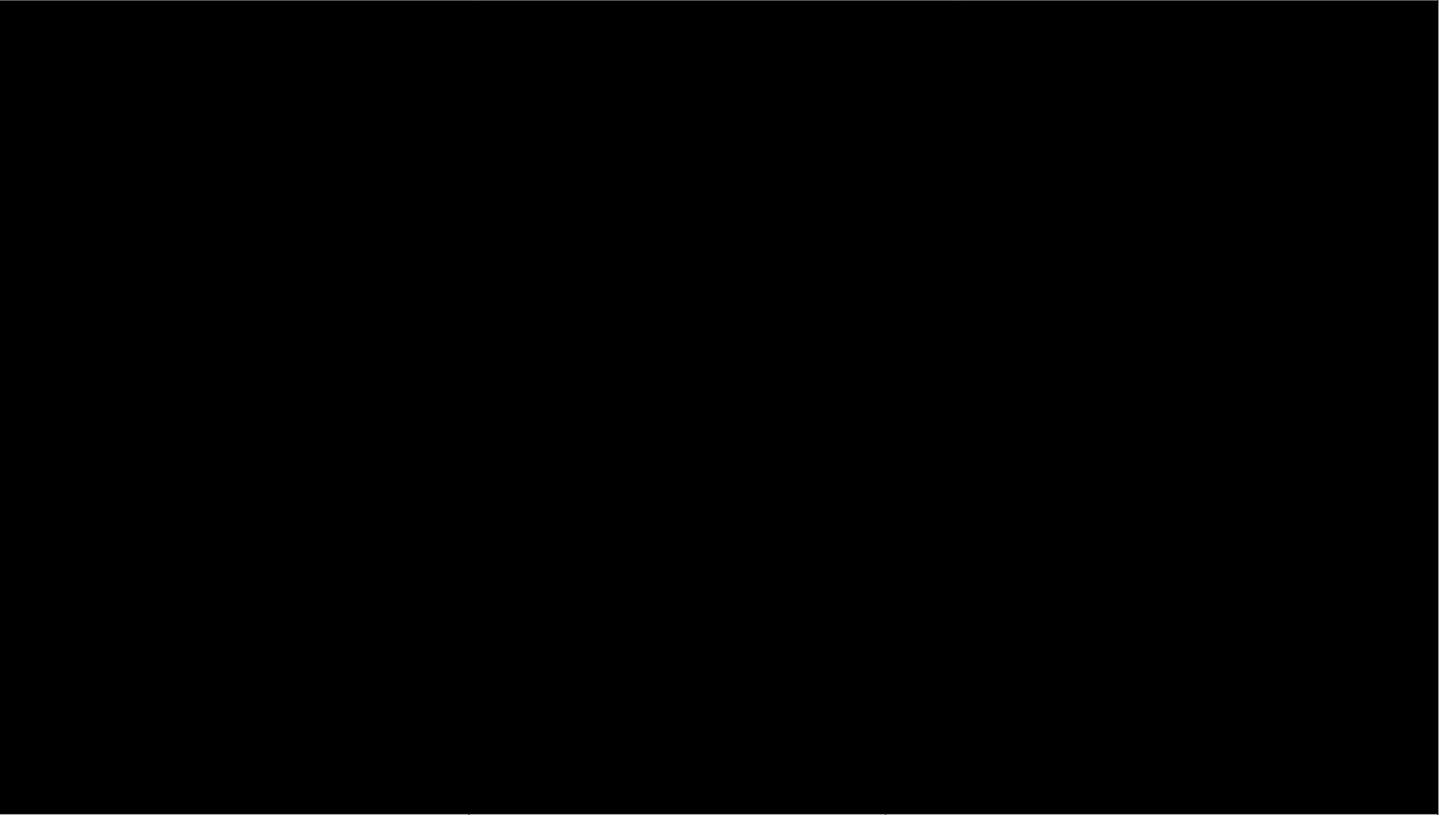




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 6 of 10





Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 7 of 10

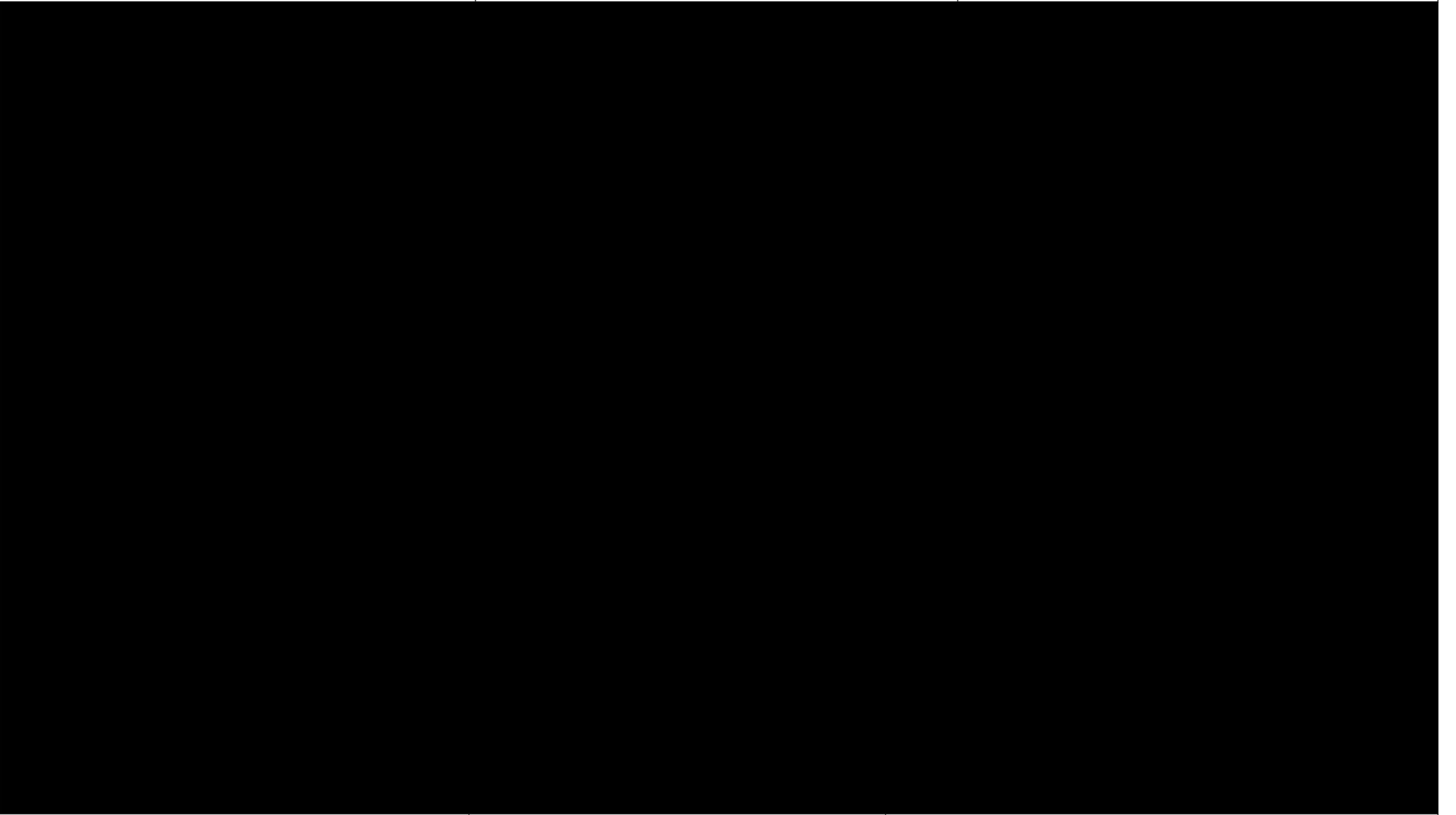




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 8 of 10

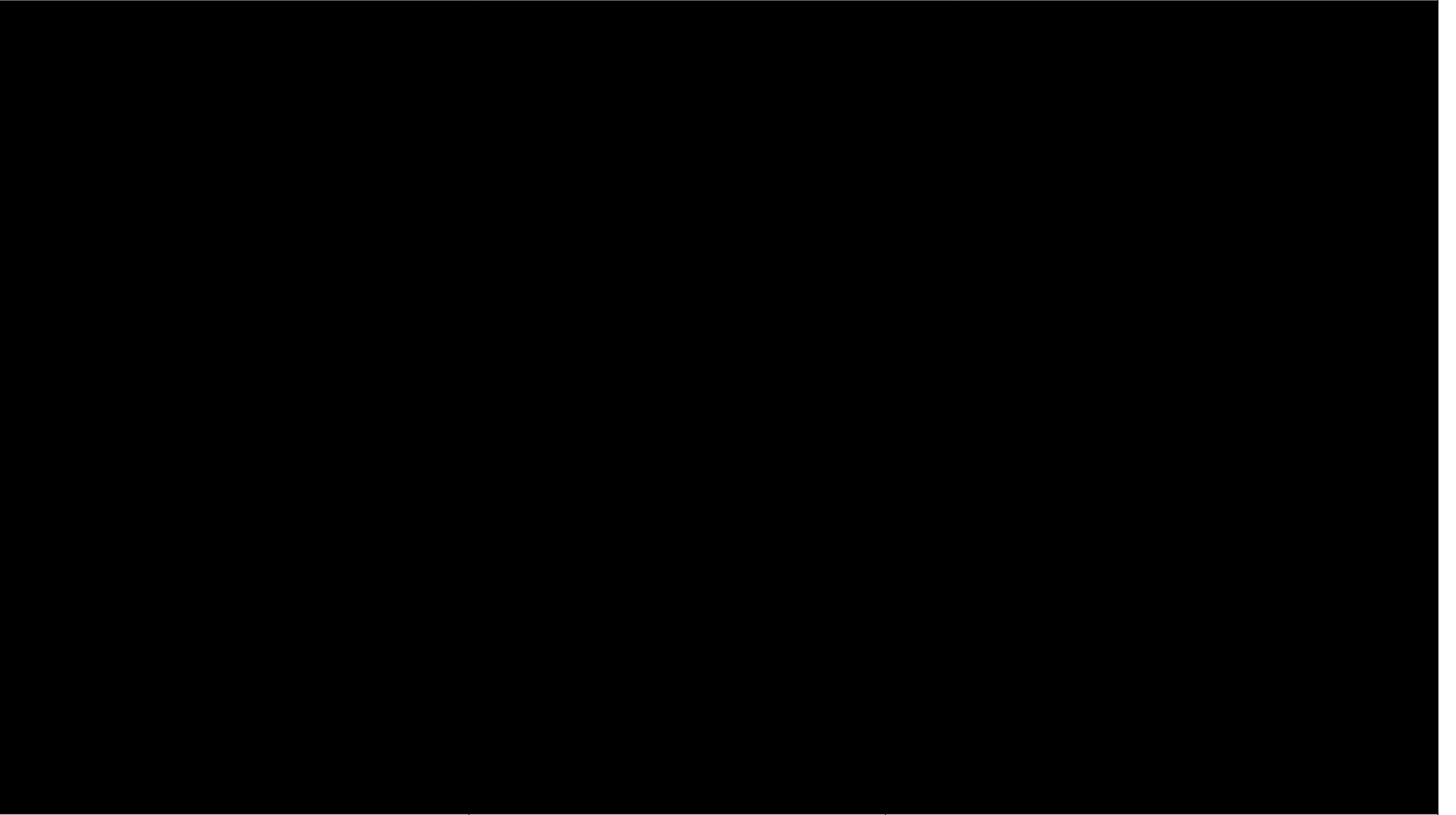




Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 9 of 10





Remaining Level of Effort Critical Remaining Work
Actual Work Milestone
Remaining Work

O&M Schedule
Page 10 of 10



East End Bridge Construction Sequencing (4.2.1.1)

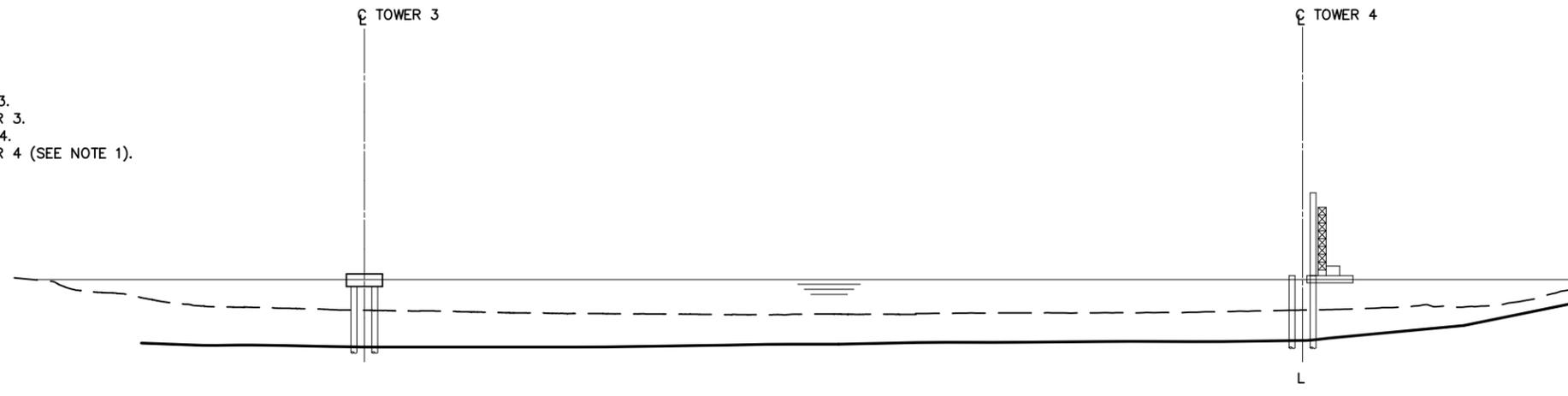
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NOTES

1. CONSTRUCTION IS SHOWN AS PROCEEDING SIMULTANEOUSLY AT TOWERS 3 AND 4. THE ACTUAL STAGING OF EACH TOWER MAY VARY TO SUIT THE AVAILABILITY OF EQUIPMENT. THE SEQUENCE SHOWN WOULD NOT BE SIGNIFICANTLY AFFECTED BY VARIATIONS IN THE SCHEDULE BETWEEN THE TWO TOWERS.
2. ALL LIFTING IS ASSUMED TO BE PERFORMED BY BARGE OR GROUND BASED CRANES. NO SIGNIFICANT ERECTION EQUIPMENT SUCH AS CRANES OR DERRICKS ARE ASSUMED TO BE PLACED ON THE DECK.

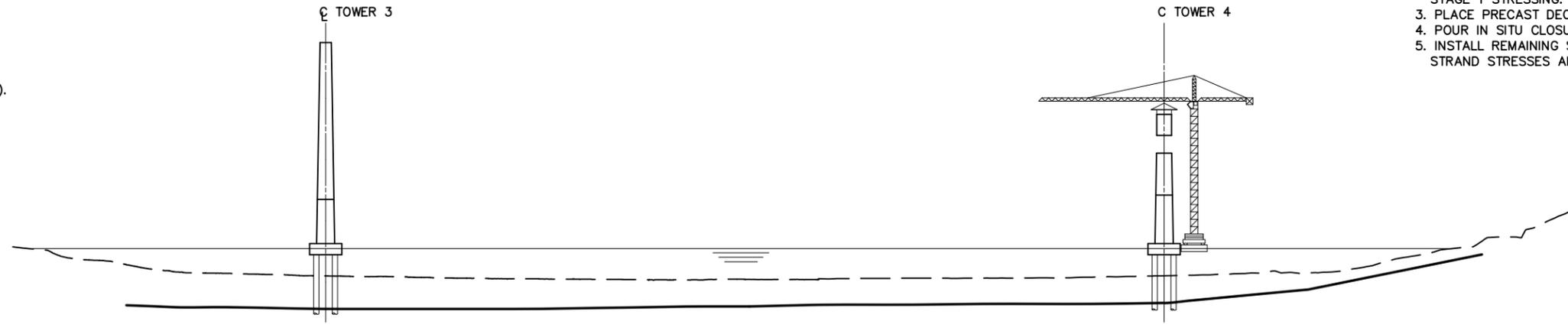
STAGE 1

1. PLACE PRECAST SHELL AT TOWER 3.
2. INSTALL DRILLED SHAFTS AT TOWER 3.
3. PLACE PRECAST SHELL AT TOWER 4.
4. INSTALL DRILLED SHAFTS AT TOWER 4 (SEE NOTE 1).
5. CONSTRUCT PILECAP AT TOWER 3.
6. CONSTRUCT PILECAP AT TOWER 4.



STAGE 2

1. CONSTRUCT TOWER 3.
2. CONSTRUCT TOWER 4 (SEE NOTE 1).



COMPOSITE DECK ERECTION SEQUENCE.

EACH TYPICAL SEGMENT OF THE DECK SHALL BE ERECTED BY THE FOLLOWING PROCEDURE.

1. ERECT STEEL GRILLAGE, CONSISTING OF TWO EDGES GIRDERS, THREE FLOOR BEAMS, AND THREE CANTILEVER BEAMS. STEEL MAY BE LIFTED AS A SINGLE UNIT, OR ERECTED INDIVIDUALLY.
2. PARTIALLY INSTALL AND STRESS STAY CABLES AND PERFORM STAGE 1 STRESSING.
3. PLACE PRECAST DECK PANELS INTO POSITION.
4. POUR IN SITU CLOSURE JOINTS.
5. INSTALL REMAINING STRANDS IN THE STAY CABLE. EQUALIZE STRAND STRESSES AND PERFORM STAGE 2 STRESSING.

PRELIMINARY SCHEMATIC-LEVEL DRAWING; NOT FOR CONSTRUCTION



1

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BS	DRAWN: EC	
CHECKED: CH	CHECKED: GD	

Ohio River Bridges - East End Crossing

CABLE-STAYED BRIDGE

ERECTION SCHEMATIC 1 OF 4

HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
		S45	45 of
CONTRACT		PROJECT	

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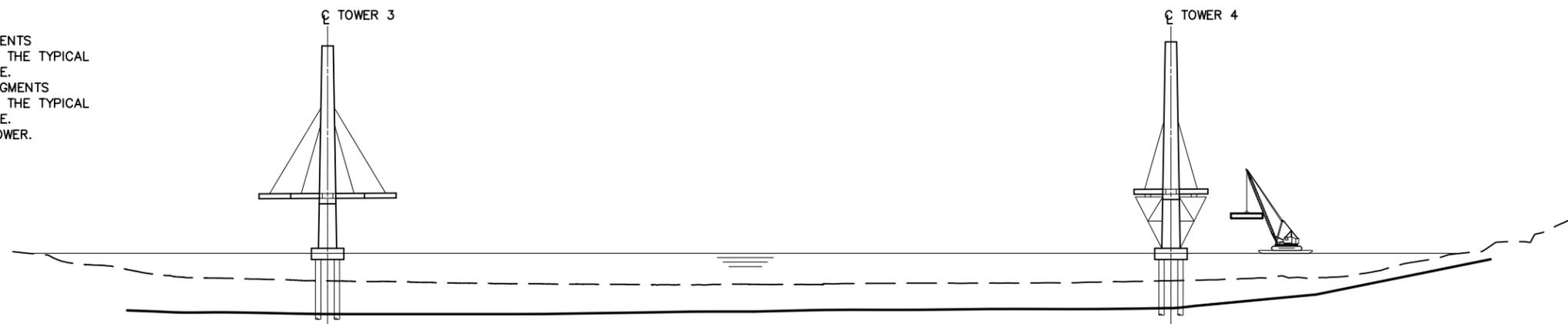
STAGE 3

1. ERECT CENTER BEAM AT TOWER CL.
2. INSTALL TEMPORARY SHORING AT TOWER.



STAGE 4

1. ERECT THE FIRST PAIR OF 45' SEGMENTS ON EITHER SIDE OF THE TOWER, PER THE TYPICAL COMPOSITE DECK ERECTION SEQUENCE.
2. ERECT THE SECOND PAIR OF 45' SEGMENTS ON EITHER SIDE OF THE TOWER, PER THE TYPICAL COMPOSITE DECK ERECTION SEQUENCE.
3. REMOVE TEMPORARY SHORING AT TOWER.



PRELIMINARY SCHEMATIC-LEVEL DRAWING; NOT FOR CONSTRUCTION



RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: BS _____	DRAWN: EC _____	
CHECKED: CH _____	CHECKED: GD _____	


Indiana Finance Authority 

Ohio River Bridges - East End Crossing
CABLE-STAYED BRIDGE
 ERECTION SCHEMATIC 2 OF 4

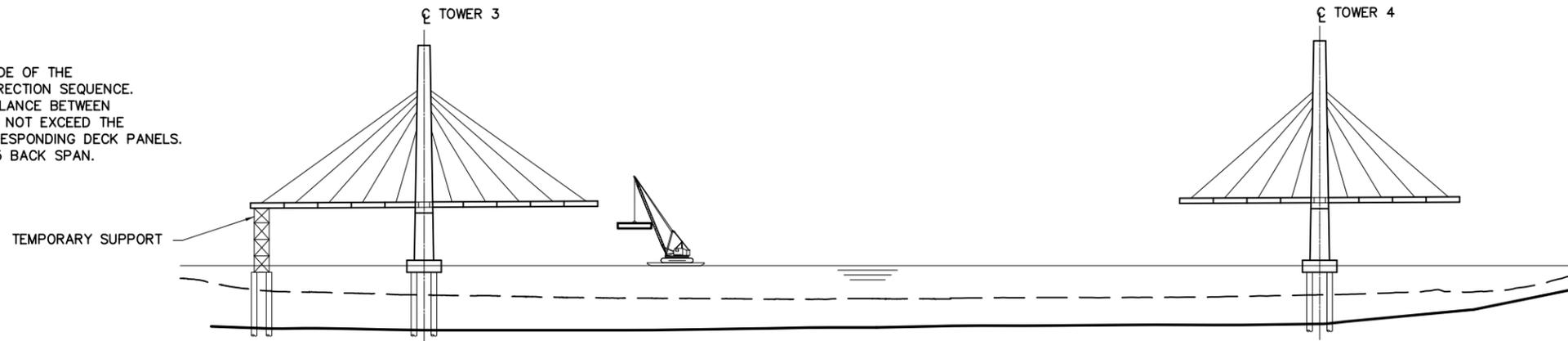
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VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
		S45a	45a of
CONTRACT		PROJECT	

NOTES

1. FOR NOTES, SEE "CABLE-STAYED BRIDGE ERECTION SCHEMATIC 1 OF 2"

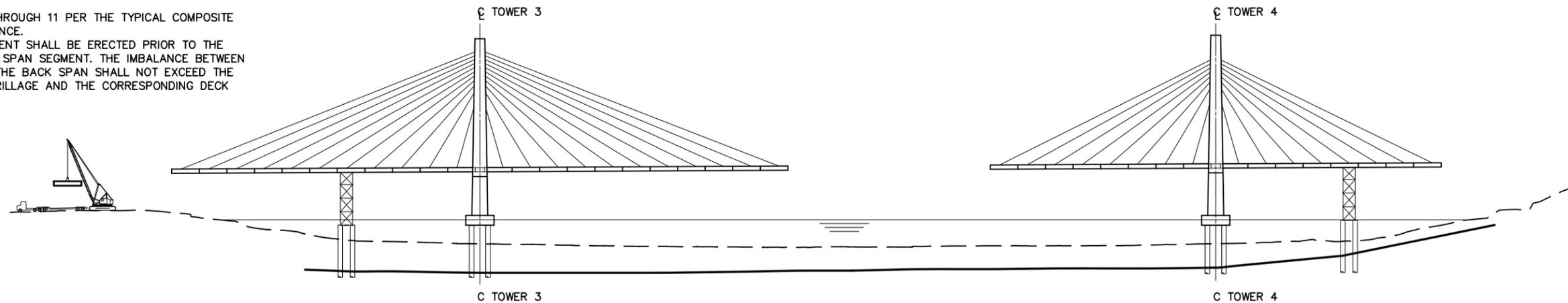
STAGE 5

1. ERECT THE FIRST 5 SEGMENTS ON EITHER SIDE OF THE TOWER PER THE TYPICAL COMPOSITE DECK ERECTION SEQUENCE.
2. DURING CANTILEVER CONSTRUCTION, THE IMBLANCE BETWEEN THE MAIN SPAN AND THE BACK SPAN SHALL NOT EXCEED THE WEIGHT OF ONE 45' GRILLAGE AND THE CORRESPONDING DECK PANELS.
3. INSTALL TEMPORARY SUPPORT IN SEGMENT 5 BACK SPAN.



STAGE 6

1. ERECT SEGMENTS 6 THROUGH 11 PER THE TYPICAL COMPOSITE DECK ERECTION SEQUENCE.
2. THE MAIN SPAN SEGMENT SHALL BE ERECTED PRIOR TO THE CORRESPONDING BACK SPAN SEGMENT. THE IMBALANCE BETWEEN THE MAIN SPAN AND THE BACK SPAN SHALL NOT EXCEED THE WEIGHT OF ONE 45' GRILLAGE AND THE CORRESPONDING DECK PANELS.



PRELIMINARY SCHEMATIC-LEVEL DRAWING; NOT FOR CONSTRUCTION

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 MicroStation v8.11.7.443



3

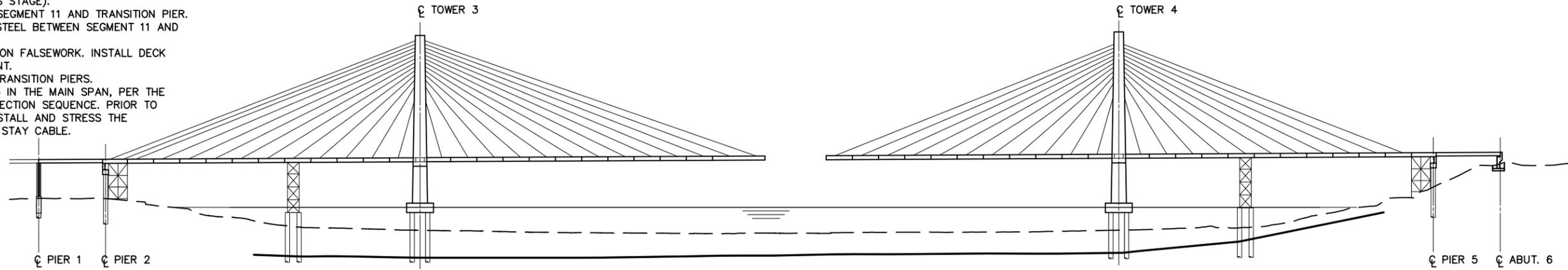
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DESIGNED: BS	DRAWN: EC				
CHECKED: CH	CHECKED: GD				


 Ohio River Bridges - East End Crossing
CABLE-STAYED BRIDGE
ERECTION SCHEMATIC 3 OF 4

HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
		S46	46 of
CONTRACT		PROJECT	

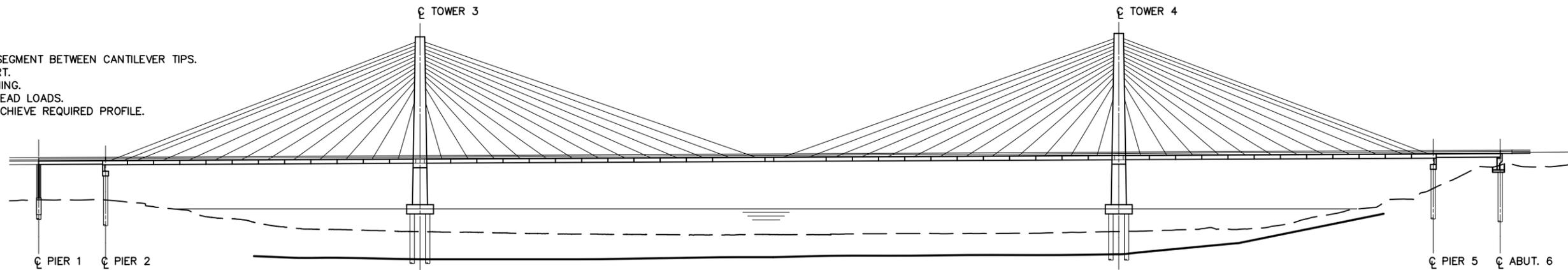
STAGE 7

1. CONSTRUCT PIERS 2 AND 5 (MAY BE COMPLETED AT ANY POINT PRIOR TO THIS STAGE).
2. CONSTRUCT TRANSITION SPANS 1 AND 5 (MAY BE COMPLETED AT ANY POINT PRIOR TO THIS STAGE).
3. ERECT FALSWORK BETWEEN SEGMENT 11 AND TRANSITION PIER.
4. ERECT TIE-DOWN SEGMENT STEEL BETWEEN SEGMENT 11 AND TRANSITION PIER.
5. CAST BALLAST, SUPPORTED ON FALSEWORK. INSTALL DECK PANELS IN TIE-DOWN SEGMENT.
6. INSTALL ROCKER LINKS AT TRANSITION PIERS.
7. ERECT SEGMENTS 12 AND 13 IN THE MAIN SPAN, PER THE TYPICAL COMPOSITE DECK ERECTION SEQUENCE. PRIOR TO ERECTING EACH SEGMENT, INSTALL AND STRESS THE CORRESPONDING BACK SPAN STAY CABLE.



STAGE 8

1. INSTALL CENTRAL CLOSURE SEGMENT BETWEEN CANTILEVER TIPS.
2. REMOVE TEMPORARY SUPPORT.
3. STRESS DECK POST-TENSIONING.
4. PLACE ALL SUPERIMPOSED DEAD LOADS.
5. RESTRESS ALL CABLES TO ACHIEVE REQUIRED PROFILE.



PRELIMINARY SCHEMATIC-LEVEL DRAWING; NOT FOR CONSTRUCTION

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USER: Plotted by: G. Dotti
DATE: PLOTTED: Thu, Oct. 18, 2012 at 17:07:33

MODEL NAME: \$MODEL\$

MicroStation v8.11.7.443



4

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DESIGN ENGINEER DATE

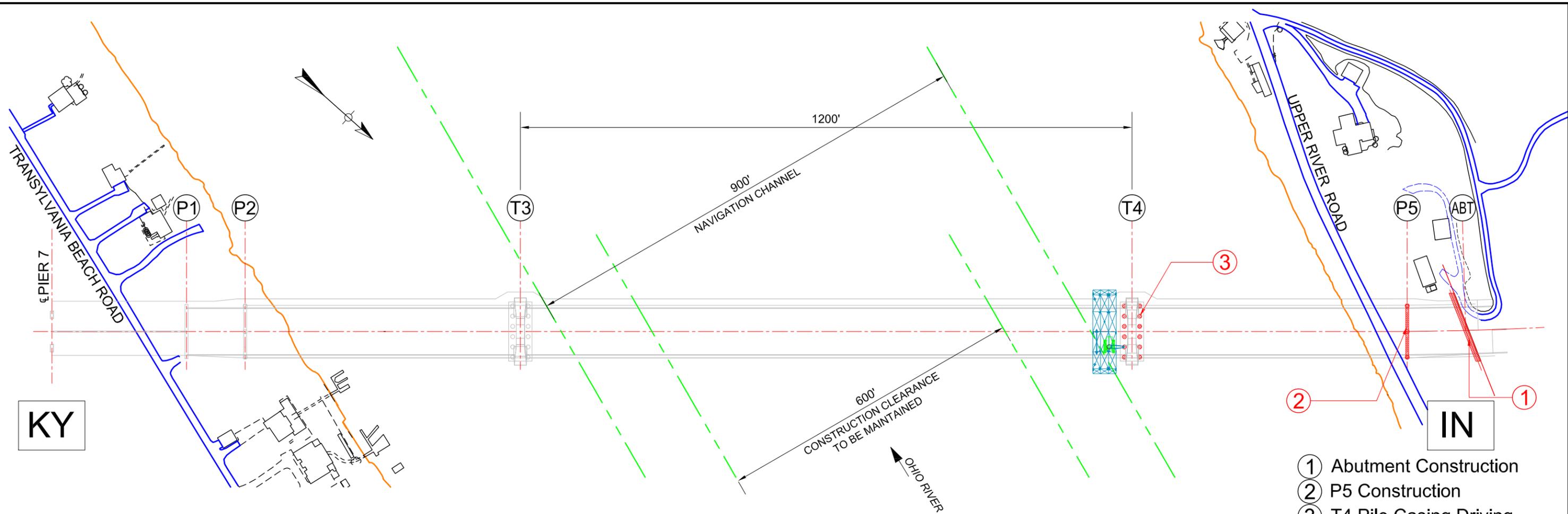
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Indiana Finance Authority **BRIDGES**

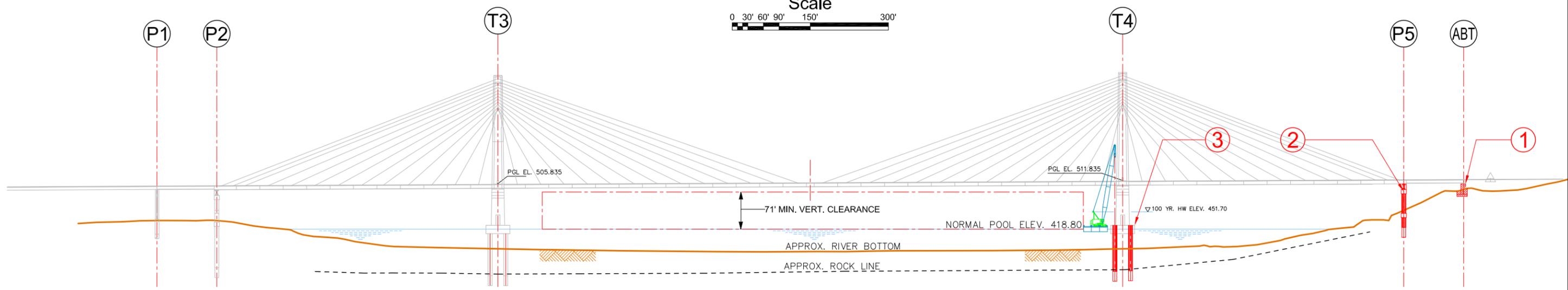
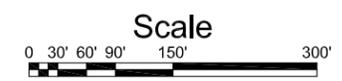
Ohio River Bridges - East End Crossing
CABLE-STAYED BRIDGE
ERECTION SCHEMATIC 4 OF 4

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VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
		S46a	46a of
CONTRACT		PROJECT	

PRELIMINARY



- ① Abutment Construction
- ② P5 Construction
- ③ T4 Pile Casing Driving



Step 1

FILE NAME: \$FILEA\$

USER: \$USER\$ DATE PLOTTED: \$DATE\$

MODEL NAME: \$MODEL\$

MicroStation v8.11.7.443

PRELIMINARY ONLY

This document, and the associated engineering details and material quantities reflect Preliminary Schematic-level Design only. Use of this information for quantity verification, quantity take-offs and construction estimating is the responsibility of others, and is subject to the limitations and accuracy of Preliminary-level design. This document shall not be used for construction.

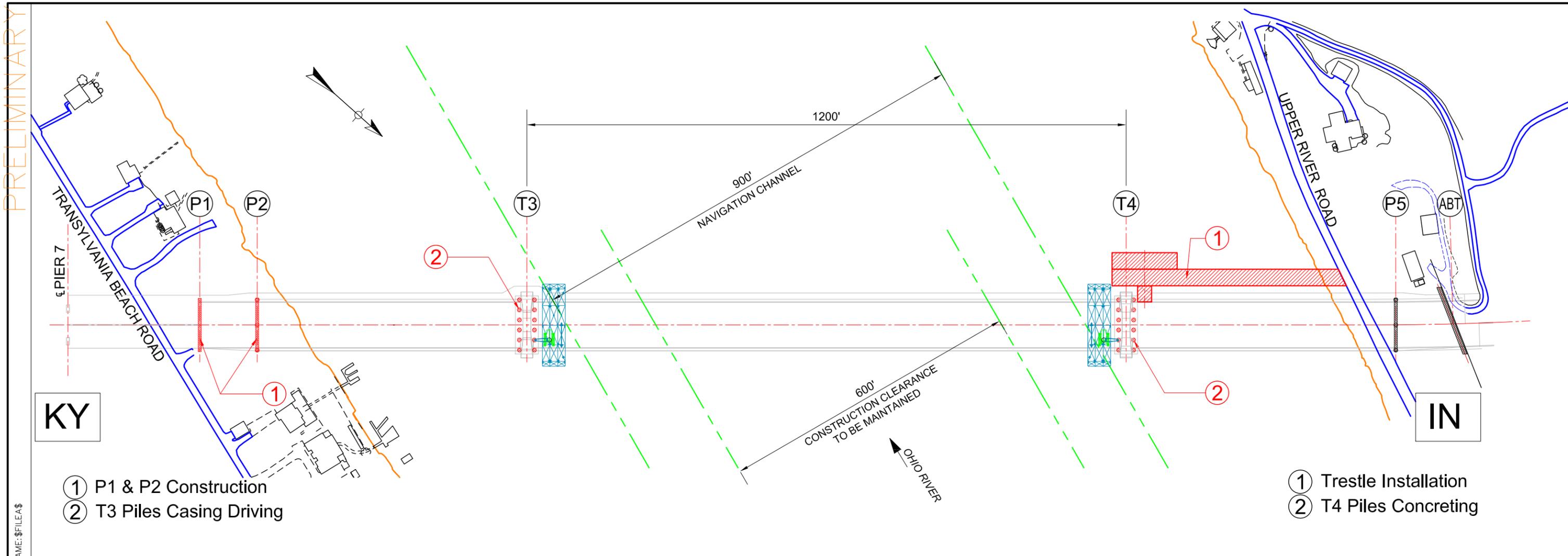


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BB	DRAWN: JMD	
CHECKED: DP	CHECKED: DP	

Indiana Finance Authority
Ohio River Bridges - East End Crossing
GENERAL SEQUENCE OF WORKS

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VERTICAL SCALE		DESIGNATION	
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CONTRACT		PROJECT	

PRELIMINARY

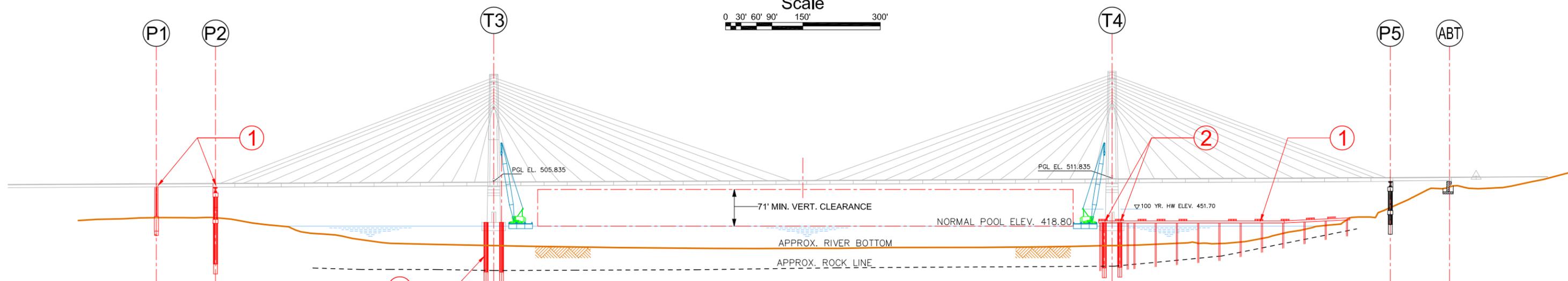


KY

IN

- ① P1 & P2 Construction
- ② T3 Piles Casing Driving

- ① Trestle Installation
- ② T4 Piles Concreting



Step 2

FILE NAME: \$FILEA\$

USER: \$USER\$ DATE PLOTTED: \$DATE\$

MODEL NAME: \$MODEL\$

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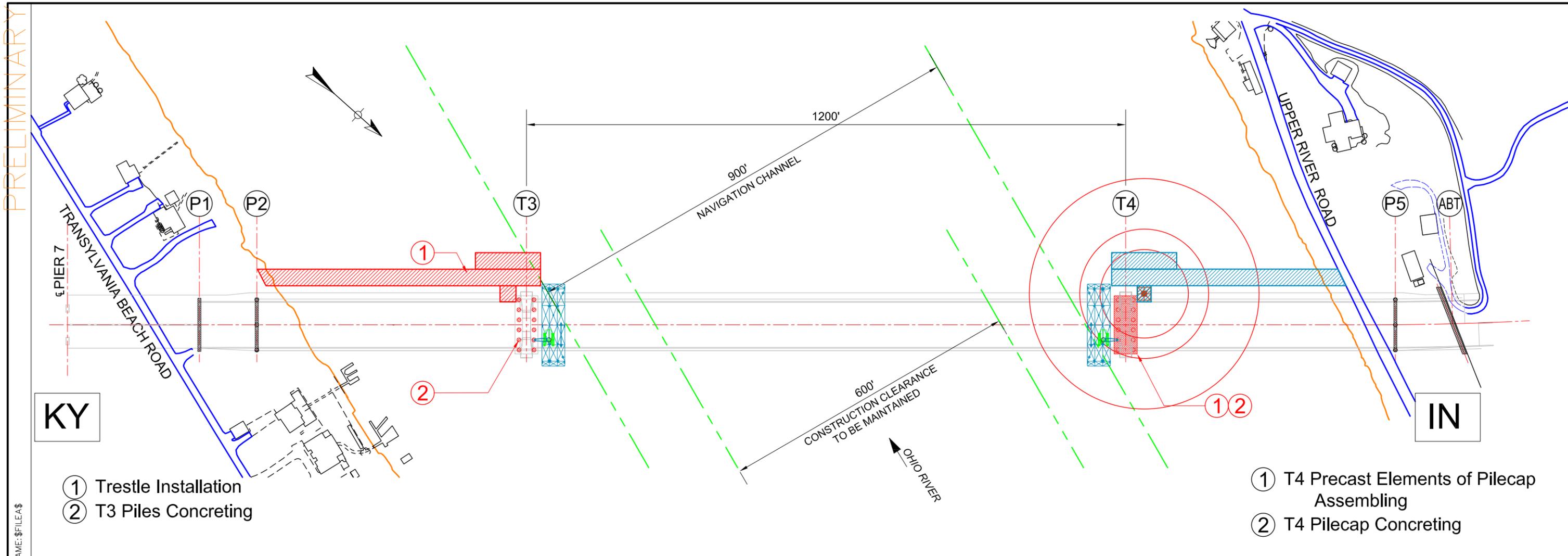
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BB	DRAWN: JMD	
CHECKED: DP	CHECKED: DP	

Indiana Finance Authority
OHIO RIVER BRIDGES

Ohio River Bridges - East End Crossing
GENERAL SEQUENCE OF WORKS

HORIZONTAL SCALE	BRIDGE FILE		
VERTICAL SCALE	DESIGNATION		
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
A	18/10/2012	MET 04	2 of 4
CONTRACT		PROJECT	

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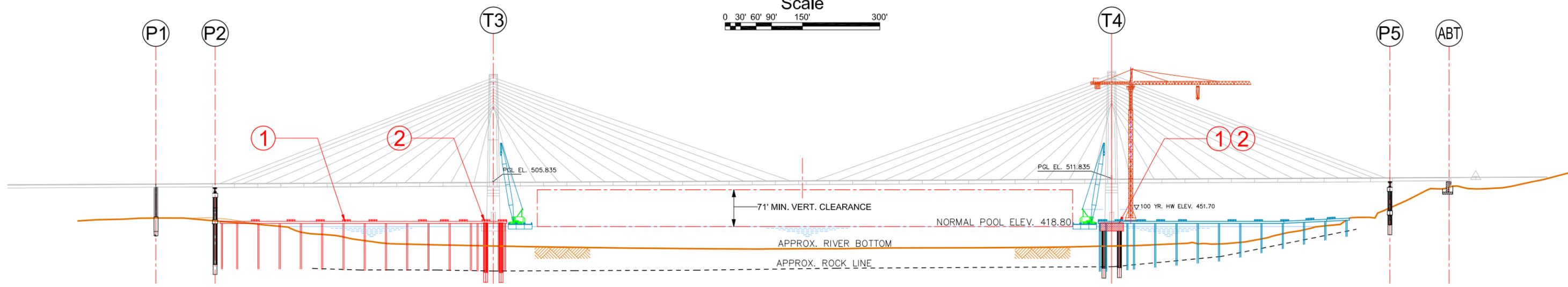
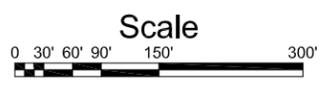


KY

IN

- ① Trestle Installation
- ② T3 Piles Concreting

- ① T4 Precast Elements of Pilecap Assembling
- ② T4 Pilecap Concreting



Step 3

FILE NAME: \$FILEA\$
 USER: \$USER\$ DATE PLOTTED: \$DATE\$
 MODEL NAME: \$MODEL\$
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7

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Indiana Finance Authority
 Ohio River Bridges - East End Crossing
 GENERAL SEQUENCE OF WORKS

HORIZONTAL SCALE	BRIDGE FILE		
VERTICAL SCALE	DESIGNATION		
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
A	18/10/2012	MET 04	3 of 4
CONTRACT		PROJECT	

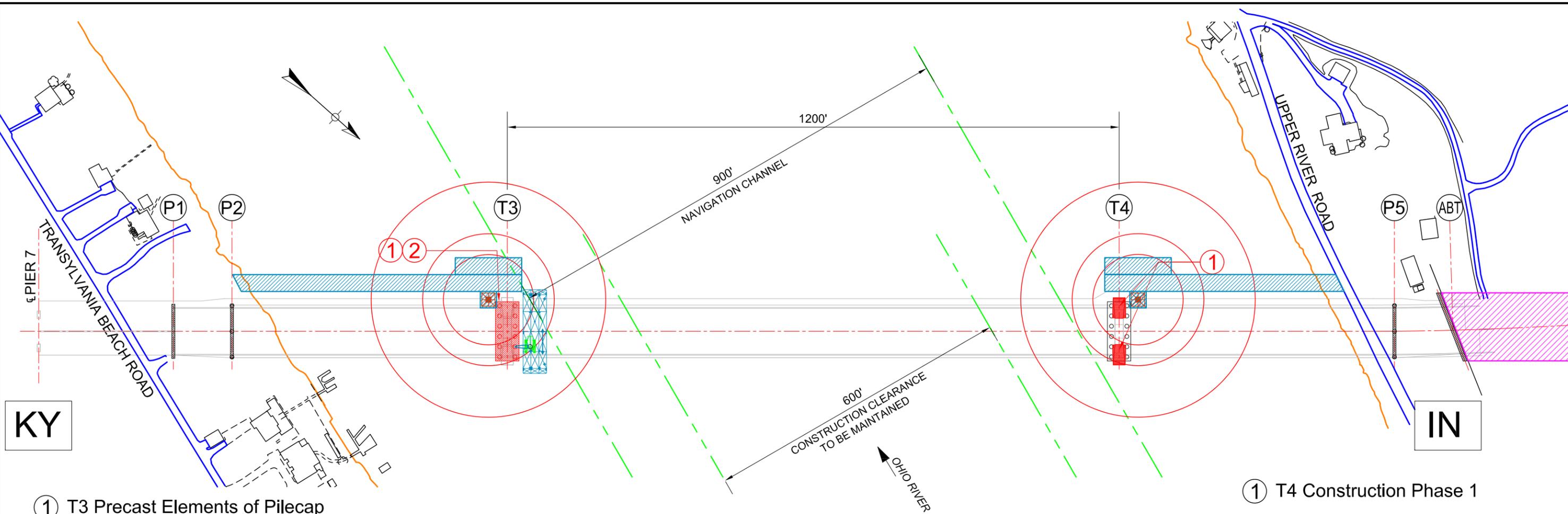
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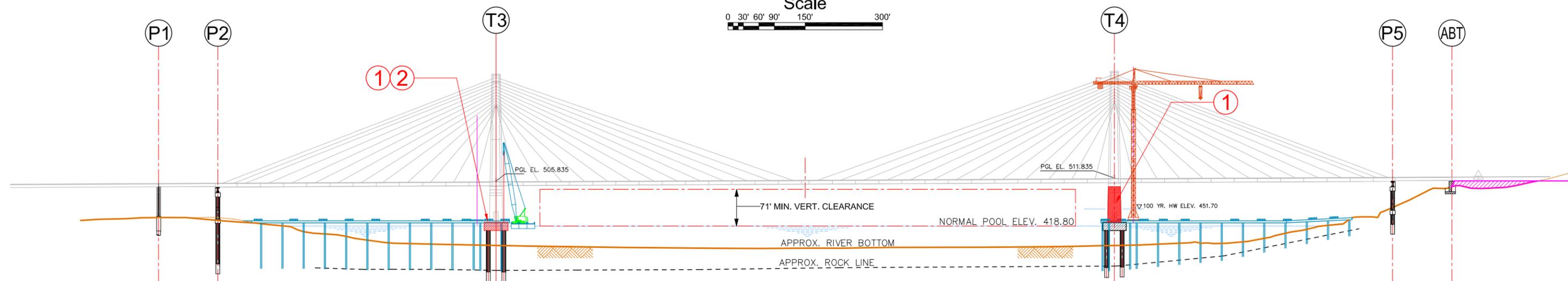
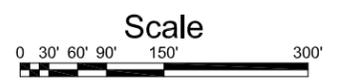
MODEL NAME: \$MODEL\$

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- ① T3 Precast Elements of Pilecap Assembling
- ② T3 Pilecap Concreting

① T4 Construction Phase 1



Step 4

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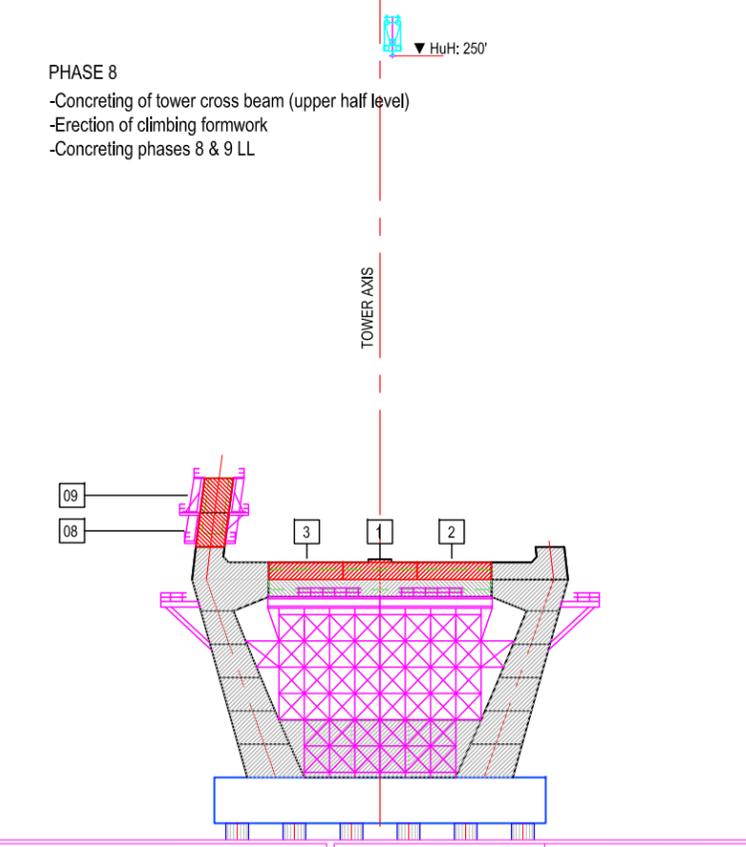
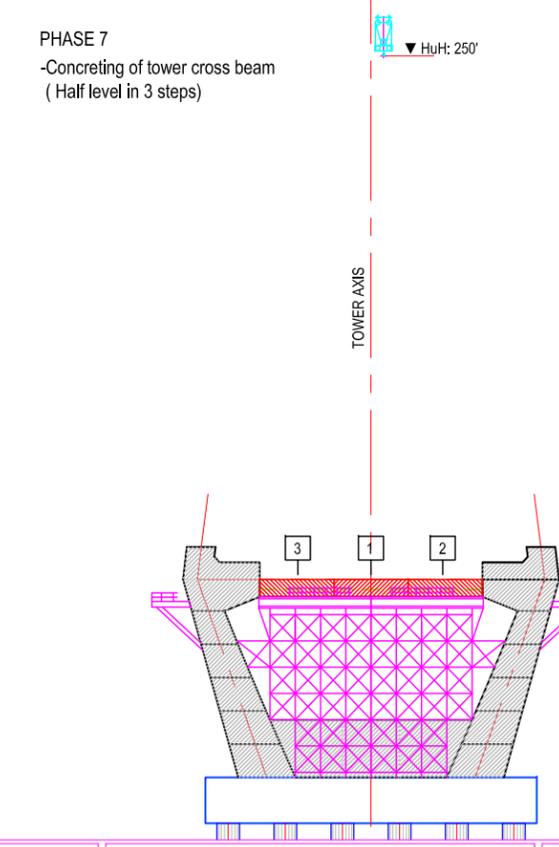
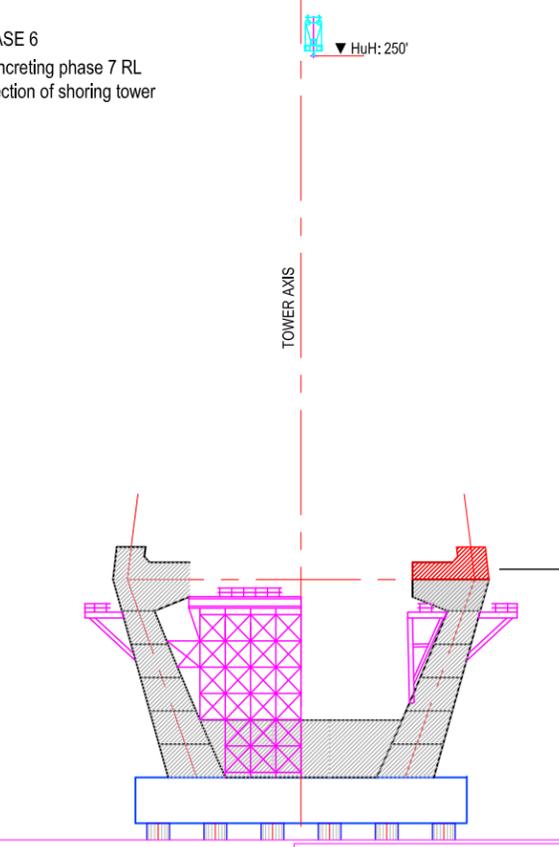
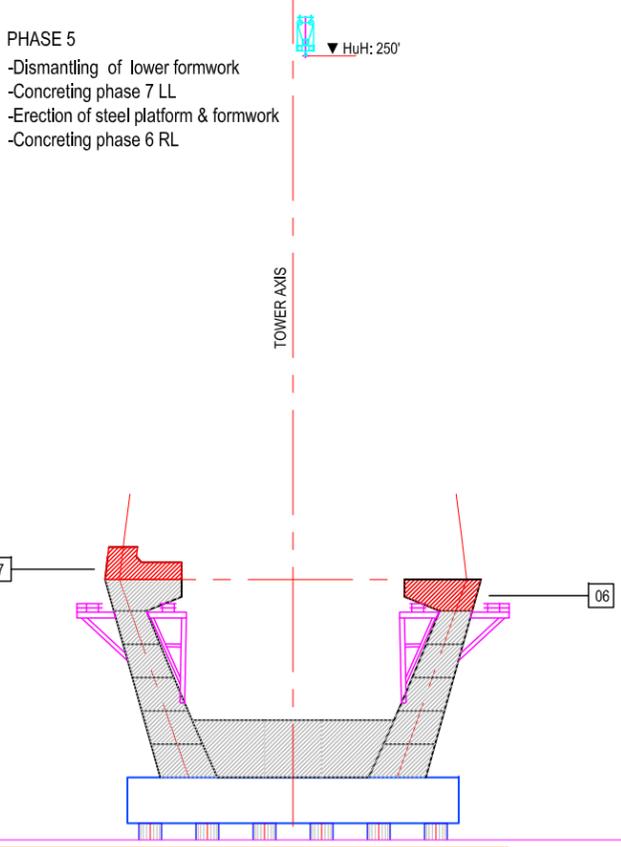
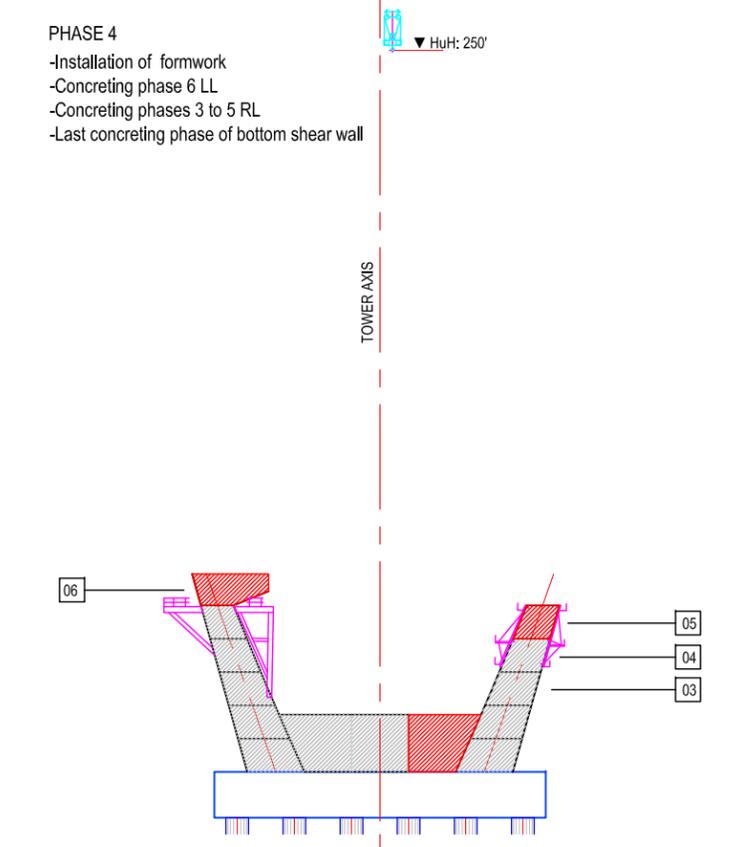
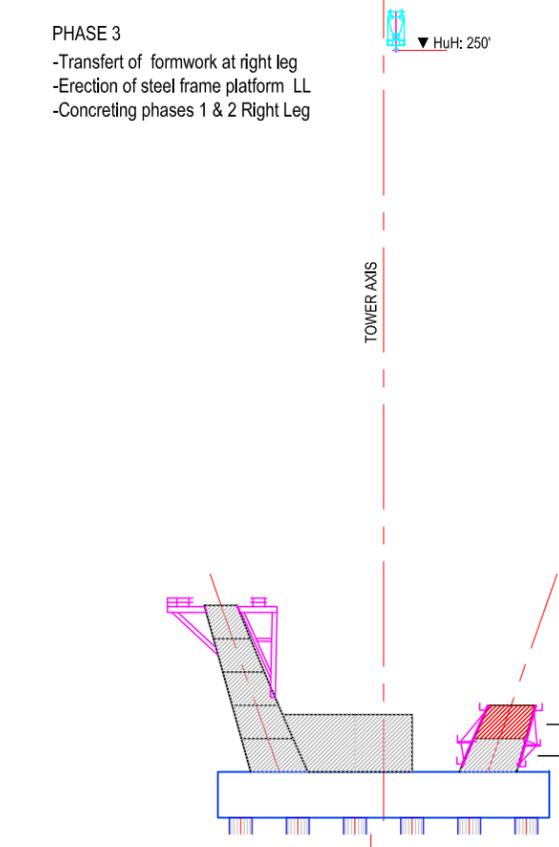
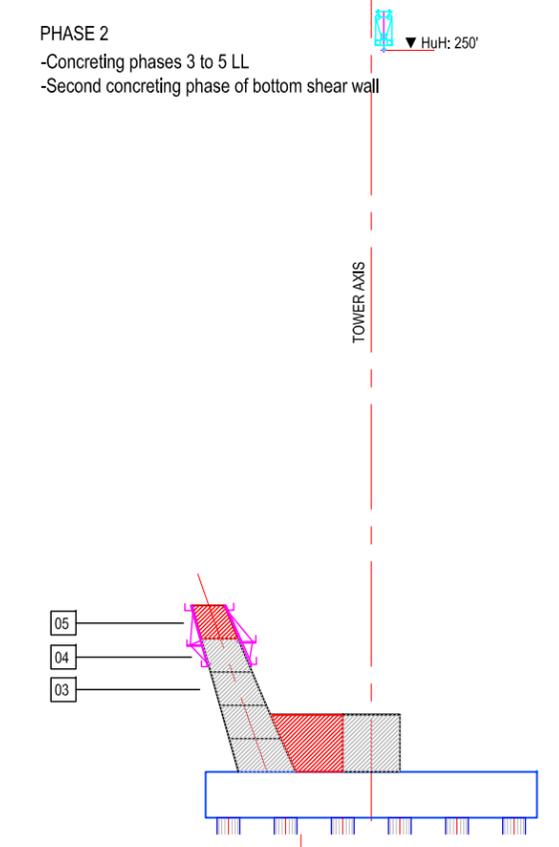
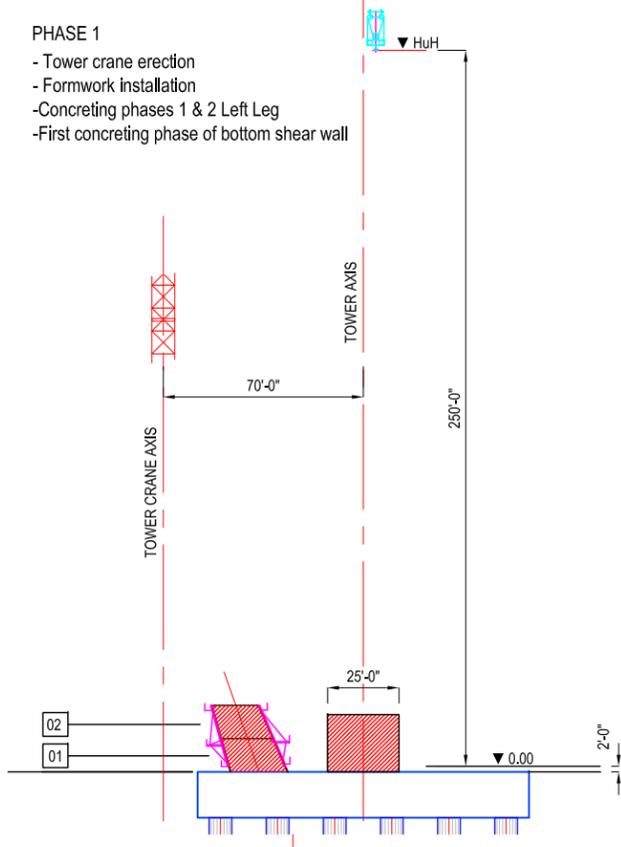
Indiana Finance Authority

Ohio River Bridges - East End Crossing

GENERAL SEQUENCE OF WORKS

HORIZONTAL SCALE	BRIDGE FILE		
VERTICAL SCALE	DESIGNATION		
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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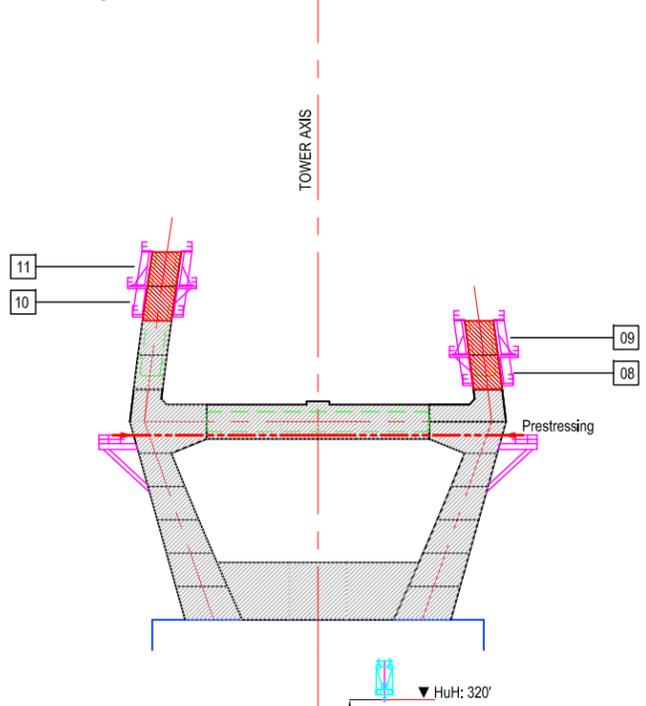
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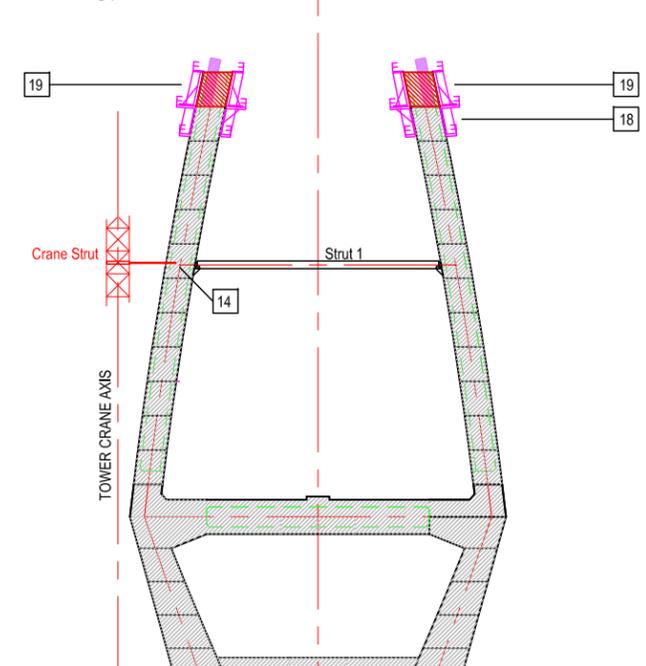
Indiana Finance Authority
 OHIO RIVER BRIDGES
 Ohio River Bridges - East End Crossing
 TOWERS 3 & 4
 SEQUENCE OF WORKS

HORIZONTAL SCALE		BRIDGE FILE	
1/64" = 1'			
VERTICAL SCALE		DESIGNATION	
1/64" = 1'			
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
A	18/10/2012	MET 01	1 of 2
CONTRACT		PROJECT	

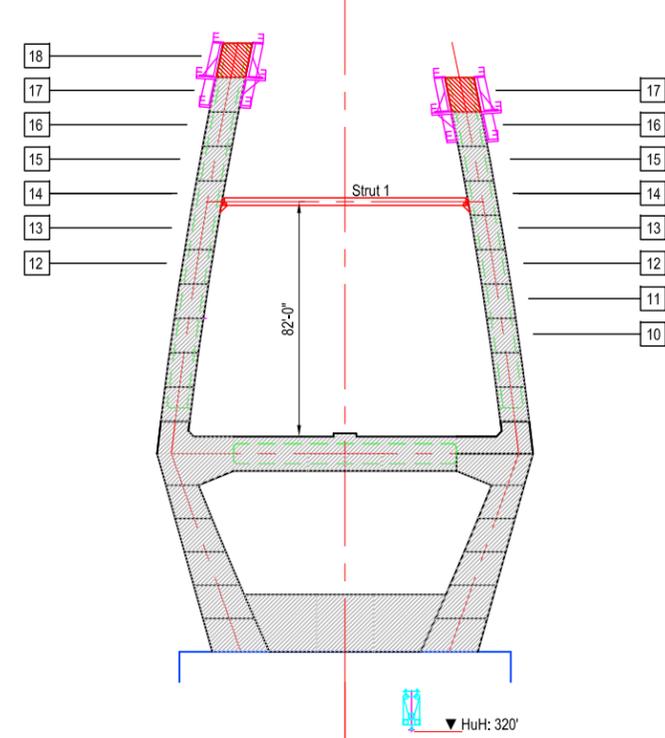
PHASE 9
 -Erection of climbing formwork at other leg
 -Concreting phases 8 & 9 RL
 -Concreting phases 10 & 11 LL
 -Prestressing of tower cross beam



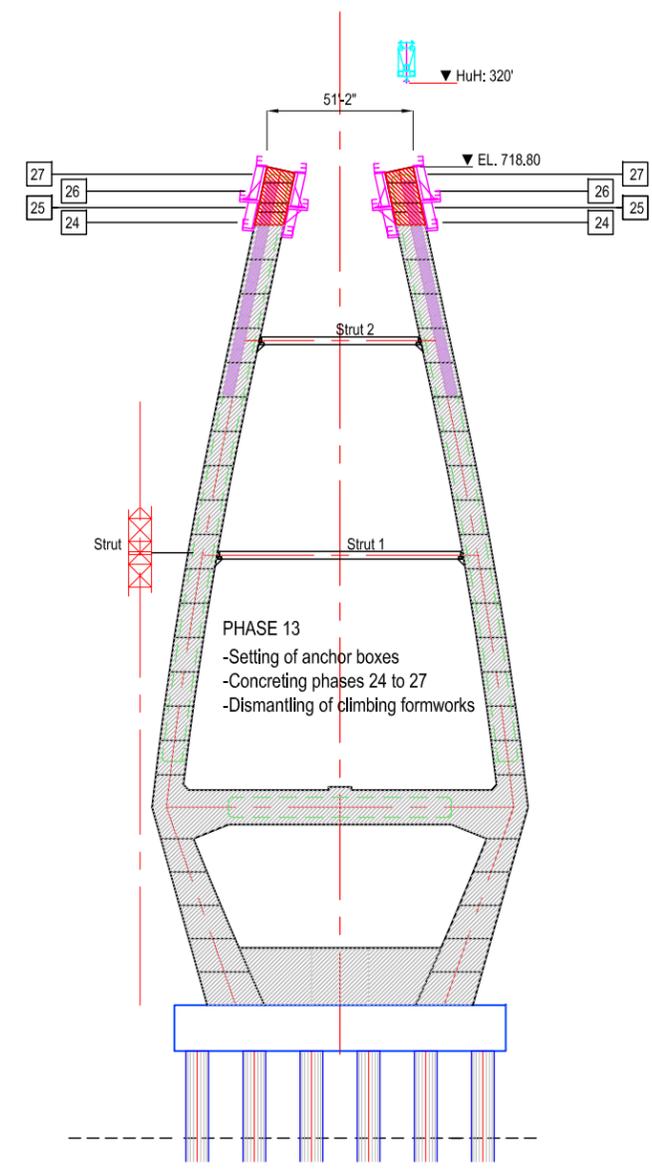
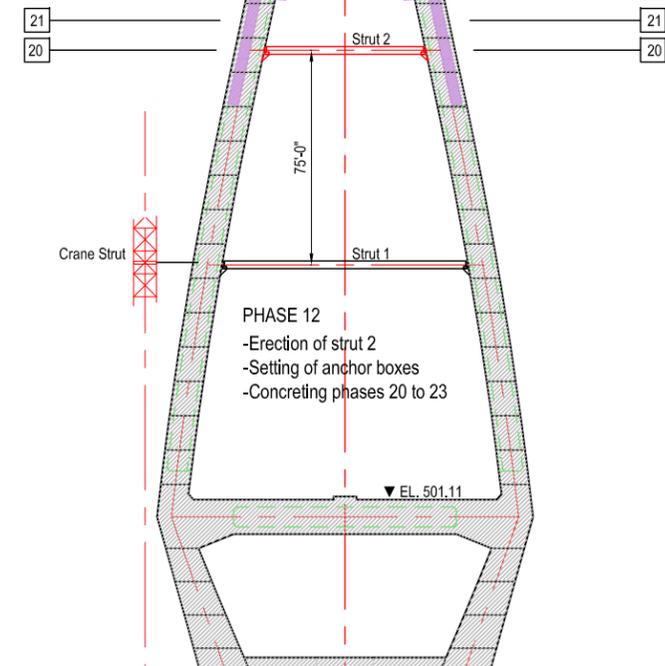
PHASE 11
 -Erection of strut crane
 -Jacking up of crane : 70'
 -Setting & adjustment of anchor boxes
 -Concreting phases 18 & 19 RL
 -Concreting phases 19 LL



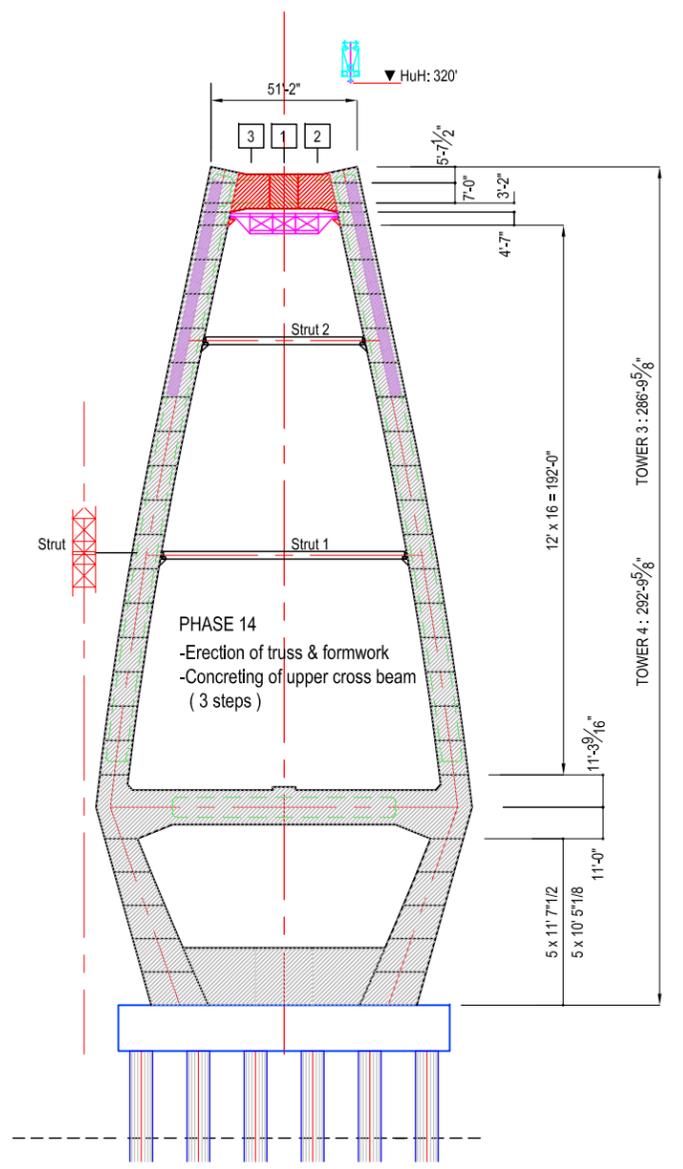
PHASE 10
 -Concreting phases 10 to 17 RL
 -Concreting phases 12 to 18 LL
 -Erection of strut 1



PHASE 12
 -Erection of strut 2
 -Setting of anchor boxes
 -Concreting phases 20 to 23



PHASE 13
 -Setting of anchor boxes
 -Concreting phases 24 to 27
 -Dismantling of climbing formworks



PHASE 14
 -Erection of truss & formwork
 -Concreting of upper cross beam (3 steps)

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 USER: \$USER\$
 MODEL NAME: \$MODEL\$
 DATE PLOTTED: \$DATE\$
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CHECKED: DP	CHECKED: DP	


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 Ohio River Bridges - East End Crossing
 TOWERS 3 & 4
 SEQUENCE OF WORKS

HORIZONTAL SCALE		BRIDGE FILE	
1/64" = 1'		DESIGNATION	
VERTICAL SCALE		REV. NO.	DWG. NO.
1/64" = 1'		A	2 of 2
		CONTRACT	PROJECT

Tunnel Construction Methods (4.2.2.2)

- Page 2: Temporary support type I design**
- Page 3: Temporary support type I design**
- Page 4: Temporary support type II design**
- Page 5: Temporary support type II design**
- Page 6: Temporary support type III design**
- Page 7: Temporary support type III design**
- Page 8: Temporary South portal support design**
- Page 9: Temporary North portal support design**
- Page 10: Method drawing - Mucking stage**
- Page 11: Method drawing - Shotcrete stage**
- Page 12: Method drawing - Bolting stage**
- Page 13: Method drawing - Lining stages**
- Page 14: Method drawing - Lining stages - stage 5 detail**

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1

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DESIGN ENGINEER		DATE
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Ohio River Bridges - East End Crossing

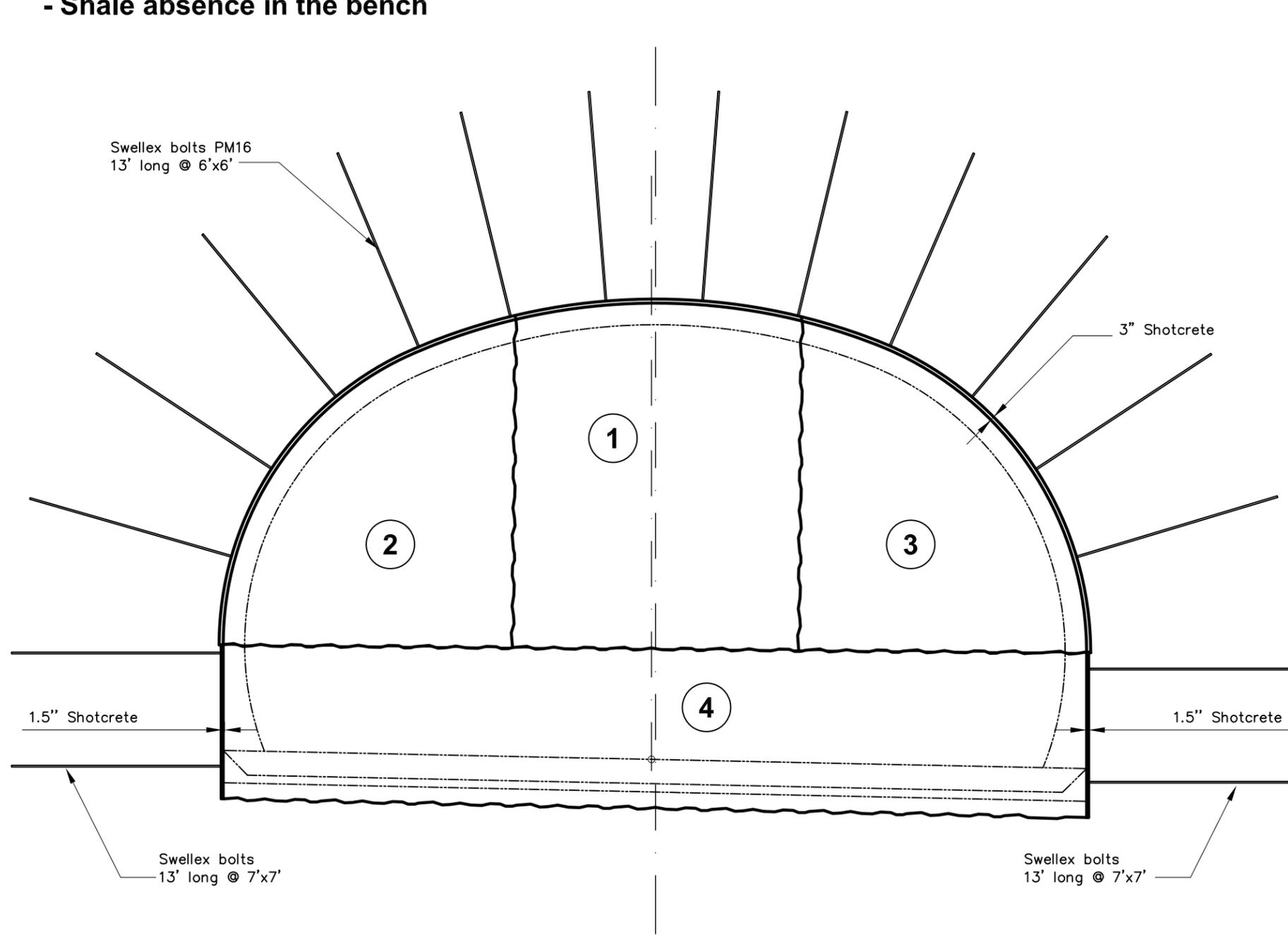
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
_____	XX/XX/2012	_____	1 of 14
CONTRACT		PROJECT	

PRELIMINARY

TEMPORARY SUPPORT TYPE I:

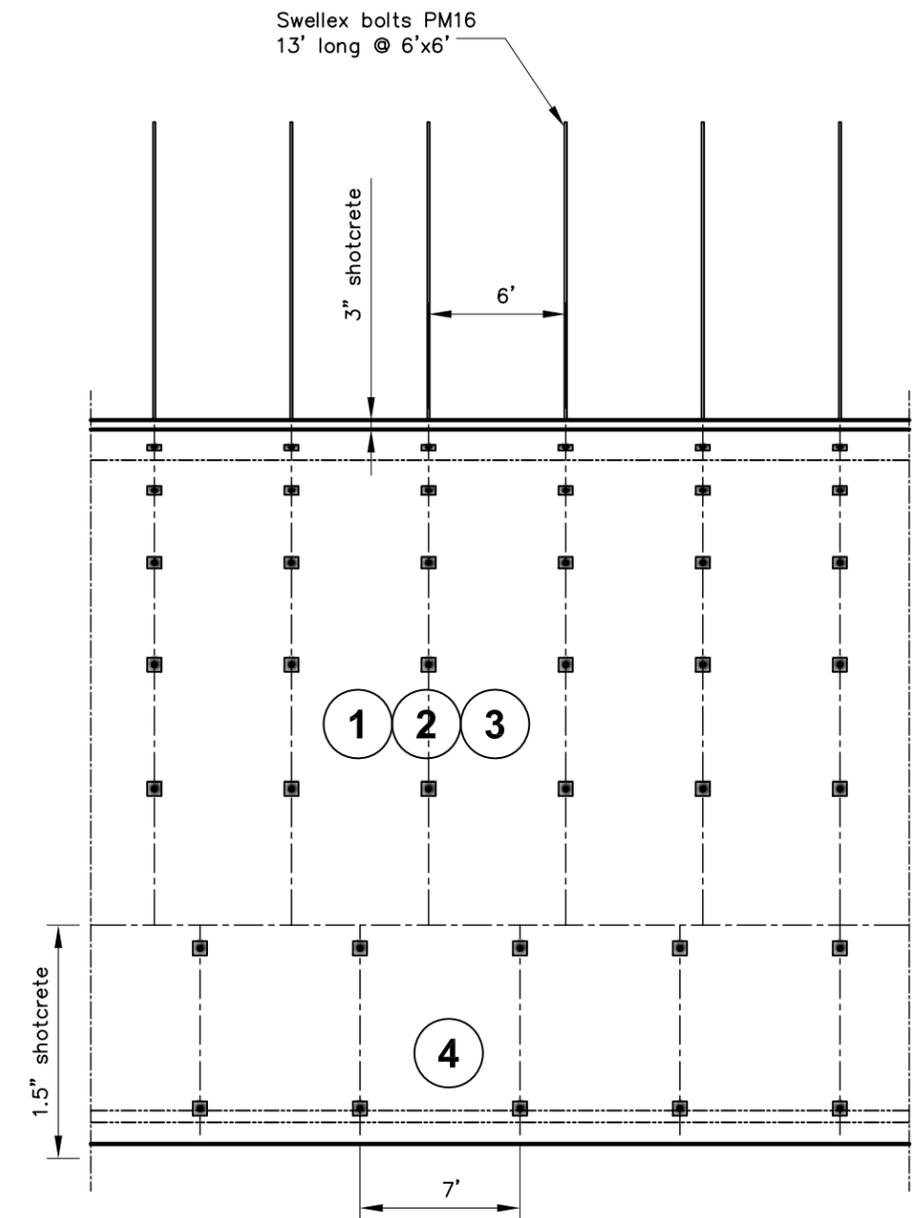
- GSI superior to 50
- Rock cover superior to 30'
- Shale absence in the bench

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

USER: \$USER\$
DATE PLOTTED: \$DATE\$

MODEL NAME: \$MODEL\$

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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE XX/XX/2012
DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

Indiana Finance Authority

BRIDGES

Ohio River Bridges - East End Crossing

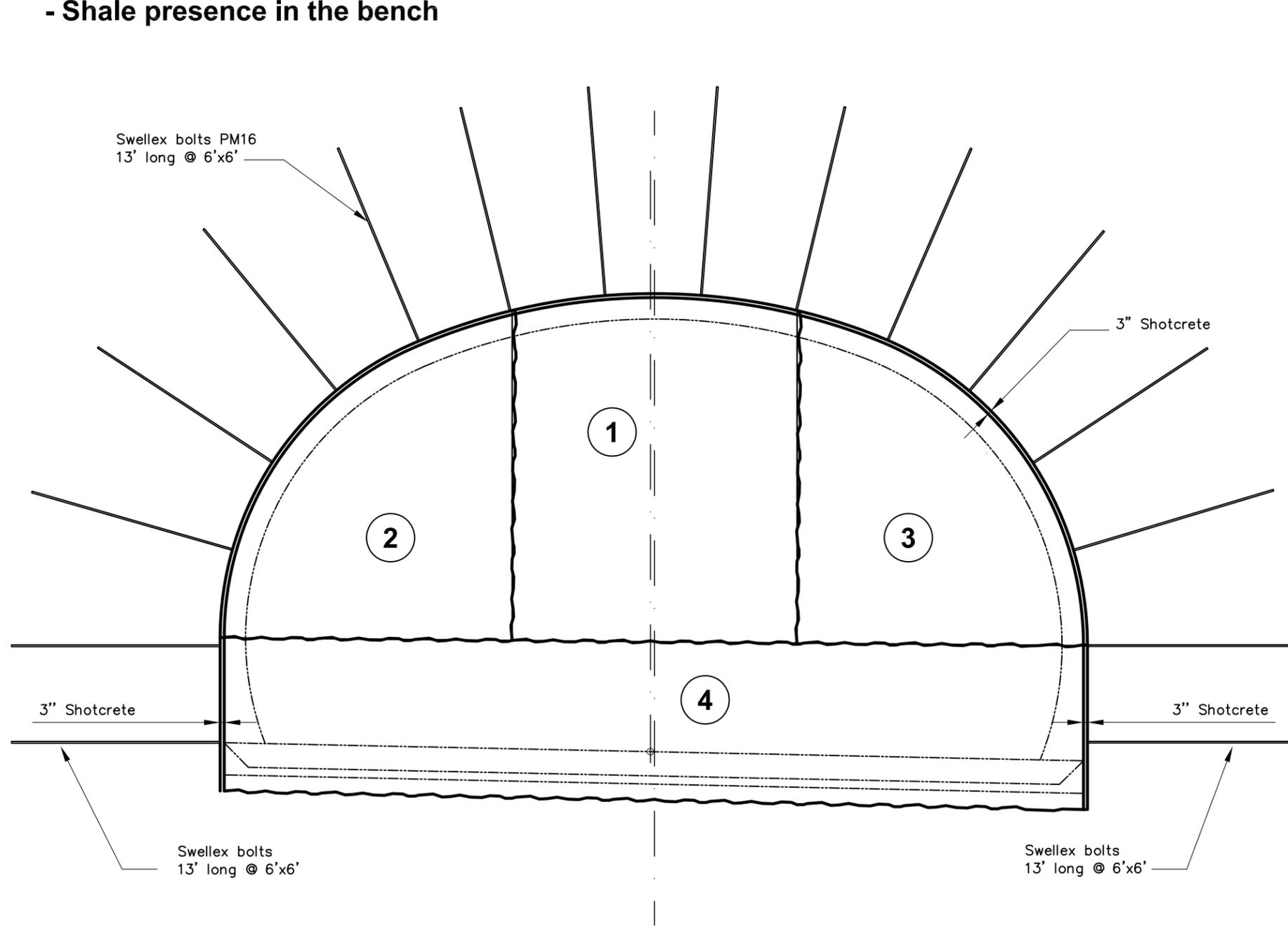
HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		2 of 14
CONTRACT		PROJECT	

PRELIMINARY

TEMPORARY SUPPORT TYPE I:

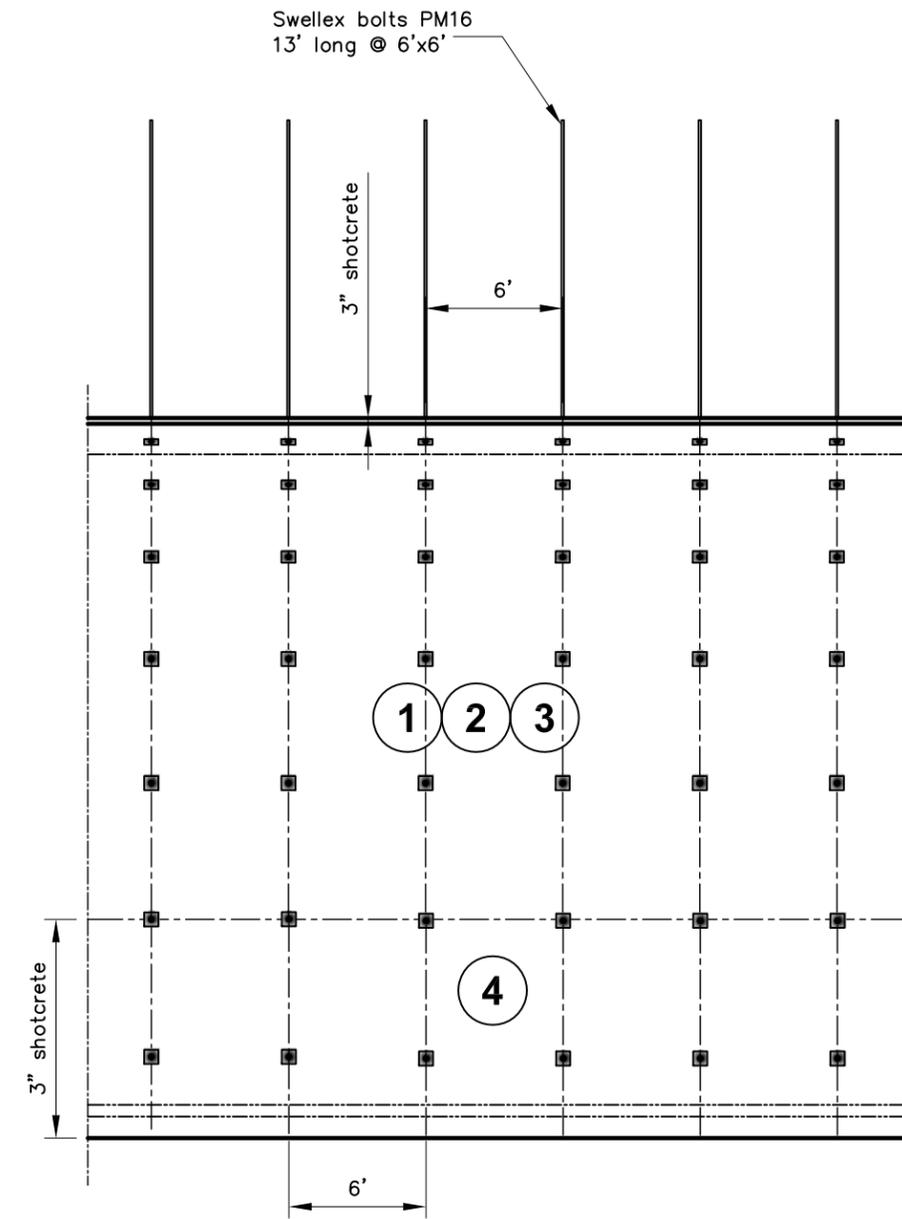
- GSI superior to 50
- Rock cover superior to 30'
- Shale presence in the bench

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

USER: \$USER\$
DATE PLOTTED: \$DATE\$

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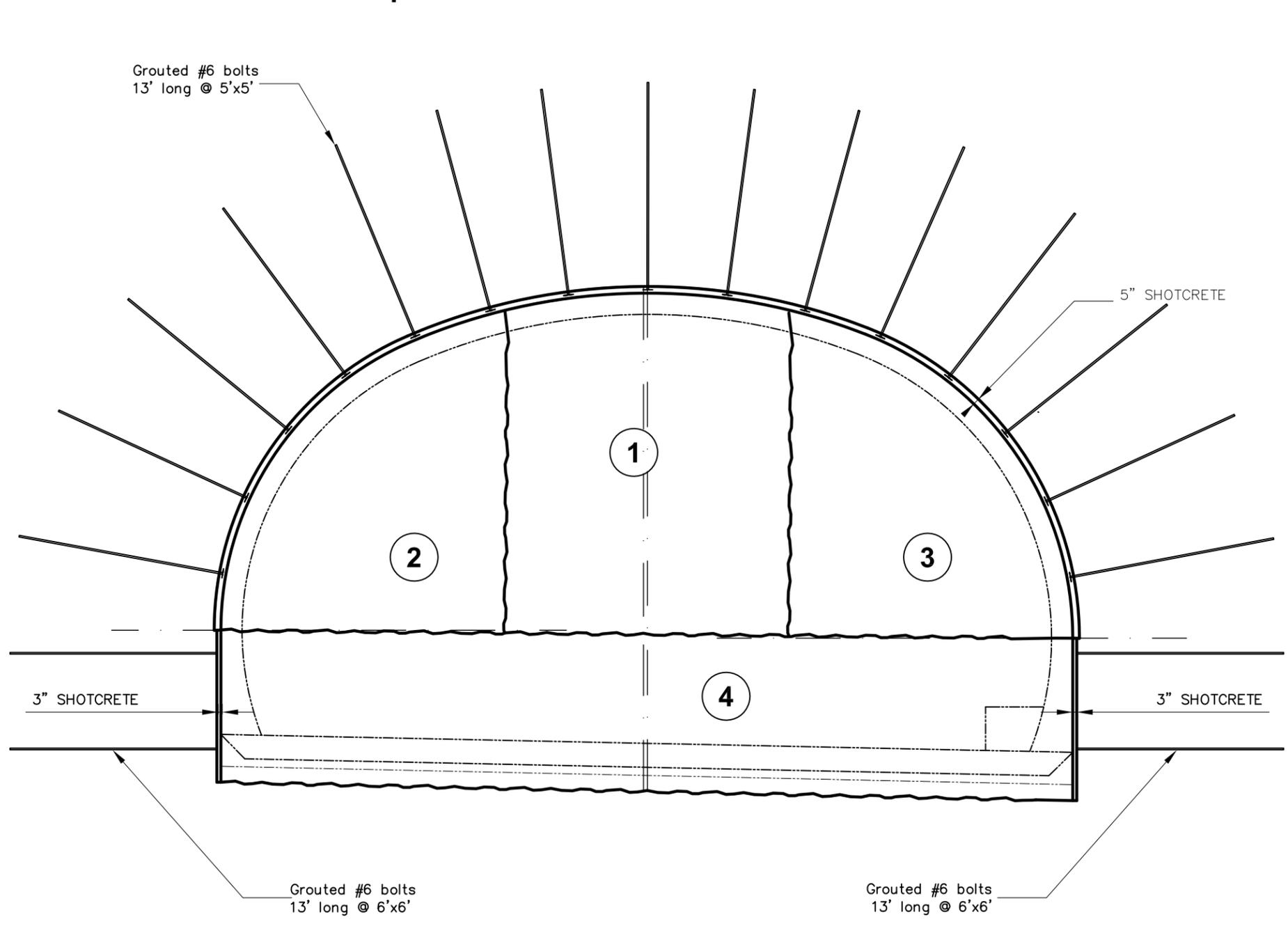


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VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		3 of 14
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PRELIMINARY

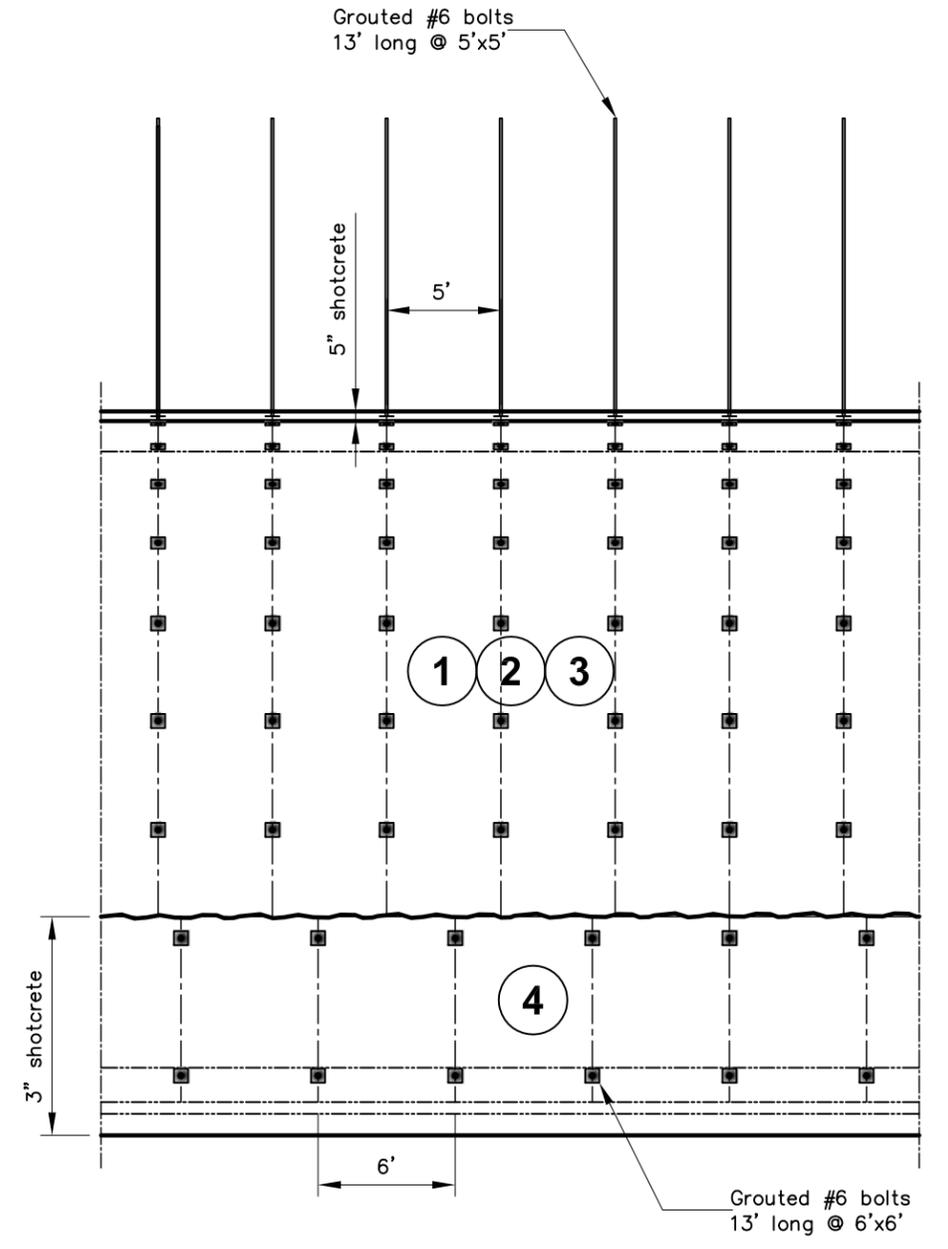
TEMPORARY SUPPORT TYPE II:
- GSI between 35 and 50
- Rock cover superior to 30'

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

USER: \$USER\$
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Ohio River Bridges - East End Crossing

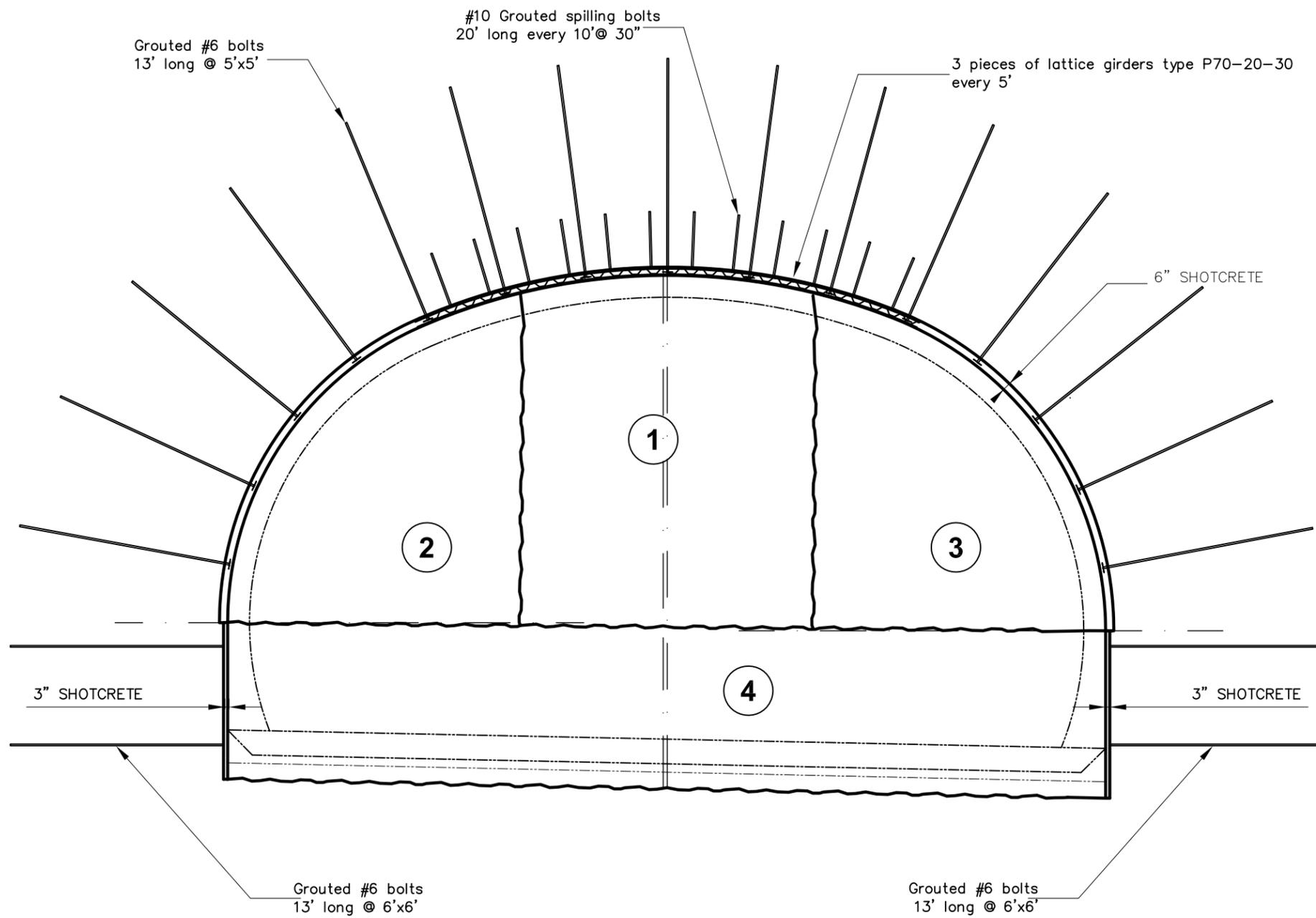
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		4 of 14
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PRELIMINARY

TEMPORARY SUPPORT TYPE II:

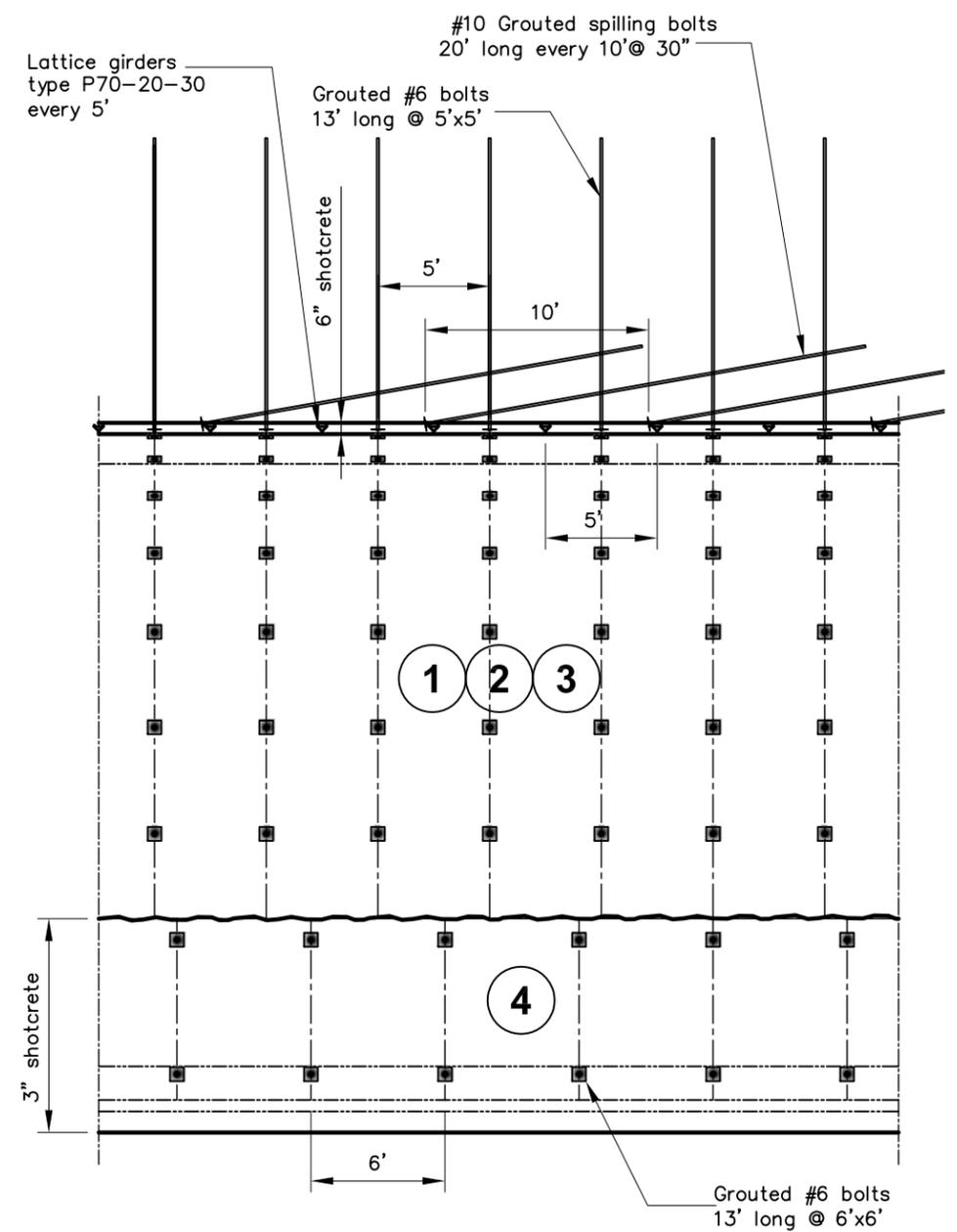
- GSI between 35 and 50
- Rock cover inferior to 30'

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

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Indiana Finance Authority

Ohio River Bridges - East End Crossing

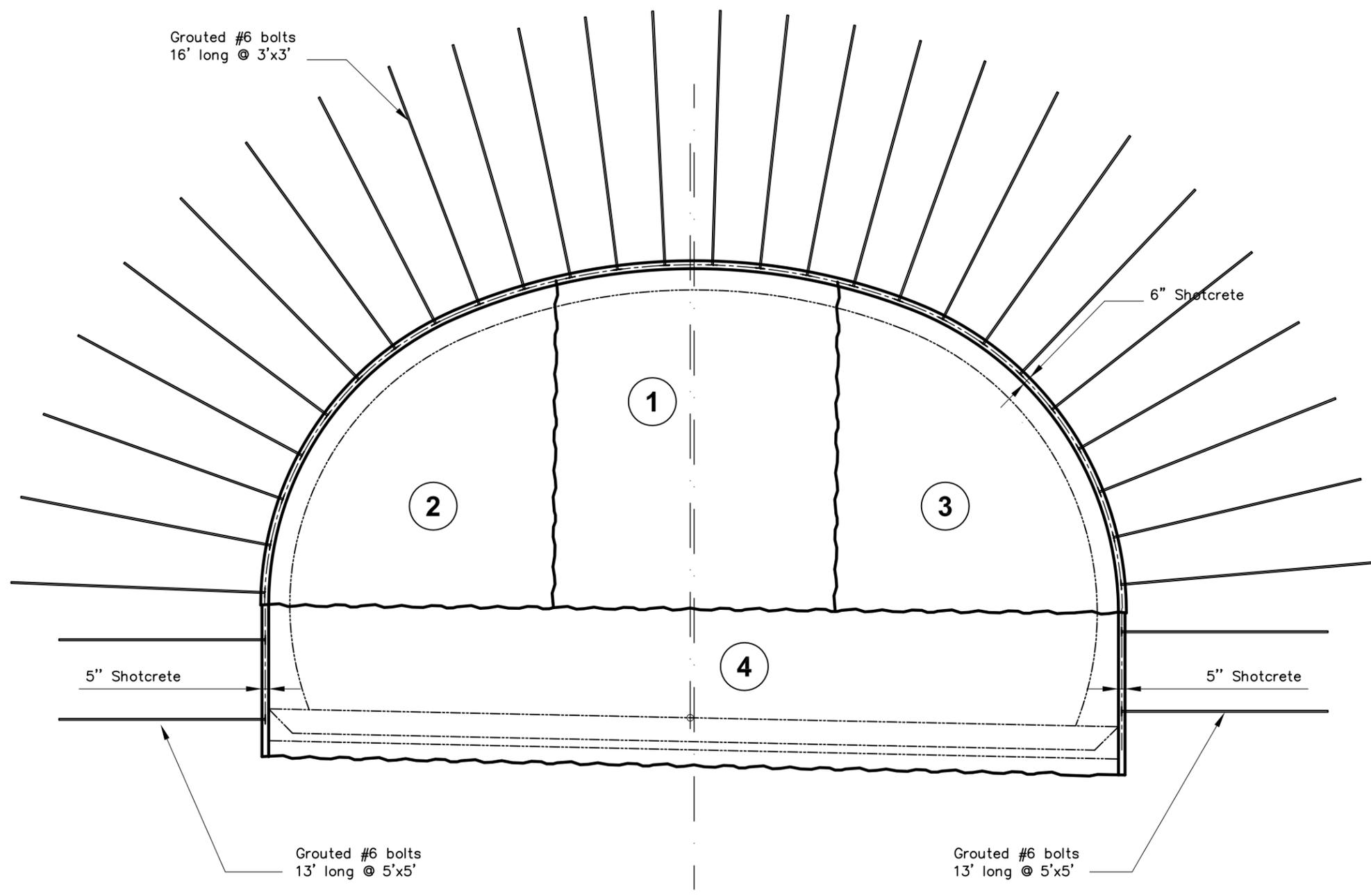
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		5 of 14
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PRELIMINARY

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS

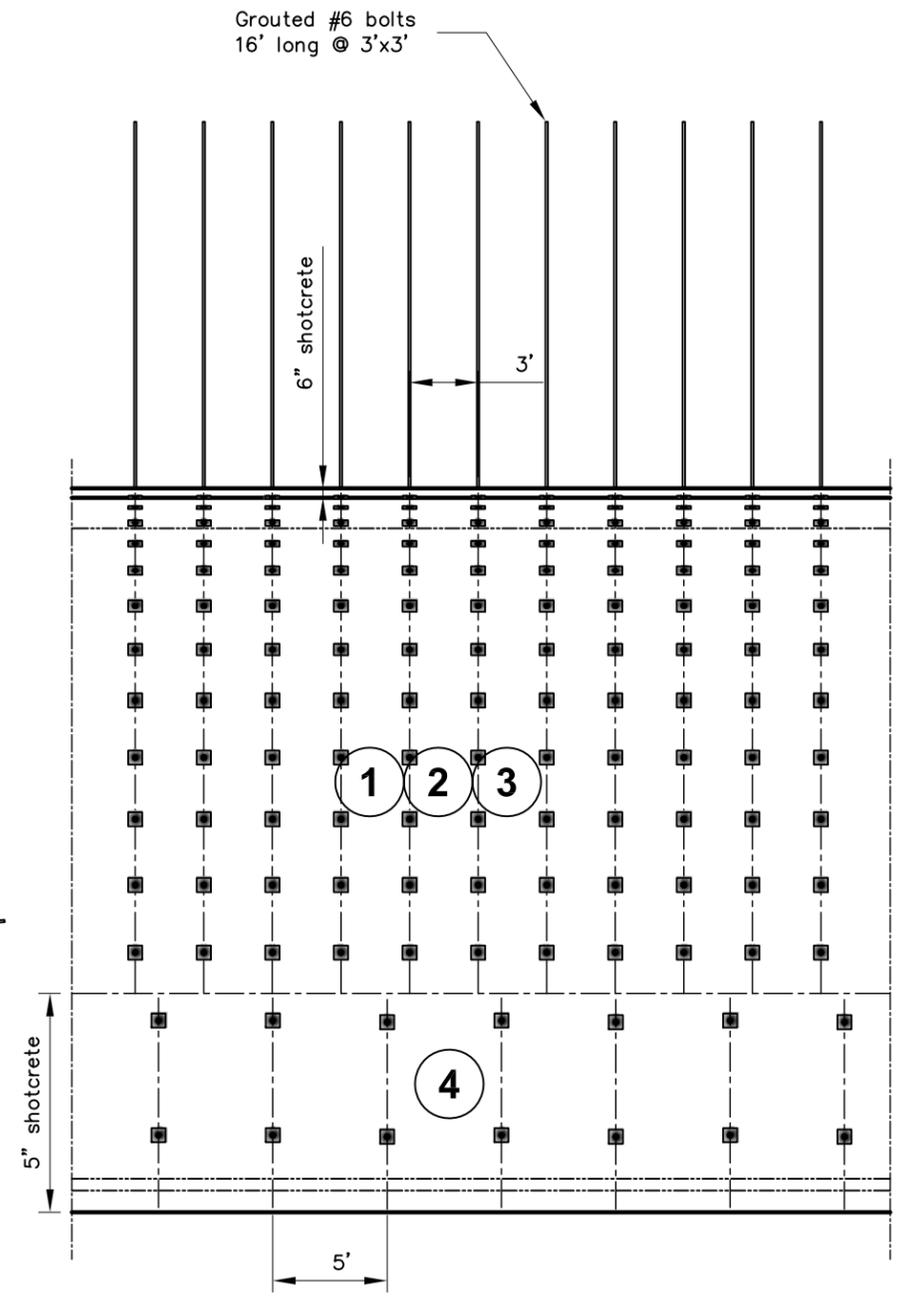
TEMPORARY SUPPORT TYPE III:

- GSI between 20 to 35
- Rock cover superior to 30'



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

USER: \$USER\$ DATE PLOTTED: \$DATE\$

MODEL NAME: \$MODEL\$

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6

RECOMMENDED FOR APPROVAL _____ XX/XX/2012
DESIGN ENGINEER DATE

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Indiana Finance Authority **BRIDGES**

Ohio River Bridges - East End Crossing

HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		6 of 14
CONTRACT		PROJECT	

PRELIMINARY

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS

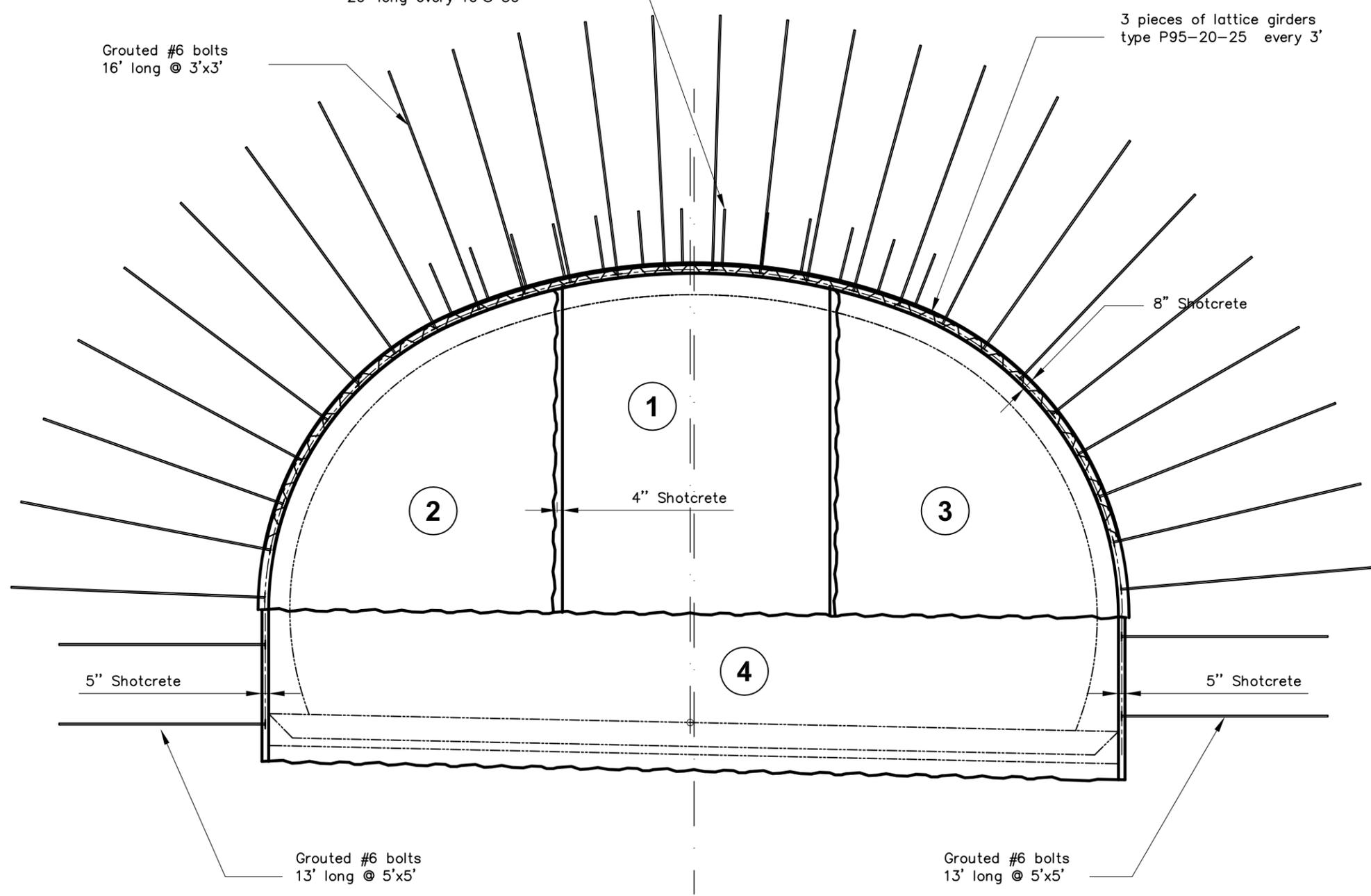
TEMPORARY SUPPORT TYPE III:

- GSI between 20 to 35
- Rock cover inferior to 30'

#10 Grouted spilling bolts
20' long every 10' @ 30"

Grouted #6 bolts
16' long @ 3'x3'

3 pieces of lattice girders
type P95-20-25 every 3'



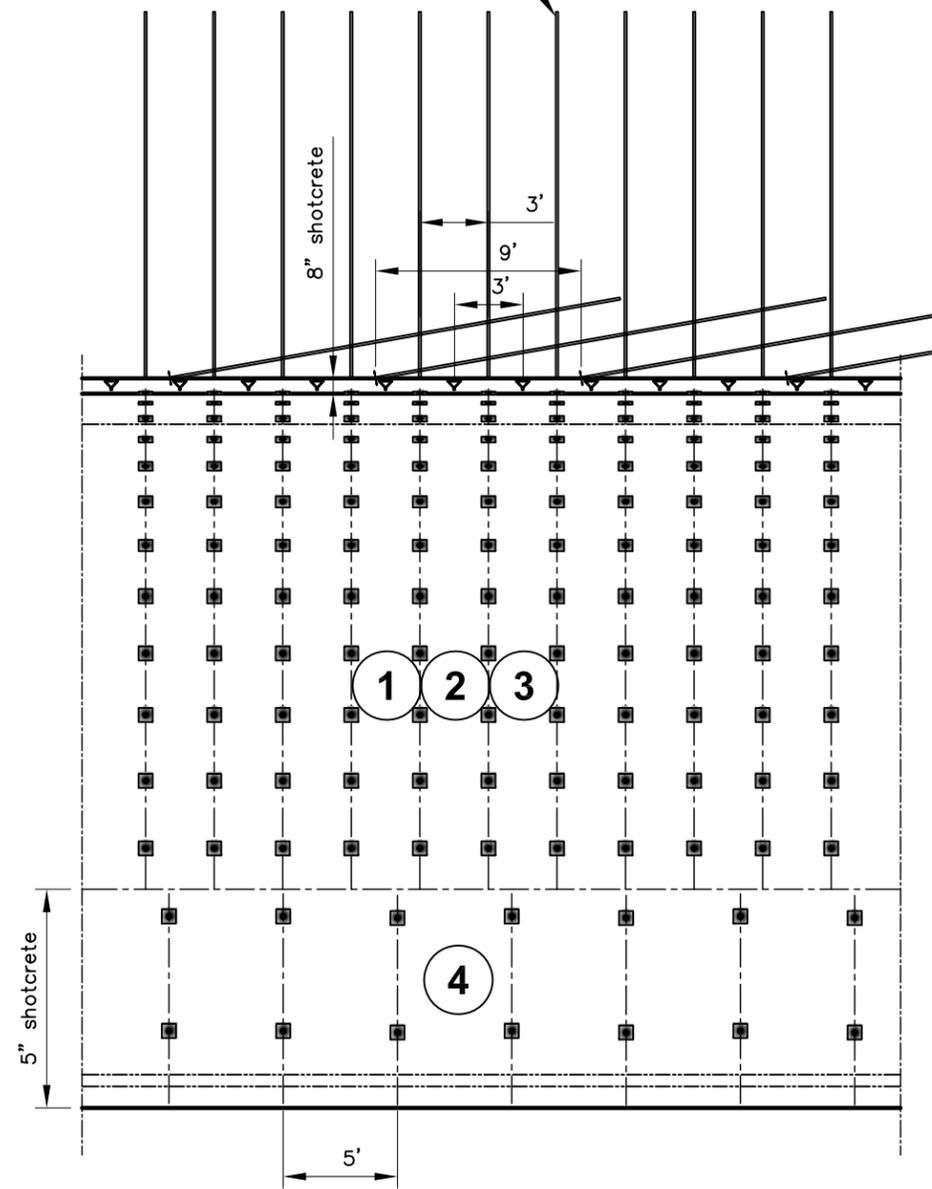
Grouted #6 bolts
13' long @ 5'x5'

Grouted #6 bolts
13' long @ 5'x5'

TUNNEL CROSS SECTION - (SOUTH TUNNEL)

Scale : 1/8"=1'-0"

Grouted #6 bolts
16' long @ 3'x3'



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

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Ohio River Bridges - East End Crossing

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	XX/XX/2012		7 of 14
CONTRACT		PROJECT	

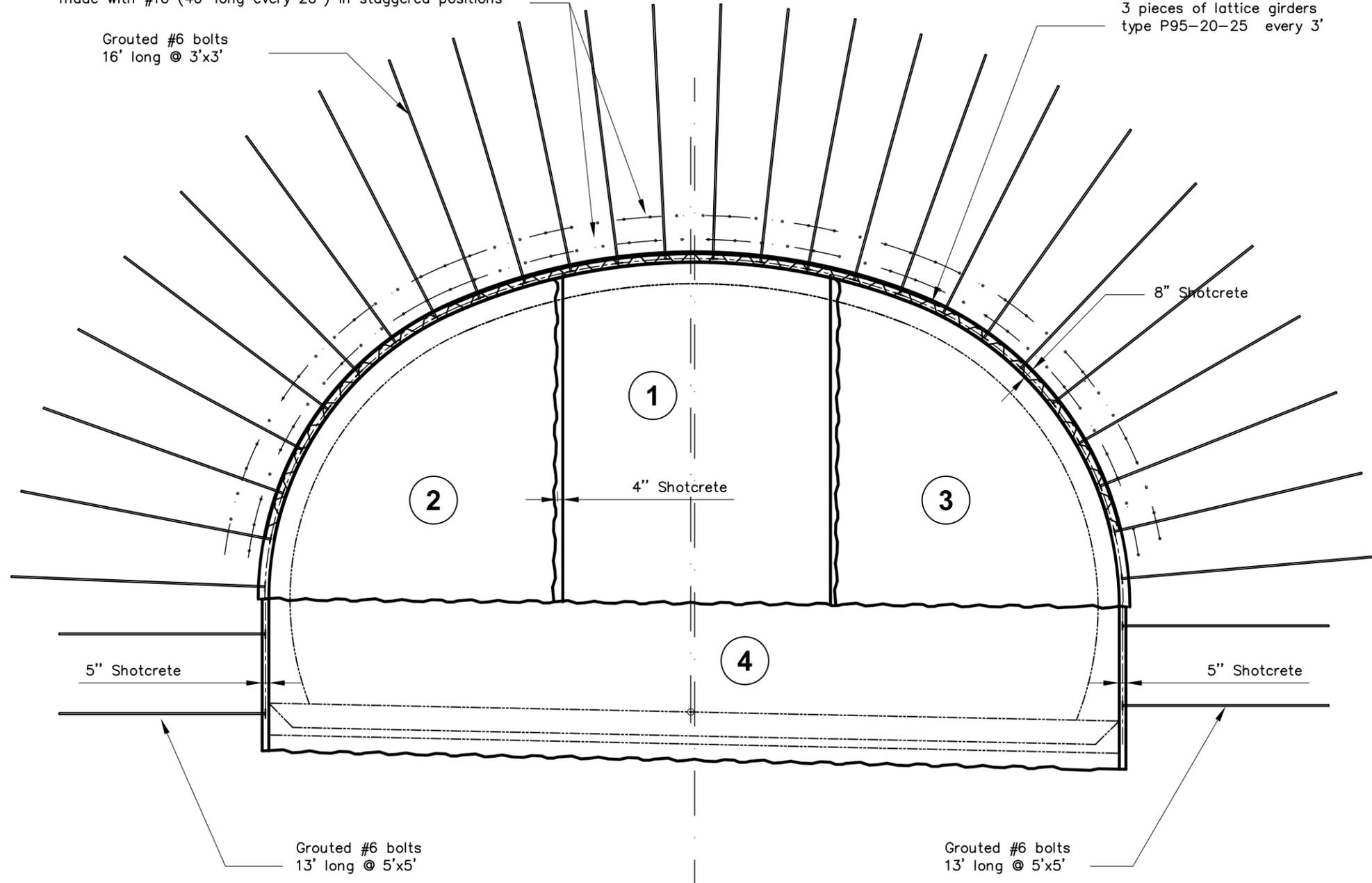
PRELIMINARY

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS

TEMPORARY NORTH PORTAL SUPPORT :

- Used on both tubes
- GSI between 20 to 35

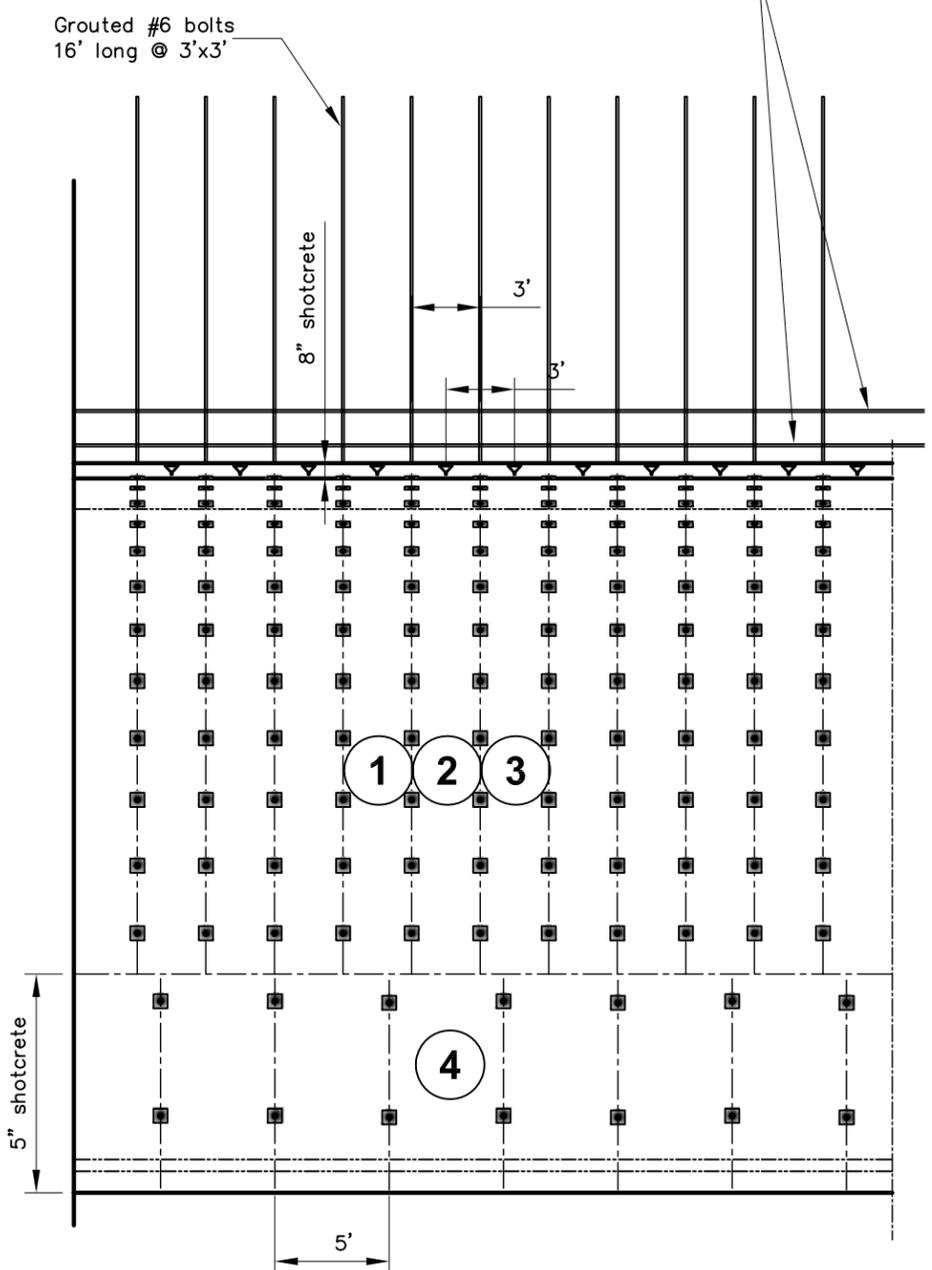
2 rows of spilling bolts, parallel to the tunnel alignment and made from portals made with #10 (40' long every 20") in staggered positions



TUNNEL CROSS SECTION – (SOUTH TUNNEL)

Scale : 1/8"=1'-0"

2 rows of spilling bolts, parallel to the tunnel alignment and made from portals made with #10 (40' long every 20") in staggered positions



TUNNEL LONGITUDINAL SECTION

Scale : 1/8"=1'-0"

FILE NAME: \$FILEA\$

USER: \$USER\$ DATE PLOTTED: \$DATE\$

MODEL NAME: \$MODEL\$

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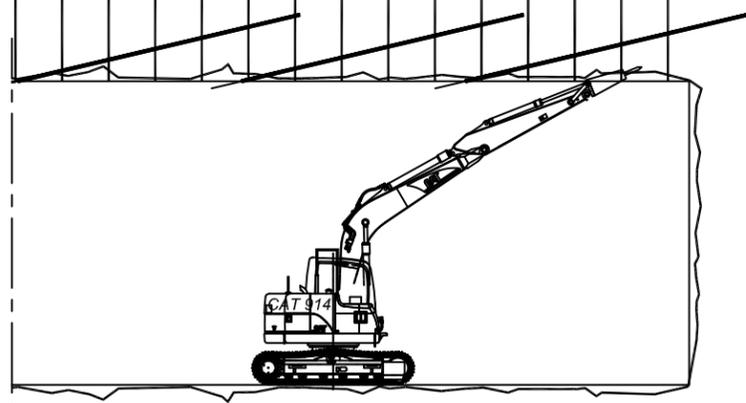
Indiana Finance Authority
 Ohio River Bridges - East End Crossing

HORIZONTAL SCALE		BRIDGE FILE	
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		9 of 14
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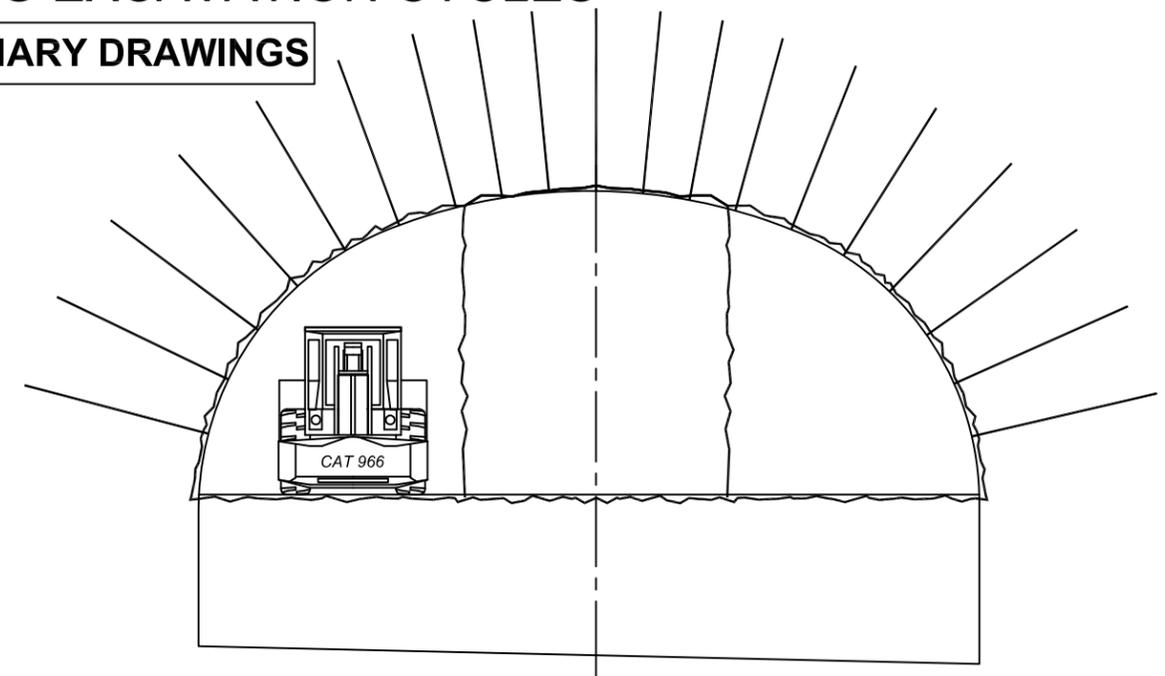
PRELIMINARY

METHOD DRAWING : MUCKING DURING EXCAVATION CYCLES

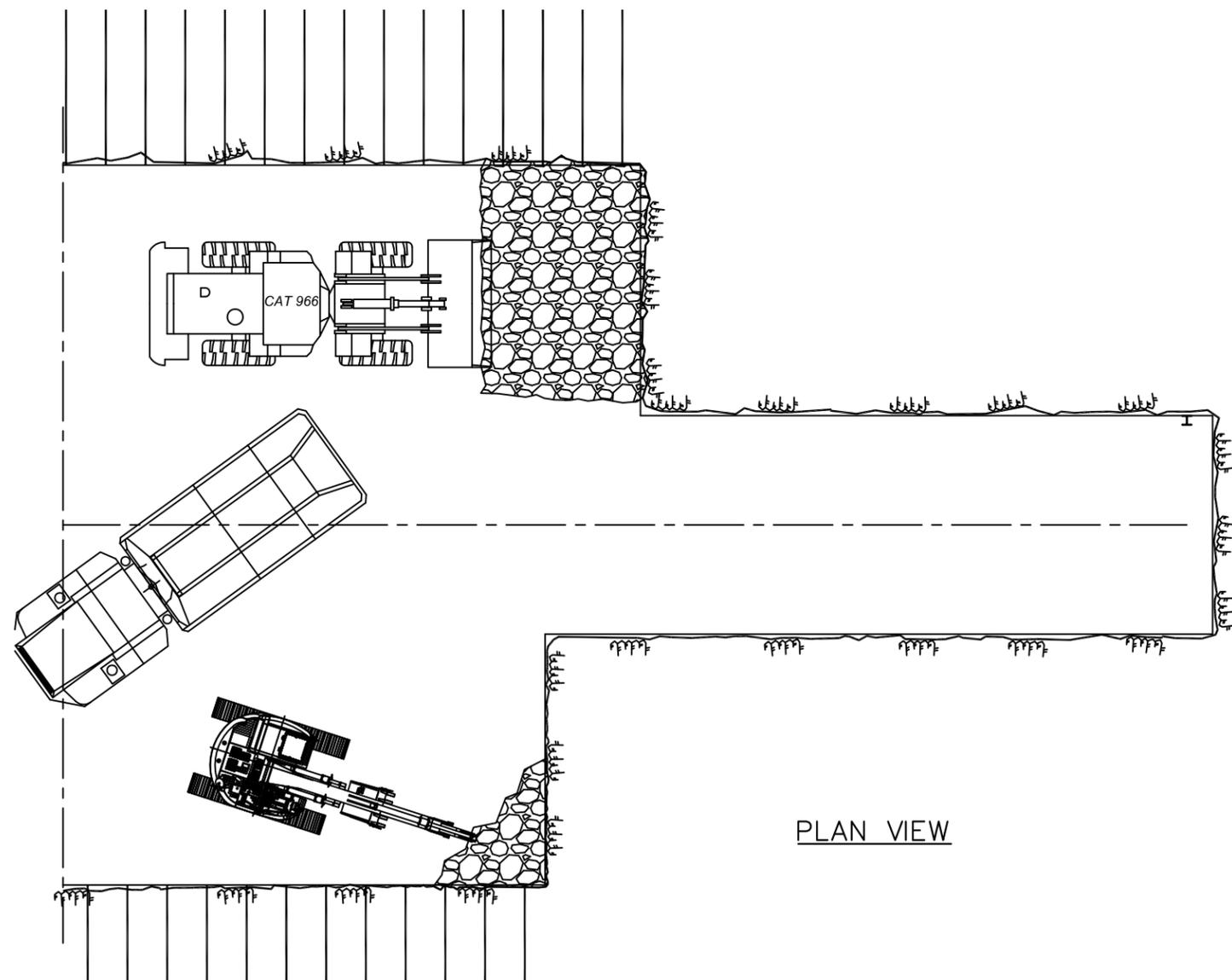
CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



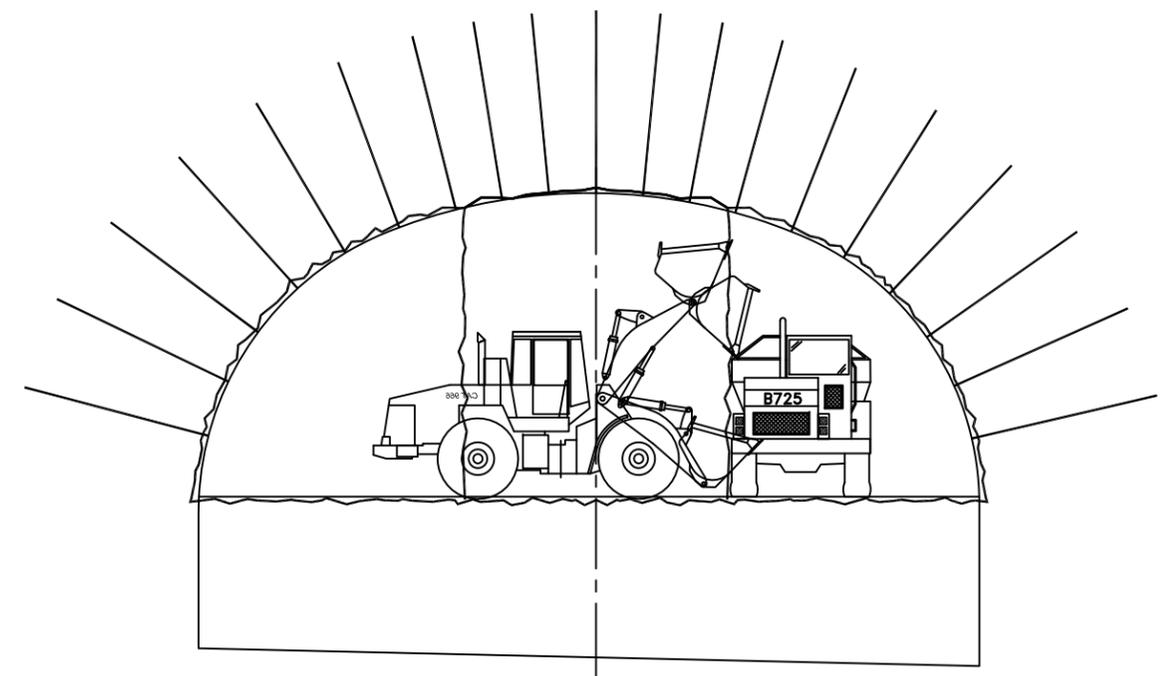
LONGITUDINAL SECTION



CROSS SECTION



PLAN VIEW



CROSS SECTION

FILE NAME: \$FILEA\$

USER: \$USER\$
DATE PLOTTED: \$DATE\$

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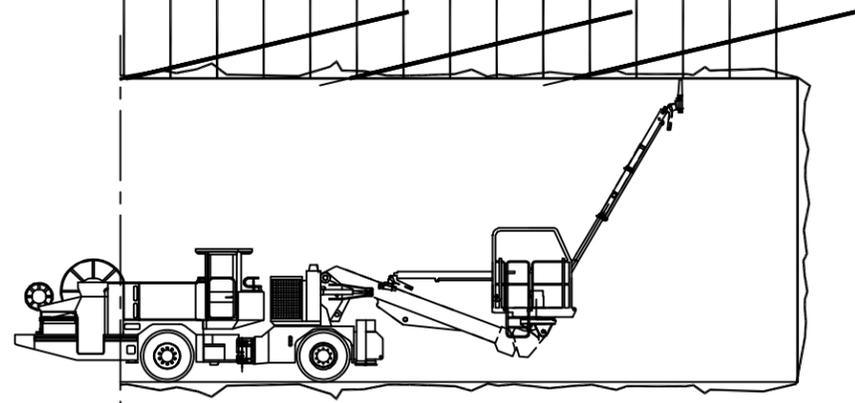
Ohio River Bridges - East End Crossing

HORIZONTAL SCALE _____		BRIDGE FILE _____	
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REV. NO. _____	DRAWING DATE XX/XX/2012	DWG. NO. _____	SHEET NO. 10 of 14
CONTRACT _____		PROJECT _____	

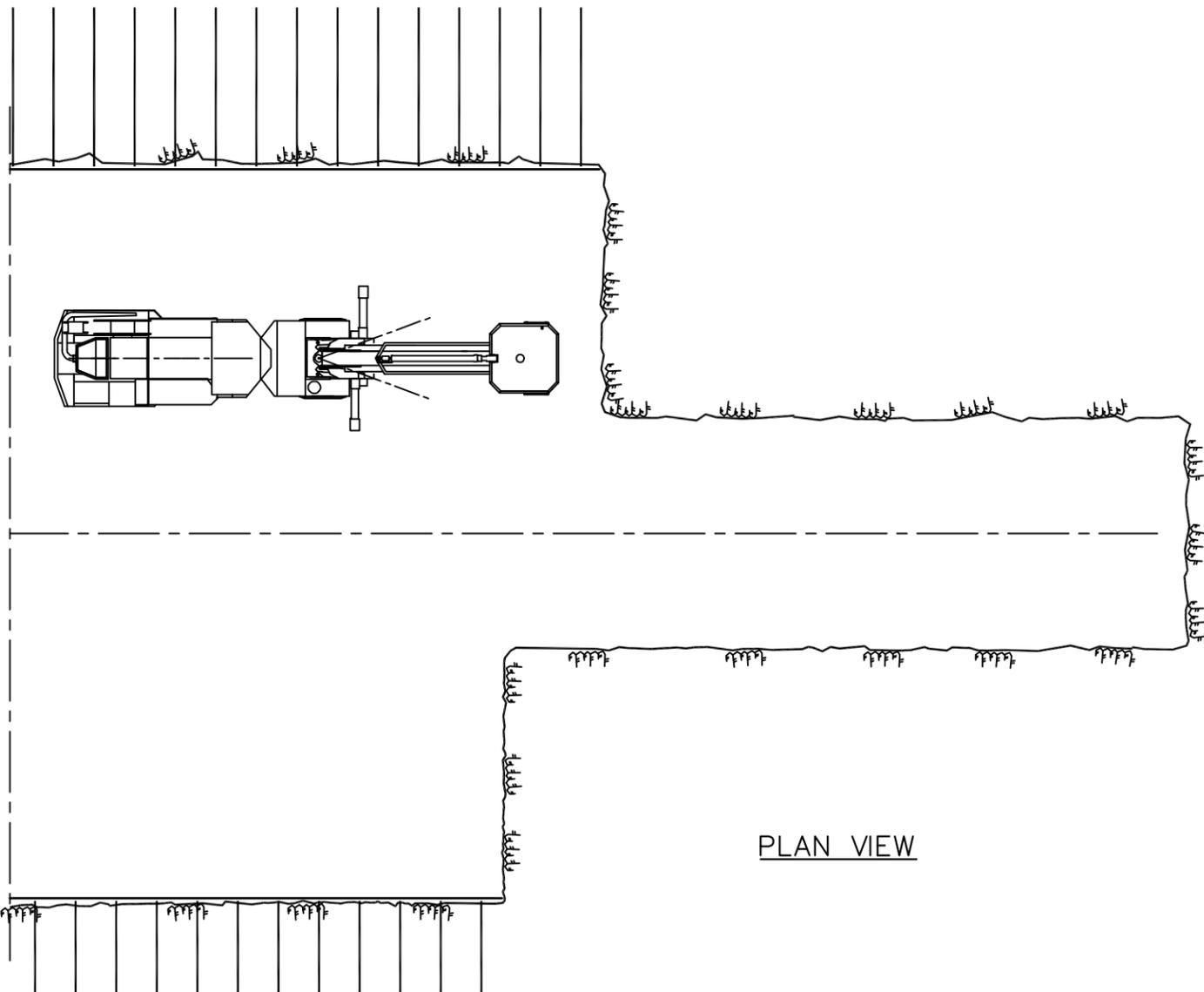
PRELIMINARY

METHOD DRAWING : SHOTCRETE DURING EXCAVATION CYCLES

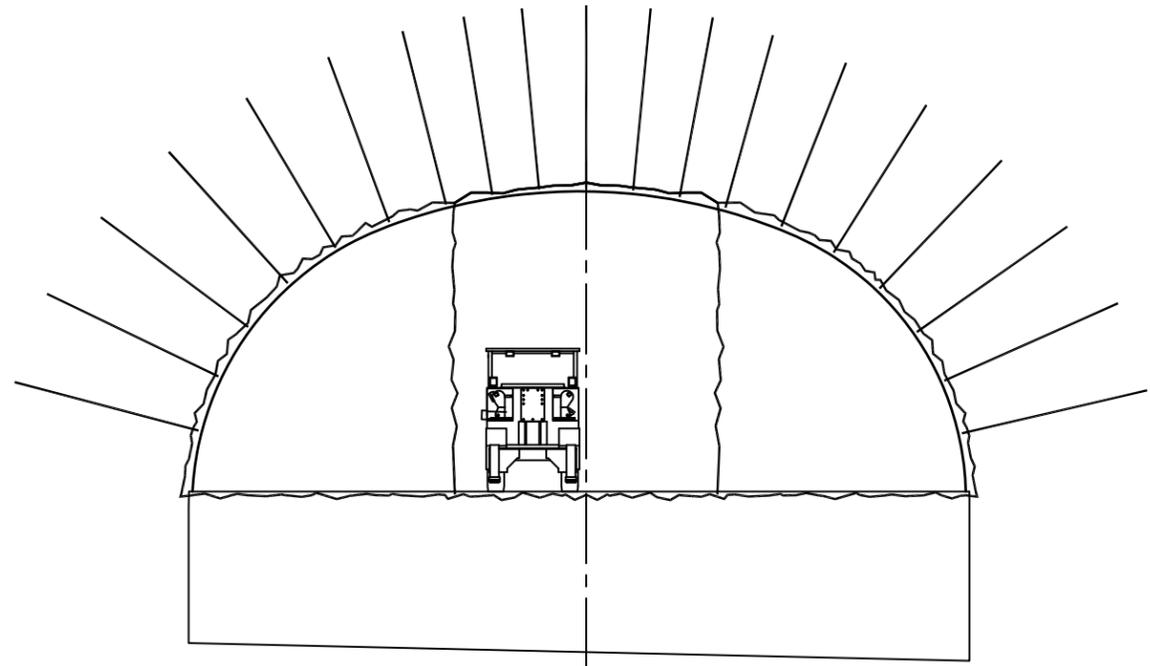
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LONGITUDINAL SECTION



PLAN VIEW



CROSS SECTION

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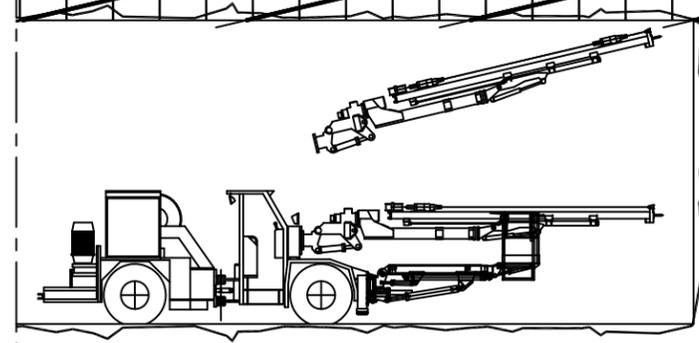
Indiana Finance Authority
 BRIDGES
Ohio River Bridges - East End Crossing

HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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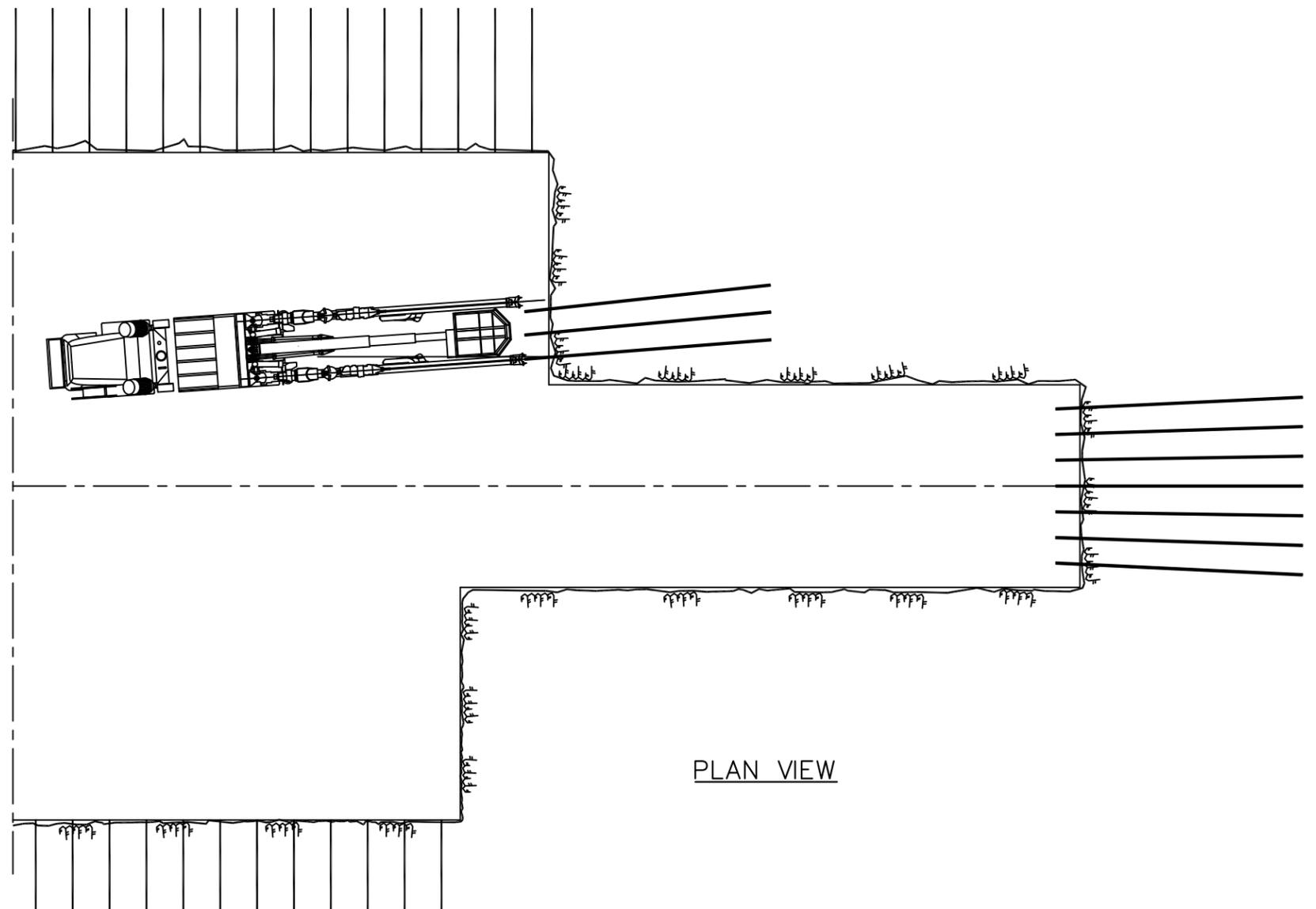
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METHOD DRAWING : BOLTING DURING EXCAVATION CYCLES

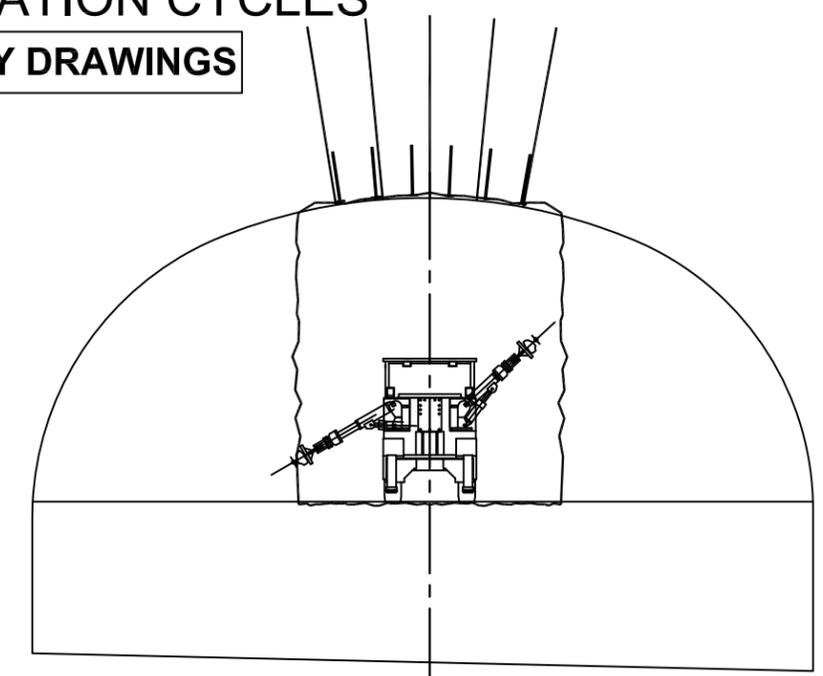
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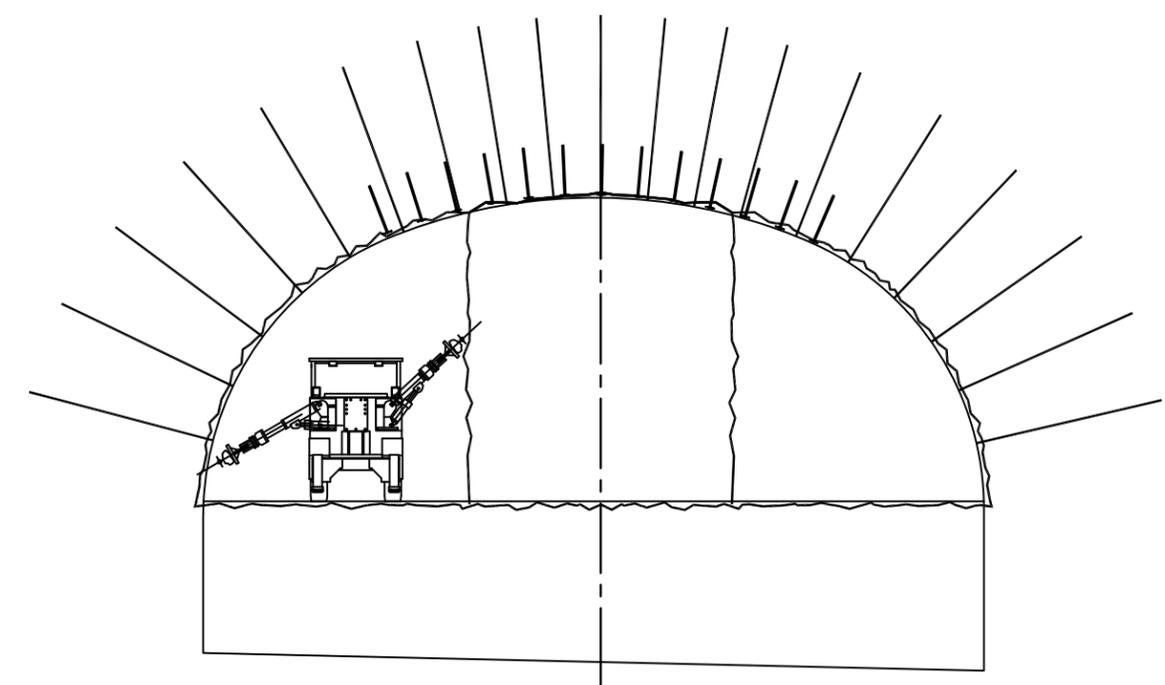
LONGITUDINAL SECTION



PLAN VIEW



CROSS SECTION



CROSS SECTION

FILE NAME: \$FILEA\$

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Indiana Finance Authority

Ohio River Bridges - East End Crossing

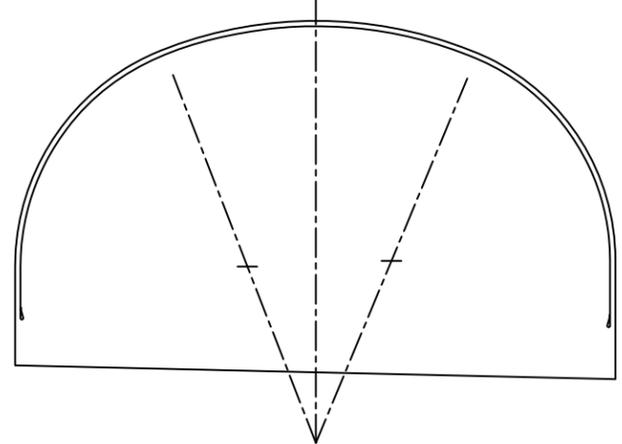
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		12 of 14
CONTRACT		PROJECT	

PRELIMINARY

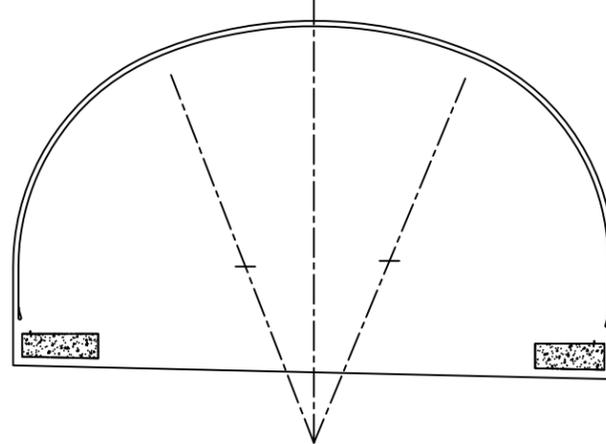
METHOD DRAWING : LINING STAGES

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS

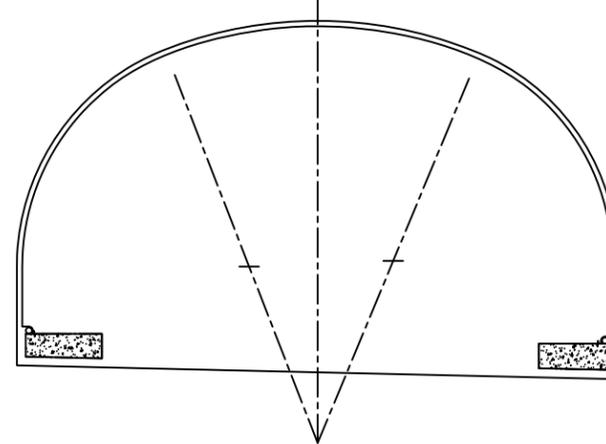
1: Waterproofing membrane



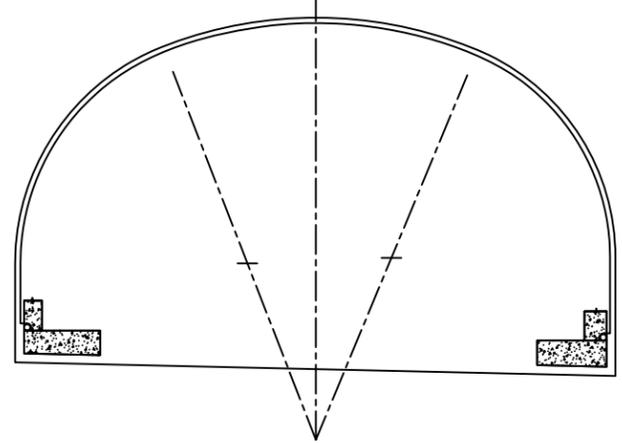
2: Kicker phase 1



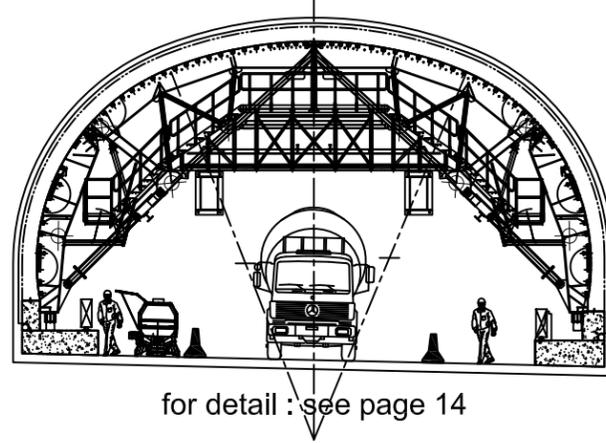
3: Lateral drainage pipes



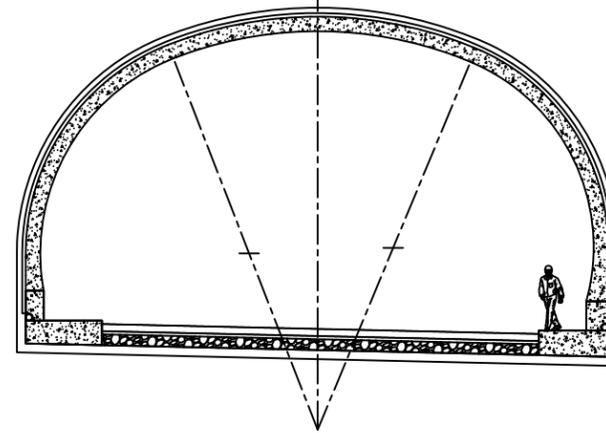
4: Kicker phase 2



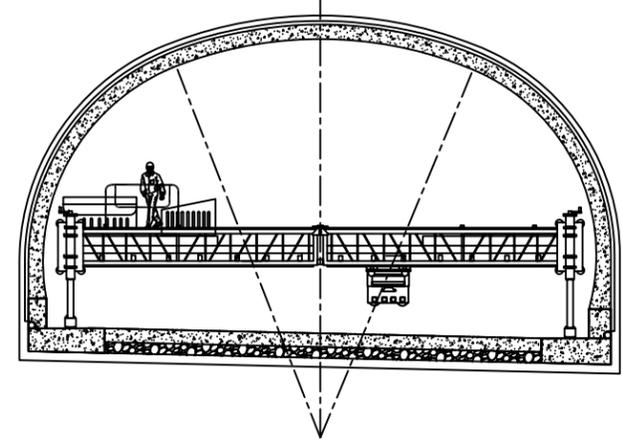
5: Vault lining



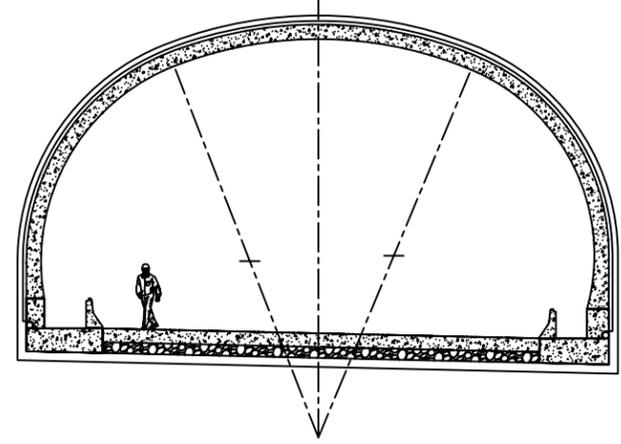
6: Preliminary drainage layer and invert reinforcement



7: Concrete invert pavement



8: Crash barriers



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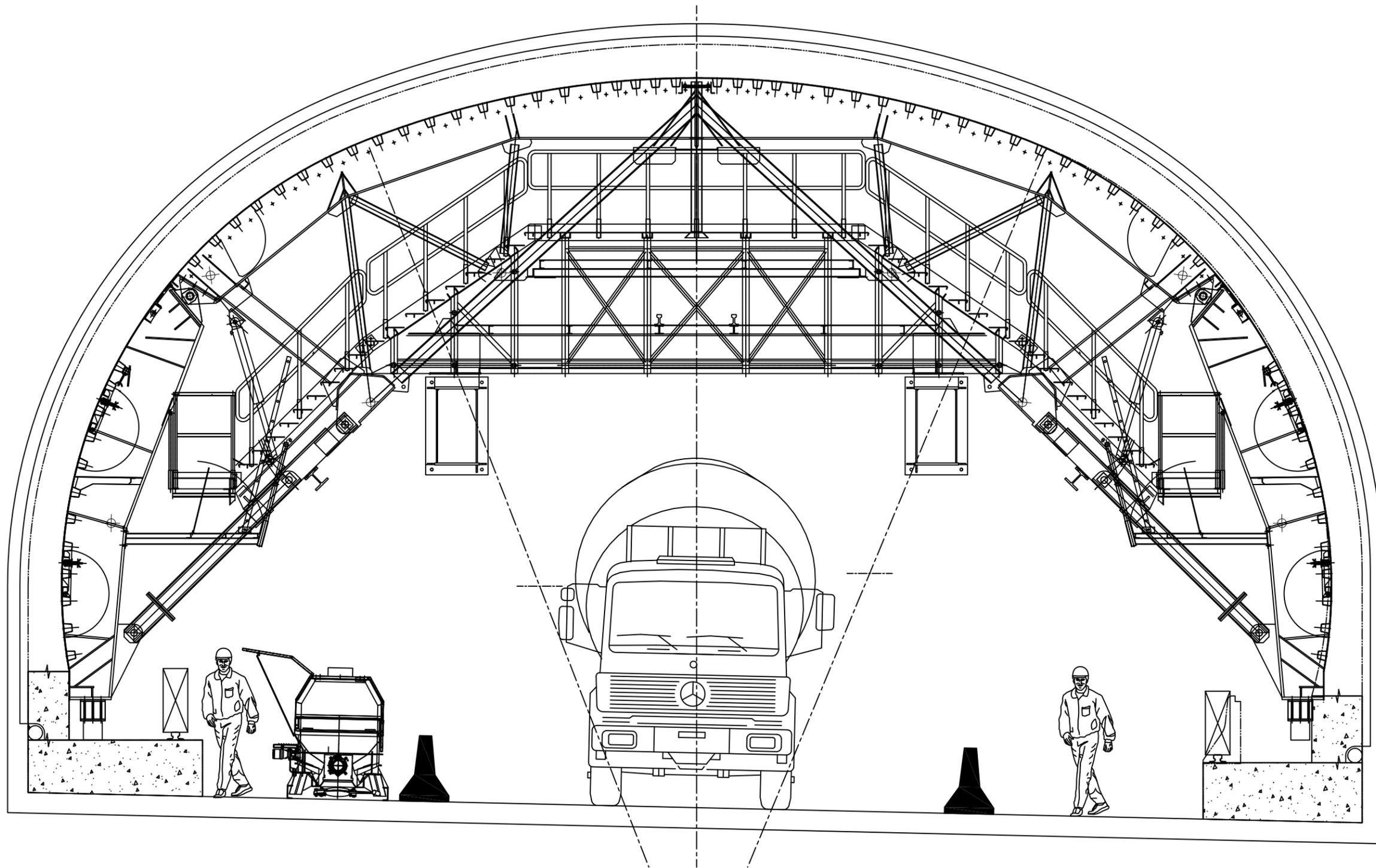
Ohio River Bridges - East End Crossing

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VERTICAL SCALE		DESIGNATION	
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PRELIMINARY

METHOD DRAWING : LINING STAGES - DETAIL ON VAULT LINING

CONCEPTUAL DESIGN BASED ON PRELIMINARY DRAWINGS



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Ohio River Bridges - East End Crossing

HORIZONTAL SCALE		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	XX/XX/2012		14 of 14
CONTRACT		PROJECT	

Roadway Conceptual Construction Staging Diagrams and Detailed MOT Schematics (4.2.1.3)

MOT SCHEMATIC DRAWINGS AND DETAILS

MOT CONCEPTUAL STAGING DIAGRAMS SHEET LISTING			
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ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - I-71 - Phase 2	Sheet 2 of 3	3
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - I-71 - Phase 3	Sheet 3 of 3	4
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - US 42 - Phase 1A	Sheet 1 of 4	5
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - US 42 - Phase 1B	Sheet 2 of 4	6
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - US 42 - Phase 2	Sheet 3 of 4	7
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - US 42 - Phase 3	Sheet 4 of 4	8
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - Wolf Pen Branch Road - Phase 1A1	Sheet 1 of 3	9
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - Wolf Pen Branch Road - Phase 1A2	Sheet 2 of 3	10
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	SECTION 5		
	None		
	SECTION 6		
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - SR 265/SR 62/Port Road Interchange - Phase 1	Sheet 1 of 4	12
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ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - SR 265/SR 62/Port Road Interchange - Phase 3	Sheet 3 of 4	14
ITP - EXHIBIT B - 4.2.1.3 (a)	Conceptual Staging Diagram - SR 265/SR 62/Port Road Interchange - Phase 4	Sheet 4 of 4	15
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - Line "IR-1"	Sheet 1 of 11	16
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - Port Road	Sheet 2 of 11	17
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - SR 62	Sheet 3 of 11	18
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - SR 62	Sheet 4 of 11	19
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - SR 265 E.B.L.	Sheet 5 of 11	20
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Typical Sections - SR 265 WB	Sheet 6 of 11	21
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ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Port Of Indiana Access - Phase 2 & Phase 3	Sheet 8 of 11	23
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Indiana 62 Access - Phase 2 & Phase 3	Sheet 9 of 11	24
ITP - EXHIBIT B - 4.2.1.3 (a)	Maintenance of Traffic - Indiana 265 Access - Phase 2 & 3	Sheet 10 of 11	25
ITP - EXHIBIT B - 4.2.1.3 (a)	Detour Route - Utica Sellersburg Road	Sheet 11 of 11	26

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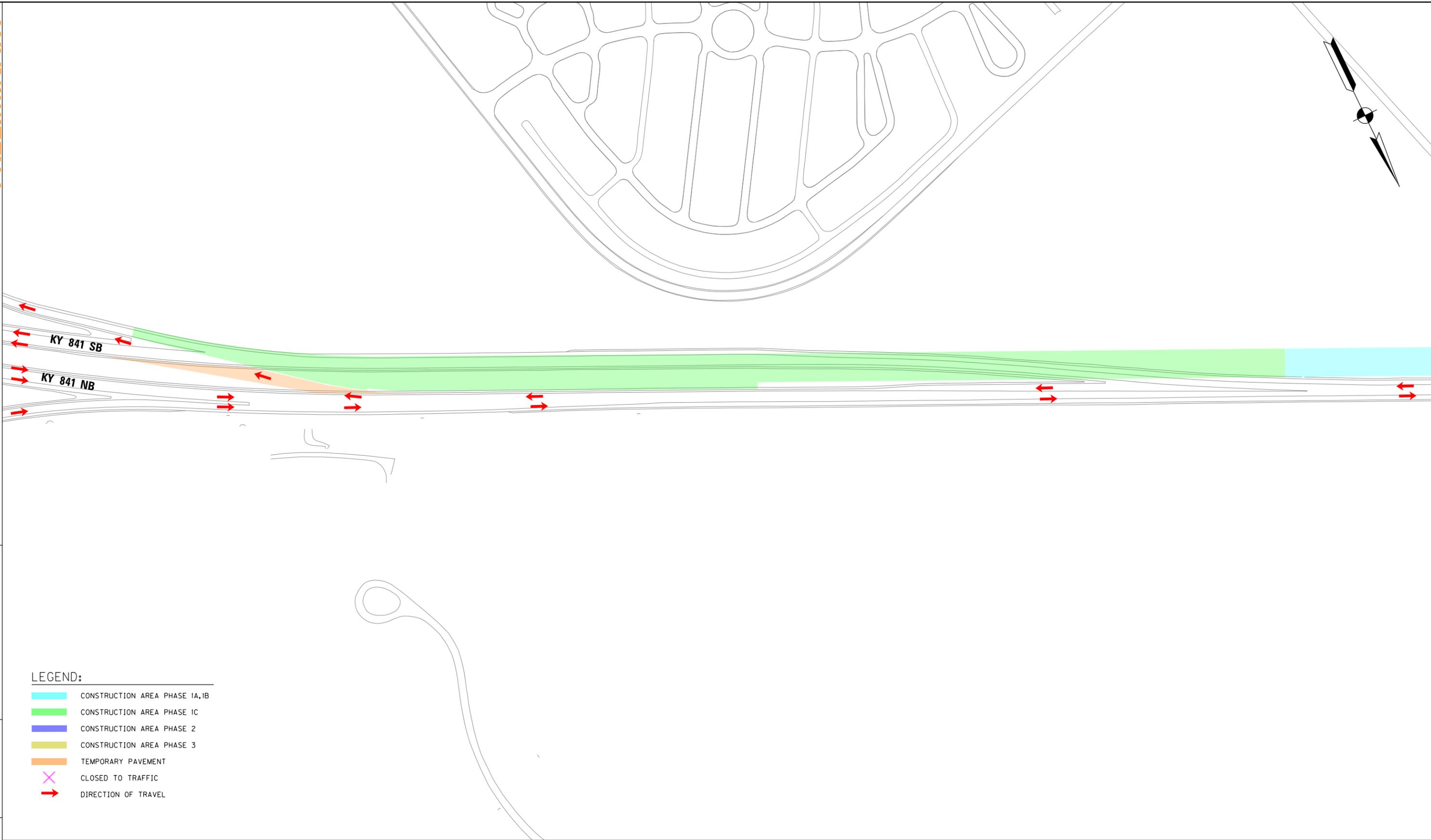
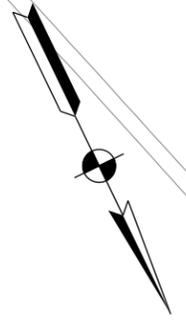
1

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Ohio River Bridges - East End Crossing

MOT SCHEMATIC DRAWINGS AND DETAILS

HORIZONTAL SCALE 1" = 10'		BRIDGE FILE	
VERTICAL SCALE		DESIGNATION	
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- LEGEND:**
- CONSTRUCTION AREA PHASE IA, IB
 - CONSTRUCTION AREA PHASE IC
 - CONSTRUCTION AREA PHASE 2
 - CONSTRUCTION AREA PHASE 3
 - TEMPORARY PAVEMENT
 - CLOSED TO TRAFFIC
 - DIRECTION OF TRAVEL

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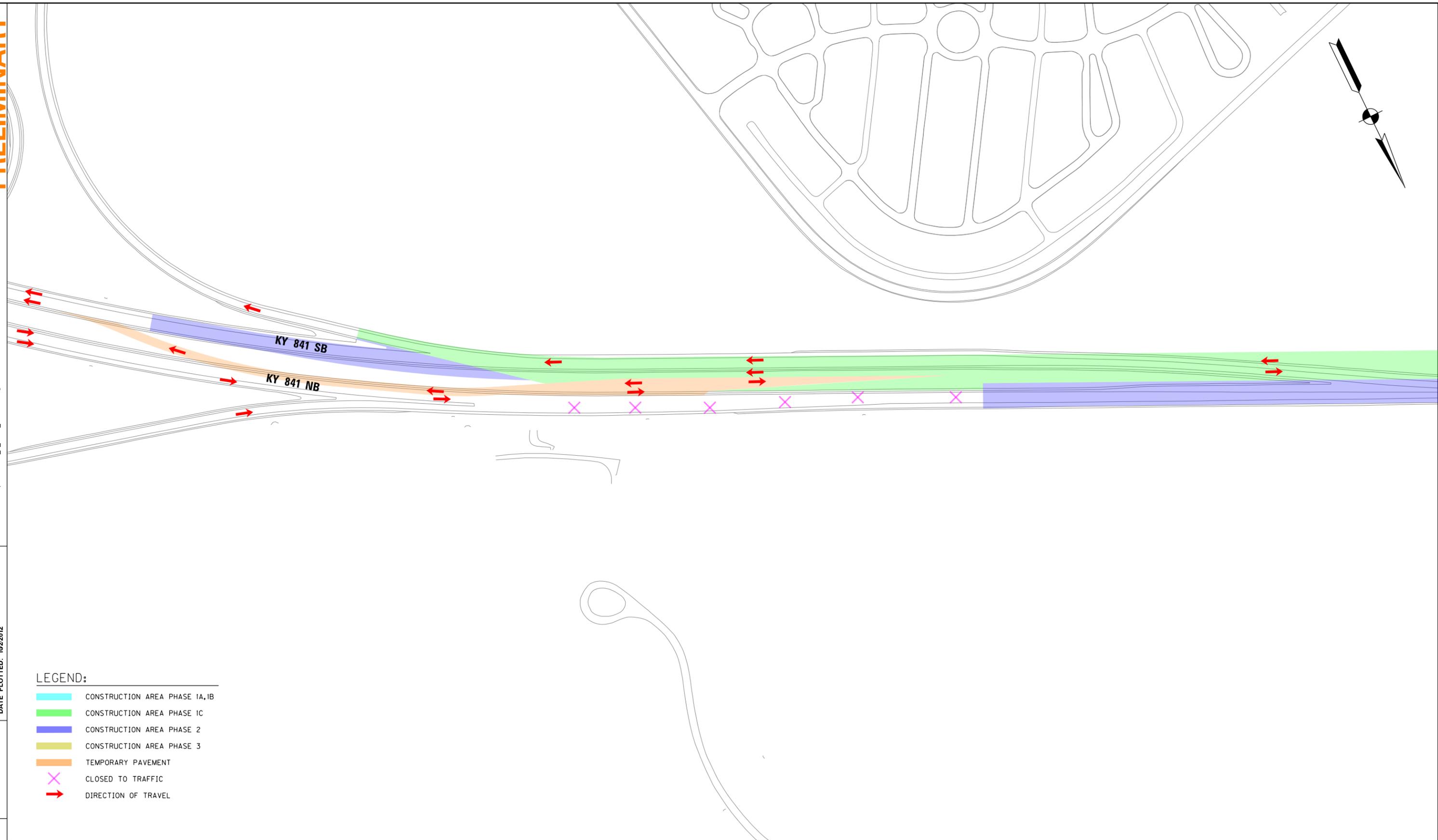
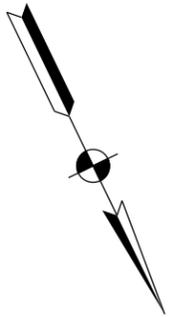
2

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Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING DIAGRAM
I-71 - PHASE 1

HORIZONTAL SCALE		BRIDGE FILE	
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VERTICAL SCALE		DESIGNATION	
N/A		N/A	
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- LEGEND:**
- CONSTRUCTION AREA PHASE 1A, 1B
 - CONSTRUCTION AREA PHASE 1C
 - CONSTRUCTION AREA PHASE 2
 - CONSTRUCTION AREA PHASE 3
 - TEMPORARY PAVEMENT
 - X CLOSED TO TRAFFIC
 - ➔ DIRECTION OF TRAVEL

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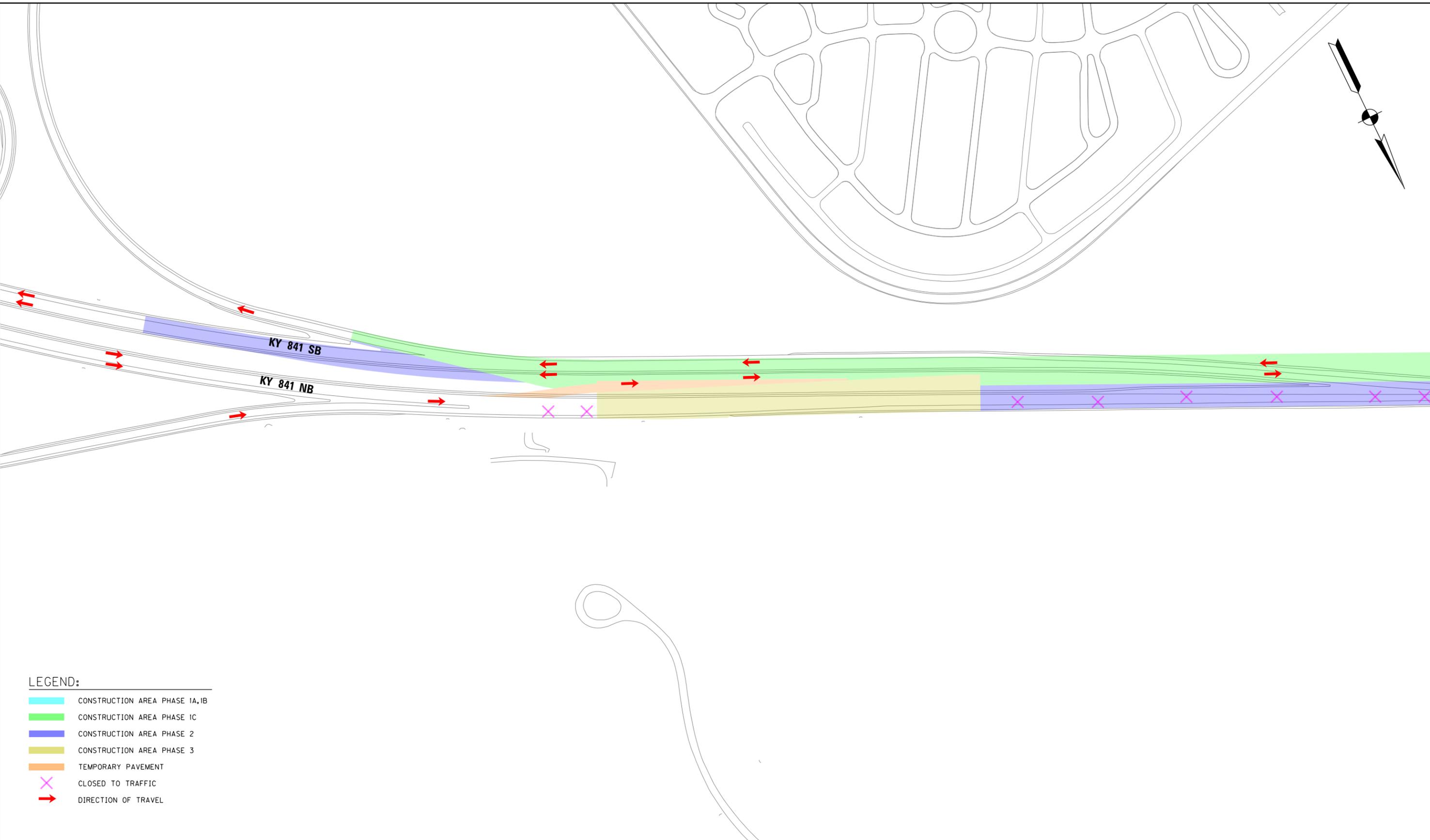
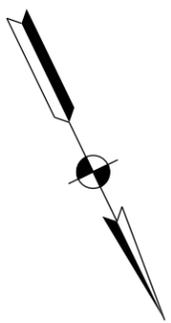


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Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
I-71 - PHASE 2

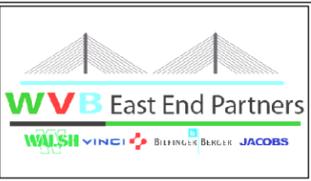
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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- LEGEND:**
- CONSTRUCTION AREA PHASE 1A,1B
 - CONSTRUCTION AREA PHASE 1C
 - CONSTRUCTION AREA PHASE 2
 - CONSTRUCTION AREA PHASE 3
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4

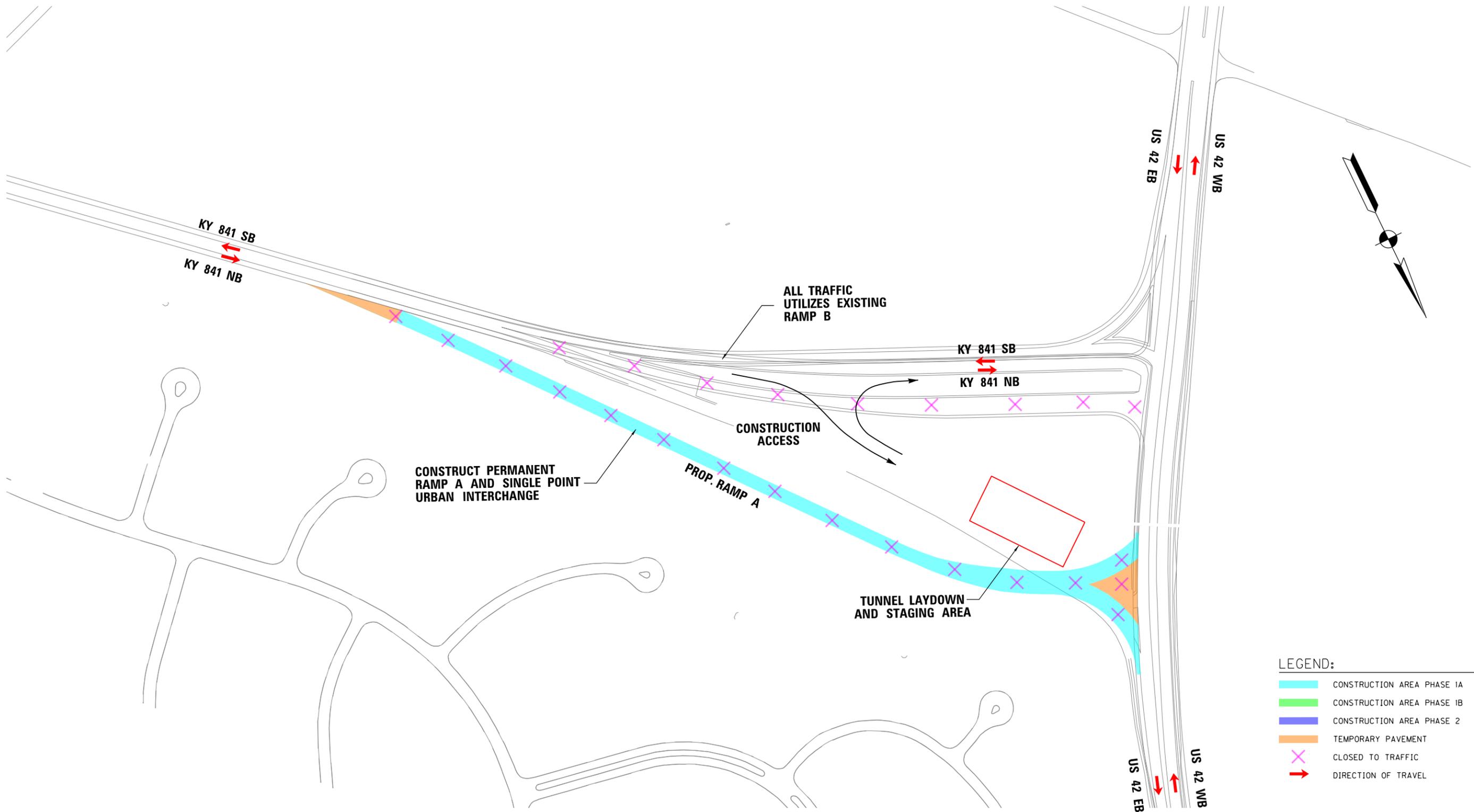
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Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING DIAGRAM

I-71 - PHASE 3

HORIZONTAL SCALE		BRIDGE FILE	
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VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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CONTRACT		PROJECT	



LEGEND:

█	CONSTRUCTION AREA PHASE 1A
█	CONSTRUCTION AREA PHASE 1B
█	CONSTRUCTION AREA PHASE 2
█	TEMPORARY PAVEMENT
✕	CLOSED TO TRAFFIC
➔	DIRECTION OF TRAVEL

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 WALSH VINCI | BEILINGER BEILKER | JACOBS

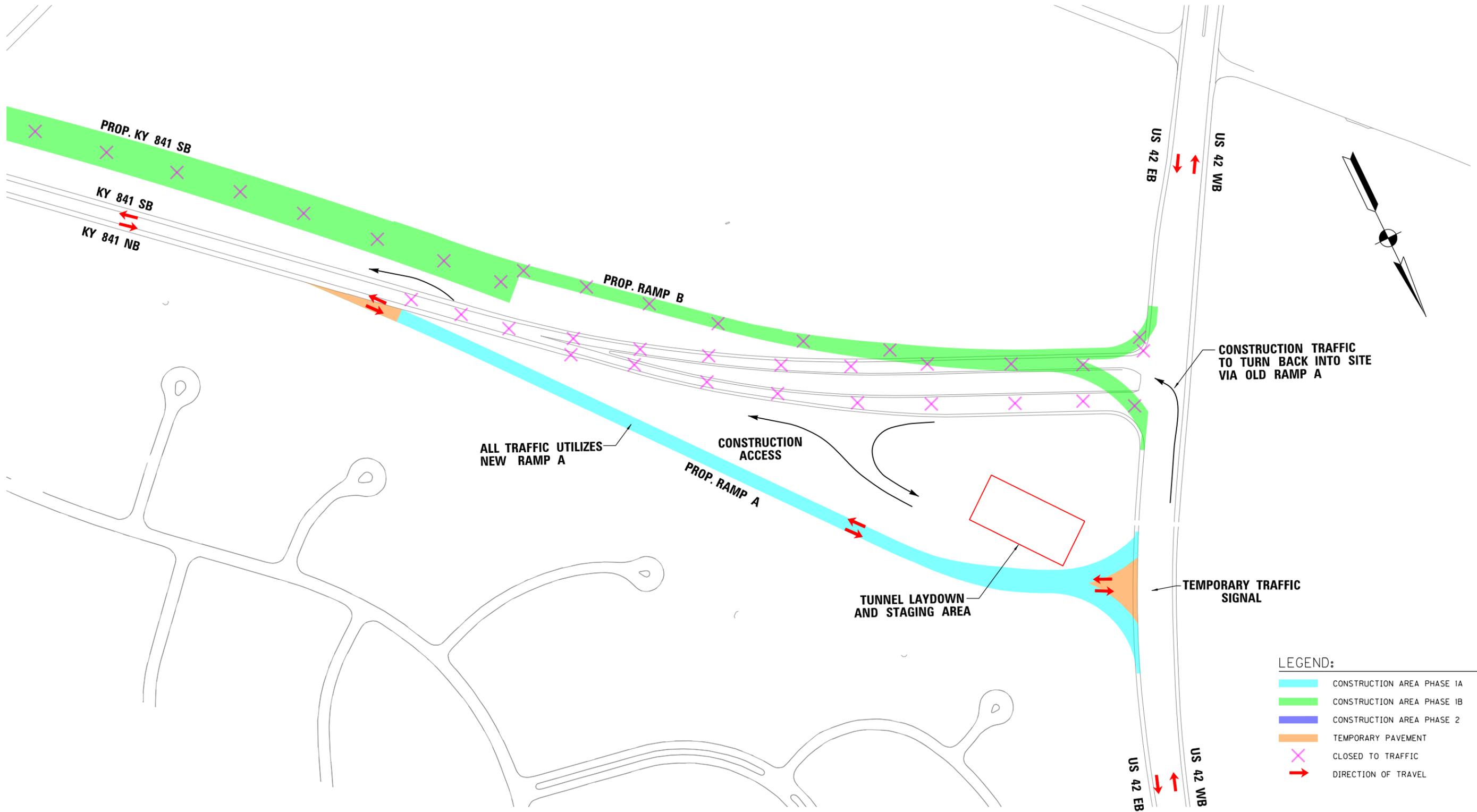
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Indiana Finance Authority **BRIDGES**

Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
 US 42 - PHASE 1A

HORIZONTAL SCALE		BRIDGE FILE	
N/A			
VERTICAL SCALE		DESIGNATION	
N/A			
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/02/2012		1 of 4
CONTRACT		PROJECT	



LEGEND:

	CONSTRUCTION AREA PHASE 1A
	CONSTRUCTION AREA PHASE 1B
	CONSTRUCTION AREA PHASE 2
	TEMPORARY PAVEMENT
	CLOSED TO TRAFFIC
	DIRECTION OF TRAVEL

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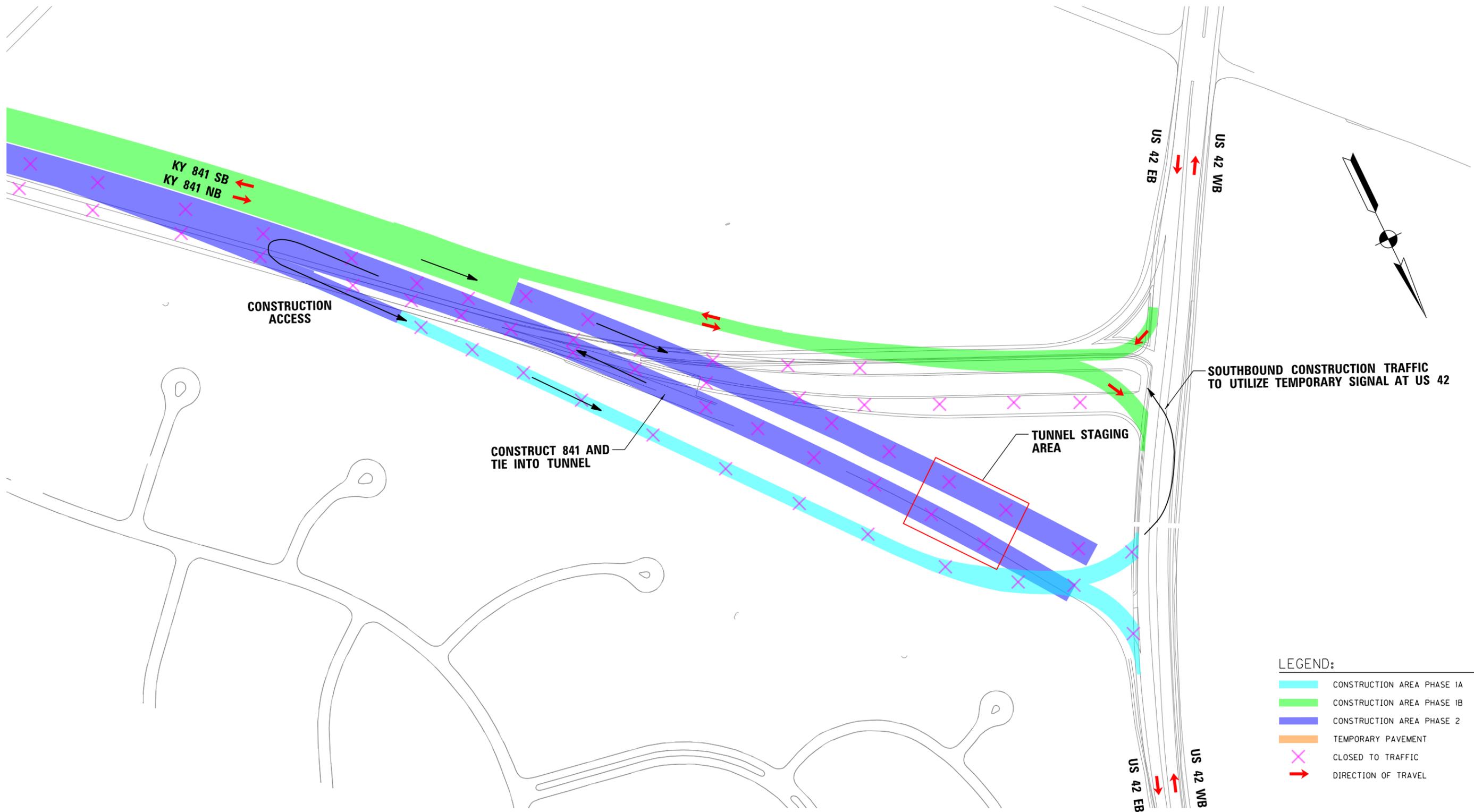
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Indiana Finance Authority

Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
 US 42 - PHASE 1B

HORIZONTAL SCALE		BRIDGE FILE	
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VERTICAL SCALE		DESIGNATION	
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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LEGEND:

	CONSTRUCTION AREA PHASE 1A
	CONSTRUCTION AREA PHASE 1B
	CONSTRUCTION AREA PHASE 2
	TEMPORARY PAVEMENT
	CLOSED TO TRAFFIC
	DIRECTION OF TRAVEL

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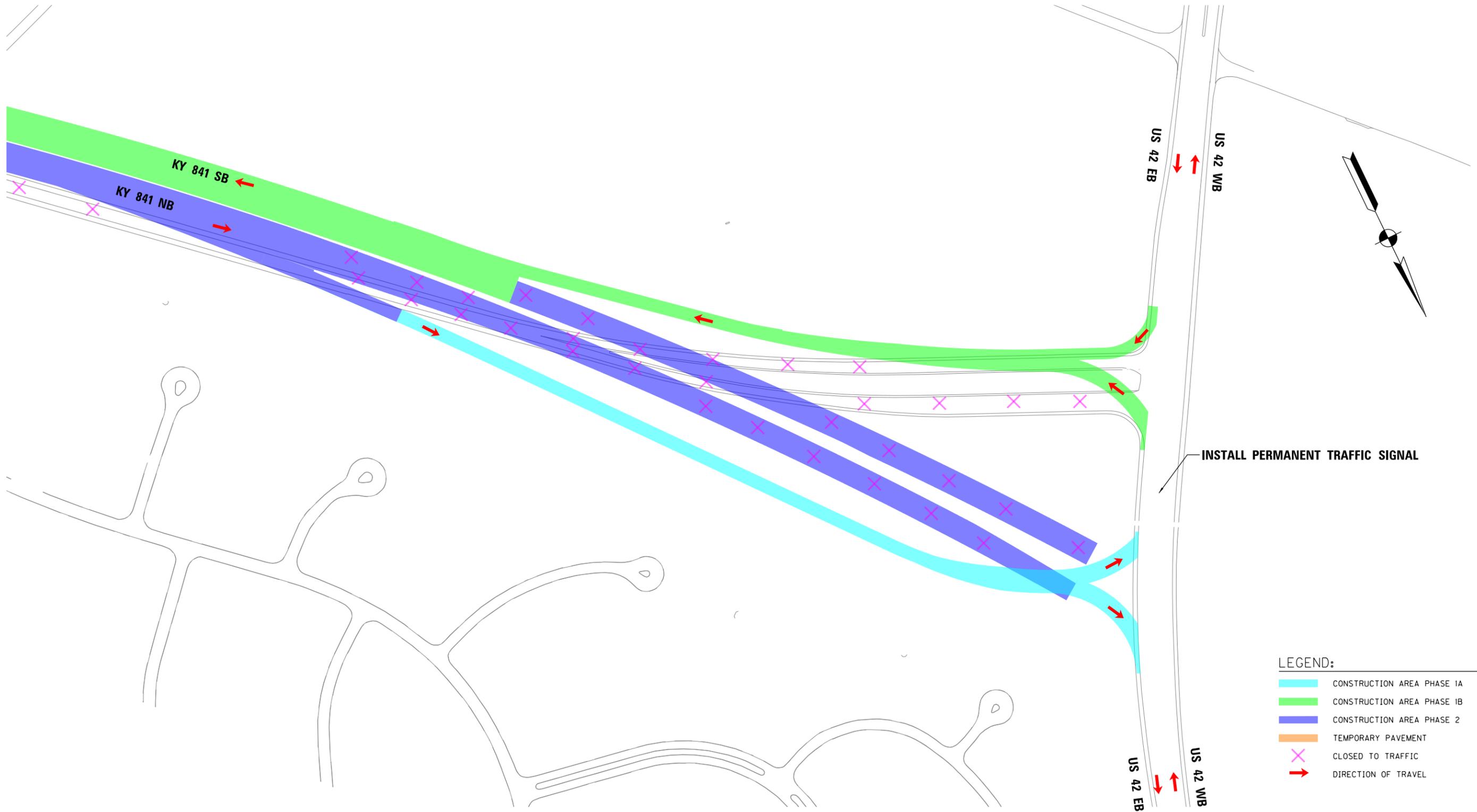


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Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
 US 42 - PHASE 2

HORIZONTAL SCALE N/A		BRIDGE FILE	
VERTICAL SCALE N/A		DESIGNATION	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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CONTRACT		PROJECT	



- LEGEND:**
- CONSTRUCTION AREA PHASE 1A
 - CONSTRUCTION AREA PHASE 1B
 - CONSTRUCTION AREA PHASE 2
 - TEMPORARY PAVEMENT
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8

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CHECKED: _____	CHECKED: _____

Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING DIAGRAM

US 42 - PHASE 3

HORIZONTAL SCALE		BRIDGE FILE	
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VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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LEGEND:

- CONSTRUCTION AREA PHASE 1A
- CONSTRUCTION AREA PHASE 1B
- TEMPORARY PAVEMENT
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Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING DIAGRAM

WOLF PEN BRANCH ROAD - PHASE 1A1

HORIZONTAL SCALE		BRIDGE FILE	
N/A		N/A	
VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
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LEGEND:

- CONSTRUCTION AREA PHASE IA
- CONSTRUCTION AREA PHASE IB
- TEMPORARY PAVEMENT
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10

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Indiana Finance Authority **BRIDGES**

Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
WOLF PEN BRANCH ROAD - PHASE 1A2

HORIZONTAL SCALE		BRIDGE FILE	
N/A			
VERTICAL SCALE		DESIGNATION	
N/A			
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/02/2012		2 of 3
CONTRACT		PROJECT	



LEGEND:

- CONSTRUCTION AREA PHASE IA
- CONSTRUCTION AREA PHASE IB
- TEMPORARY PAVEMENT
- CLOSED TO TRAFFIC
- DIRECTION OF TRAVEL

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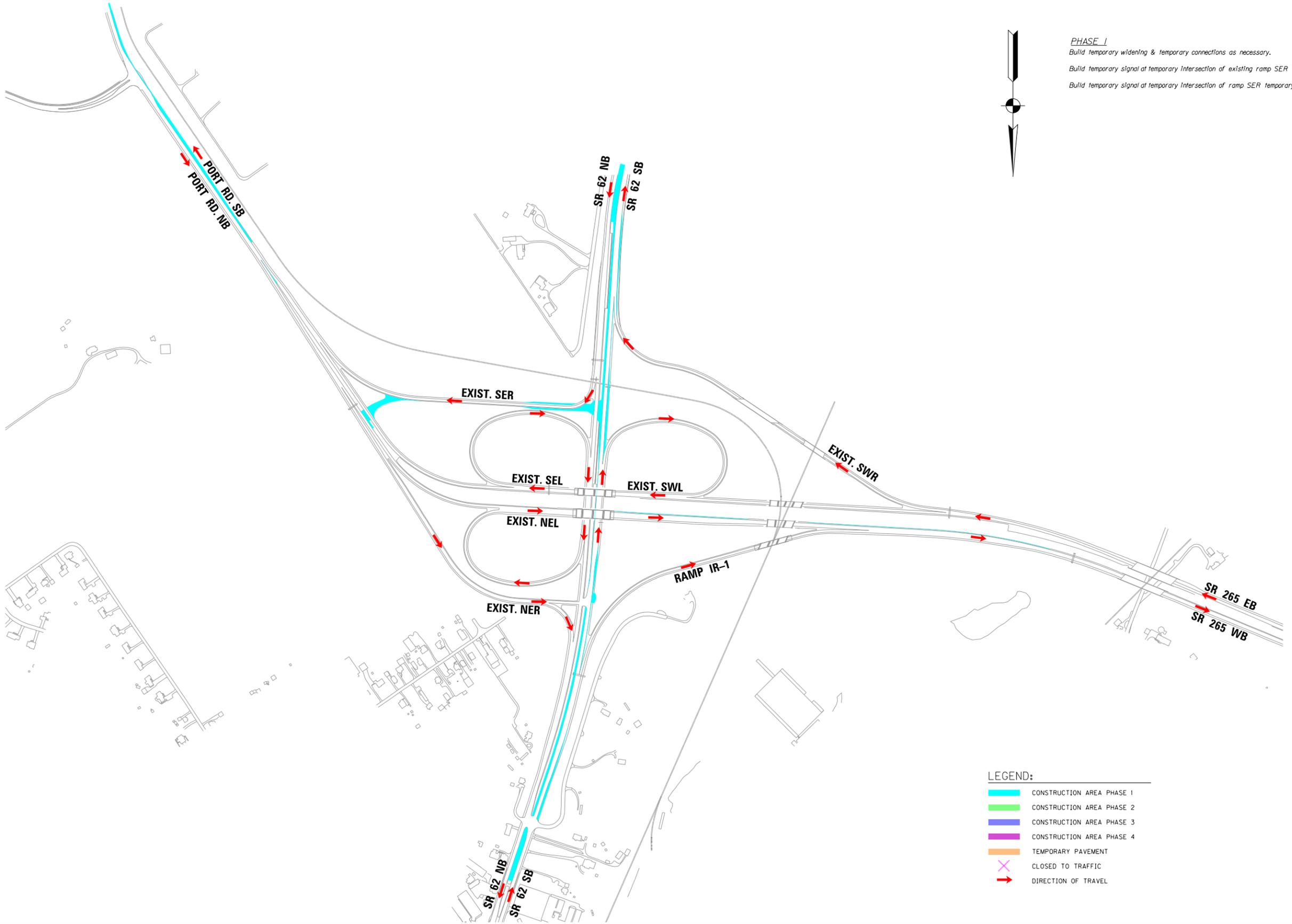


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DESIGN ENGINEER	DATE
DESIGNED: _____	DRAWN: _____
CHECKED: _____	CHECKED: _____

Ohio River Bridges - East End Crossing
CONCEPTUAL STAGING DIAGRAM
WOLF PEN BRANCH ROAD - PHASE 1B

HORIZONTAL SCALE		BRIDGE FILE	
N/A		N/A	
VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/02/2012		3 of 3
CONTRACT		PROJECT	



PHASE 1
 Build temporary widening & temporary connections as necessary.
 Build temporary signal at temporary Intersection of existing ramp SER & SR 62/10th Street.
 Build temporary signal at temporary Intersection of ramp SER temporary connection with Port Road.

- LEGEND:**
- CONSTRUCTION AREA PHASE 1
 - CONSTRUCTION AREA PHASE 2
 - CONSTRUCTION AREA PHASE 3
 - CONSTRUCTION AREA PHASE 4
 - TEMPORARY PAVEMENT
 - X CLOSED TO TRAFFIC
 - DIRECTION OF TRAVEL

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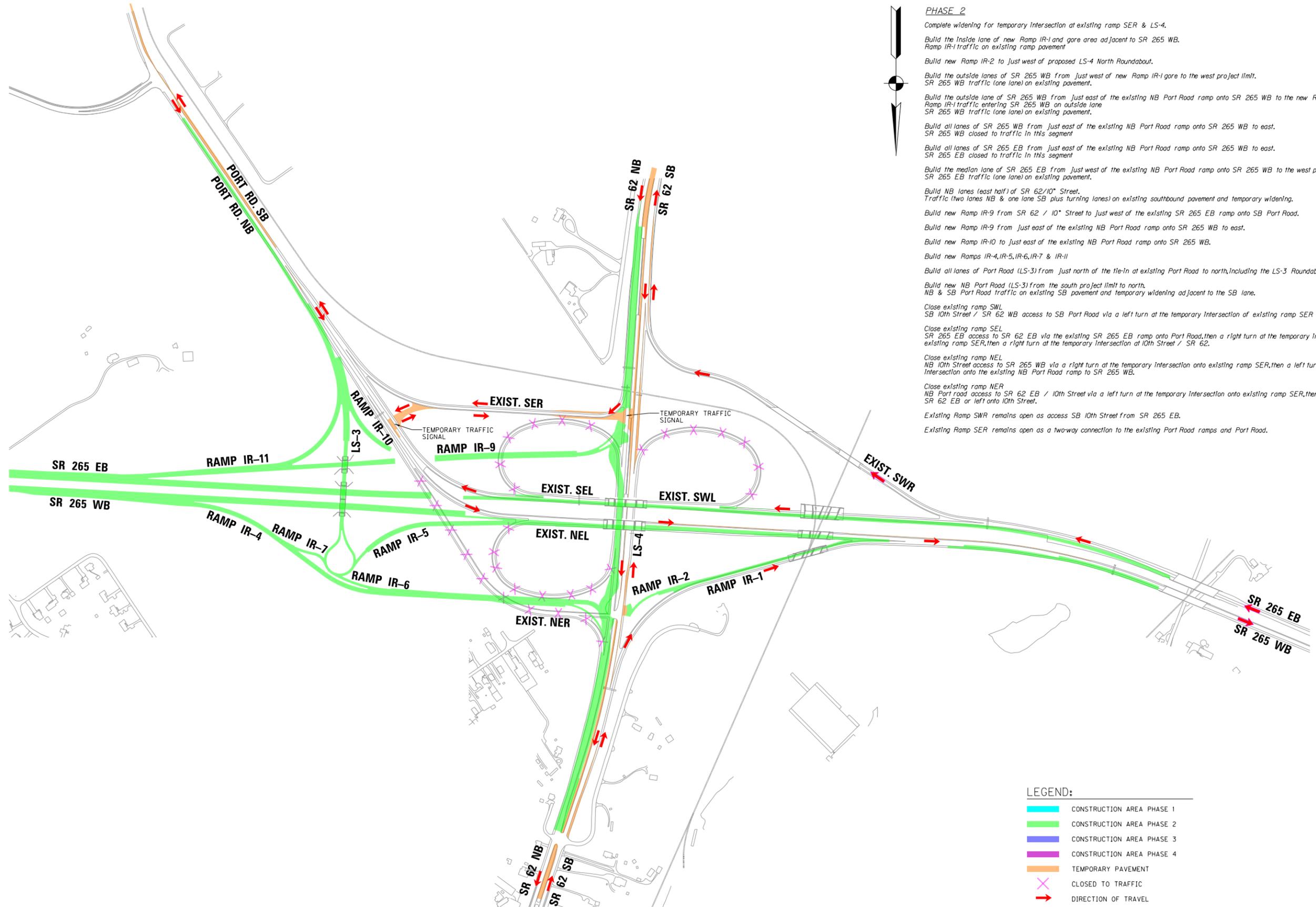


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DESIGN ENGINEER	DATE
DESIGNED: MJK	DRAWN: EAK
CHECKED: CEC	CHECKED: CEC

Ohio River Bridges - East End Crossing
 CONCEPTUAL STAGING
 DIAGRAM PHASE 1

HORIZONTAL SCALE		BRIDGE FILE	
N/A		N/A	
VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV.NO.	DRAWING DATE	DWG.NO.	SHEET NO.
10/19/2012	10/19/2012	1	of 4
CONTRACT		PROJECT	



PHASE 2

- Complete widening for temporary Intersection at existing ramp SER & LS-4.
- Build the inside lane of new Ramp IR-1 and gore area adjacent to SR 265 WB.
- Ramp IR-1 traffic on existing ramp pavement.
- Build new Ramp IR-2 to just west of proposed LS-4 North Roundabout.
- Build the outside lanes of SR 265 WB from just west of new Ramp IR-1 gore to the west project limit.
- SR 265 WB traffic (one lane) on existing pavement.
- Build the outside lane of SR 265 WB from just east of the existing NB Port Road ramp onto SR 265 WB to the new Ramp IR-1 gore.
- Ramp IR-1 traffic entering SR 265 WB on outside lane.
- SR 265 WB traffic (one lane) on existing pavement.
- Build all lanes of SR 265 WB from just east of the existing NB Port Road ramp onto SR 265 WB to east.
- SR 265 WB closed to traffic in this segment.
- Build all lanes of SR 265 EB from just east of the existing NB Port Road ramp onto SR 265 WB to east.
- SR 265 EB closed to traffic in this segment.
- Build the median lane of SR 265 EB from just west of the existing NB Port Road ramp onto SR 265 WB to the west project limit.
- SR 265 EB traffic (one lane) on existing pavement.
- Build NB lanes (east half) of SR 62/10th Street.
- Traffic (two lanes NB & one lane SB plus turning lanes) on existing southbound pavement and temporary widening.
- Build new Ramp IR-9 from SR 62 / 10th Street to just west of the existing SR 265 EB ramp onto SB Port Road.
- Build new Ramp IR-9 from just east of the existing NB Port Road ramp onto SR 265 WB to east.
- Build new Ramp IR-10 to just east of the existing NB Port Road ramp onto SR 265 WB.
- Build new Ramps IR-4, IR-5, IR-6, IR-7 & IR-11.
- Build all lanes of Port Road (LS-3) from just north of the tie-in at existing Port Road to north, including the LS-3 Roundabout.
- Build new NB Port Road (LS-3) from the south project limit to north.
- NB & SB Port Road traffic on existing SB pavement and temporary widening adjacent to the SB lane.
- Close existing ramp SWL.
- SB 10th Street / SR 62 WB access to SB Port Road via a left turn at the temporary Intersection of existing ramp SER at SR 62/10th Street.
- Close existing ramp SEL.
- SR 265 EB access to SR 62 EB via the existing SR 265 EB ramp onto Port Road, then a right turn at the temporary Intersection onto existing ramp SER, then a right turn at the temporary Intersection at 10th Street / SR 62.
- Close existing ramp NEL.
- NB 10th Street access to SR 265 WB via a right turn at the temporary Intersection onto existing ramp SER, then a left turn at the temporary Intersection onto the existing NB Port Road ramp to SR 265 WB.
- Close existing ramp NER.
- NB Port road access to SR 62 EB / 10th Street via a left turn at the temporary Intersection onto existing ramp SER, then right onto SR 62 EB or left onto 10th Street.
- Existing Ramp SWR remains open as access SB 10th Street from SR 265 EB.
- Existing Ramp SER remains open as a two-way connection to the existing Port Road ramps and Port Road.

LEGEND:

- CONSTRUCTION AREA PHASE 1
- CONSTRUCTION AREA PHASE 2
- CONSTRUCTION AREA PHASE 3
- CONSTRUCTION AREA PHASE 4
- TEMPORARY PAVEMENT
- X CLOSED TO TRAFFIC
- DIRECTION OF TRAVEL

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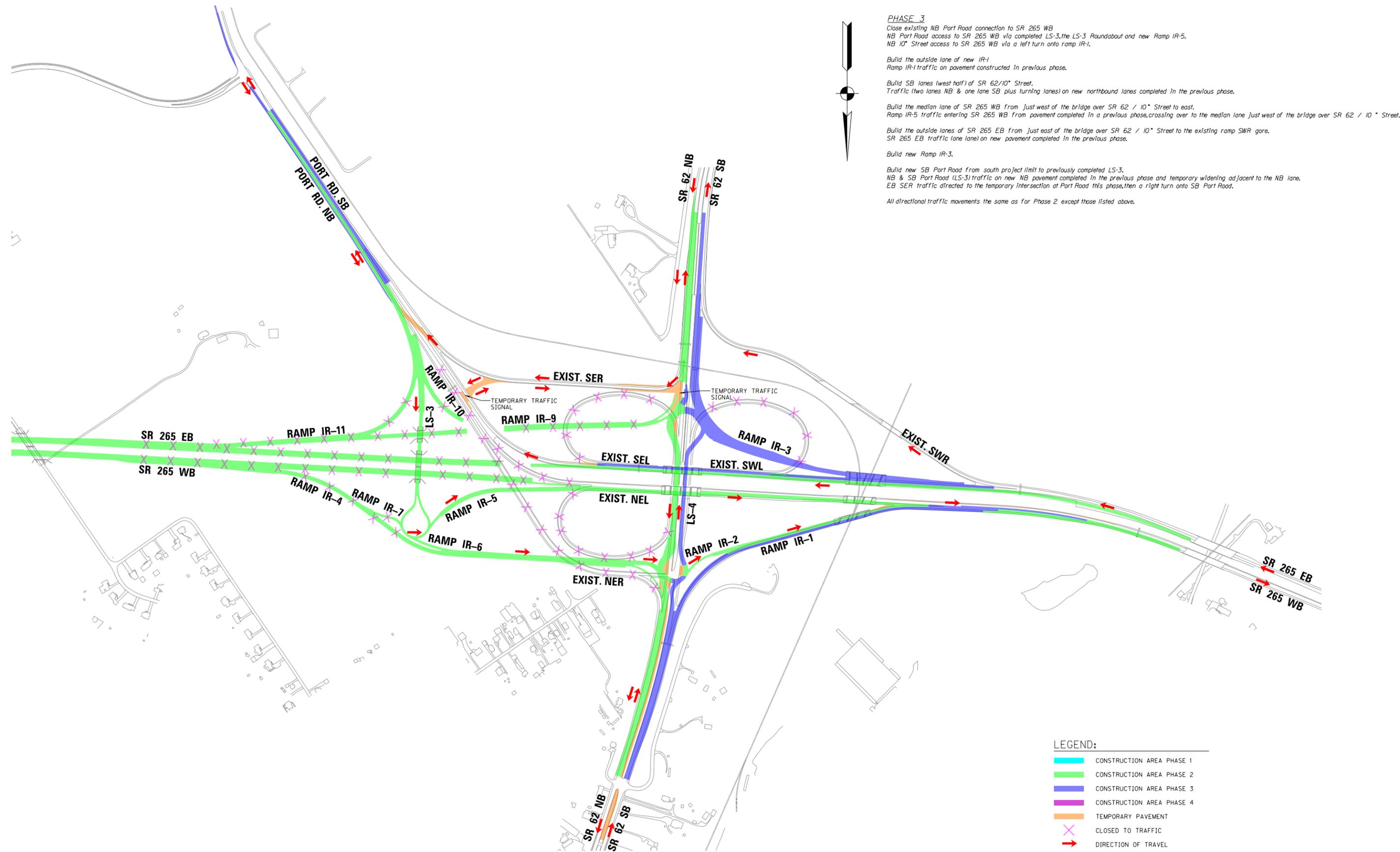
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DESIGN ENGINEER	DATE
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CHECKED: CEC	CHECKED: CEC

Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING

DIAGRAM PHASE 2

HORIZONTAL SCALE		BRIDGE FILE	
N/A		N/A	
VERTICAL SCALE		DESIGNATION	
N/A		N/A	
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/19/2012		2 of 4
CONTRACT		PROJECT	



PHASE 3

Close existing NB Port Road connection to SR 265 WB
 NB Port Road access to SR 265 WB via completed LS-3, the LS-3 Roundabout and new Ramp IR-5.
 NB 10th Street access to SR 265 WB via a left turn onto ramp IR-1.

Build the outside lane of new IR-1
 Ramp IR-1 traffic on pavement constructed in previous phase.

Build SB lanes (west half) of SR 62/10th Street.
 Traffic (two lanes NB & one lane SB plus turning lanes) on new northbound lanes completed in the previous phase.

Build the median lane of SR 265 WB from just west of the bridge over SR 62 / 10th Street to east.
 Ramp IR-5 traffic entering SR 265 WB from pavement completed in a previous phase, crossing over to the median lane just west of the bridge over SR 62 / 10th Street.

Build the outside lanes of SR 265 EB from just east of the bridge over SR 62 / 10th Street to the existing ramp SWR gore.
 SR 265 EB traffic (one lane) on new pavement completed in the previous phase.

Build new Ramp IR-3.

Build new SB Port Road from south project limit to previously completed LS-3.
 NB & SB Port Road (LS-3) traffic on new NB pavement completed in the previous phase and temporary widening adjacent to the NB lane.
 EB SR traffic directed to the temporary intersection at Port Road this phase, then a right turn onto SB Port Road.

All directional traffic movements the same as for Phase 2 except those listed above.

LEGEND:

- CONSTRUCTION AREA PHASE 1
- CONSTRUCTION AREA PHASE 2
- CONSTRUCTION AREA PHASE 3
- CONSTRUCTION AREA PHASE 4
- TEMPORARY PAVEMENT
- X CLOSED TO TRAFFIC
- DIRECTION OF TRAVEL

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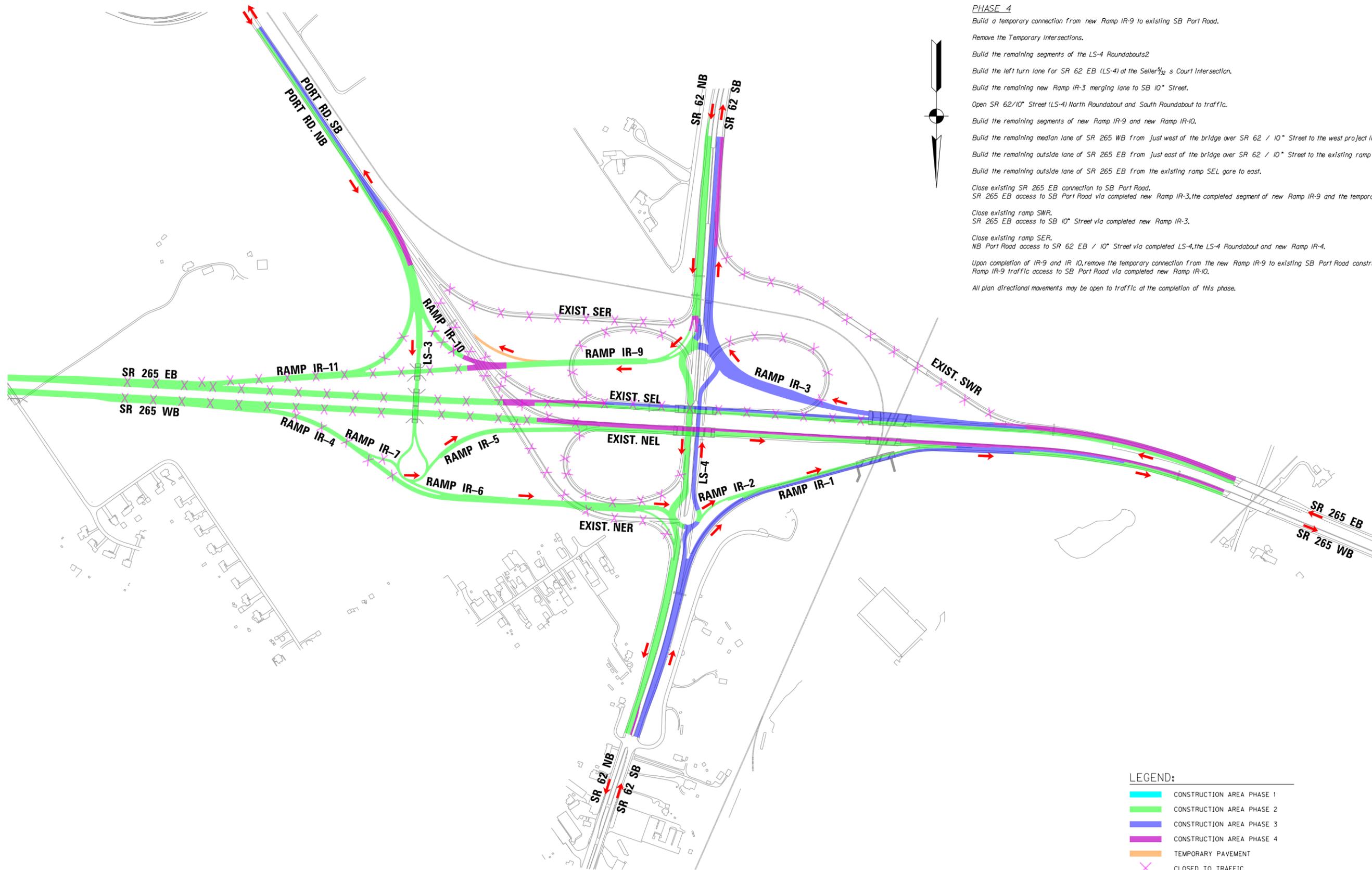


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DESIGNED: MJK	DRAWN: EAK		
CHECKED: CEC	CHECKED: CEC		

Ohio River Bridges - East End Crossing

CONCEPTUAL STAGING DIAGRAM PHASE 3

HORIZONTAL SCALE		BRIDGE FILE	
N/A			
VERTICAL SCALE		DESIGNATION	
N/A			
REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/19/2012		3 of 4
CONTRACT		PROJECT	



PHASE 4

- Build a temporary connection from new Ramp IR-9 to existing SB Port Road.
- Remove the Temporary Intersections.
- Build the remaining segments of the LS-4 Roundabouts2
- Build the left turn lane for SR 62 EB (LS-4) at the Sellers Court Intersection.
- Build the remaining new Ramp IR-3 merging lane to SB 10th Street.
- Open SR 62/10th Street (LS-4) North Roundabout and South Roundabout to traffic.
- Build the remaining segments of new Ramp IR-9 and new Ramp IR-10.
- Build the remaining median lane of SR 265 WB from just west of the bridge over SR 62 / 10th Street to the west project limit.
- Build the remaining outside lane of SR 265 EB from just east of the bridge over SR 62 / 10th Street to the existing ramp SWR gore to the west project limit.
- Build the remaining outside lane of SR 265 EB from the existing ramp SEL gore to east.
- Close existing SR 265 EB connection to SB Port Road.
- SR 265 EB access to SB Port Road via completed new Ramp IR-3, the completed segment of new Ramp IR-9 and the temporary connection to SB Port Road.
- Close existing ramp SWR.
- SR 265 EB access to SB 10th Street via completed new Ramp IR-3.
- Close existing ramp SER.
- NB Port Road access to SR 62 EB / 10th Street via completed LS-4, the LS-4 Roundabout and new Ramp IR-4.
- Upon completion of IR-9 and IR 10, remove the temporary connection from the new Ramp IR-9 to existing SB Port Road constructed at the onset of this phase.
- Ramp IR-9 traffic access to SB Port Road via completed new Ramp IR-10.
- All plan directional movements may be open to traffic at the completion of this phase.

LEGEND:

- CONSTRUCTION AREA PHASE 1
- CONSTRUCTION AREA PHASE 2
- CONSTRUCTION AREA PHASE 3
- CONSTRUCTION AREA PHASE 4
- TEMPORARY PAVEMENT
- X CLOSED TO TRAFFIC
- DIRECTION OF TRAVEL

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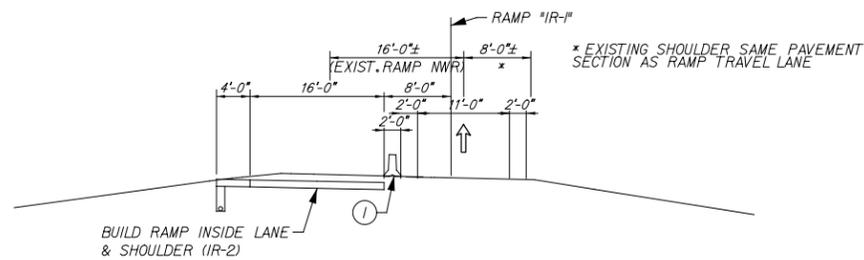
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DESIGNED: MJK	DRAWN: EAK		
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Ohio River Bridges - East End Crossing

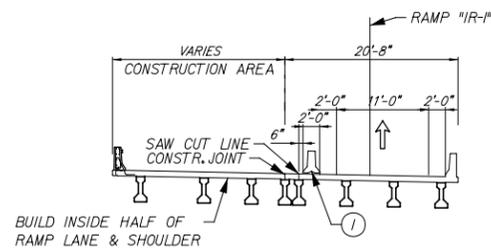
CONCEPTUAL STAGING

DIAGRAM PHASE 4

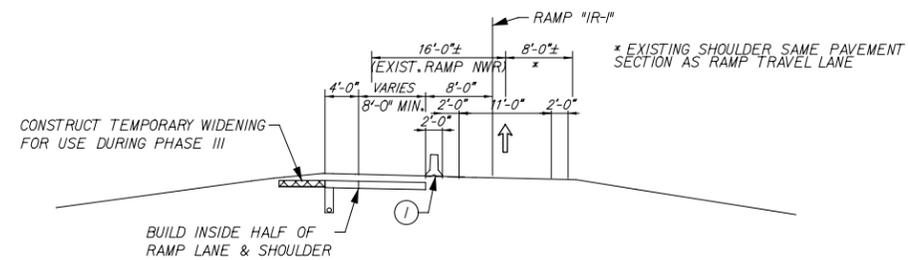
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VERTICAL SCALE		DESIGNATION	
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REV. NO.	DRAWING DATE	DWG. NO.	SHEET NO.
	10/19/2012		4 of 4
CONTRACT		PROJECT	



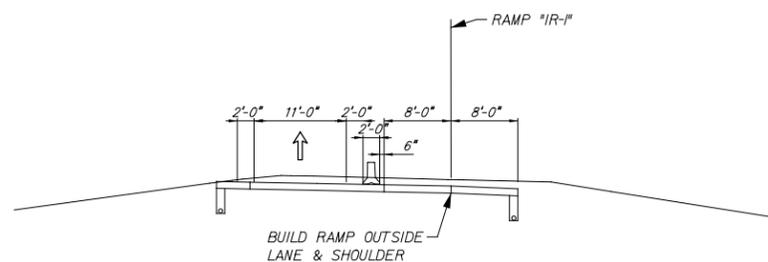
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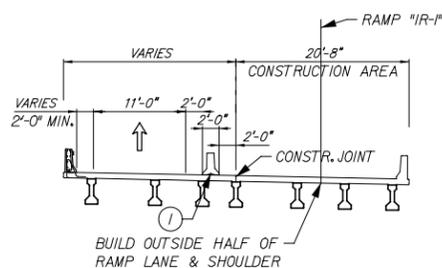
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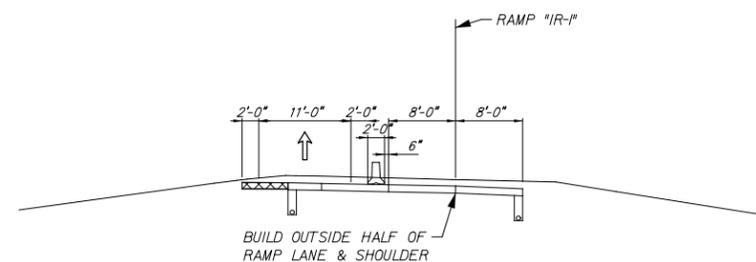
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TYPICAL SECTION "IR-1" - PHASE 3 (EAST OF STR.15)



TYPICAL SECTION "IR-1" - PHASE 3 (STR.15)



TYPICAL SECTION "IR-1" - PHASE 3 (WEST OF STR.15)

- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.

LEGEND

TEMPORARY WIDENING
1.5" HMA Surface Type "D" on
7.5" HMA Base Type "D" on
3" Compacted Aggregate No. 53 on
Subgrade Treatment Type IB or IC

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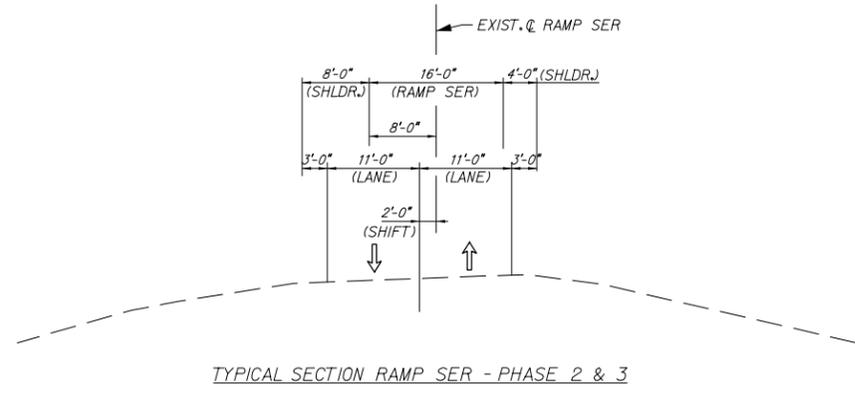
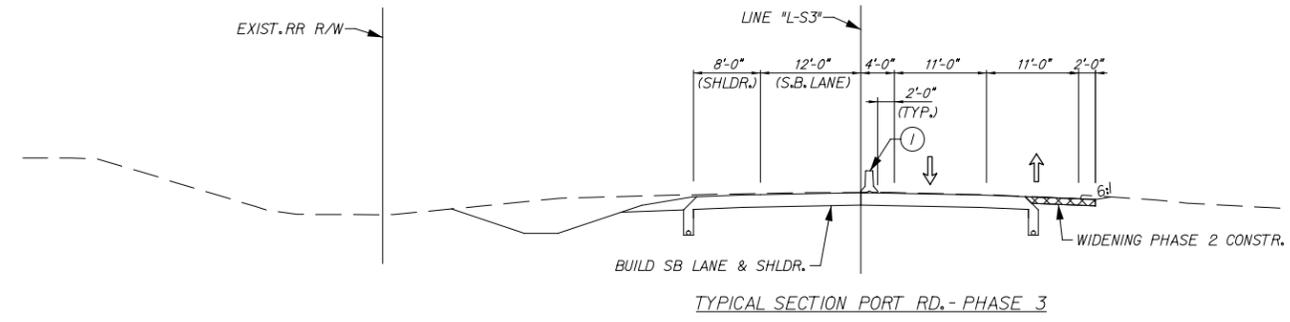
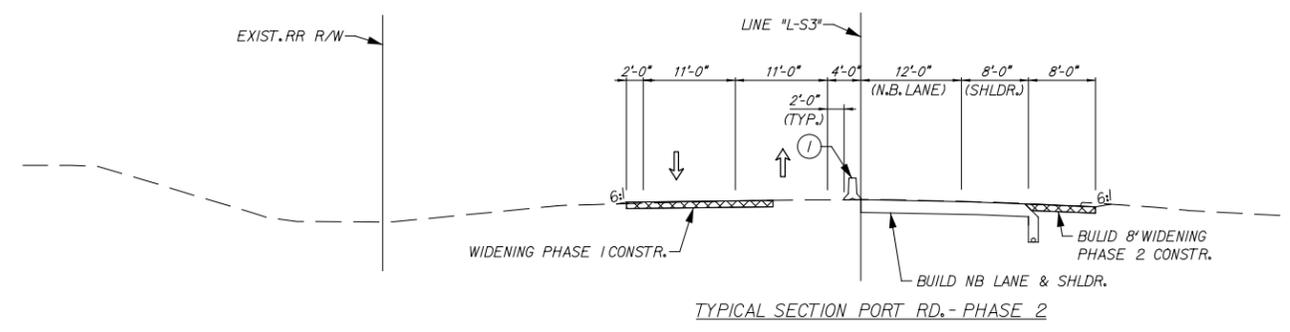
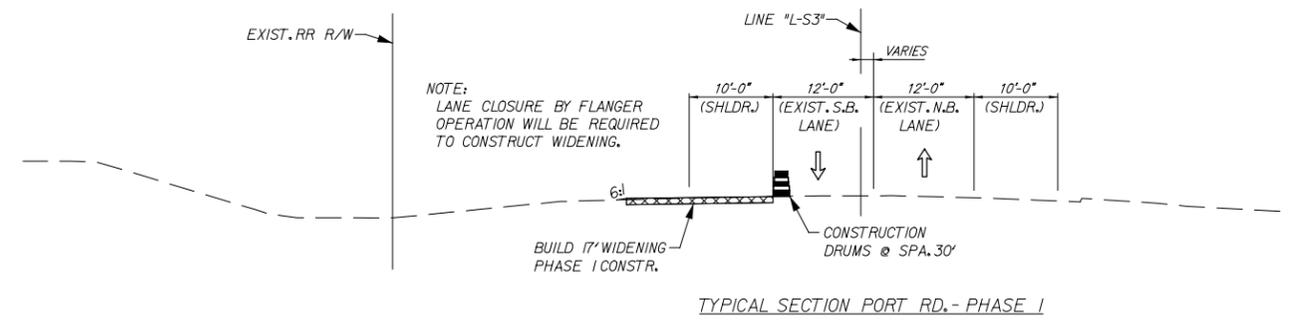
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DESIGN ENGINEER	DATE
DESIGNED: MJM	DRAWN: EAK
CHECKED: WHL	CHECKED: MJM

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS - LINE "IR-1"

HORIZONTAL SCALE 1"=10'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEET NO.
CONTRACT	1 of 11 PROJECT

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- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.

LEGEND

TEMPORARY WIDENING
1.5" HMA Surface Type "D" on
7.5" HMA Base Type "D" on
3" Compacted Aggregate No. 53 on
Subgrade Treatment Type 1B or 1C

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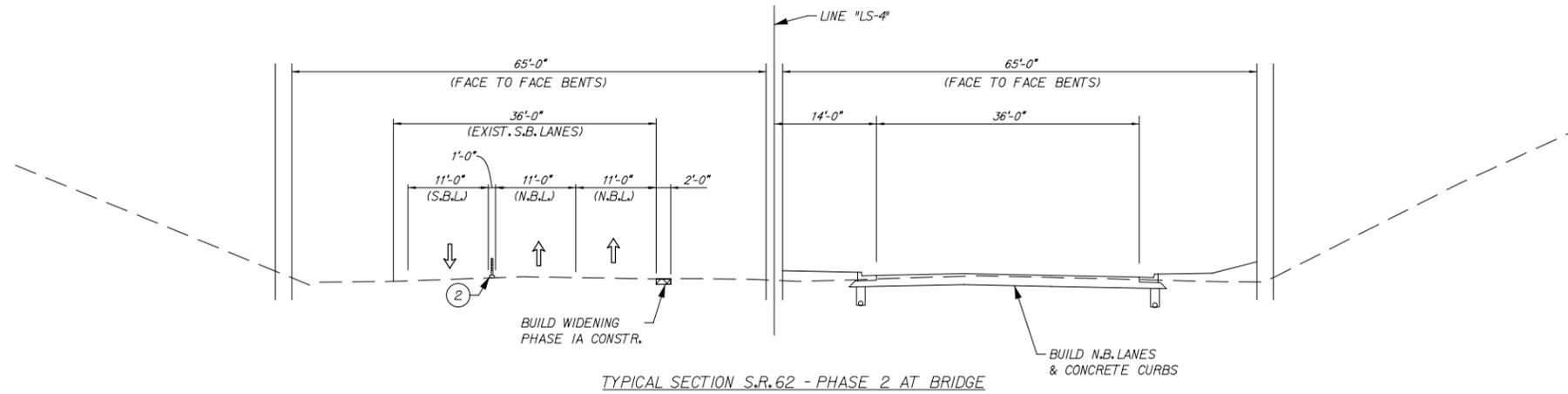
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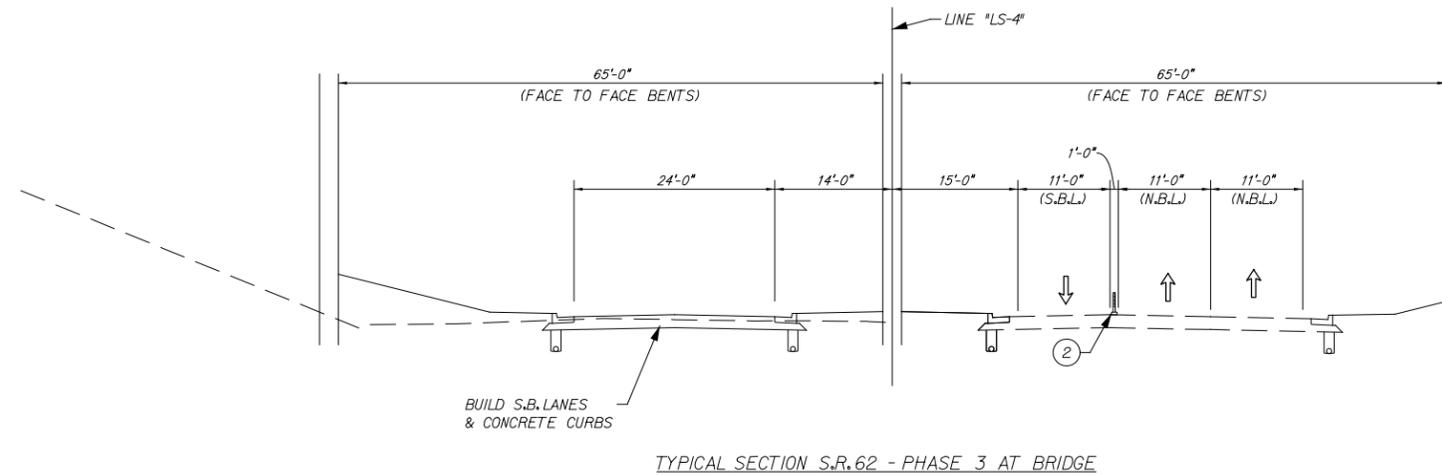
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS PORT ROAD

HORIZONTAL SCALE 1"=10'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEET NO. 2 of 11
CONTRACT	PROJECT

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TYPICAL SECTION S.R.62 - PHASE 2 AT BRIDGE



TYPICAL SECTION S.R.62 - PHASE 3 AT BRIDGE

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- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.

LEGEND

TEMPORARY WIDENING
 1.5" HMA Surface Type "D" on
 7.5" HMA Base Type "D" on
 3" Compacted Aggregate No. 53 on
 Subgrade Treatment Type IB or IC

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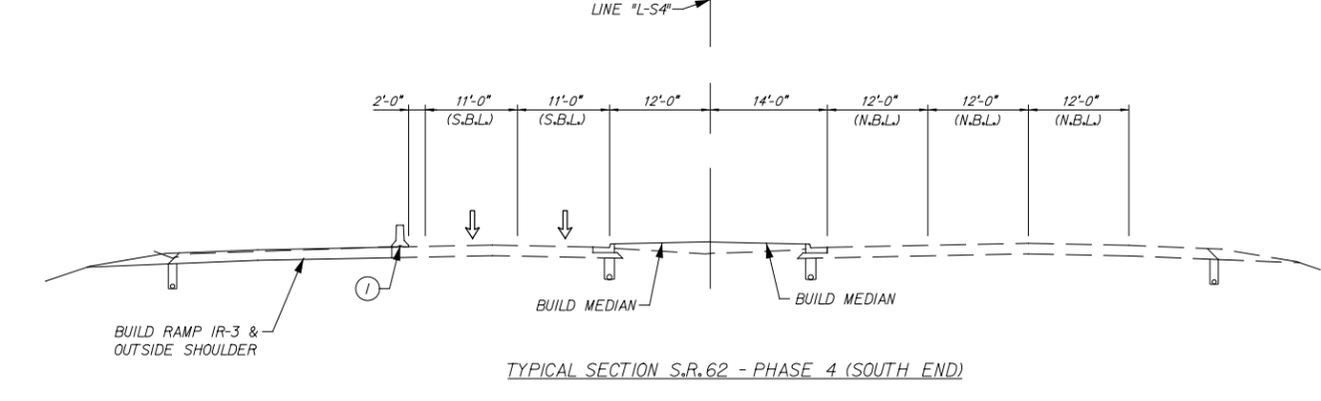
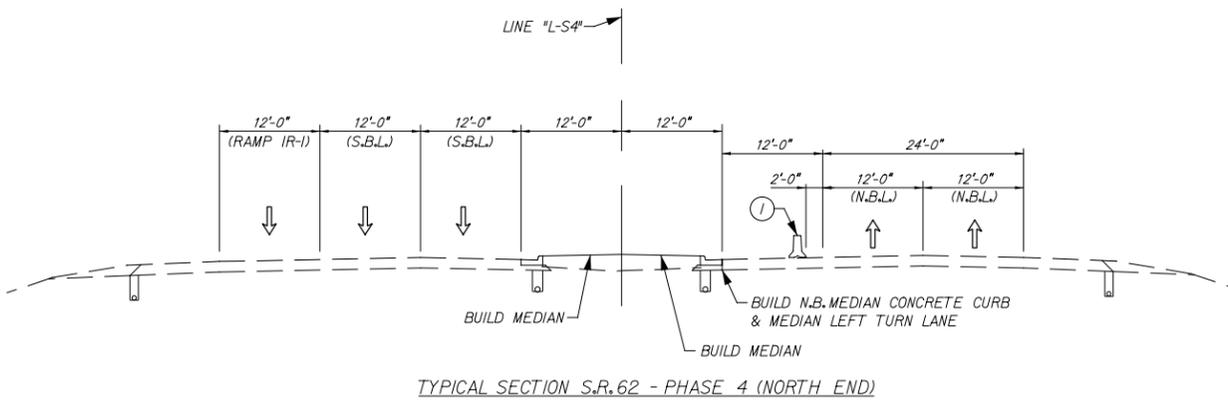
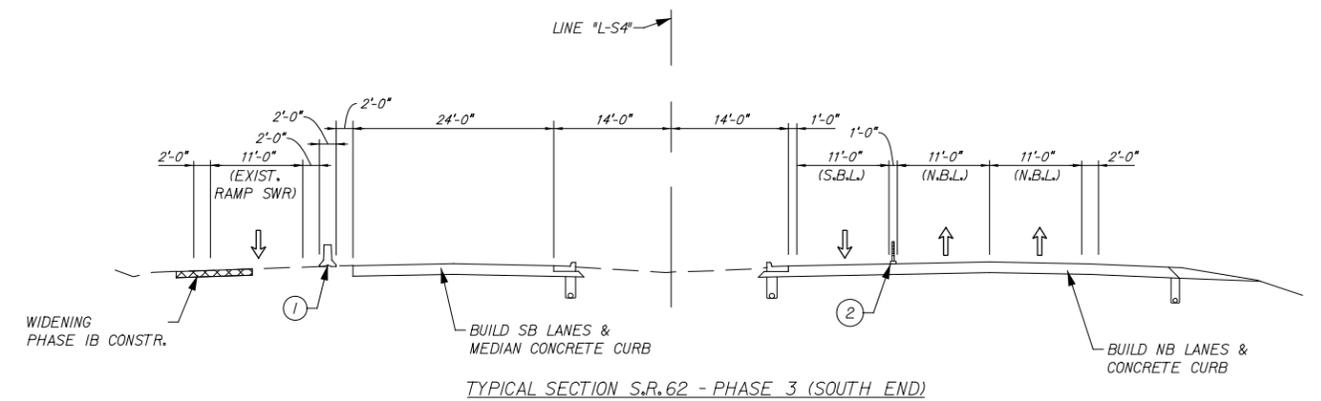
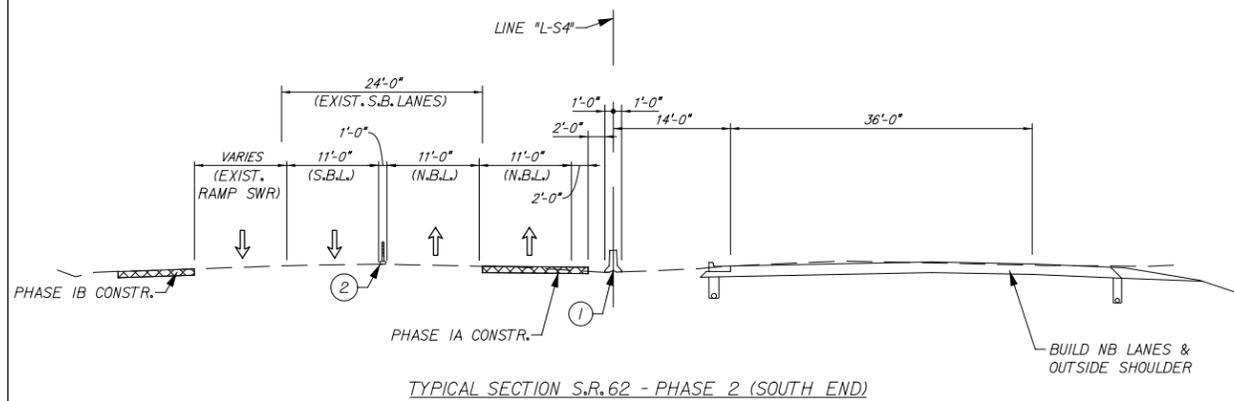
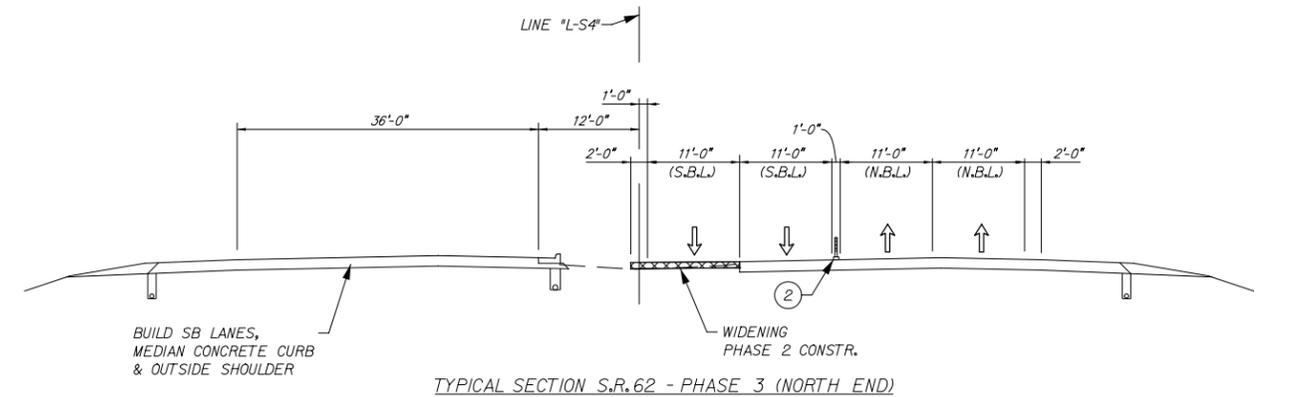
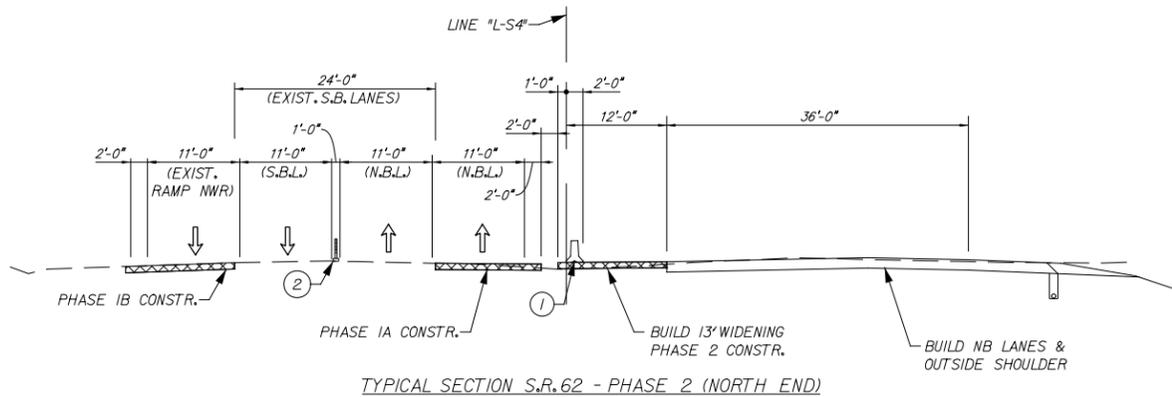
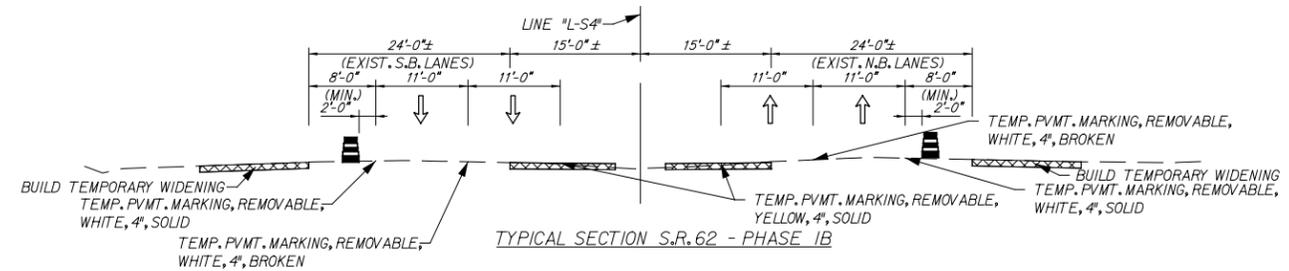
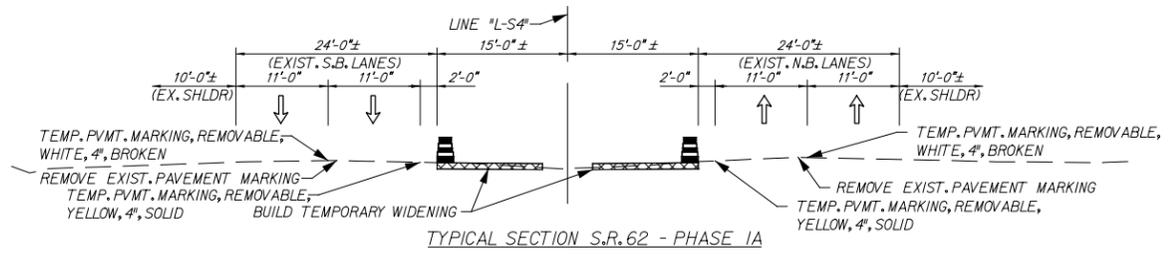
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 DESIGN ENGINEER DATE

DESIGNED: MJM DRAWN: EAK
 CHECKED: WHL CHECKED: MJM

INDIANA
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
 TYPICAL SECTIONS - SR 62

HORIZONTAL SCALE	BRIDGE FILE
1"=10'	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEET NO.
	3 of 11
CONTRACT	PROJECT



- LEGEND**
- ① CONCRETE BARRIER
 - ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.
 - TEMPORARY WIDENING
1.5" HMA Surface Type "D" on
7.5" HMA Base Type "D" on
3" Compacted Aggregate No. 53 on
Subgrade Treatment Type IB or IC

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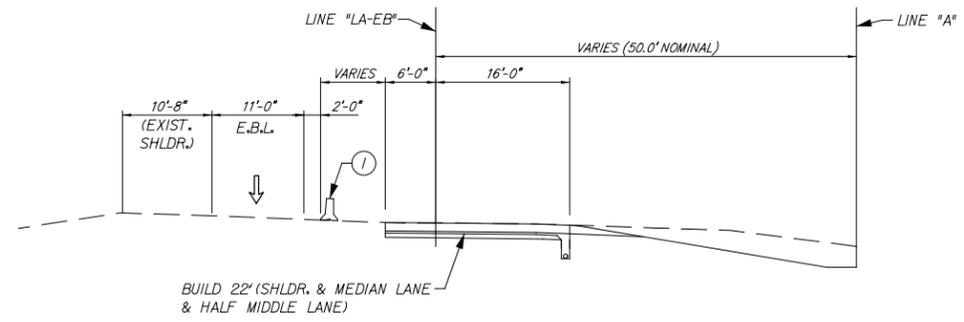
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CHECKED: WHL	CHECKED: MJM	

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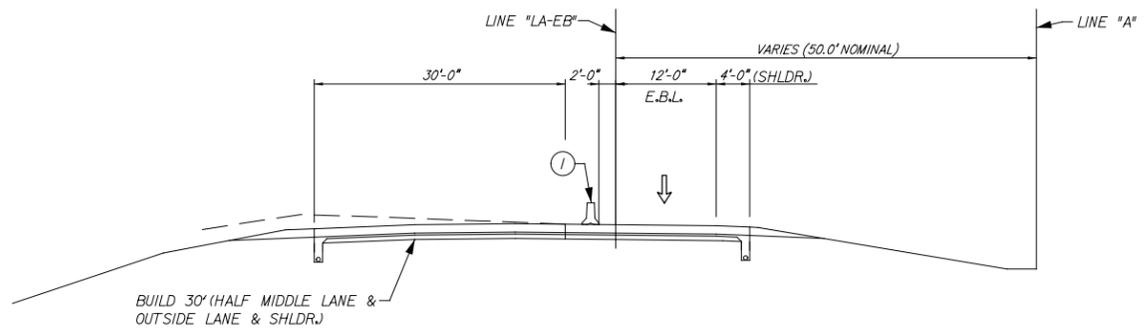
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS - SR 62

HORIZONTAL SCALE	BRIDGE FILE
1"=10'	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEET NO.
CONTRACT	4 of 11
	PROJECT

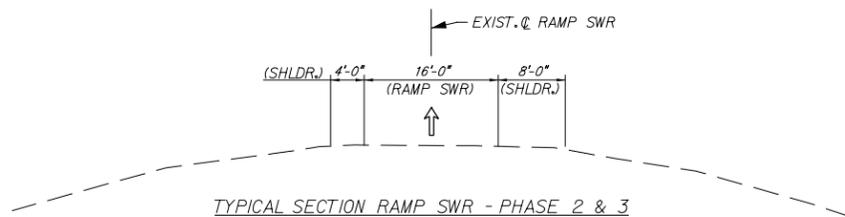
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TYPICAL SECTION SR265 E.B.L. - PHASE 2



TYPICAL SECTION SR265 E.B.L. - PHASE 3 & 4



TYPICAL SECTION RAMP SWR - PHASE 2 & 3

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- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.

LEGEND

TEMPORARY WIDENING
1.5" HMA Surface Type "D" on
7.5" HMA Base Type "D" on
3" Compacted Aggregate No. 53 on
Subgrade Treatment Type IB or IC

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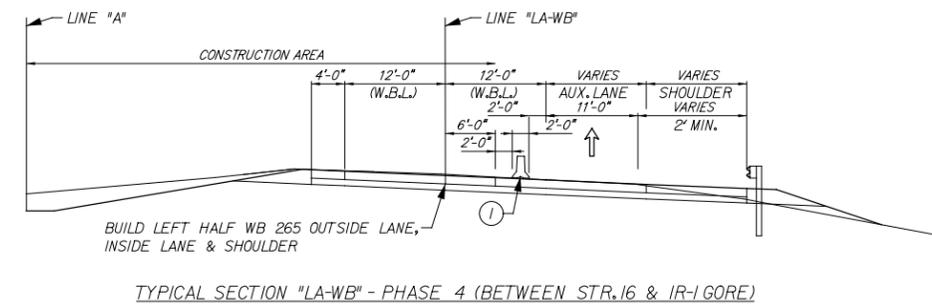
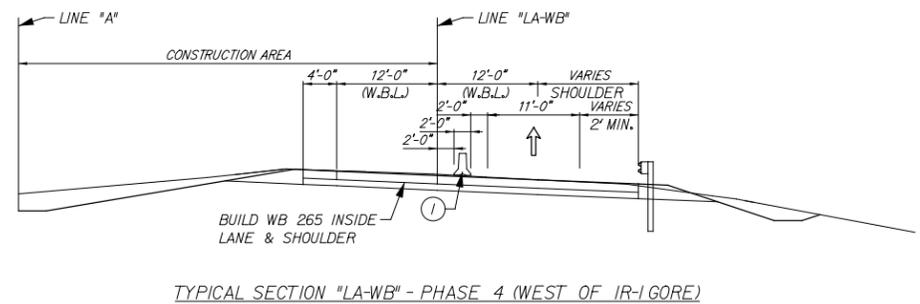
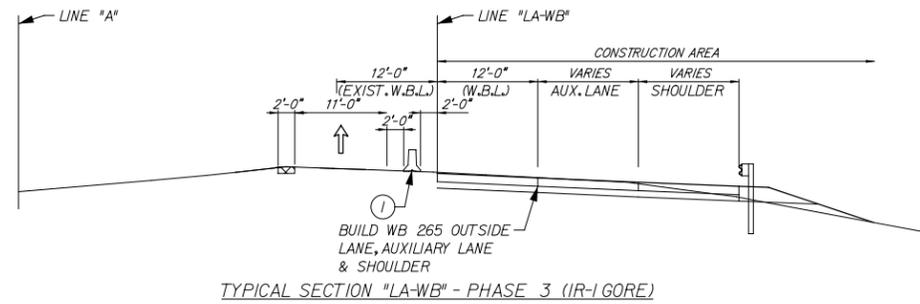
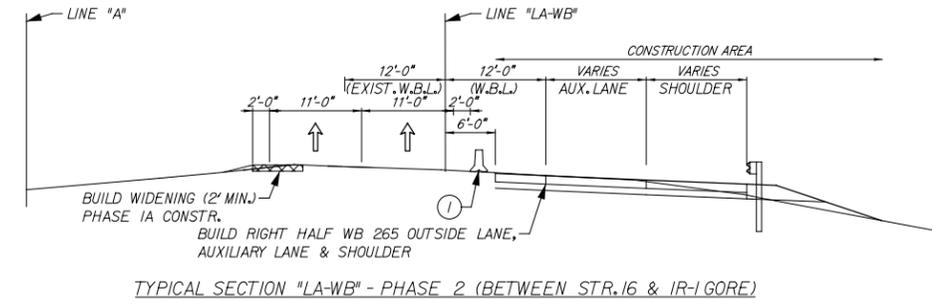
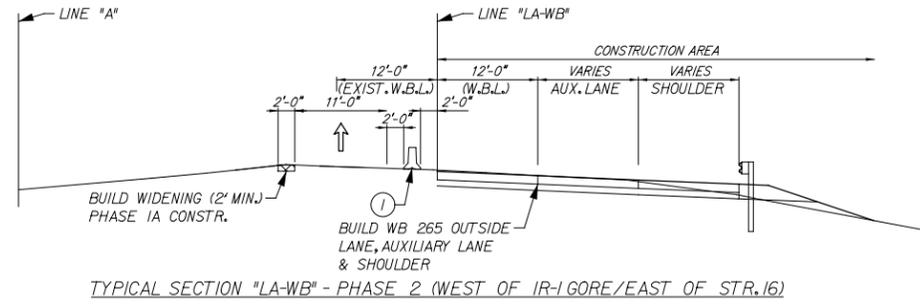
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DESIGN ENGINEER DATE

DESIGNED: MJM DRAWN: EAK
CHECKED: WHL CHECKED: MJM

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DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS SR 265 E.B.L.

HORIZONTAL SCALE 1"=10'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEET NO.
CONTRACT	5 of 11 PROJECT



LEGEND

- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.
- ③ STANDARD DRUM

TEMPORARY WIDENING
 1.5" HMA Surface Type "D" on
 7.5" HMA Base Type "D" on
 3" Compacted Aggregate No. 53 on
 Subgrade Treatment Type 1B or 1C

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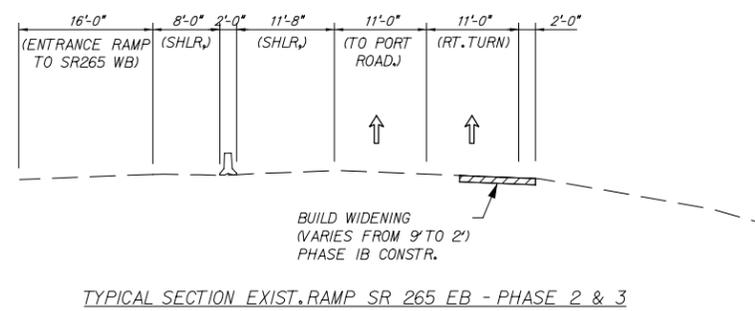
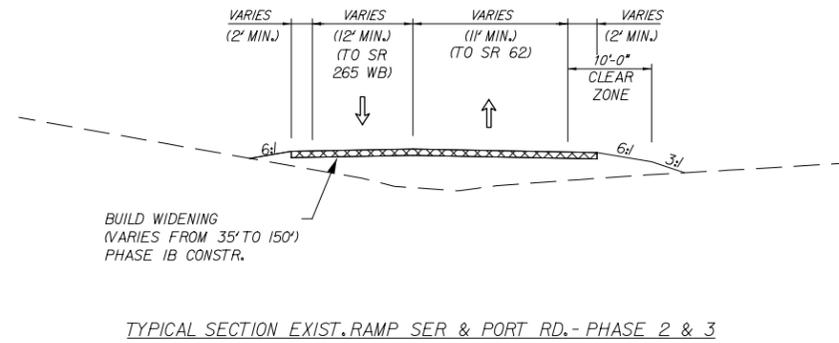
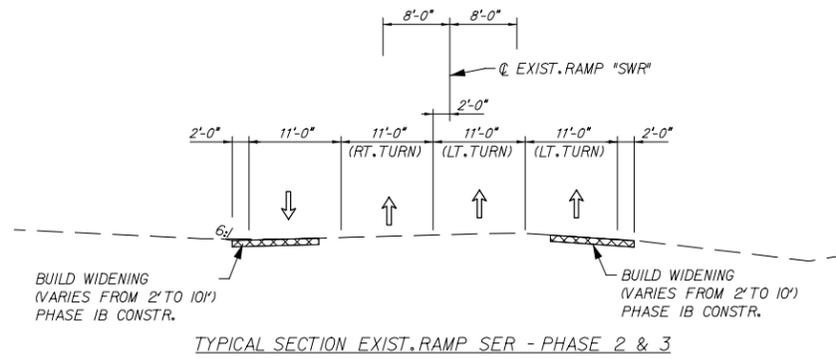
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INDIANA
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
 TYPICAL SECTIONS - SR 265 WB

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- ① CONCRETE BARRIER
- ② FLEXIBLE TUBULAR MARKERS @ 50' SPA.

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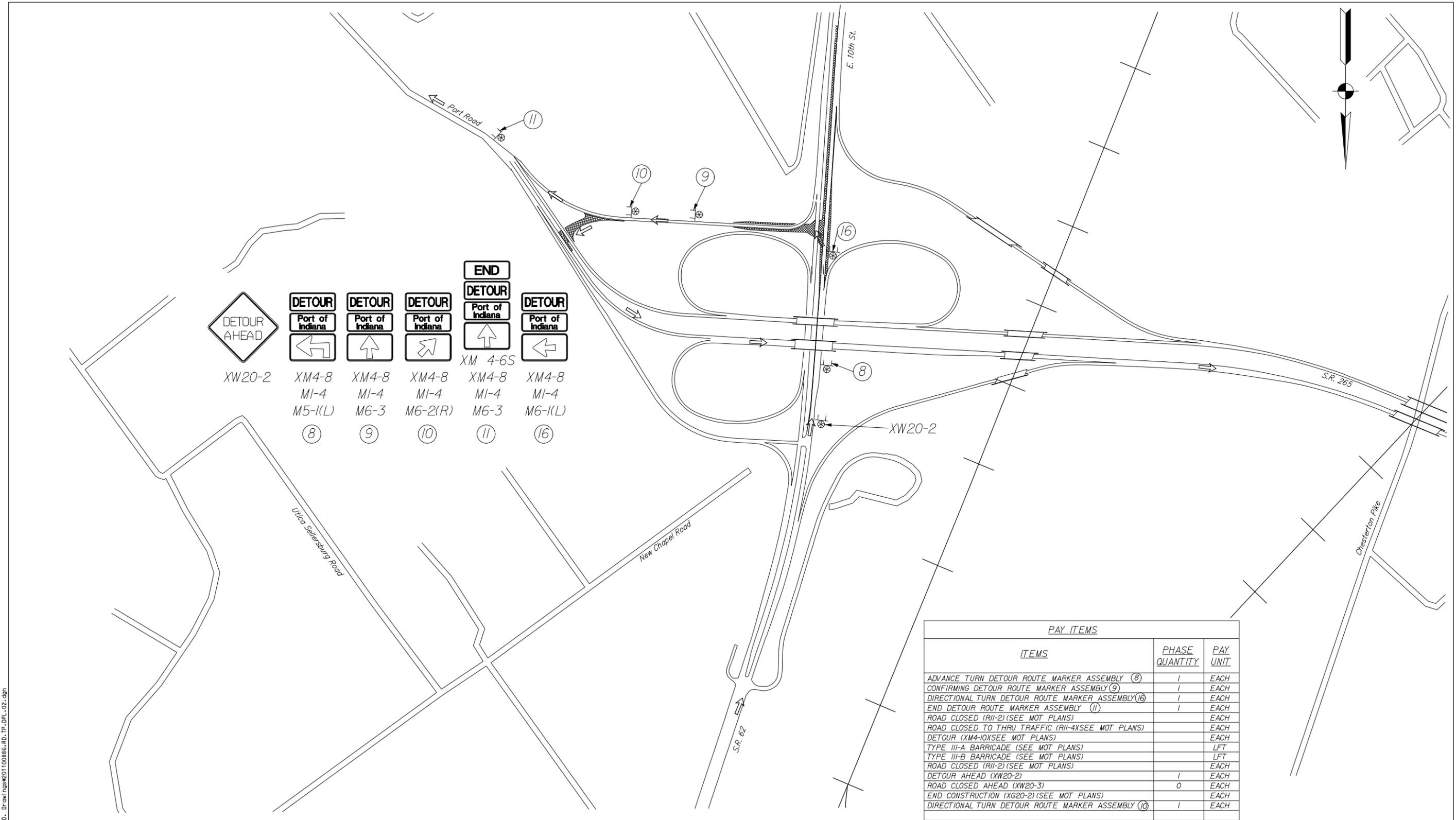
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 1.5" HMA Surface Type "D" on
 7.5" HMA Base Type "D" on
 3" Compacted Aggregate No. 53 on
 Subgrade Treatment Type IB or IC

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 TYPICAL SECTIONS
 TEMPORARY CONNECTIONS

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| | | | | | |
| XW20-2 | XM4-8
MI-4
M5-1(L) | XM4-8
MI-4
M6-3 | XM4-8
MI-4
M6-2(R) | XM 4-6S
XM4-8
MI-4
M6-3 | XM4-8
MI-4
M6-1(L) |
| | (8) | (9) | (10) | (11) | (16) |

PAY ITEMS		
ITEMS	PHASE QUANTITY	PAY UNIT
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CONFIRMING DETOUR ROUTE MARKER ASSEMBLY (9)	1	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (16)	1	EACH
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ROAD CLOSED TO THRU TRAFFIC (R11-4) (SEE MOT PLANS)		EACH
DETOUR (XM4-10) (SEE MOT PLANS)		EACH
TYPE III-A BARRICADE (SEE MOT PLANS)		LFT
TYPE III-B BARRICADE (SEE MOT PLANS)		LFT
ROAD CLOSED (R11-2) (SEE MOT PLANS)		EACH
DETOUR AHEAD (XW20-2)	1	EACH
ROAD CLOSED AHEAD (XW20-3)	0	EACH
END CONSTRUCTION (XG20-2) (SEE MOT PLANS)		EACH
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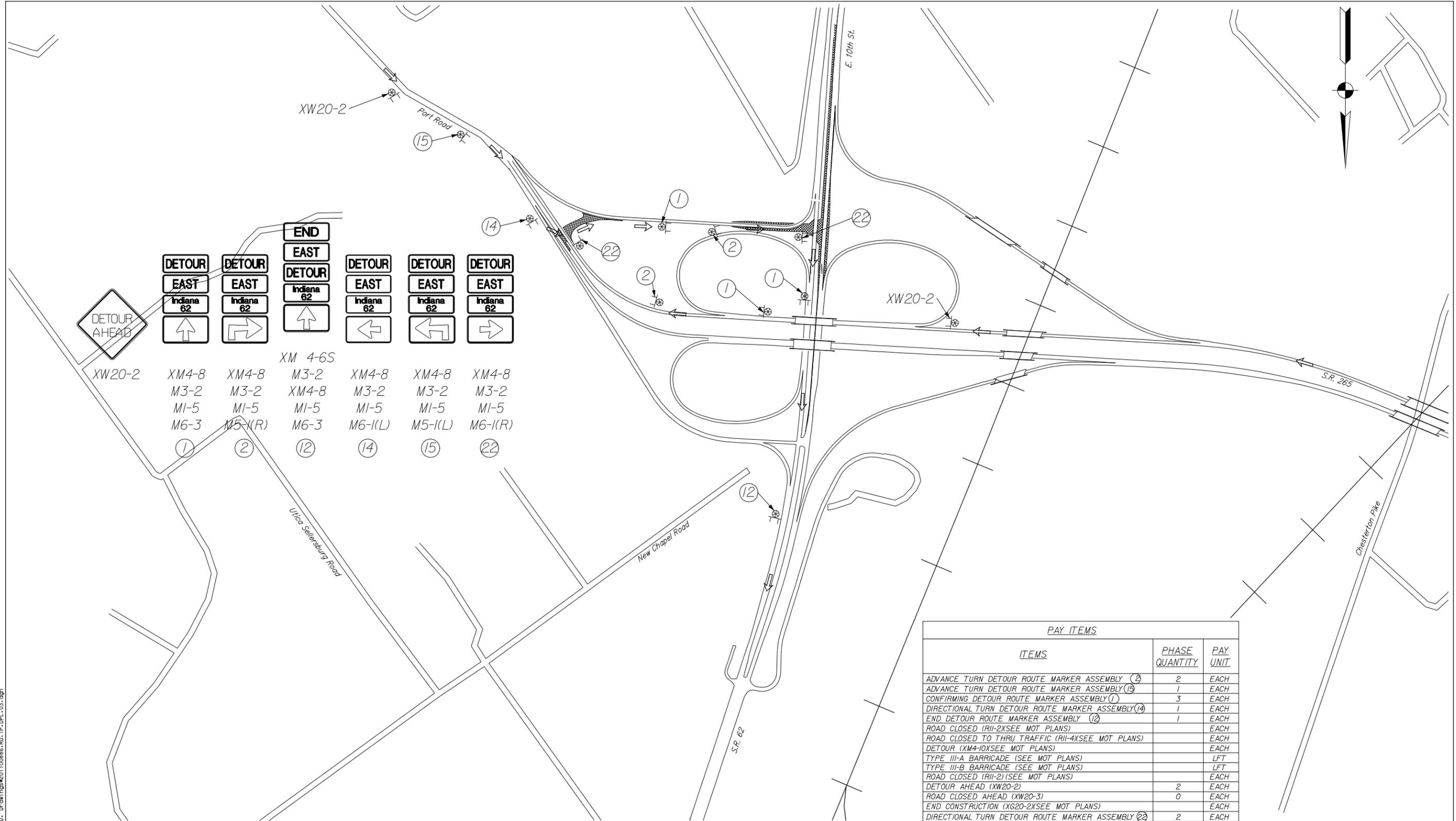
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 PORT OF INDIANA ACCESS
 PHASE 2 & PHASE 3

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	DETOUR EAST Indiana 62 ↑	DETOUR EAST Indiana 62 →	END EAST Indiana 62 ↑	DETOUR EAST Indiana 62 ←	DETOUR EAST Indiana 62 ←	DETOUR EAST Indiana 62 →
XW20-2	XM4-8 M3-2 MI-5 M6-3 ①	XM4-8 M3-2 MI-5 M5-1(R) ②	XM 4-6S M3-2 XM4-8 MI-5 M6-3 ⑫	XM4-8 M3-2 MI-5 M6-1(L) ⑭	XM4-8 M3-2 MI-5 M5-1(L) ⑮	XM4-8 M3-2 MI-5 M6-1(R) ⑰

PAY ITEMS		
ITEMS	PHASE QUANTITY	PAY UNIT
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CONFIRMING DETOUR ROUTE MARKER ASSEMBLY ①	3	EACH
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END DETOUR ROUTE MARKER ASSEMBLY ⑫	1	EACH
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ROAD CLOSED TO THRU TRAFFIC (R11-4X) (SEE MOT PLANS)		EACH
DETOUR (XM4-10X) (SEE MOT PLANS)		EACH
TYPE III-A BARRICADE (SEE MOT PLANS)		LFT
TYPE III-B BARRICADE (SEE MOT PLANS)		LFT
ROAD CLOSED (R11-2) (SEE MOT PLANS)		EACH
DETOUR AHEAD (XW20-2)	2	EACH
ROAD CLOSED AHEAD (XW20-3)	0	EACH
END CONSTRUCTION (XG20-2X) (SEE MOT PLANS)		EACH
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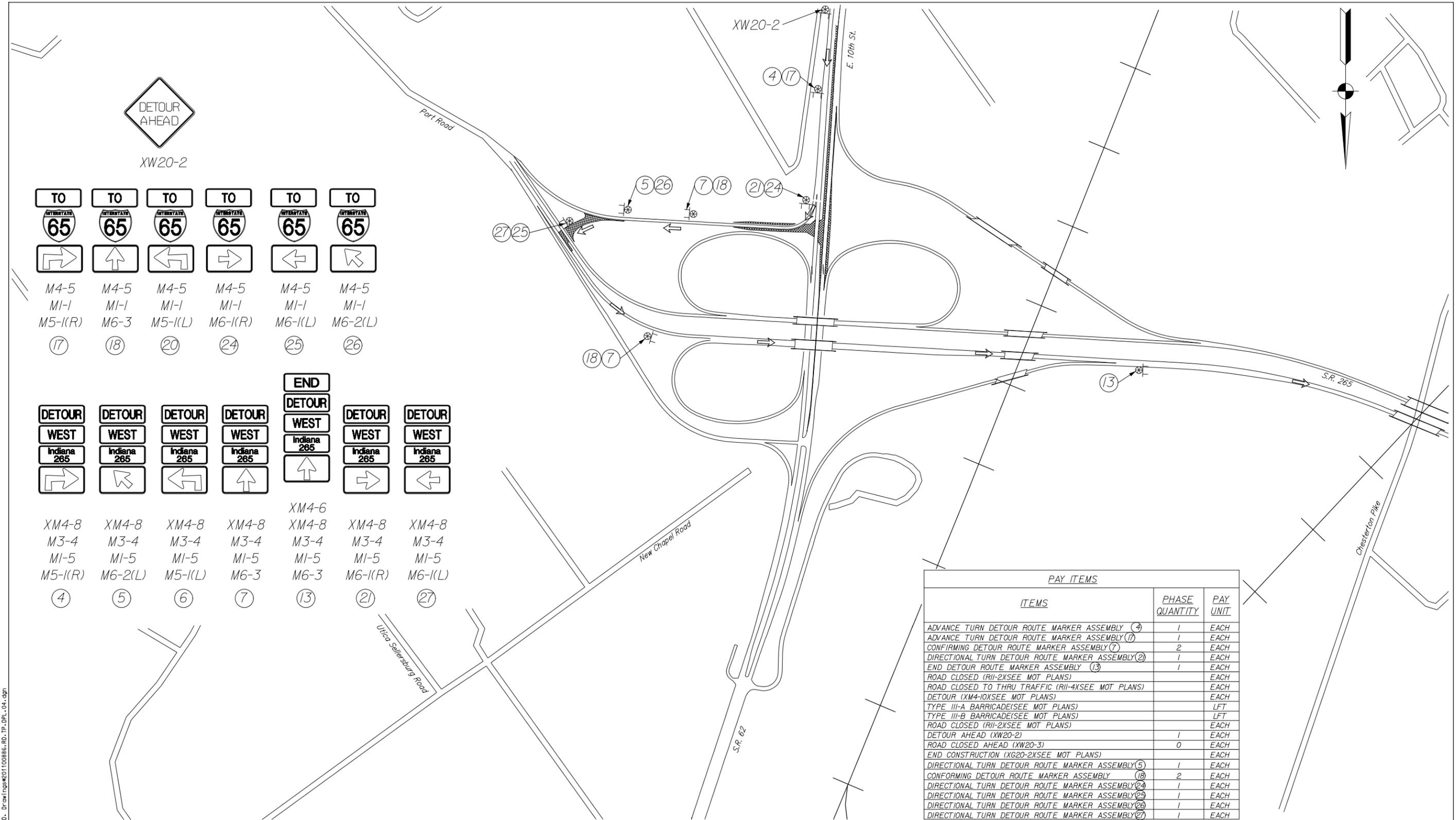
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| TO | TO | TO | TO | TO | TO |
| INTERSTATE 65 |
| RIGHT | UP | LEFT | RIGHT | LEFT | RIGHT |
| M4-5 | M4-5 | M4-5 | M4-5 | M4-5 | M4-5 |
| MI-1 | MI-1 | MI-1 | MI-1 | MI-1 | MI-1 |
| M5-1(R) | M6-3 | M5-1(L) | M6-1(R) | M6-1(L) | M6-2(L) |
| (17) | (18) | (20) | (24) | (25) | (26) |
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| DETOUR | DETOUR | DETOUR | DETOUR | END | DETOUR | DETOUR |
| WEST |
| Indiana 265 |
| RIGHT | LEFT | LEFT | UP | UP | RIGHT | LEFT |
| XM4-8 | XM4-8 | XM4-8 | XM4-8 | XM4-6 | XM4-8 | XM4-8 |
| M3-4 |
| MI-5 |
| M5-1(R) | M6-2(L) | M5-1(L) | M6-3 | M6-3 | M6-1(R) | M6-1(L) |
| (4) | (5) | (6) | (7) | (13) | (21) | (27) |

PAY ITEMS		
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CONFIRMING DETOUR ROUTE MARKER ASSEMBLY (7)	2	EACH
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END DETOUR ROUTE MARKER ASSEMBLY (13)	1	EACH
ROAD CLOSED (R11-2XSEE MOT PLANS)		EACH
ROAD CLOSED TO THRU TRAFFIC (R11-4XSEE MOT PLANS)		EACH
DETOUR (XM4-10XSEE MOT PLANS)		EACH
TYPE III-A BARRICADE(SEE MOT PLANS)		LFT
TYPE III-B BARRICADE(SEE MOT PLANS)		LFT
ROAD CLOSED (R11-2XSEE MOT PLANS)		EACH
DETOUR AHEAD (XW20-2)	1	EACH
ROAD CLOSED AHEAD (XW20-3)	0	EACH
END CONSTRUCTION (XG20-2XSEE MOT PLANS)		EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (5)	1	EACH
CONFIRMING DETOUR ROUTE MARKER ASSEMBLY (18)	2	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (24)	1	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (25)	1	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (26)	1	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (27)	1	EACH

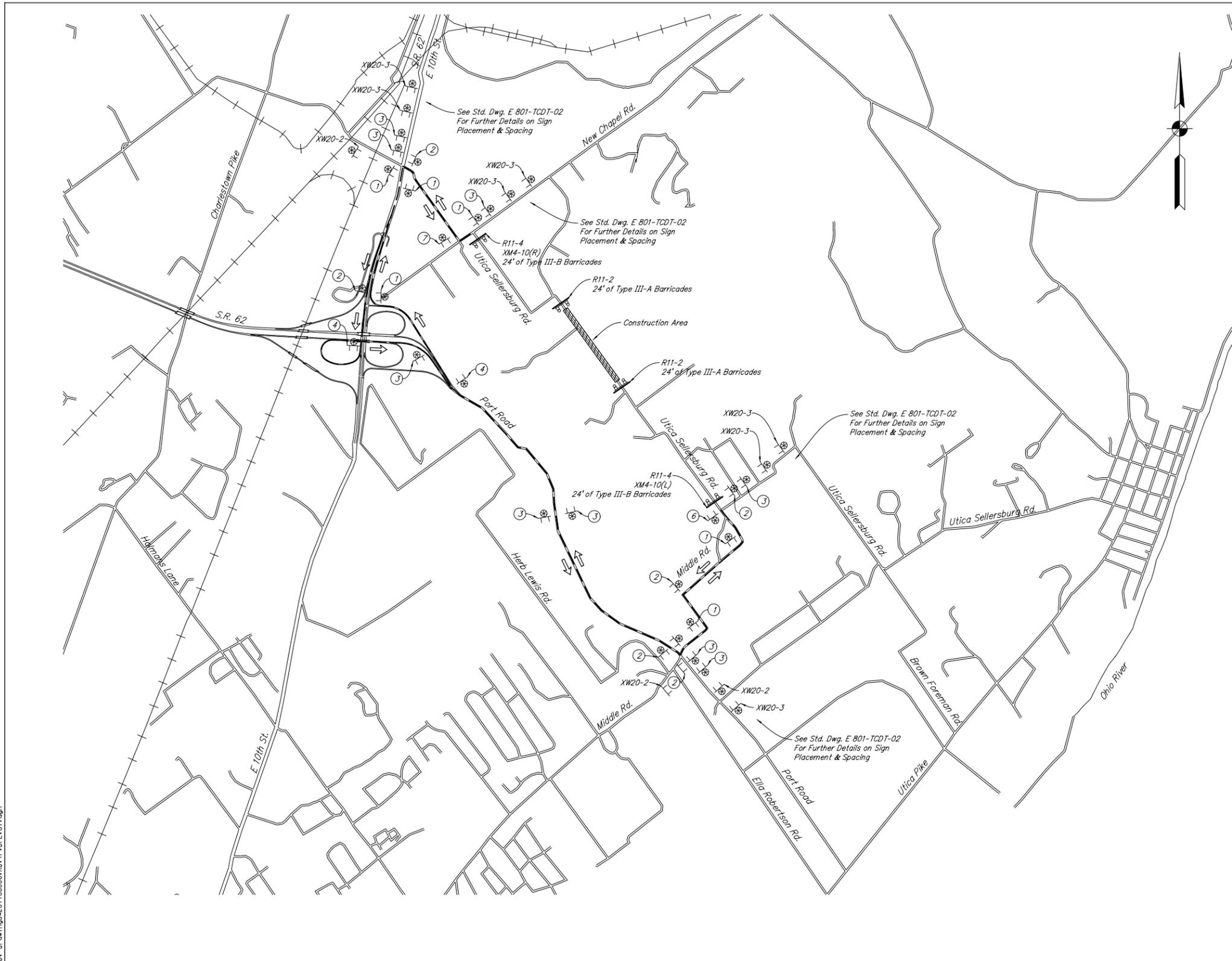
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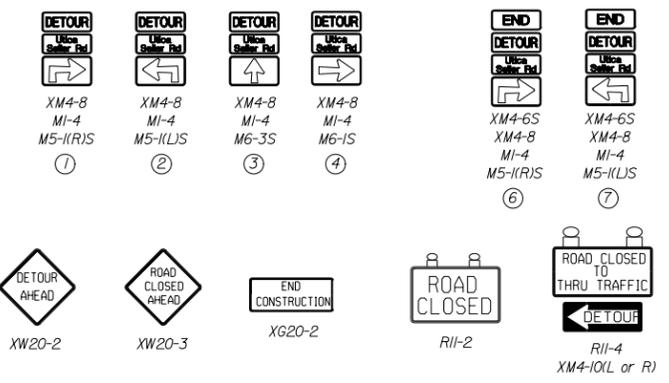
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 INDIANA 265 ACCESS
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CONTRACT	PROJECT

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PAY ITEMS		
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ADVANCE TURN DETOUR ROUTE MARKER ASSEMBLY (2)	5	EACH
CONFIRMING DETOUR ROUTE MARKER ASSEMBLY (3)	8	EACH
DIRECTIONAL TURN DETOUR ROUTE MARKER ASSEMBLY (4)	2	EACH
END DETOUR ROUTE MARKER ASSEMBLY (6)	1	EACH
END DETOUR ROUTE MARKER ASSEMBLY (7)	1	EACH
ROAD CLOSED (R11-2)	2	EACH
ROAD CLOSED TO THRU TRAFFIC (R11-4)	2	EACH
DETOUR (XM4-10)	2	EACH
TYPE III-A BARRICADE	48	LFT
TYPE III-B BARRICADE	96	LFT
ROAD CLOSED (R11-2)	2	EACH
DETOUR AHEAD (XW20-2)	7	EACH
ROAD CLOSED AHEAD (XW20-3)	7	EACH
END CONSTRUCTION (XG20-2)	2	EACH



LEGEND	
	BARRICADE TYPE III-A/III-B
	CONSTRUCTION SIGN, DETOUR ROUTE MARKER ASSEMBLY WITH WARNING LIGHTS
	ROAD CLOSURE SIGN ASSEMBLY
	DIRECTION OF TRAFFIC
	DETOUR ROUTE

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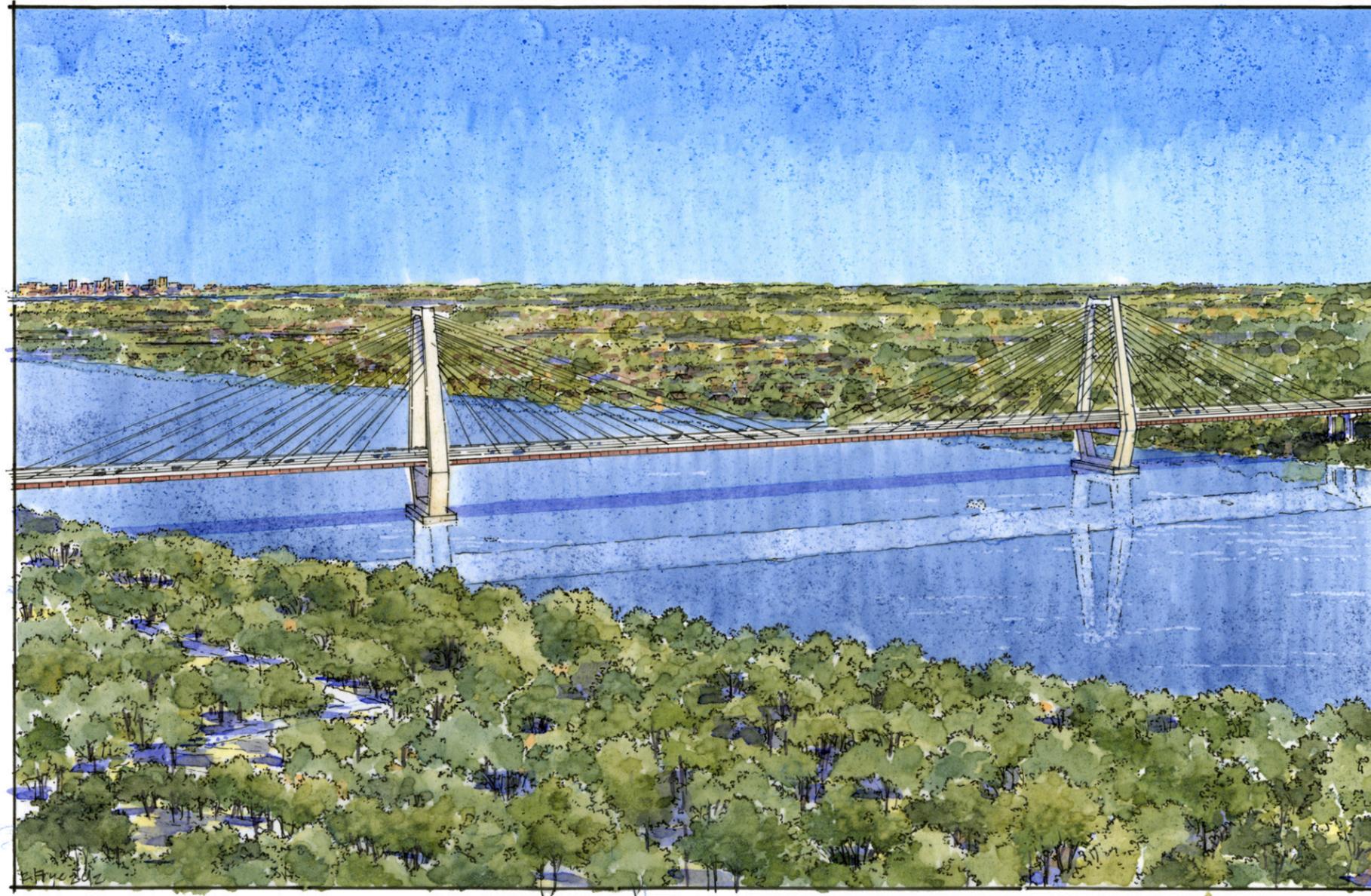
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CHECKED: WHL	CHECKED: MJM	

INDIANA
 DEPARTMENT OF TRANSPORTATION
 DETOUR ROUTE
 UTICA SELLERSBURG ROAD

HORIZONTAL SCALE 1"=100'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEET NO. II of II
CONTRACT	PROJECT

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Aesthetic and Landscape Concept Master Plan (4.2.1.6)



AESTHETIC & LANDSCAPE CONCEPT MASTER PLAN

SUBMITTED WITH TECHNICAL PROPOSAL

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1.0 OVERVIEW

1.1 PURPOSE

The purpose of the Aesthetics and Landscape Concept Master Plan (ALCMP) is to provide design solutions for landscape and aesthetic enhancements along the East End Crossing corridor that are sensitive to geographic, natural, historic and cultural context and responsive to the expressed preferences and desires of the local community and stakeholders. The context sensitive design vision set forth in the Request for Proposal (RFP) and the Reference Information Documents (RIDs), including the 2007 Aesthetics and Landscape Architecture Guidelines and the Bridge Type Selection Process (BTSP) documents, provide information on the context, concepts and design criteria envisioned by the stakeholders, which WVB has integrated and translated into new proposed design solutions. The ALCMP addresses the needs and desires of the stakeholders to have an aesthetically pleasing environment along the new transportation corridor, while affirming the key goals of creating a context sensitive solution and preserving the integrity of historic landscapes and character areas.

The intrinsic philosophy for WVB's master plan is to be sensitive to context and the expressed preferences and desires of the local community and stakeholders. This unique Ohio River area possesses a cultural wealth of historic properties, such as the Country Estates Historic District, the Rosewell and Merriwether Houses, the lime kilns, and the Belleview Property among others, that should be preserved, honored, and celebrated throughout the East End Crossing. This overarching philosophy is the basis for our approach to providing environmentally appropriate landscape and aesthetics design.

Key principles of this approach are:

- Respect, restore, and emulate the character of the existing natural environments and cultural landscapes, both natural and man-made topographic forms and built features, impacted by the new improvements.
- Utilize the material and architectural framework for context sensitive solutions provided by the design intent and material vocabulary of the various historic properties and the surroundings.
- Reinterpret materials and architectural styles with modern materials and treatments where necessary for safety, durability, or efficiency.
- Leverage the new improvements to provide new and restored habitat for native wildlife and provide connectivity for plant and wildlife communities and for people.
- Select a sustainable planting palette that is adapted, native, low water use and non-invasive species.



HARRODS CREEK BRIDGE - VIEW FROM THE MARINA

The bridge crosses Harrods Creek, a recreational waterway, and will be visible from the Harrods Creek residential community, marina and river, and River Road. Special consideration is given to the underside design aesthetics as well as the upper bridge structure with faux stone finishes and weathered steel girders.

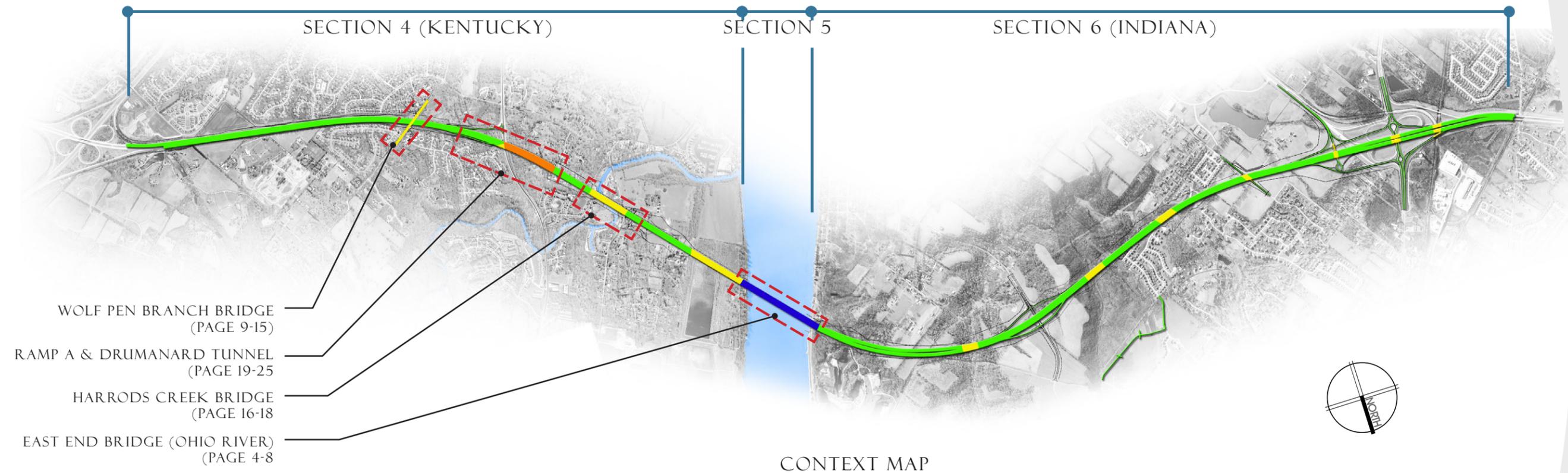
1.2 AESTHETIC APPROACH

WVB's ALCMP is provided in a way to show our vision of the East End Crossing that can be developed with IFA, stakeholder and public involvement as allowed by the Project Landscaping and Aesthetic Work Allowance. The Reference Information Documents (RIDs), specifically the 2007 Aesthetics and Landscape Architecture Guidelines and the various documents involved in the Bridge Type Selection Process (BTSP), were the prime informants in reaching an understanding of the natural and cultural aesthetics of the area and the desires of the various stakeholders. Site visits, photographs, and additional research of places and features referenced in these documents supplemented WVB's research into the local context and provided inspiration and direction for our design. A survey of built bridge, tunnel and wall structures throughout the area further informed the type of architectural surface treatments, textures and color palette used in our proposed features. In addition, our design team includes local landscape architects with extensive local

knowledge of the indigenous native plants, topography and built landscape elements of the area which have been incorporated into our design.

WVB's ALCMP respects to the aesthetic framework created by the historic landscapes designed by Fredrick Law Olmsted, the Olmsted Brothers, Marian Cruger Coffin, and Arthur Westcott Cowell, among others. The Master Plan Design works within this cultural, historic framework to illustrate how context-sensitive architectural details, textures, finishes and colors can be consistently applied to a wide variety of elements throughout the Project. Care has been given in the aesthetics design to apply solutions that minimize the visual and auditory impact while maximizing the safety, durability, and maintainability of the project components. The aesthetics palette visually unifies the various features along the corridor with an approach that adheres to the naturalistic qualities of the local vernacular, while reinterpreting them in a modern way where necessary.

In broad terms, WVB's aesthetic approach aligns the Kentucky design solutions of Section 4 with the framework of the historic Country Estate vernacular, as detailed in the 2007 Aesthetics and Landscape Architecture Guidelines. In Section 6, the Indiana design solutions reference the local quarry and agricultural vernacular. More specifically the improvements in Kentucky include faux natural stone described as "creekstone" in the RID for vertical walls and architectural features, natural vegetation with contoured land forms and decorative fencing that emulates adjacent estates. By contrast, improvements in Indiana feature faux cut limestone for vertical walls and architectural features, native vegetation with flat land forms that transition the new improvements into the adjacent properties consisting of agricultural, residential, and open spaces.



The East End Bridge (Section 5) is the most dramatic and symbolic element within the project area providing a transitional design element between the Kentucky and Indiana vernaculars. WVB's design of the bridge heavily relies on the numerous recommendations and preferences derived from the Bridge Type Selection Process (BTSP). In line with these recommendations, the bridge design complements the surroundings by efficiently minimizing potential impacts while referencing locally-significant lime kilns through its form and material-use to create an iconic new structure with which local residents can identify.

Collectively the context sensitive design response for Kentucky, Indiana and the Ohio River crossing demonstrates the commitment by WVB to deliver a superior aesthetic solution that respects this unique setting and the community that will live with these improvements for many generations to come.

The ALCMP contains narrative and graphic exhibits that illustrate WVB's approach to aesthetic enhancements that are comprehensive and thorough for the new transportation spine of East End Crossing corridor. In addition to the booklet, the ALCMP is further illustrated in roll plans (included as appendix items) that annotate a plan view of the corridor. The roll plans contain specific descriptions and graphic sketches of the proposed roadway aesthetic features and landscape treatments. The aesthetic enhancements and landscape treatments are described in their relationship to existing and proposed built features, unique "character areas" (as identified in the RIDs) and historic buildings and landscapes.

Aesthetic design treatments for key elements and features addressed in the ALCMP design proposals include:

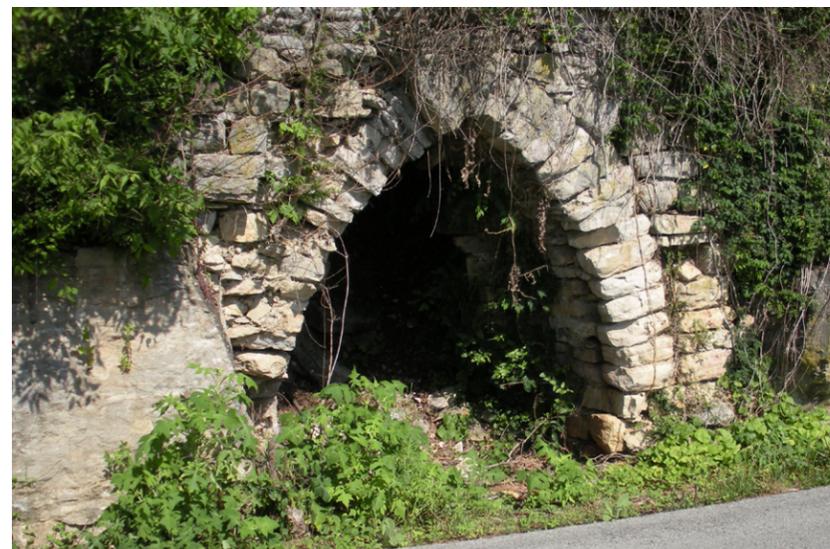
- Bridge structures (The East End Bridge over the Ohio River and bridges of the Kentucky and Indiana Approaches)
- Tunnel portals and approaches
- Walls and fences (including soundwalls, retaining walls, and screening and protection fencing)
- Roadway barrier walls and guardrails
- Architectural surface treatments
- Streetscape and shared use path enhancements (includes intersection hardscapes, site furnishings, bicycle facilities, ornamental fencing)
- Landscape plantings and contour grading



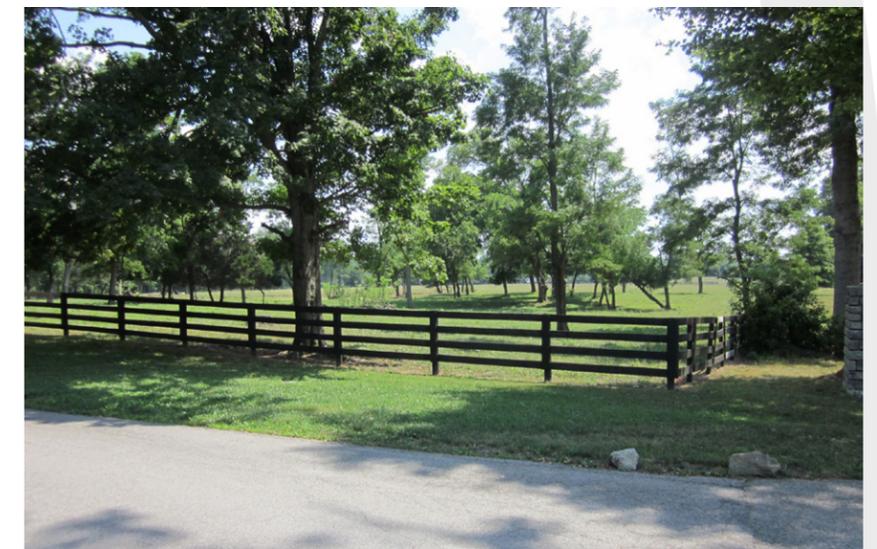
O H I O R I V E R



R O S E W E L L H O U S E



U T I C A K I L N



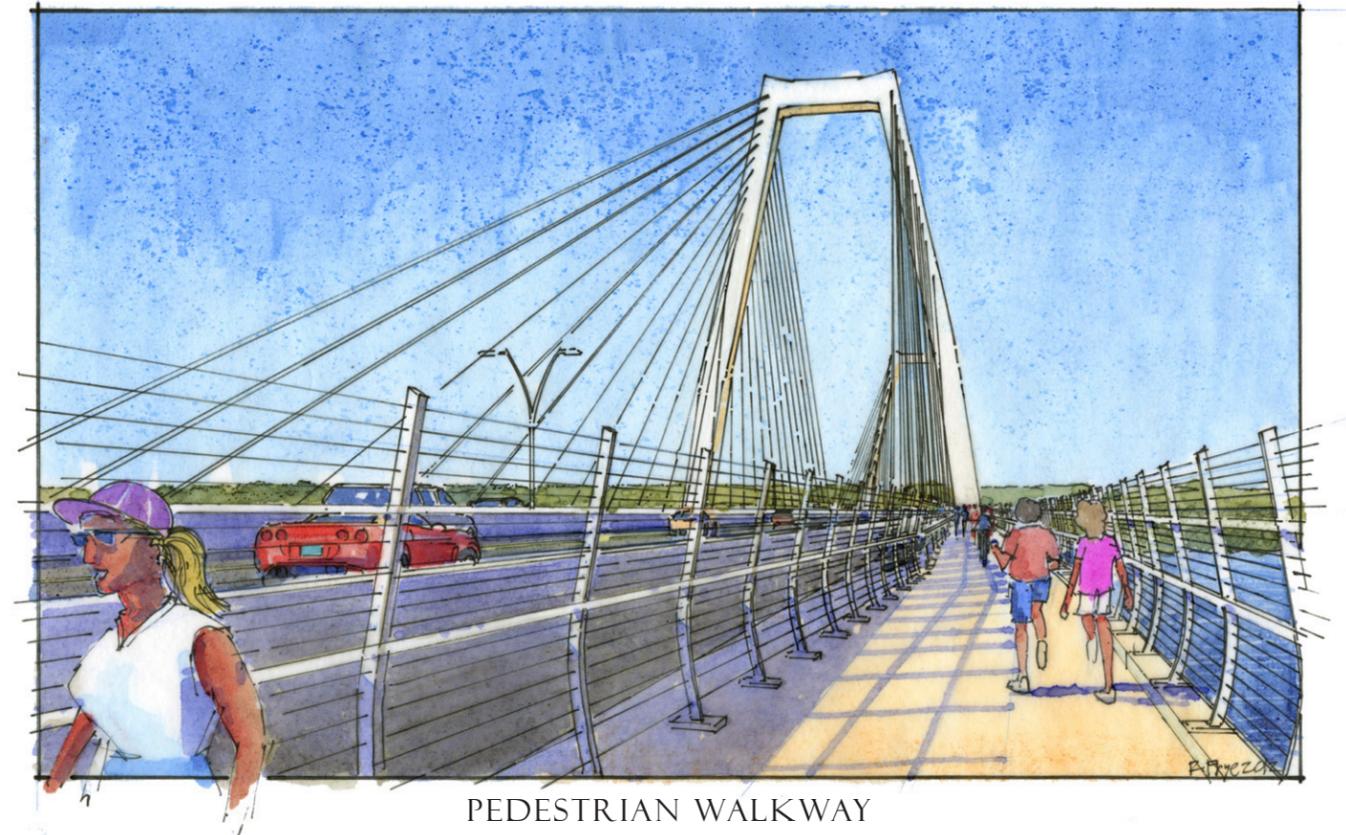
B E L L E V I E W E S T A T E

2.0 THE EAST END BRIDGE

WVB's design for the East End Bridge (Section 5) is a product of the historic context, building traditions, and aesthetic character of this unique Ohio River region constructed in a 21st-century structure. The recommendations and preferences of the Bridge Type Selection Process (BTSP) guided the design, which strives to honor the local historic and cultural context, to borrow from local building traditions where appropriate, and yet to strike a modern, efficient aesthetic tone where needed. The resulting aesthetics through an attention to form, scale, and detail create an understated architectural symbol for the community that strives to maximize natural views of the river and surroundings. Future generations will appreciate the East End Bridge's modern levels of safety, efficiency, and durability, as they continue to enjoy the natural beauty of this unique Ohio River region.

The location of the East End Crossing has a rural character providing visitors a pastoral experience with mature native trees framing the shorelines on both sides of the river. The natural landscape and topography of the river and the shorelines mainly define the site since there are no other major visible structures nearby. On the Kentucky shore, a series of secluded historic residential country estates and houses mixed with more recent sparse residential developments are only outwardly marked by stacked limestone walls and arched gateways along the winding country roads. On the Indiana shore, a limestone bluff rises steeply from the river's flood plain giving a clue to the renowned 19th and 20th century lime industry that supported the area's limestone building tradition and created numerous historic structures, including the local ground hog type lime kiln. The understated beauty of the Ohio River flowing through the landscape and the locals' interaction with the river has created a significant historic cultural legacy that continues to shape and bind the lives of the regions inhabitants.

WVB's East End Bridge Design honors this local historic cultural legacy by modeling the largest scale elements of the bridge, the towers, in direct reference to an icon of the region: the historic ground hog type Utica Kiln. This particular kiln, unlike the other kilns in the area, is not purely utilitarian, but has a modest architectural flair: a Gothic arch opening. In a similar fashion, the towers of the bridge possess an understated flair, yet they also possess a monumentality and attention to proportion reminiscent of the Louisville Water Company Pumping Station. The gentle convex curve above and below the roadway lends a local style to the diamond shaped towers while efficiently serving their main structural function of supporting the



PEDESTRIAN WALKWAY

roadway. Reminiscent to entering a lime kiln, drivers on the bridge will have the memorable experience of the stacked concrete sections of the towers gradually arching up and over them as they cross the river.

Similar to the tower treatment, the design of the other elements of the bridge uses a number of key techniques to appropriately balance efficient structural safety with an understated local aesthetic flair to enhance the natural aspects of the river and the surrounding landscape in line with the BTSP. First, the bridge design maximizes the efficiency of the various elements in order to minimize the size, number, and visual impact of the necessary elements. The span lengths have been optimized, for example, to reduce the number of elements located in the river to only the two towers, lessening impacts on the aquatic environment. Second, architectural devices, such as scale, proportion, and repetition, are employed to give bridge elements clarity and meaning for the different users and viewers of the bridge. Because a person's experience of the bridge may occur at 55 mph in a car, at 15 mph on a bike, at 3 mph walking, or as viewed from a distance, various elements of

the bridge must function and be meaningful at different scales. An example is the pedestrian barrier that uses mostly horizontal cables to create an open look for viewers of the bridge and drivers on the bridge while providing pedestrian walkway the needed safety for the pedestrian path. The horizontal cables are supported by vertical supports that are appropriately spaced to provide a meaningful sense of progression for bicyclists and pedestrians across the bridge while not being too closely spaced that they visually stack up and block drivers' views. Lastly, the bridge design applies an aesthetic touch to the bridge elements in order to properly relate them to local building traditions and local natural landscape so that they blend in. The appearance of horizontal joints on all of the vertical concrete elements reflecting the same in the limestone walls throughout the area and the curving roadway light poles mimicking the organic lean of the trees along the shoreline are good instances of this technique.

The following sections provide more detail and additional description of the major components of the East End Bridge design and their aesthetic qualities.

2.1 TOWERS

The two main towers of the East End Bridge are the largest and most dynamic structural elements of the bridge. As such, the towers have the greatest effect on the overall aesthetics of the bridge. The towers also provide the greatest opportunity to create the bridge's symbolic importance for the surrounding communities. The most critically important structural members of the bridge design, the design of the towers needs to balance the aesthetics of the bridge with safety.

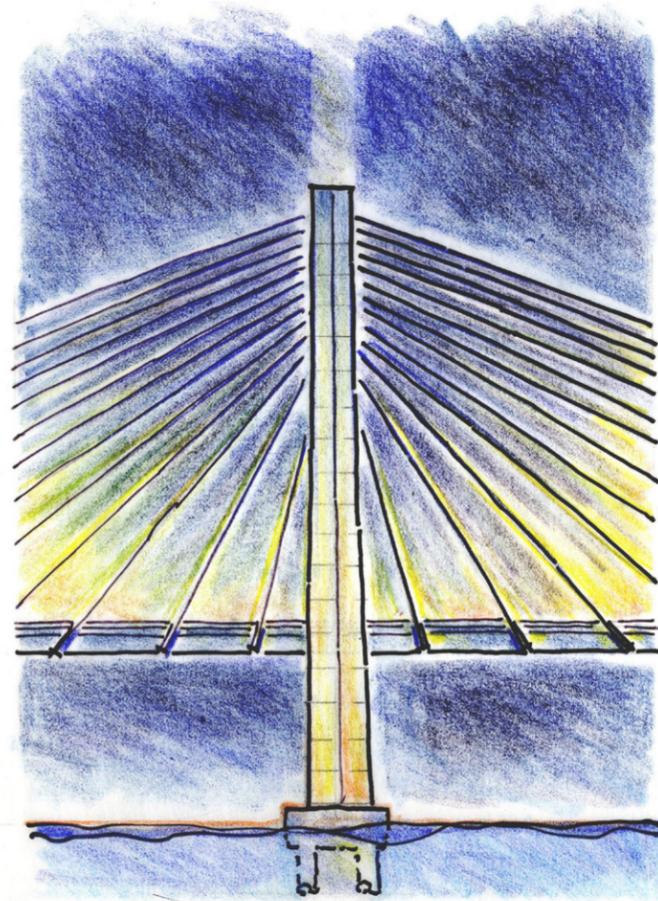
There are numerous man-made and natural curved forms that can be found in the surrounding context, such as winding country roads and meandering rural creeks. These curved forms are translated into the architectural vocabulary of the bridge towers, as they boast an elegantly curved profile. As the towers rise above the river's surface, they curve outwards to accommodate the bridge deck

running through, and then curve back to connect at the top. This curved diamond shape frames the views for the users of the bridge as well as, creates an open transparency to allow the towers to better blend into the natural setting. The two towers, in combination with the roadway and the river, help frame and enhance the views of the main span for people standing on the nearby shorelines or for boats on the river looking beyond the bridge. The curving silhouette of the tower legs creates surfaces that do not block one's view, but rather open up the overall view of the landscape beyond.

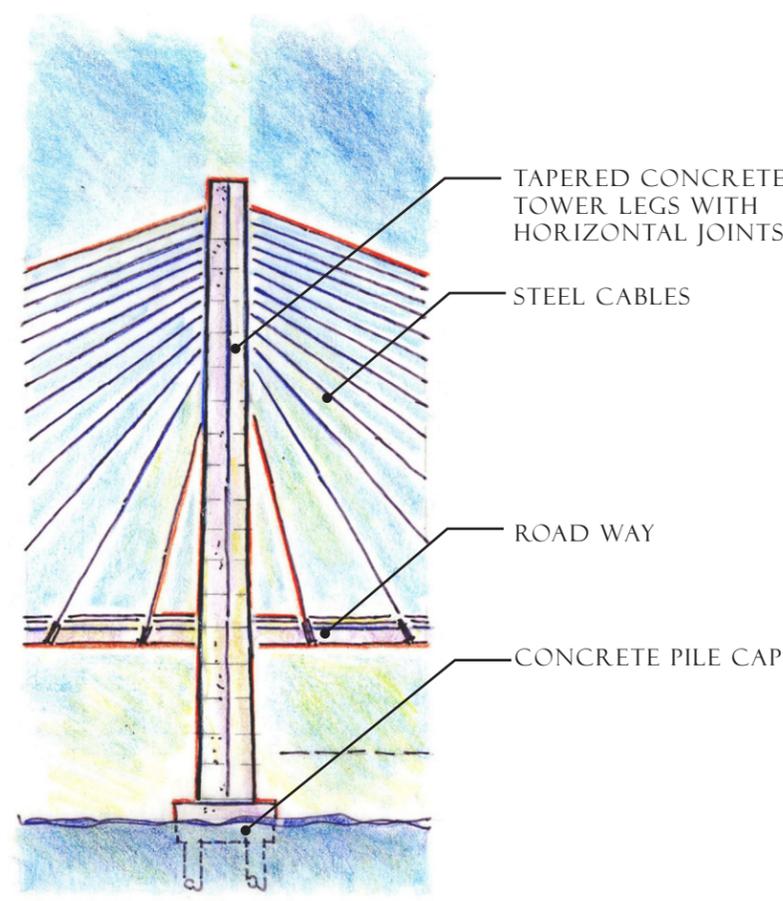
The bridge tower legs are comprised of naturally colored concrete. This surface material reflects the natural limestone colors and textures that are identified throughout the local natural landscape. As the tower legs raise high, their massive scale is broken down by introducing horizontal reveals at commonly quarried intervals,

which provides a more human-scale to the structure and prevents the towers from being too imposing. These score lines also help relate the tower to the stacked limestone building vernacular of the region. This horizontal stacking combined with the towers curved shape also echoes the Gothic arch opening of the historic ground hog type lime kiln on the Indiana shoreline, connecting the towers to their cultural landscape.

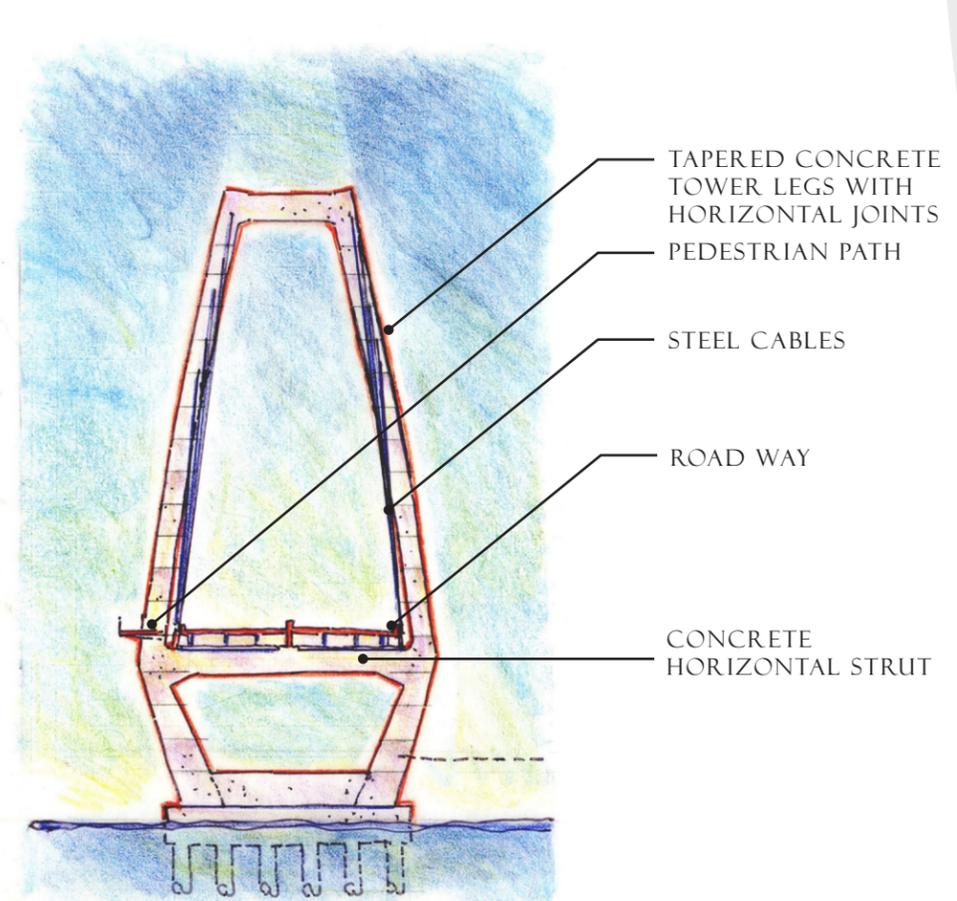
The aesthetic lighting of the bridge towers will showcase both structures' form and beauty. As the bridge is designed to be sensitive to its surroundings, the lighting as well is designed to enhance the bridge without disturbing the natural setting at nighttime. The bridge uses a classic white lighting scheme that minimizes the overall amount of light introduced to the natural environment. At night, all towers and cables will be lit upward from the roadway, gradually fading out as they reach higher and disappear into the sky.



AESTHETIC LIGHTING



LONGITUDINAL ELEVATION



TRANSVERSE ELEVATION

2.2 ROADWAY & BARRIERS

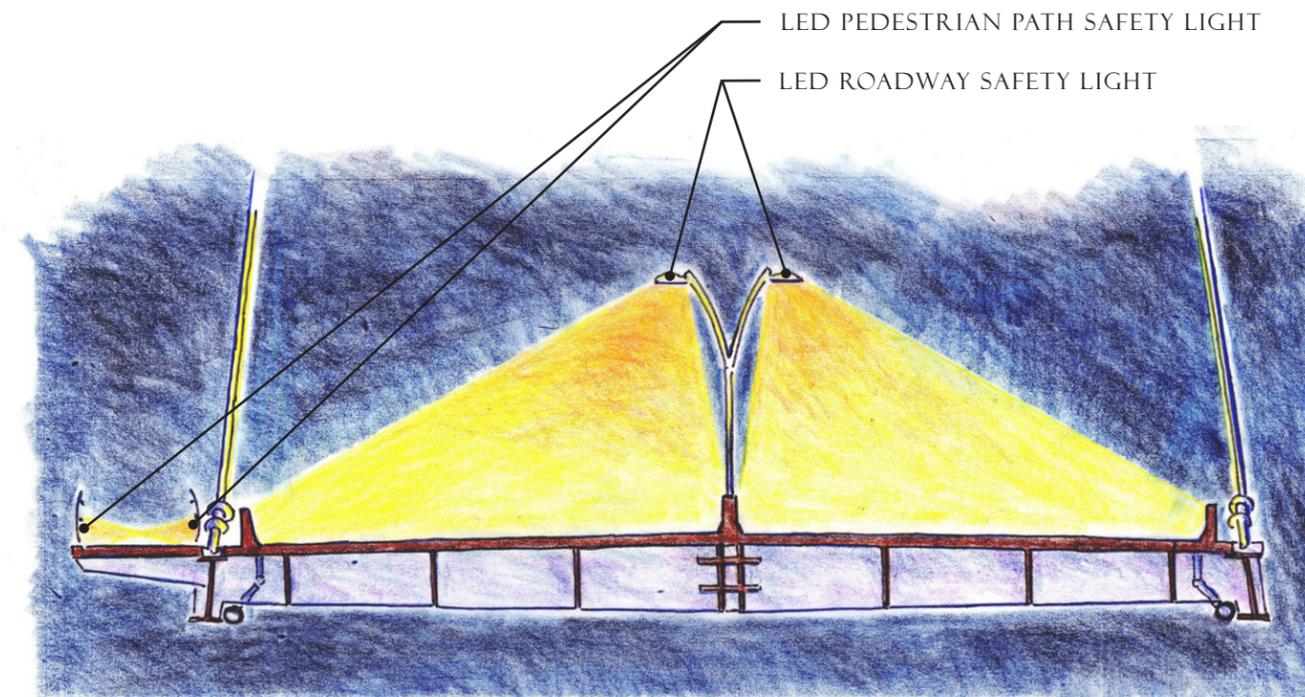
The roadway of the East End Bridge is the main horizontal element that rises above the Kentucky shoreline, soars over the Ohio River, and touches down on top of the limestone bluffs along the Indiana shoreline. Connecting the approaches, abutments, piers, and towers, the roadway creates a new, modern topographic datum in the area's landscape. The roadway itself is actually composed of numerous elements: beams and girders supporting a concrete deck with auto barriers, roadway lighting, signage, and the pedestrian path on top.

The gentle rise of the roadway over the river mimics the gradual rise of the shore on the Kentucky side of the river. The overwhelmingly horizontal nature of the roadway's form fits in well with the area's numerous natural horizontal forms, such as the surface of the river, the layered limestone outcroppings, and flat-topped bluffs overlooking the river. The thin form of the roadway and the optimized shapes

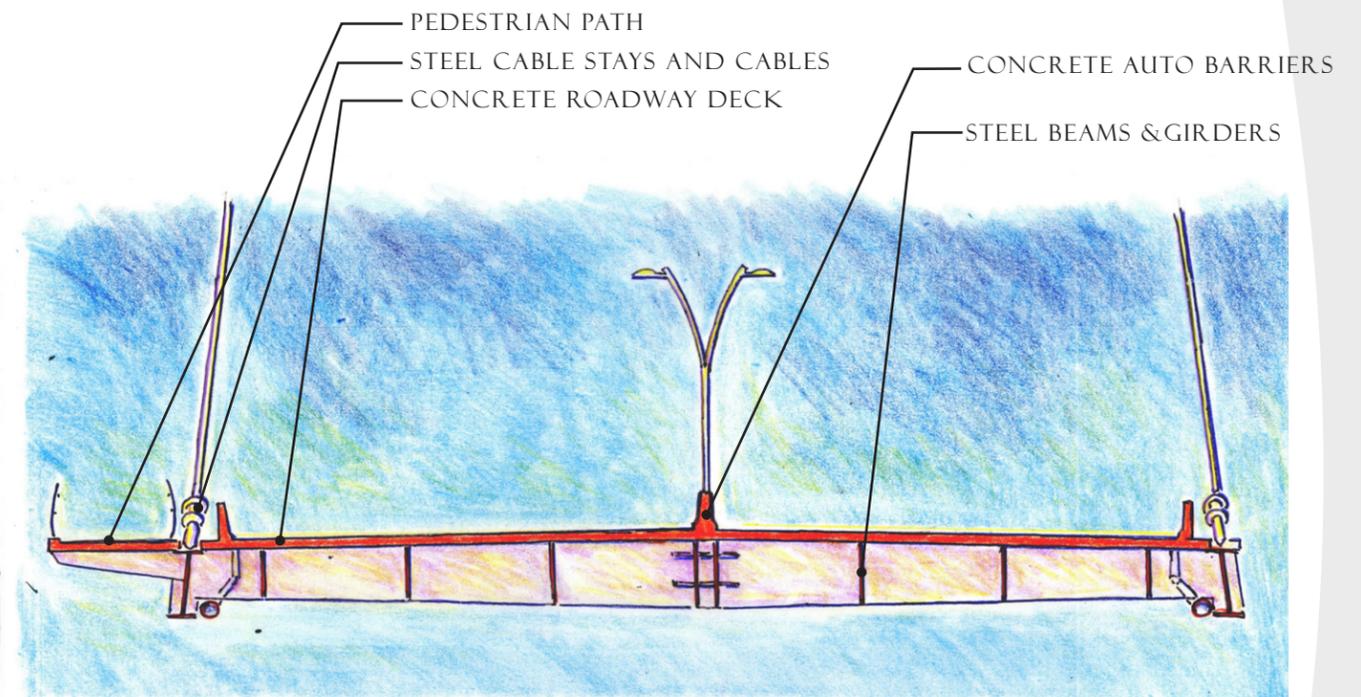
of its components are the minimum size necessary for safety and durability in order to lessen the impact of the roadway on the visibility of the surroundings. The elements that must extend beyond the compact section of the roadway because of their function are made of organic forms to blend in with the natural landscape. For example, roadway safety lighting is provided by curved vertical poles in the middle of the roadway, mirroring the gentle leaning growth of the mature trees along the shoreline.

In order to minimize the impact of night lighting on the nocturnal river environment, the roadway safety lighting is spaced at the maximum safe distance between lights. Highly efficient LED lights are used in the safety lighting to provide a low maintenance, classic white light level using the least amount of energy. The roadway lighting will be mounted in the center of the roadway in order to be focused entirely on the driving surface preventing the excess escape of light intrusively flooding down on the river.

The composite roadway is made up of a series of material layers: steel for the beams and girders, concrete for the deck and barriers, and metal for the roadway lighting, cable stays, and pedestrian path barriers and lighting. These horizontal layers not only mimic the horizontal layers in the environment, they also correspond with the horizontal nature of the local building vernacular of stacked limestone walls. The natural alternating colors of limestone and mortar in the walls that mark the area's gateways are reflected in the alternating natural tones of the weathering steel structure, uncoated concrete deck and barriers, and warm gray metal elements above the deck.



ROADWAY LIGHTING



ROADWAY AUTO COMPONENTS

2.3 PIERS

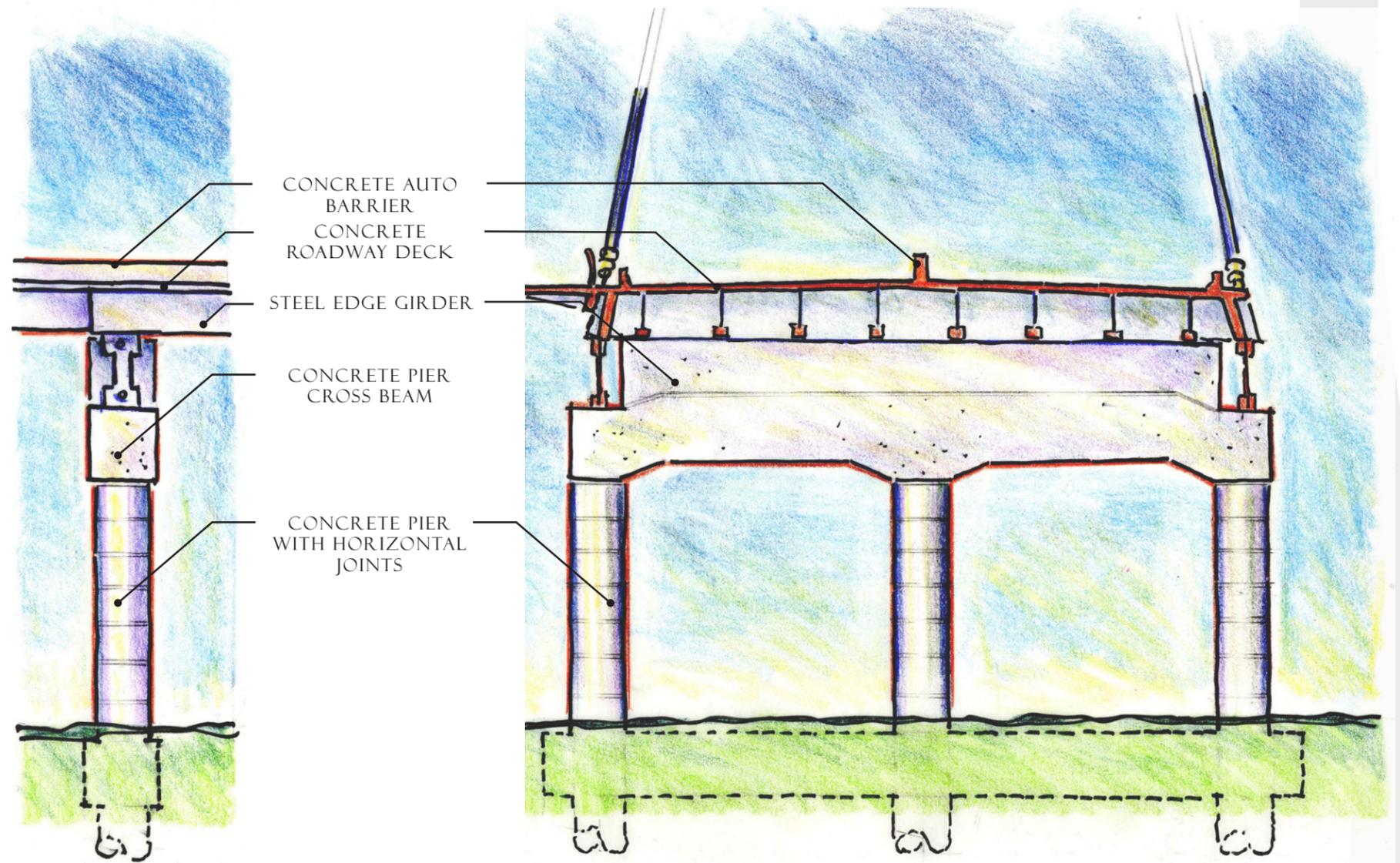
The piers and other similar substructure elements of the overall bridge are designed to work cohesively with the architectural vocabulary set by the other bridge elements. The pier design puts emphasis on structural efficiency and openness in order to minimize the number of piers and their visual impact to the landscape.

The piers include round column structures to not only correspond with the curvilinear vocabulary of the superstructure elements, but also to mimic the shape of the surrounding trees, tall and slender, and to provide maximum strength using the most naturally efficient section. This approach minimizes the material used while lessening view obstruction for people on the shoreline or on the river. In order to assimilate to the natural colors and textures of the surrounding natural landscape, the piers are made of plain uncoated architectural concrete marked with horizontal joints. These score lines help create a human-scale for the piers, also relating them to the horizontal stacking effect seen in the natural limestone walls of the surrounding context.

The cross beams that span over the tops of the piers are designed with an angular rock-cut shape to create a cohesive connection with the angular edge girders and roadway deck above. A score joint is introduced halfway up in the beam to help break up the mass of the beam. Simple and efficient, these cross beams minimize their overall size to understate their impact.

Due to the overall efficiency of the East End Bridge design, all of the piers will be on land. This will enable the local vegetation and landscape additions to grow up around them and mask their presence, further lessening their visual impact.

There is no aesthetic lighting for the piers to keep the natural light levels low near the river shorelines. These are active areas for nocturnal animals, which could be affected by too much artificial light. The shorelines are also dotted by residences, which should not be impacted by any unnecessary lighting.



LONGITUDINAL ELEVATION

TRANSVERSE ELEVATION

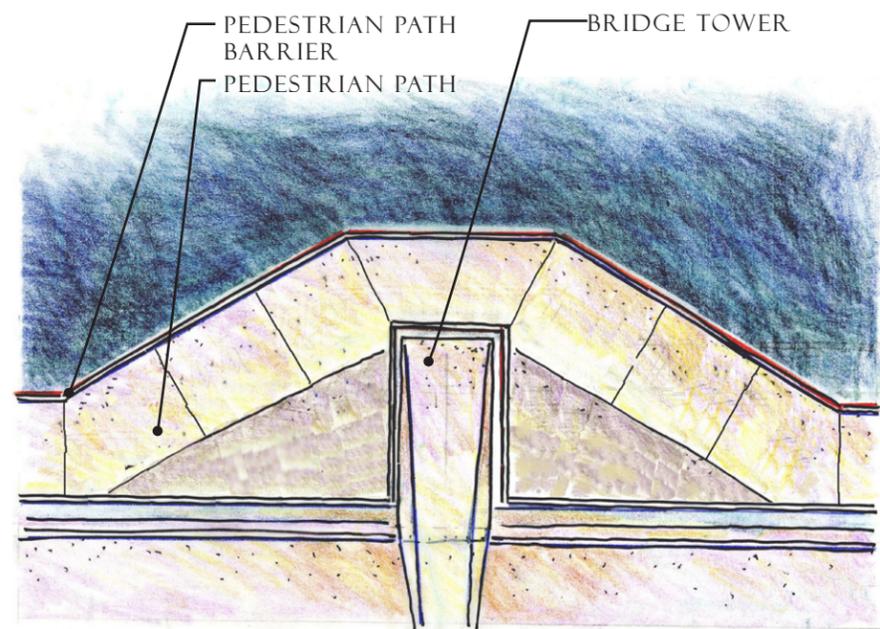
2.4 PEDESTRIAN AND BIKE PATH

The pedestrian path of the East End Bridge is a thirteen-foot wide portion of roadway which is cantilevered off of the main bridge deck along its the southern edge. The path is isolated from the vehicular lanes by a concrete auto barrier and a metal pedestrian barrier for safety reasons. For the majority of the bridge's main span crossing, the pedestrian path is additionally separated from the main roadway to make room for the cables and cable stays. The barriers along the path also feature a bicyclist rub rail and a pedestrian handrail to ease the long crossing and to help provide areas to relax and enjoy the unique views.

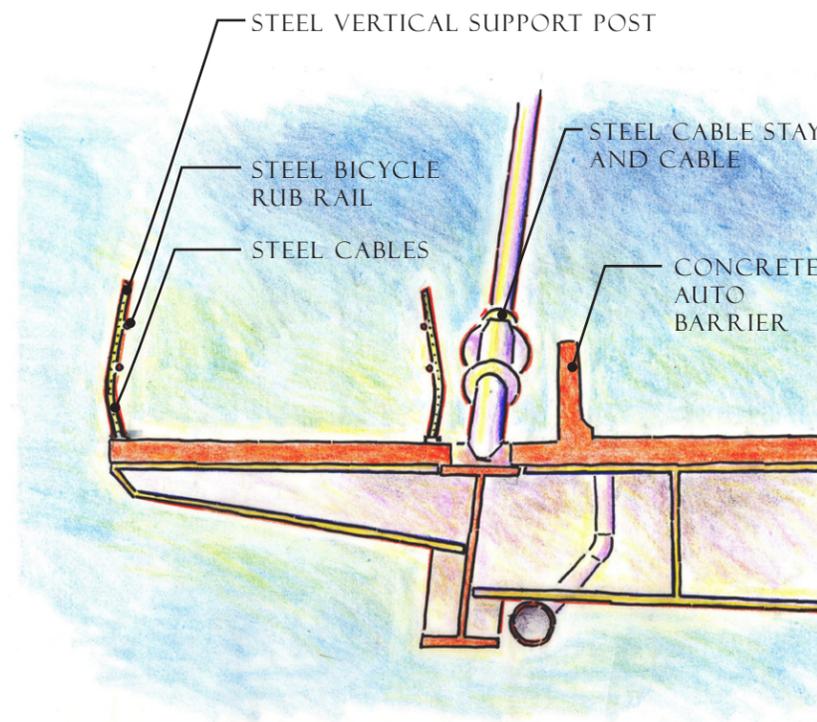
The elements comprising the pedestrian path are intentionally sized and spaced for maximum safety, visibility, and an enjoyable user experience. A majority of the pedestrian path elements are horizontal elements, including the barrier cables, the bicycle rub rails, and the handrails. These elements further emphasize the bridge's horizontal aesthetic, which fits in with the natural surroundings and also minimizes the visual impact of the elements, helping to increase visual transparency. The vertical posts of the pedestrian barrier are the only vertical elements and are shaped to follow the curvilinear vocabulary of other bridge elements, such as the roadway lighting poles. These vertical elements are efficiently spaced along the entire path to create a sense of progression for bicyclists and pedestrians across the bridge without being too prevalent that they visually stack

up to obstruct the view of the higher-speed drivers. The pavement of the path also has differentiated bands spaced along the crossing to contribute to the sense of movement over the bridge and also to visually indicate the more generous portions of the path at the tower legs where users may stop and enjoy the views.

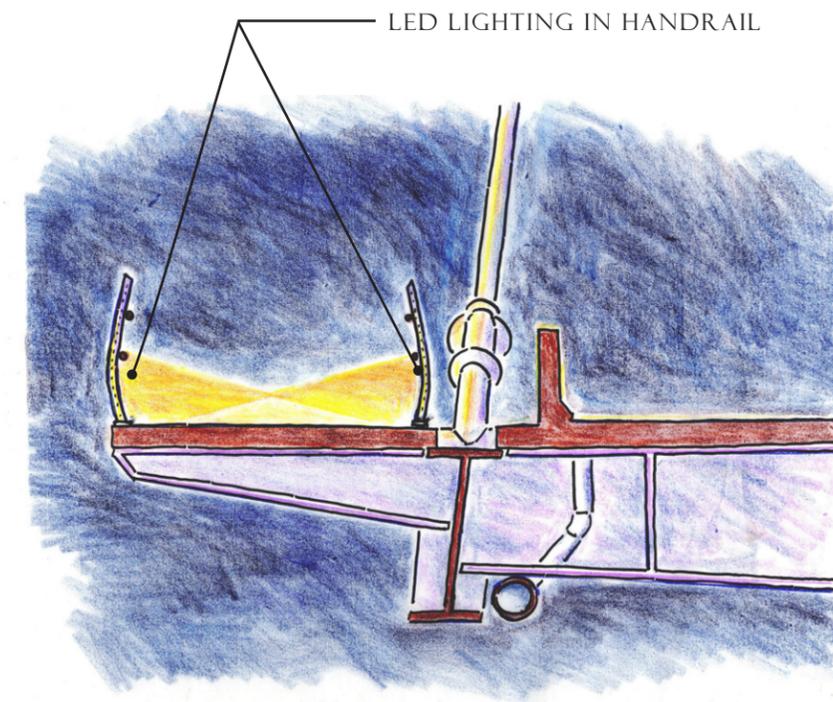
To prevent light pollution in the nocturnal river environment, the pedestrian path safety lighting is located in the handrails and focused on the pathway directly below. This lighting system lights up the pathway without adding extra light to the night's sky or to the water below. In order to provide a low maintenance, classic white light level, highly efficient LED lights are used. These lights use the least amount of energy to provide the required lighting levels, further lessen the impact on the environment.



PAVEMENT PATTERN AT TOWER



SAFETY BARRIER AND FENCING



SAFETY PATH LIGHTING

3.0 STRUCTURES OF THE KENTUCKY APPROACH

The primary structures of the Kentucky Approach (Section 4) to the Ohio River East End Bridge crossing are bridges and tunnel portals: Wolf Pen Branch Road Bridge, Ramp A and Harrods Creek Bridge. North and South Portals of the new Drumanard Tunnel are also significantly visible structures in the roadway corridor. Roadway retaining, barrier and sound walls are also structures but will be presented in Section 6.

3.1 BRIDGES

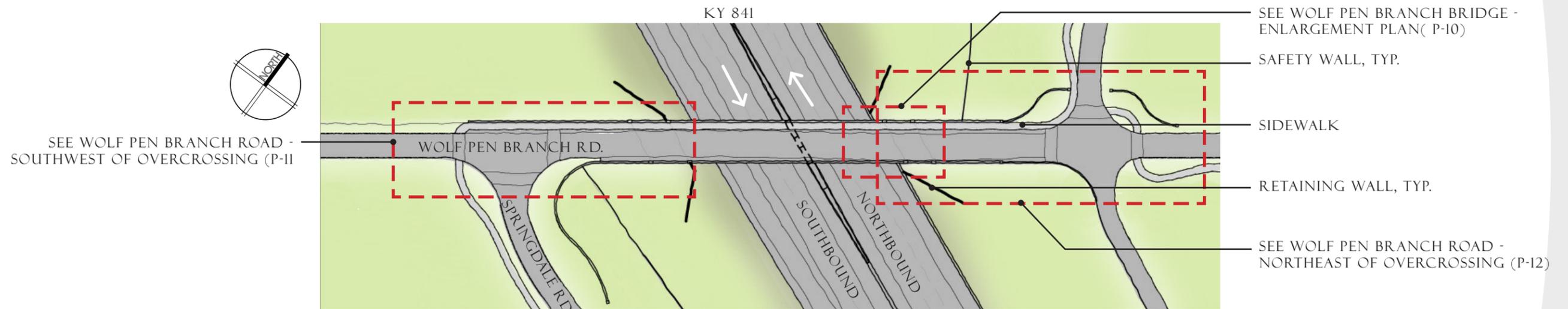
The bridge structures vary in size and function but they will have a unified aesthetic treatment. Inspired by native stone indigenous to the area and identified as "creekstone" in the RID, the surfaces will have a faux stone finish. In some locations this finish is created through formliner and in others through hand tooled texture and coloring techniques.

Wolf Pen Branch Road Bridge crossing will be a reversal of its existing condition as an "at grade" road that crosses under the existing highway; it will become an elevated bridge crossing over the new alignment. Because it is a connection between the residential communities in the Wolf Pen Branch neighborhood and the historic Allison-Barrickman House, the aesthetic qualities of the new bridge will be of a scale and quality that integrates well with the local vernacular. The faux stone finish, pilasters and metal fencing are scaled and colored to resemble the homes in these historic neighborhoods. Decorative post mounted lights enhance both safety and aesthetics. The Wolf Pen Branch Road crossing is thoughtfully integrated into the existing roadway and surrounding landscape through the use of screen walls, decorative fencing and enhanced pavement. The design details are reflected in the exhibits on pages 9 through 15.

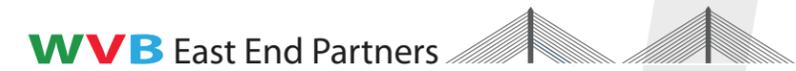
Ramp A is an offramp from the KY 841, but because it is a significant structure and visually prominent to vehicular travelers, it warrants enhanced aesthetic treatments that are cohesive with other bridge structures, roadway walls and barriers, and the South Portal in the distance. The ramp is supported by a combination of native rock cuts, shotcrete and cast in place concrete. The ramp has a

continuous barrier wall and short bridge span as it approaches the tunnel portal wall. Each of these concrete surfaces will receive a faux stone finish that matches the surfaces of the tunnel portal walls and adjacent retaining walls. The design details are reflected in the exhibits on pages 19 through 22.

Harrods Creek Bridge crosses Harrods Creek, a recreational waterway, and will be highly visible from the Harrods Creek residential community, Marina and river, and River Road. Special consideration is given to the underside design aesthetics as well as the upper bridge structure. The Bridge does not have a pedestrian walkway so the scale of its lighting and design of its parapet/barrier will be somewhat simple. The architectural surface treatments will be consistent with the other bridge structures of the Kentucky approach and include a faux stone barrier wall and cap, enhanced piers and faux columns where the abutment walls meet the roadway grade. Wood guard rails are located along River Road under the bridge to soften the visual impact to the adjacent Harrods Creek. The design details are reflected in the exhibits on pages 16 through 18.



WOLF PEN BRANCH BRIDGE - KEY MAP



3.1.1 PIER DETAILS

Piers present an opportunity for applying facing textures and edge accents from the palette of materials chosen for East End Crossing aesthetic treatments and materials. Wolf Pen Branch and Harrods Creek Bridges concrete bents and columns will receive stain or paint color that will match the color tone of the faux stone used on other surfaces of the bridge. A square column base with the signature "creekstone" formliner pattern, and smooth accent color base cap, will help anchor the pier and tie it into the parapet and abutments. For the rectangular pier columns, the same faux stone texturing will be applied to the wide face of the column. The textured field pattern will be framed by smooth, light colored concrete edges with reveals. The columns will also be anchored with a base wall with the same color and reveals as the column edges.

3.1.2 PARAPET DETAILS

The parapet walls of all three of the Kentucky Approach bridges will be textured with the signature "creekstone" formliner pattern. The parapet walls will have smooth light colored wall caps.

3.1.3 FENCING

Wolf Pen Branch Bridge will be the only bridge of the Kentucky Approach with ornamental fencing atop the parapet, because it has a pedestrian walkway. The fencing will be ornamental metal with historical styling, painted black, to reference historical estates in the area.

3.1.4 TEXTURE AND COLOR

Architectural Concrete Textures – The "creekstone" texture and pattern concrete formliner is the signature aesthetic enhancement for a full range of vertical surfacing locations. It is used not only on the bridges but also on retaining and barrier walls. This finish reflects the design recommendation in the RID for a native stone vernacular and will be a unifying aesthetic through the Kentucky corridor (Section 4).

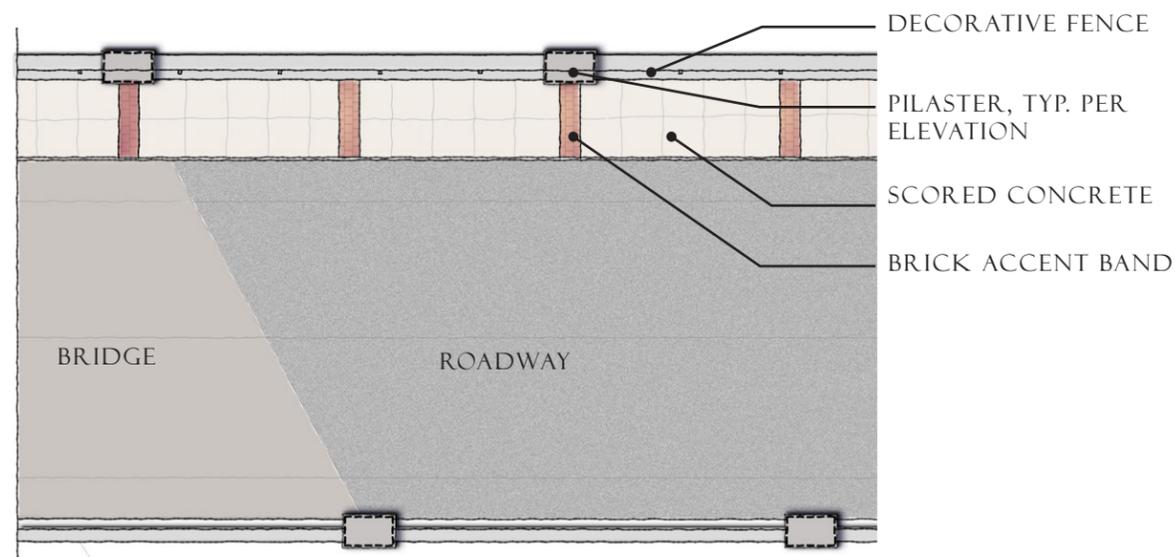
Concrete Stains and Paints – Color will be applied to the concrete formliner textured surface and in some instances under the bridge superstructure on the concrete of the girder structure. For

the "creekstone" textured formliner, the color will mimic the native Kentucky "creekstone", which is a mottled blend of color in the gray/golden/tan/brown range. These colors are to be applied as stain onto the textured concrete surfaces after they have been placed. On painted girders such as Wolf Pen Branch Bridge, the color will be a dark brown in order to de-emphasize the structural member and blend in better with the surroundings.

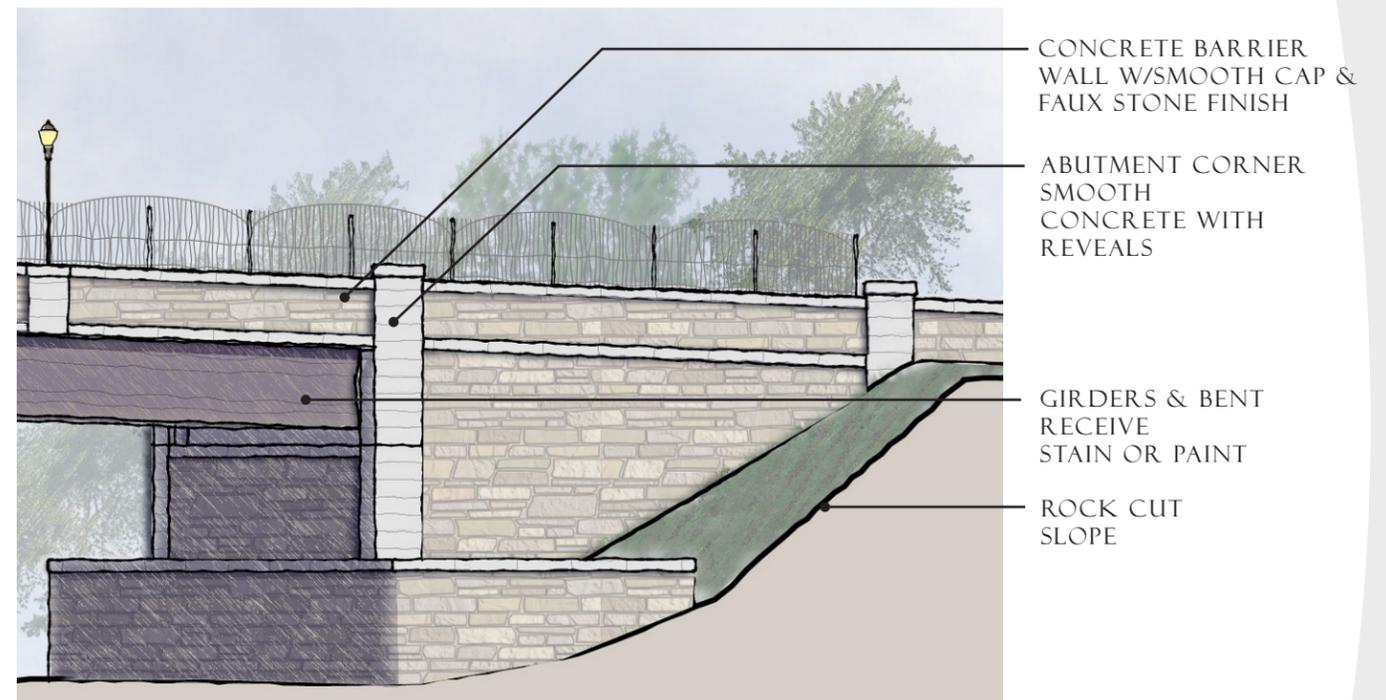
Architectural Surface Finishes – Accent banding, edging and wallcaps will be a smooth, light gray colored or natural concrete to appear as cut stone.

Painted Steel Surfaces – Steel components, such as light poles and signage structure posts will be of a dark brown color in order to blend better with the natural surroundings and avoid vertical visual clutter.

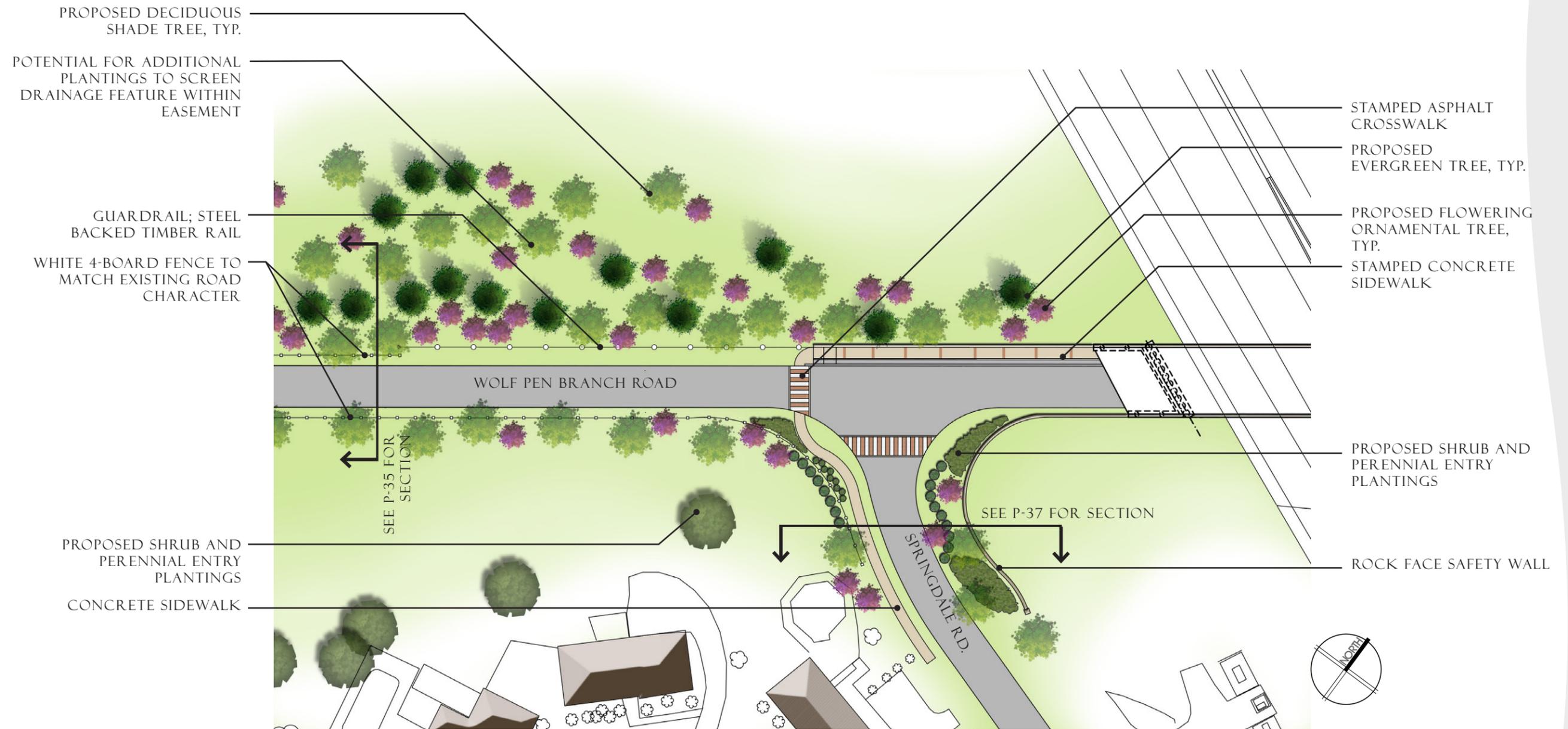
Unpainted Steel Surfaces – guardrails and steel bridge girders, such as at Harrods Creek and Ramp A will be weathered steel, which is a rustic surface favored by the community.



WOLF PEN BRANCH BRIDGE - ENLARGEMENT PLAN



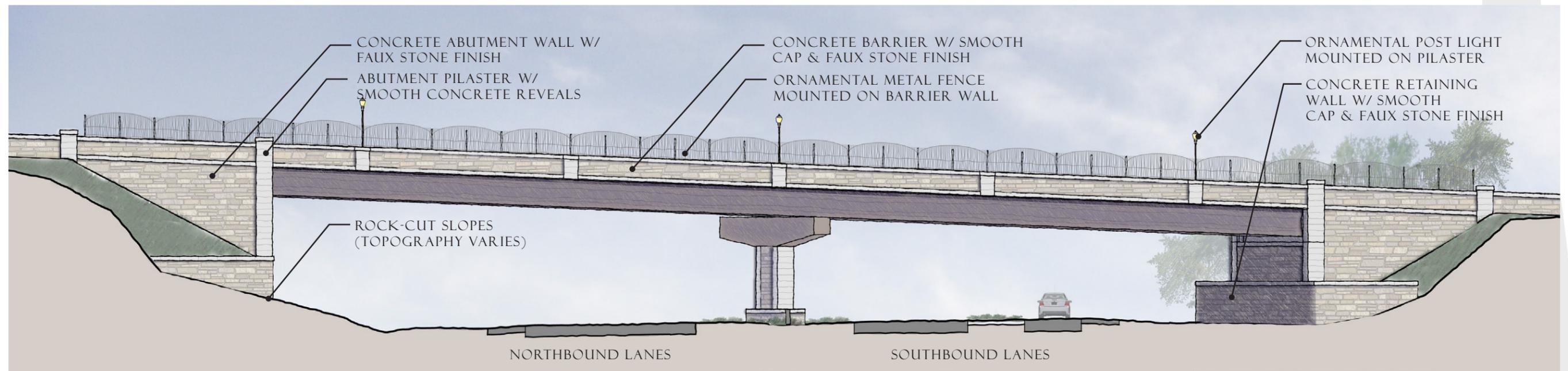
WOLF PEN BRANCH BRIDGE - ENLARGEMENT ELEVATION



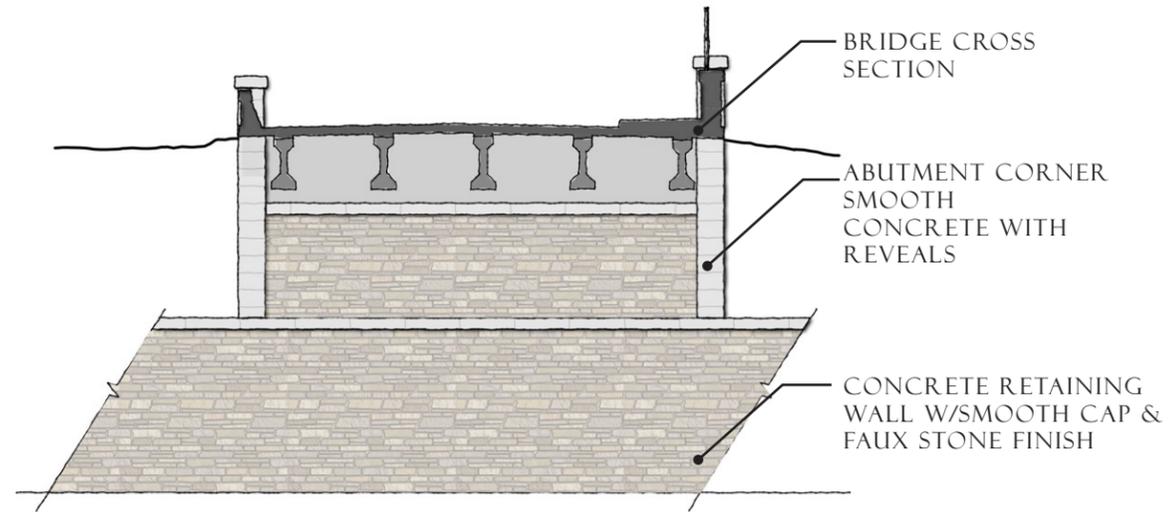
WOLF PEN BRANCH ROAD - SOUTHWEST OF OVERCROSSING



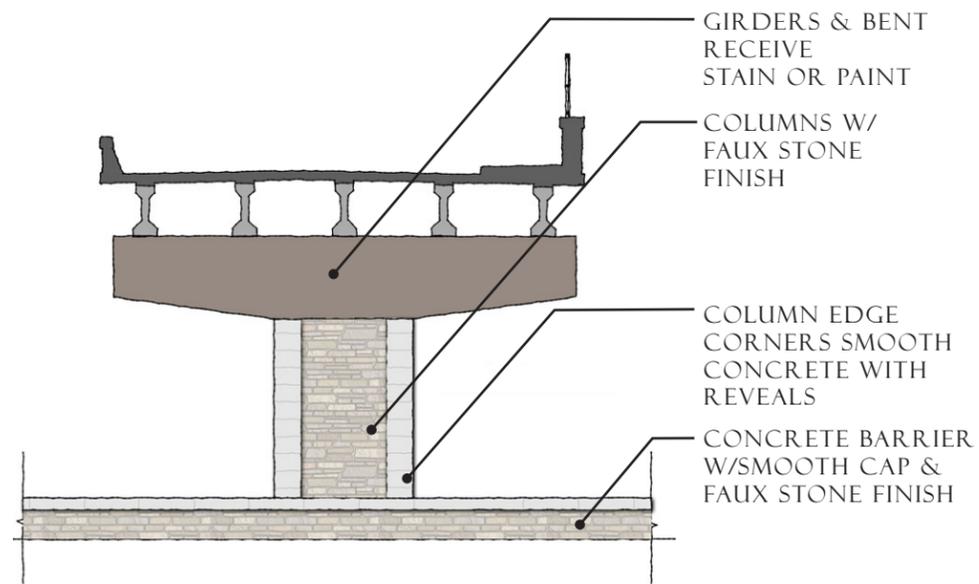
WOLF PEN BRANCH ROAD - NORTHEAST OF OVERCROSSING



WOLF PEN BRANCH BRIDGE - NORTH ELEVATION



WOLF PEN BRANCH BRIDGE -
ABUTMENT ELEVATION



WOLF PEN BRANCH BRIDGE -
PIER ELEVATION



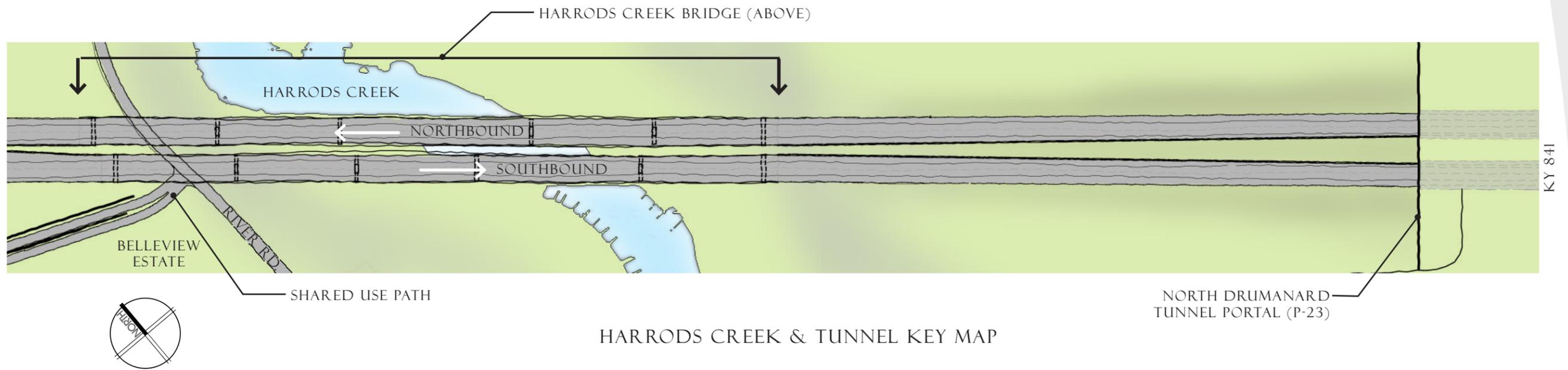
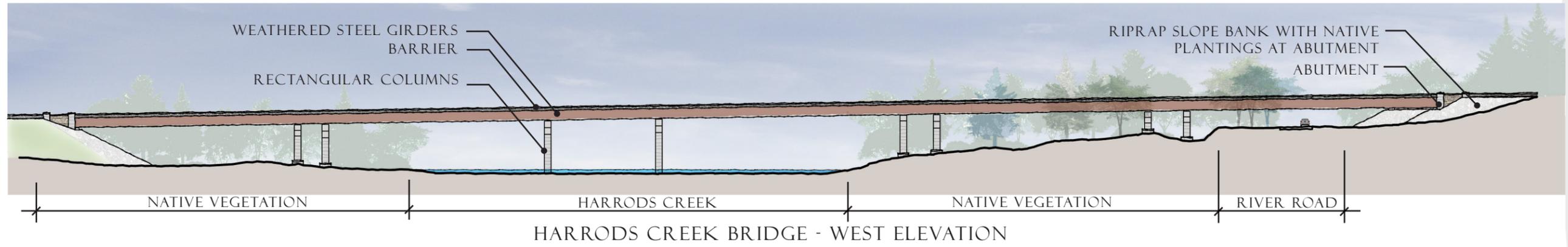
WOLF PEN BRANCH BRIDGE -
DECORATIVE BARRIER WALL

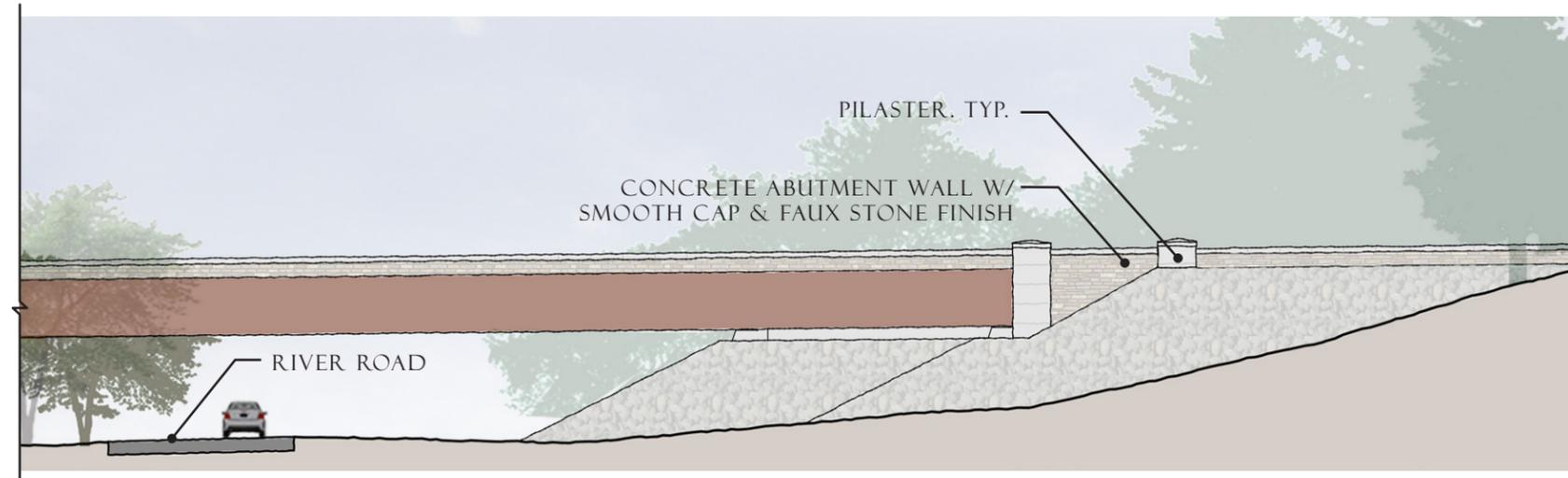


WOLF PEN BRANCH ROAD - LOOKING WEST

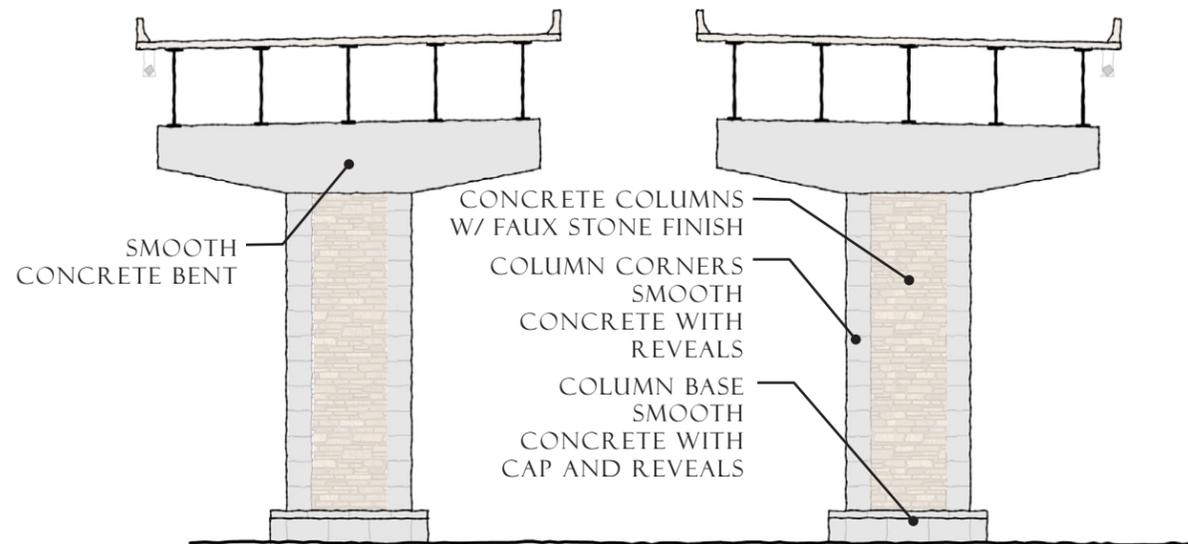
The Wolf Pen Branch Road Bridge overcrossing will provide a new, enhanced connection, both vehicular and pedestrian, between the residential communities in the Wolf Pen Branch neighborhood. The aesthetic qualities of the new bridge will be of a scale that integrates well with the local vernacular. Architectural finishes for bridge and abutment walls will have "creekstone" concrete texturing and smooth accent edging. Ornamental fencing and lighting on the bridge deck reference historical estate character of the area.



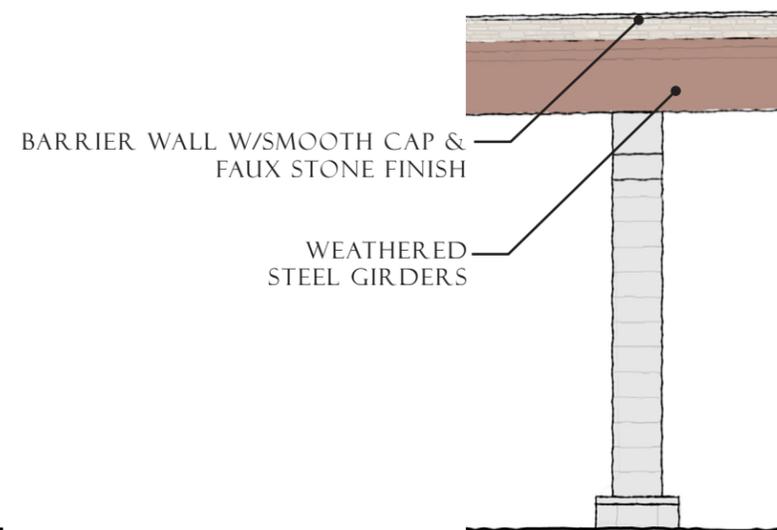




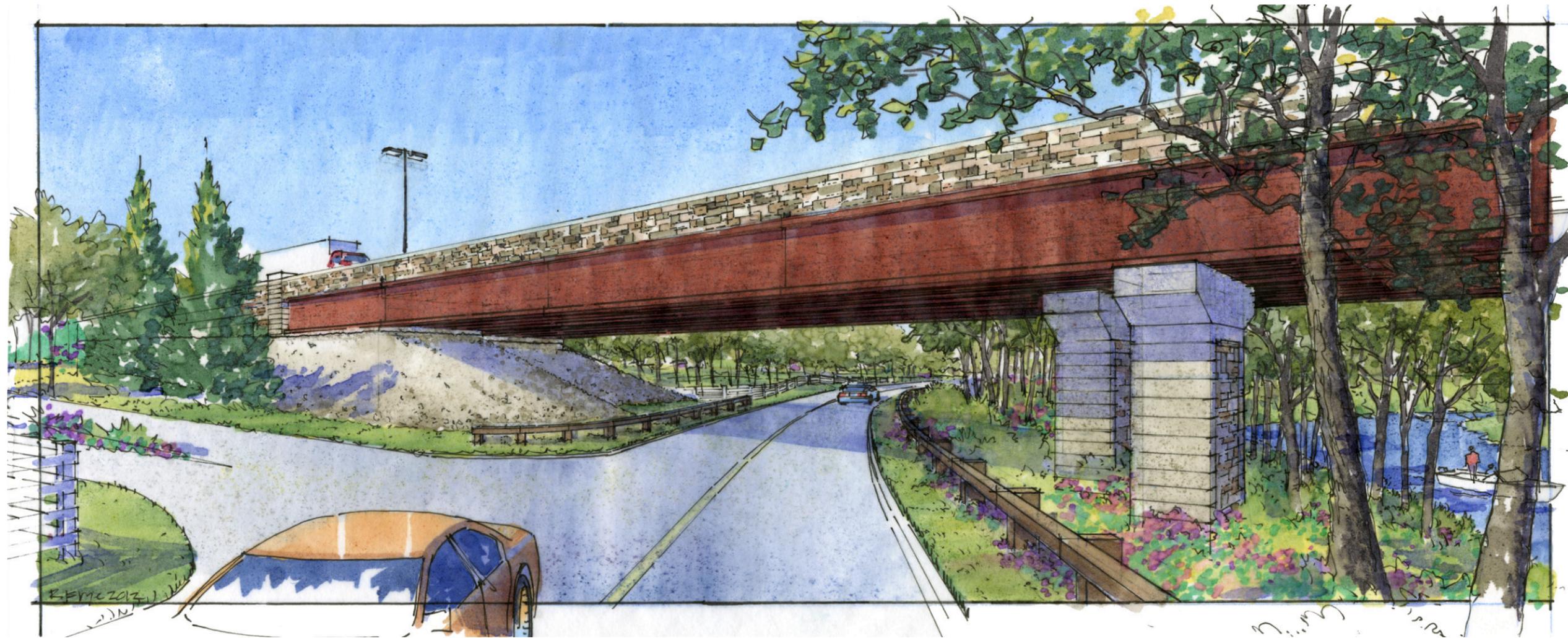
HARRODS CREEK BRIDGE - ABUTMENT ENLARGEMENT



HARRODS CREEK BRIDGE - COLUMN FRONT ELEVATION



HARRODS CREEK BRIDGE - COLUMN SIDE ELEVATION



HARRODS CREEK BRIDGE - VIEWED FROM RIVER ROAD

The shared use path merges with the River Road adjacent to the bridge abutment. Bridge abutments, parapet walls and pier column faces will be textured with "creekstone" formliner pattern. Pier column and abutment wall will have smooth concrete borders bands and edges that resemble cut stone. Weathered steel bridge girders and wood guardrails blend well into the natural earth tone color palette.

HARRODS CREEK BRIDGE

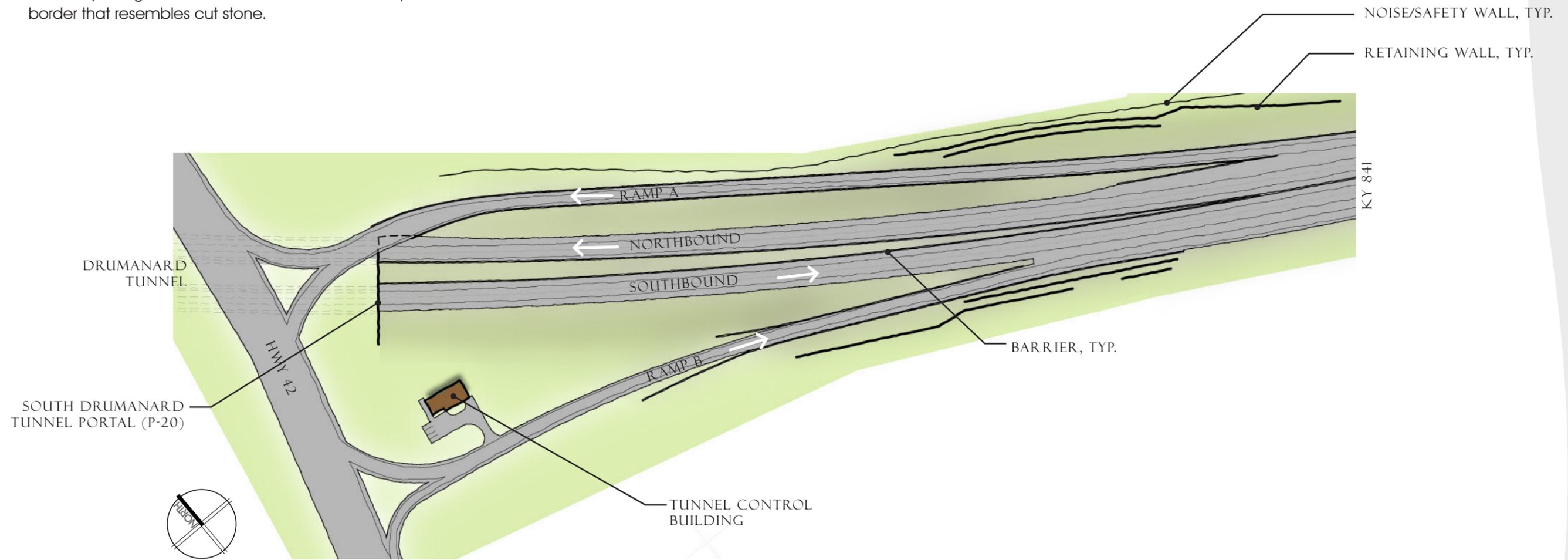
WVB East End Partners



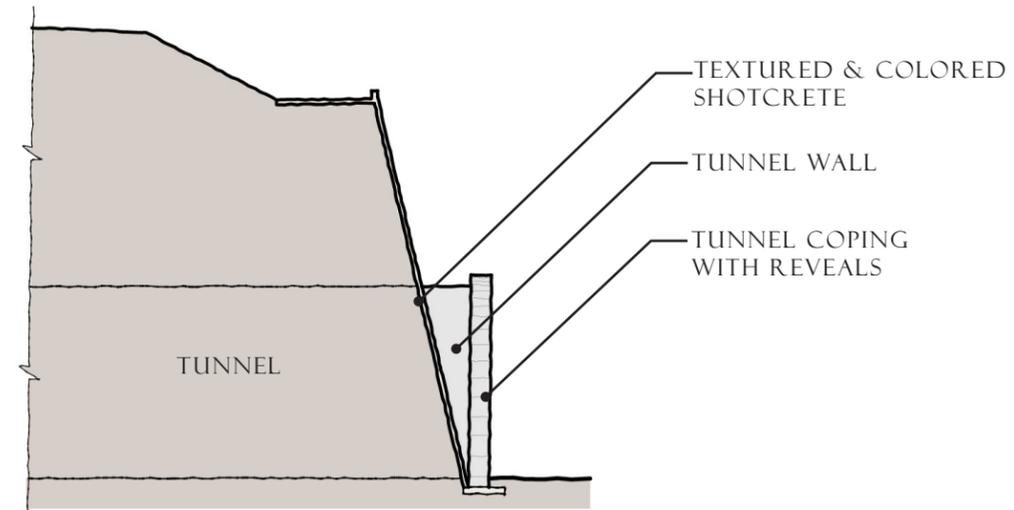
3.2 DRUMANARD TUNNEL

3.2.1 PORTALS

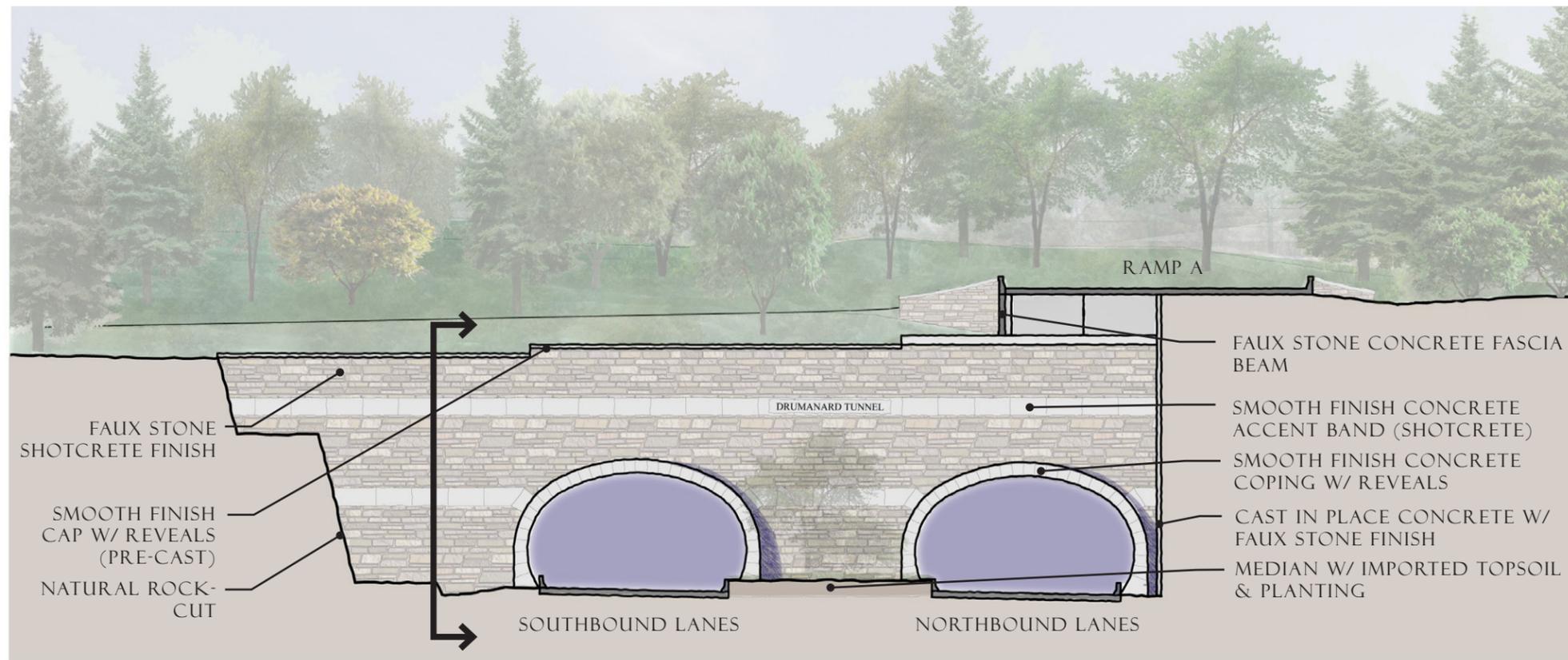
The cut rock faces of the portals will be stabilized with a shotcrete application. The shotcrete will be hand carved and stained to mimic the natural "creekstone" pattern used throughout the corridor. The carved stone pattern will be of a larger scale than the formliner applications used on bridges and walls, due to the massiveness of the portal face. Accent banding across the face will be smooth troweled light gray or natural concrete to resemble cut stone. The tunnel openings will be enhanced with cast in place concrete border that resembles cut stone.



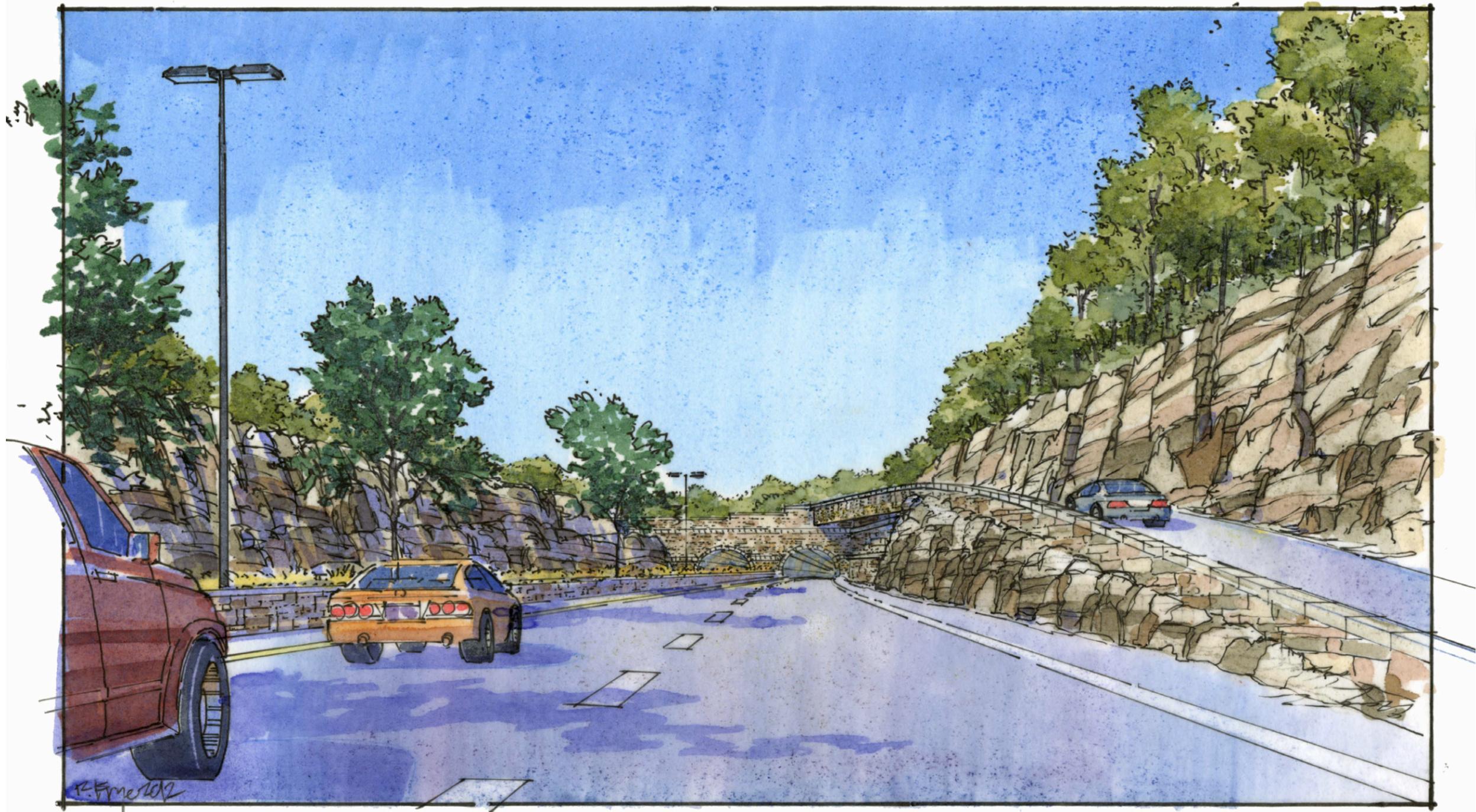
RAMP A & SOUTH DRUMANARD TUNNEL PORTAL - KEY MAP



SOUTH TUNNEL PORTAL - CROSS SECTION

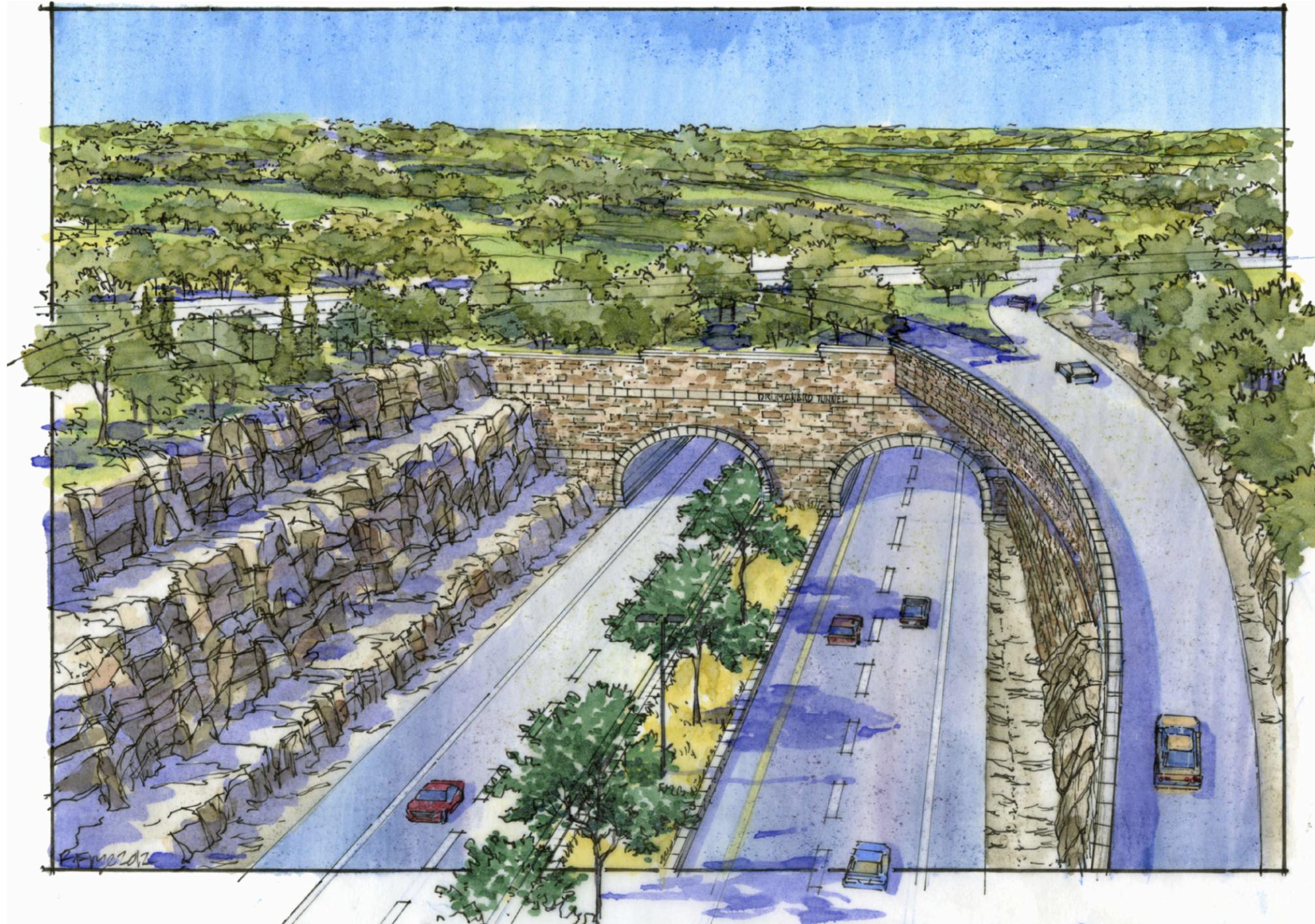


SOUTH TUNNEL PORTAL - WALL ELEVATION



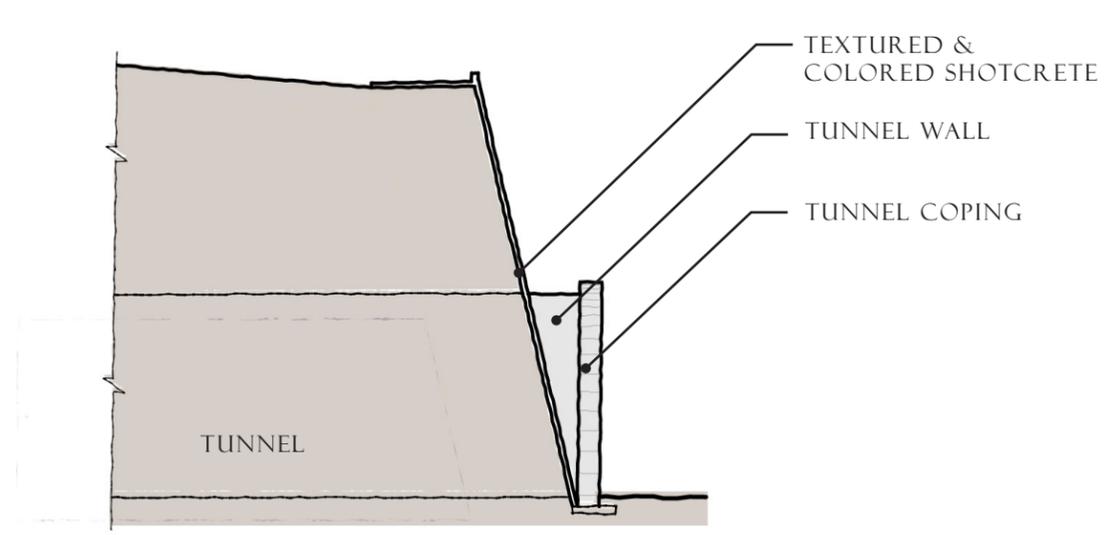
RAMP A BRIDGE - APPROACHING TUNNEL NORTHBOUND

Ramp A is a sweeping off ramp structure and visually prominent therefore it warrants enhanced aesthetic treatments that are cohesive with other the bridge structures, roadway walls and barriers, and the South Portal in the distance. "Creekstone" textured barriers and retaining walls will blend in with the overall roadway aesthetics.

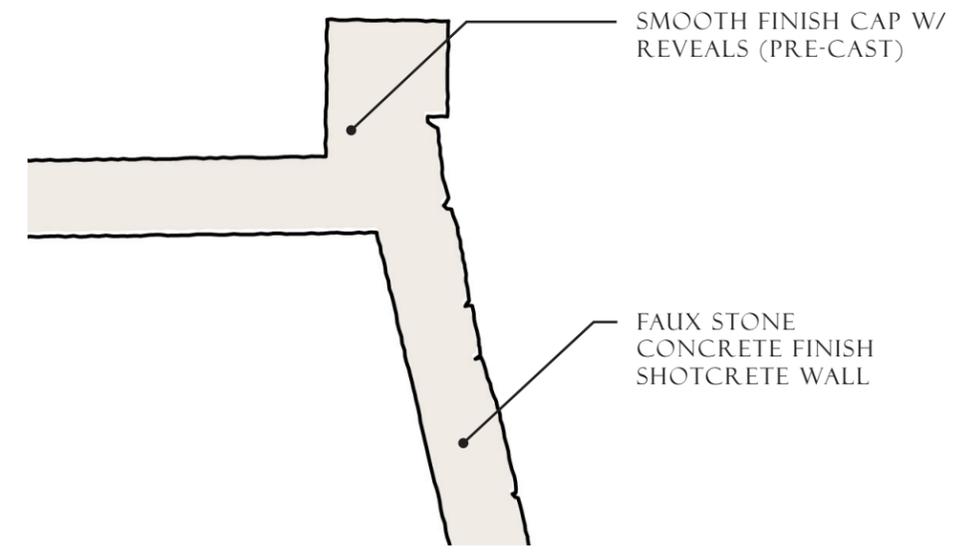


SOUTH TUNNEL PORTAL - LOOKING NORTH

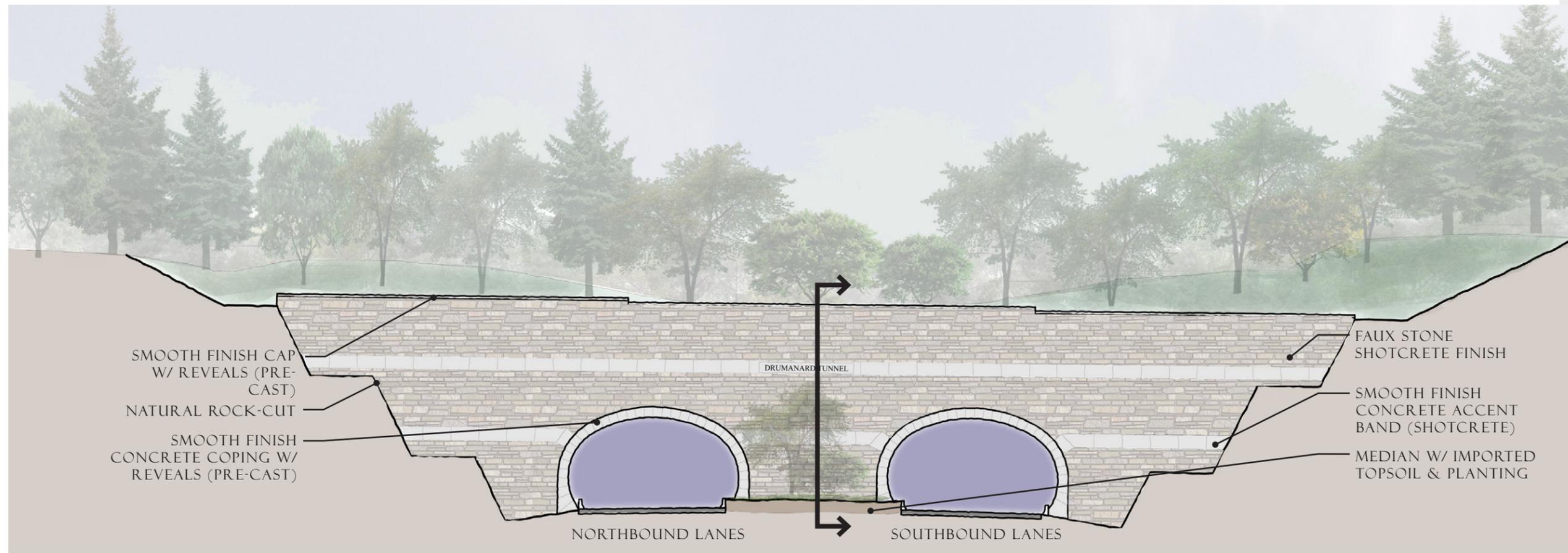
The tunnel portal facade will be enhanced with textured/carved shotcrete to appear as a naturalistic stone wall. Smooth concrete border accent bands around the portal opening and across the faux stone add architectural interest. Plantings at top of portal surrounds will screen the tunnel service building.



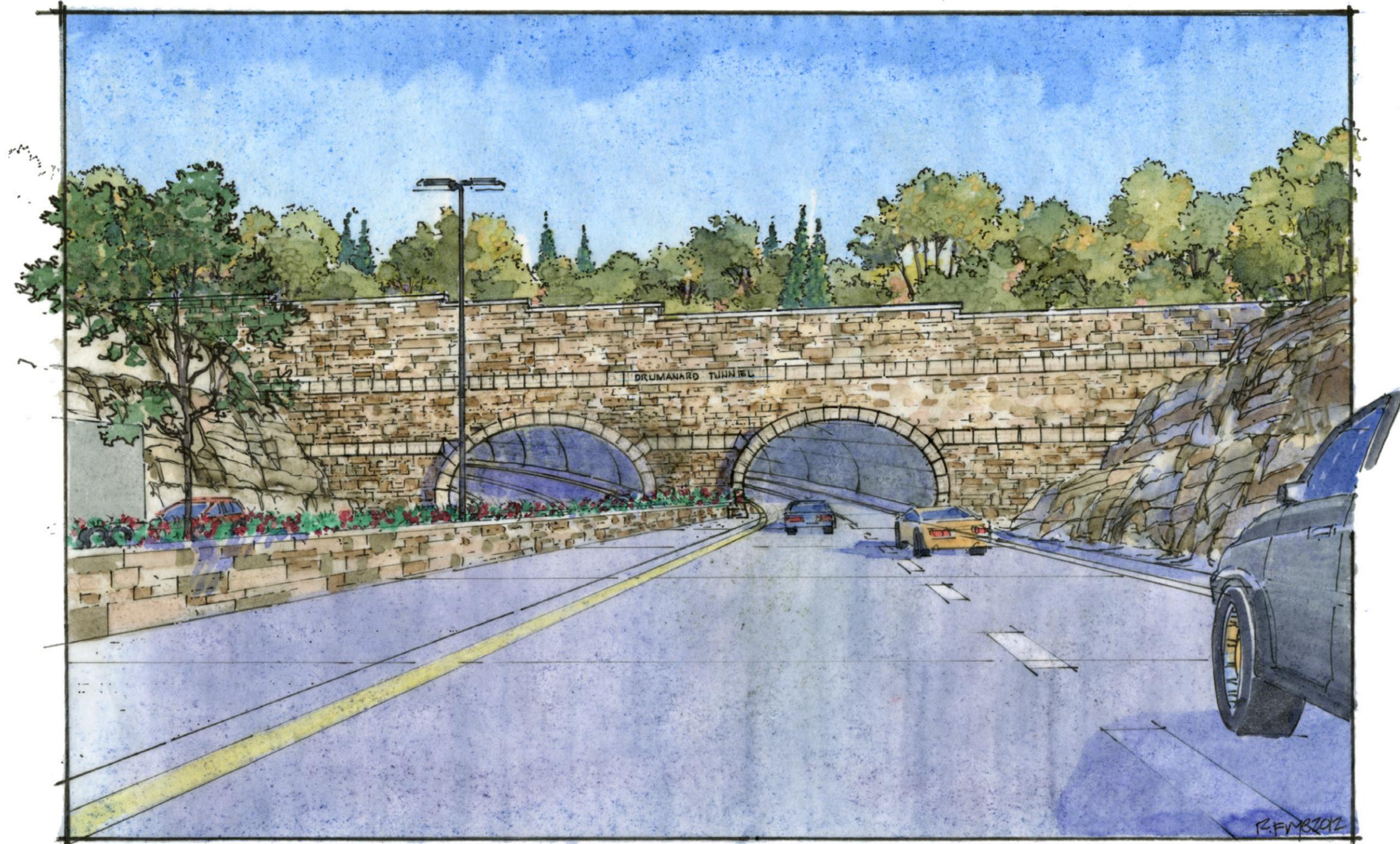
TUNNEL PORTAL - CROSS SECTION



NORTH TUNNEL PORTAL - WALL CAP DETAIL



NORTH TUNNEL PORTAL - WALL ELEVATION



NORTH TUNNEL PORTAL - LOOKING SOUTH

View of the North face of the portal and enhanced retaining walls and barrier wall. The faux stone tunnel portal facade blends with the barrier wall and surrounding native rock cuts.

3.3 TUNNEL INTERIOR

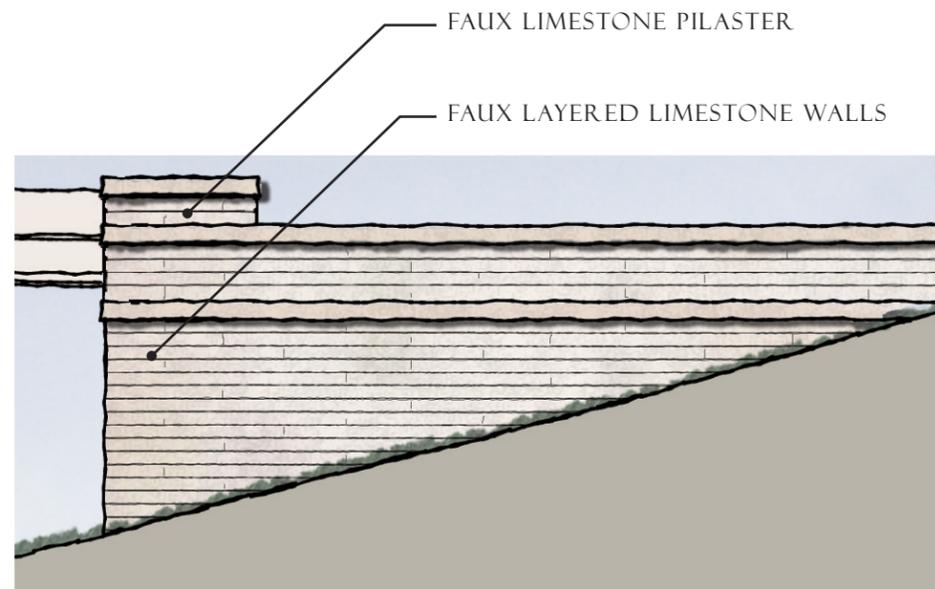
The interior finishes of the Drumanard Tunnel reflect the modern sophistication of the state of the art fire and life safety systems our design employs. Our selection of interior finishes are strongly influenced by safety, from our lighting design, selection and location of call/pull boxes, fire cabinets, safety railing, and selection and patterning of tile finishes. The interior walls of the Tunnel are treated with extensive white ceramic tile work providing high reflectivity, and accented with occasional black accent bands which provide a screened channel for the systems cable work. Light fixtures are oriented in pairs symmetrically around the crown of the tunnel, and evenly spaced typically 6 to 12 feet on center depending on the zone of the tunnel. The paired rows of lights together with the alternating rows of white and black tile and the continuous black decorative safety railing along the Safety and Maintenance walkways form a series of strong longitudinal lines that follow the alignment of the bores. The outcome is a simple, linear and bold contemporary design that accentuates the tunnel's graceful curves.



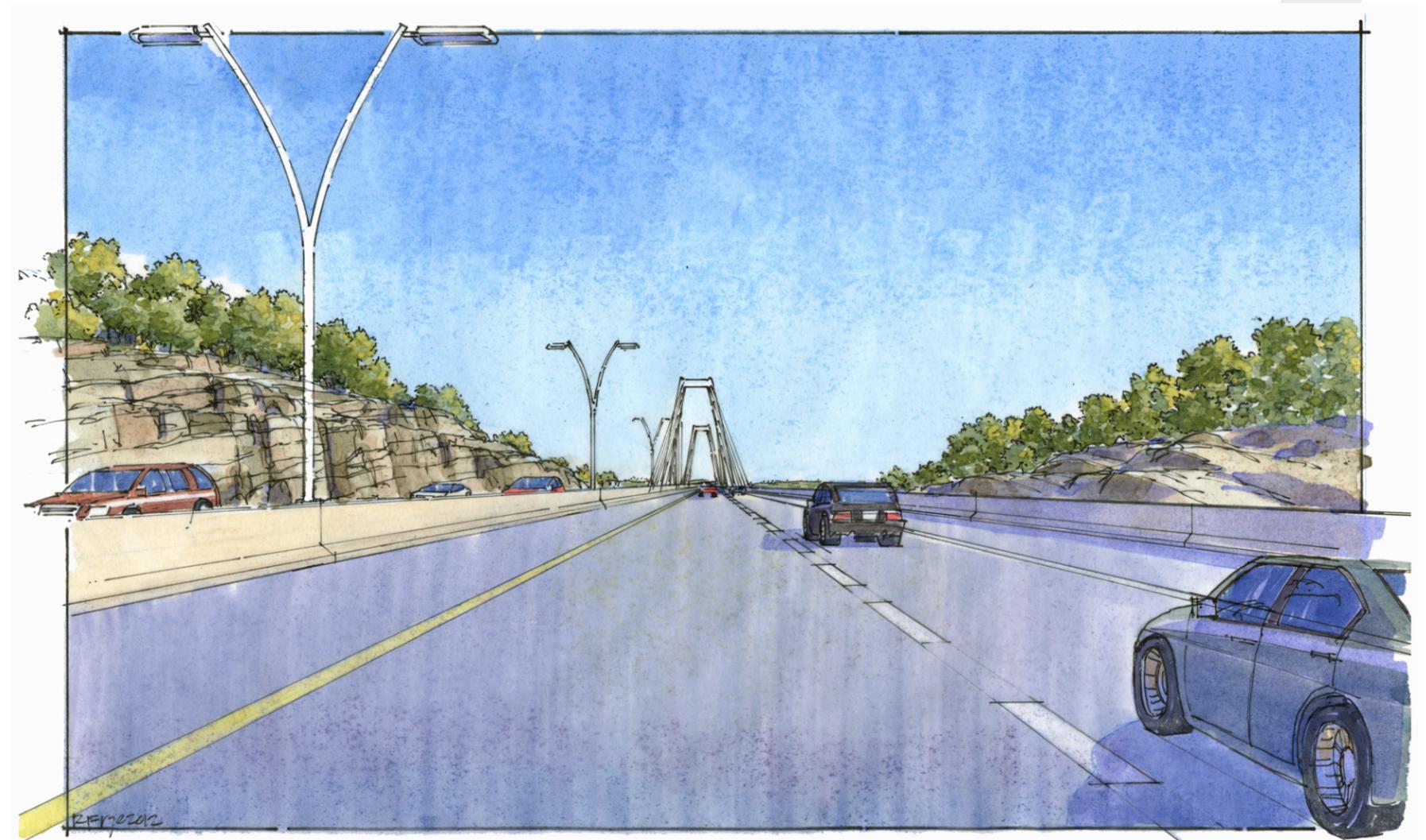
DRUMANARD TUNNEL - INTERIOR

4.0 STRUCTURES OF THE INDIANA APPROACH

Bridges in the Indiana Approach (Section 6) will be standard INDOT design. There is an opportunity to enhance these bridge structures similarly to the Kentucky Approach bridges with use of concrete formliner texturing and color on pier columns and parapet walls. In contrast to the "creekstone" formliner used in the Kentucky Approach, the enhancement of the Indiana bridge structures will use a layered limestone formliner which references the natural and quarried limestone outcroppings found in throughout Indiana. The layered limestone formliner will provide visual continuity with similar aesthetic treatments on the East End Bridge structure (Section 5). In some high visibility locations, the enhancements may include faux limestone finishes on piers, abutments, barriers, walls and related improvements. Faux pilasters could also be introduced in these locations similar to those provided on the Wolf Pen Branch Road Bridge.



TYPICAL BRIDGE AESTHETIC OF THE INDIANA APPROACH



THE INDIANA APPROACH - LOOKING TOWARD THE OHIO RIVER BRIDGE

This view shows the final stretch of road in Indiana before the Ohio River Bridge. Travelers will see the natural limestone rock slopes, decorative lighting, and the bold bridge towers ahead. . Reminiscent to entering a lime kiln, drivers on the bridge will have the memorable experience of the stacked concrete sections of the towers gradually arching up and over them as they cross the river.

5.0 CONTOUR GRADING.

THE KENTUCKY APPROACH (SECTION 4)

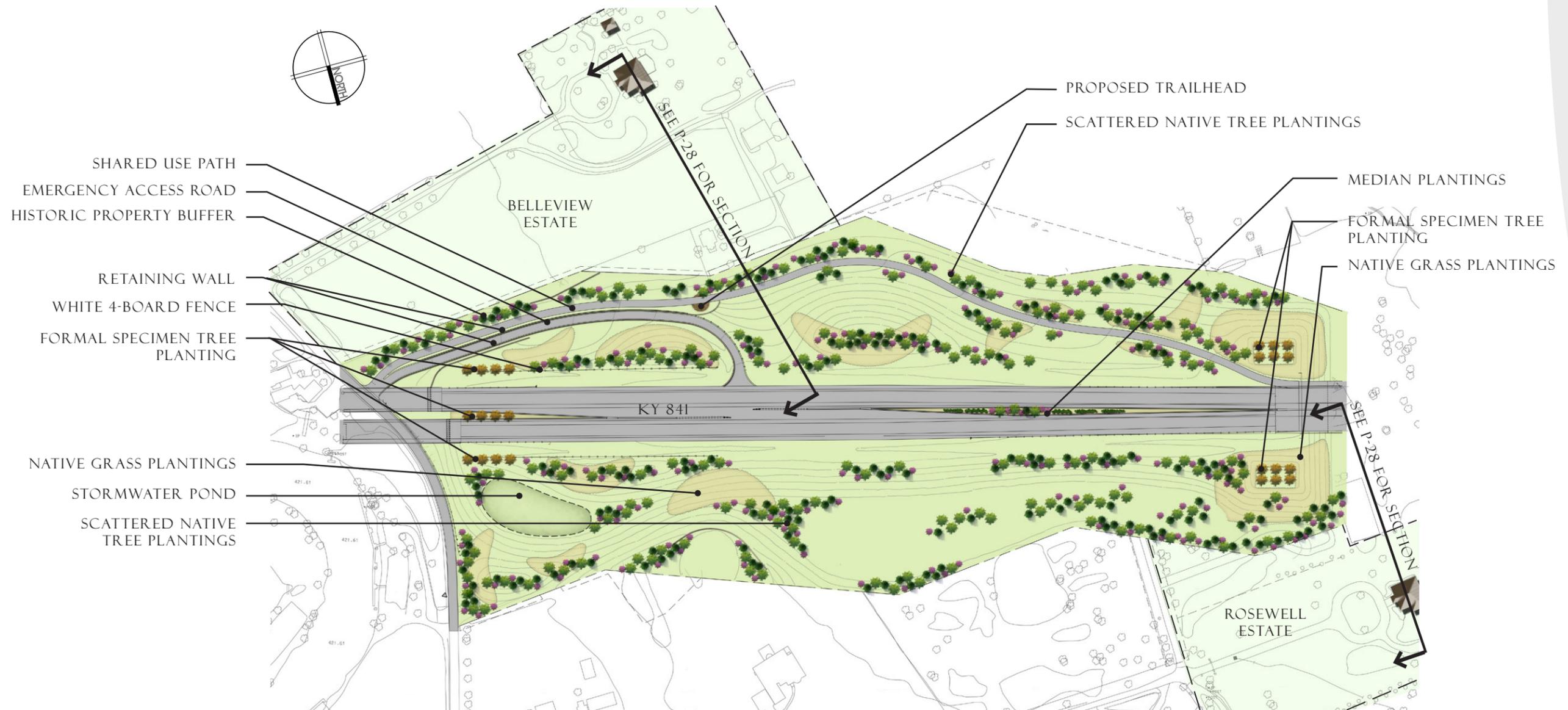
Contour grading will be a significant part of the landscape design solution for the Ohio River Terrace Character Area. This segment of the highway corridor will be a fill condition, with cut material generated from other areas of the site. A contouring solution that makes use of excess fill materials and allows for creative berming benefits the project from both a material cost savings and aesthetics perspective.

WVB's goal is to create natural looking slopes and landforms that will match the existing character of this area. By utilizing the proposed berming plan, the scale of the sloped fill condition can be broken up and views improved toward the highway from adjacent properties. The use of landform berms and planting combined will effectively screen views from historic properties such as Rosewell and Belleview.

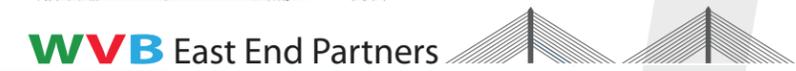
Detention Basins and swales required for drainage in this section can also be contoured in shapes that compliment the naturalistic landform approach.

THE INDIANA APPROACH (SECTION 6)

There are currently no contour grading solutions identified within the Indiana corridor. The improvements here generally fall into one of two conditions: (1) rock-cut or (2) flat topography. If contour grading is beneficial to the transition or buffering or adjacent properties, then it will be considered in the final grading design.



OHIO RIVER TERRACE - CONCEPTUAL LANDSCAPE PLAN

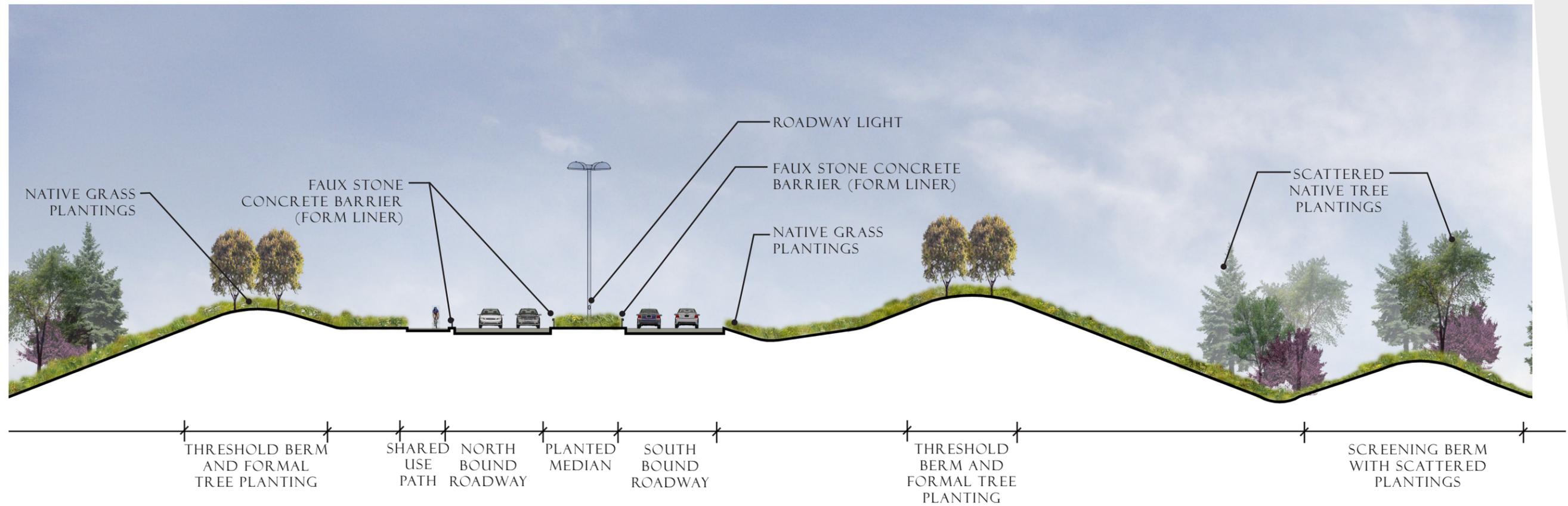




ROSEWELL ESTATE - SECTION



BELLEVIEW ESTATE - SECTION



OHIO RIVER TERRACE - SECTION



OHIO RIVER TERRACE - SOUTH BOUND

View from highway. Landscape screening enhancements along the roadway combine natural landform berming with vegetation to provide a buffer for properties along the corridor. The historic landscapes of Rosewell and Belleview Estates are anticipated in the new design for highway fill slopes. Stormwater detention ponds and swales are contoured to flow with the undulating berming plan for this area.

6.0 WALLS & FENCES

Walls and fences are features used extensively throughout the corridor for safety, structure, screening and aesthetics purposes. Whether they are used as stand-alone elements such as safety barriers along the highway, or integrated into the landform as part of a screening and safety solution for the slope conditions between roadway and neighborhoods, the design of these built elements will appear as part of the existing natural and residential context.

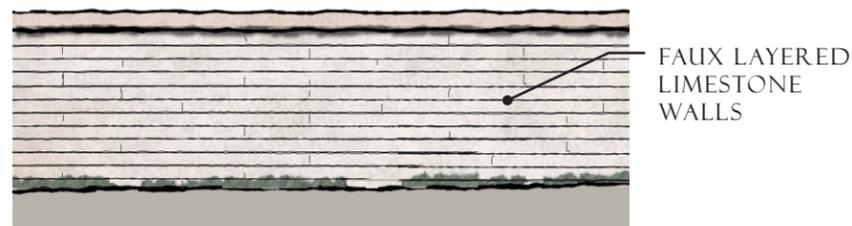
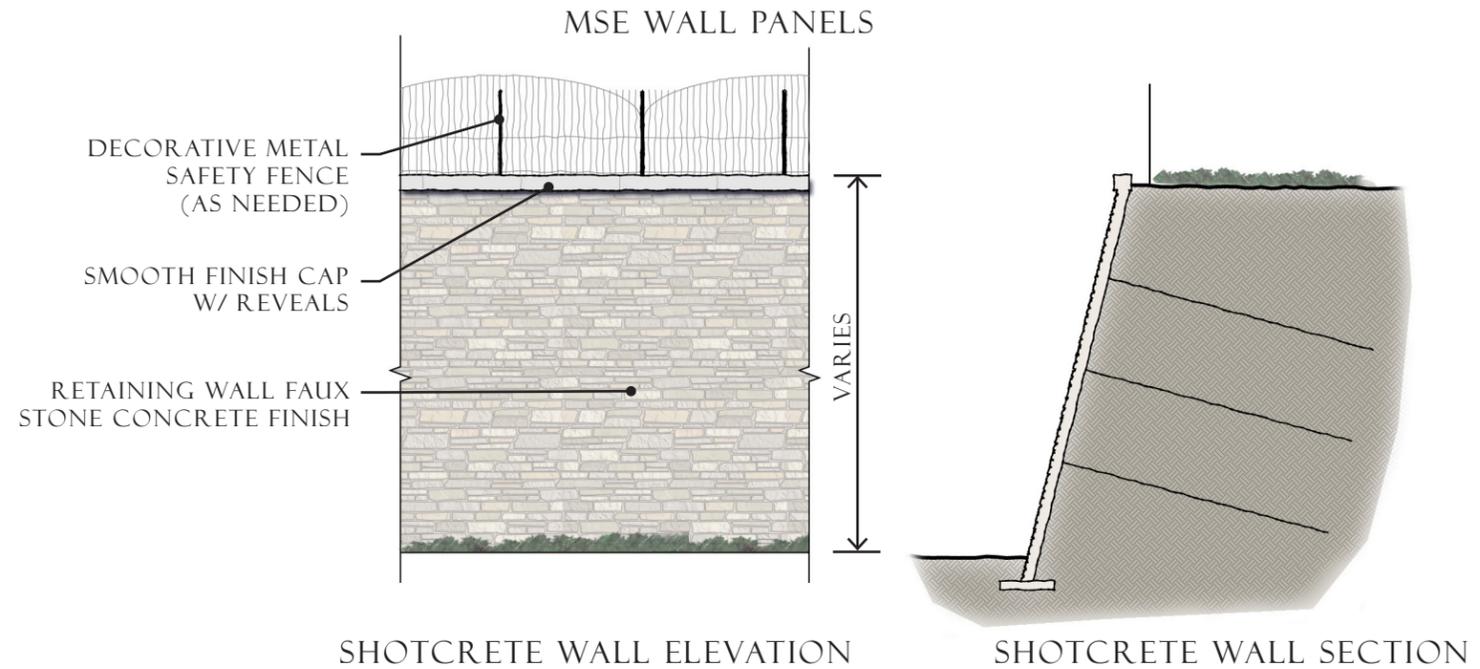
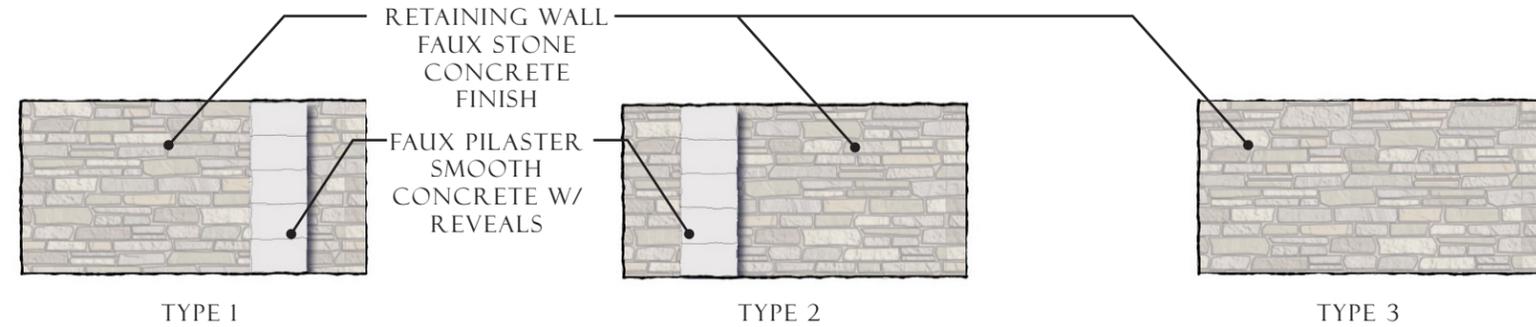
6.1 RETAINING STRUCTURES

THE KENTUCKY APPROACH (SECTION 4)

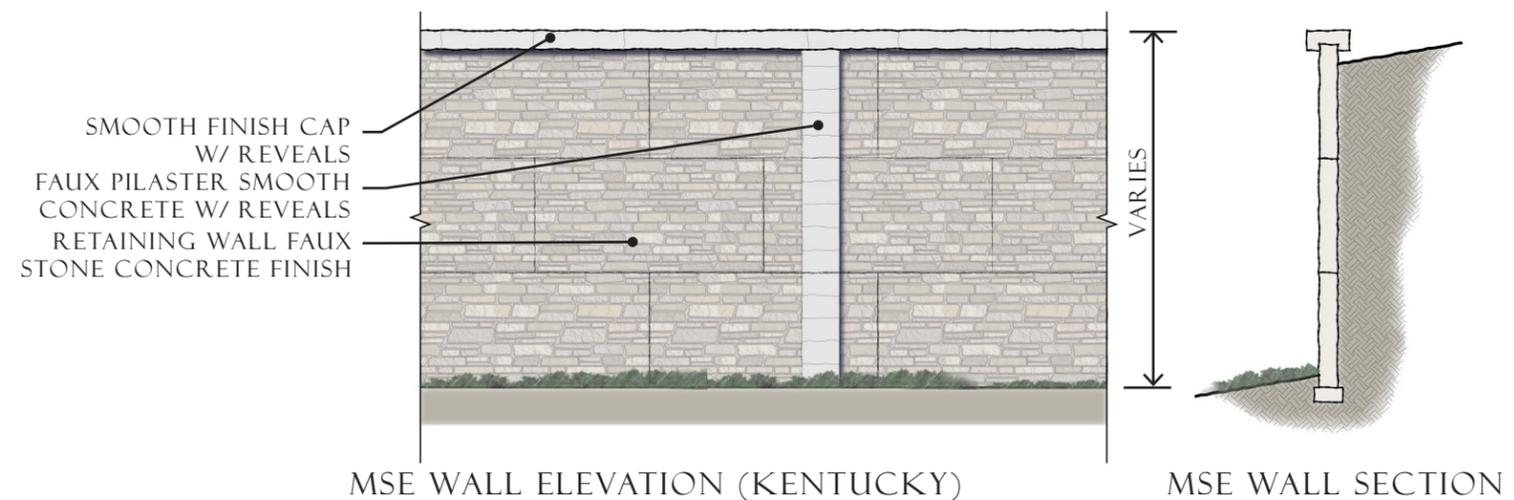
Retaining walls occur throughout the corridor in cut conditions along the roadway, at the tunnel portals and bridge abutments. Their surface treatment will blend in with the portal face and bridge abutment walls. Where faux finish stone (creekstone) walls are used, the same texturing, color and wall cap treatments will be employed as on the retaining wall structures. The type of construction of the retaining structures will not significantly change the appearance of the finished product, whether cast in place concrete with faux rock form liners, precast MSE wall panels (made with the same form liner pattern), or shotcrete that is hand carved in place. All walls will be stained after the raw concrete is installed, poured or carved. This method, performed by a dedicated crew and using the colors specified in this document, will ensure consistent color and thereby unify the various walls in section 4.

THE INDIANA APPROACH (SECTION 6)

Layered limestone formliner texturing with light gray or natural concrete color will be used on retaining walls and bridge abutments in this Section. Similar to section 4, all walls to receive this treatment will use the specified formliner pattern and colors specified herein, regardless of construction type.



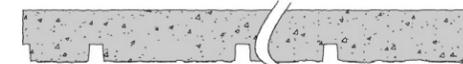
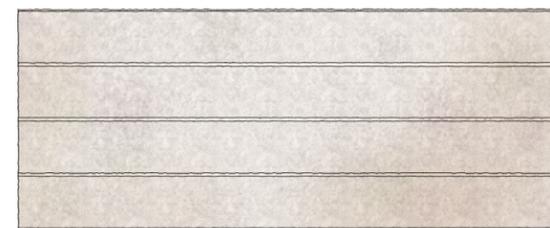
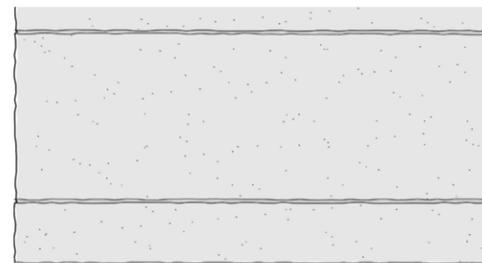
WALL ELEVATION (INDIANA)



TEXTURES



SHOTCRETE RETAINING WALLS
HAND CARVED, TROWELLED & STAINED
WITH CREEKSTONE COLORS

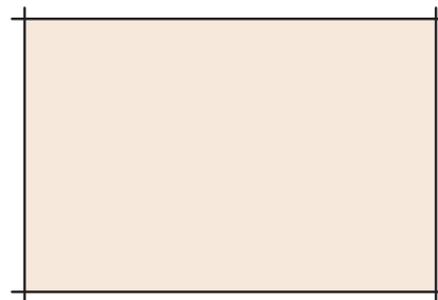


MSE AND CIP WALLS (SEGMENT 4)
FORMLINER PATTERN: "BRAYMAN DRYSTACK"
BY FITZGERALD FORMLINERS
STAINED WITH CREEKSTONE COLORS

MSE AND CIP WALLS (SEGMENT 4)
SMOOTH CONCRETE FINISH
WITH 1" REVEALS
AT PILASTERS OR WALL/COLUMN EDGES

MSE AND CIP WALLS (SEGMENT 6)
CUSTOM PATTERN: LIGHT TEXTURE W/
REVEALS AT 24" SPACING
STAINED WITH CREEKSTONE COLOR C(90%) & B(10%)

COLORS



CREEKSTONE COLOR A
PANTONE S 317-9
C=40 M=35 Y=40 K=5

CREEKSTONE COLOR B
PANTONE S 39-7
C=0 M=20 Y=35 K=25

CREEKSTONE COLOR C
PANTONE S 33-9
C=0 M=5 Y=10 K=3

SMOOTH CONCRETE COLOR
PANTONE S 325-7
C=0 M=0 Y=0 K=25

CONCRETE GIRDER & BENT COLOR
PANTONE S 324-9
C=50 M=55 Y=55 K=15

6.2 BARRIER WALLS & GUARDRAILS

Roadway median barrier walls will be textured and capped in the same style as retaining and abutment walls to ensure a consistent and integrated aesthetic appearance. In the roadway median, standard "Jersey Barriers" will be textured with concrete formliner in the same treatment as bridge abutment walls and other masonry structures. This treatment is specific to the cut rock areas approaching the tunnel portals.

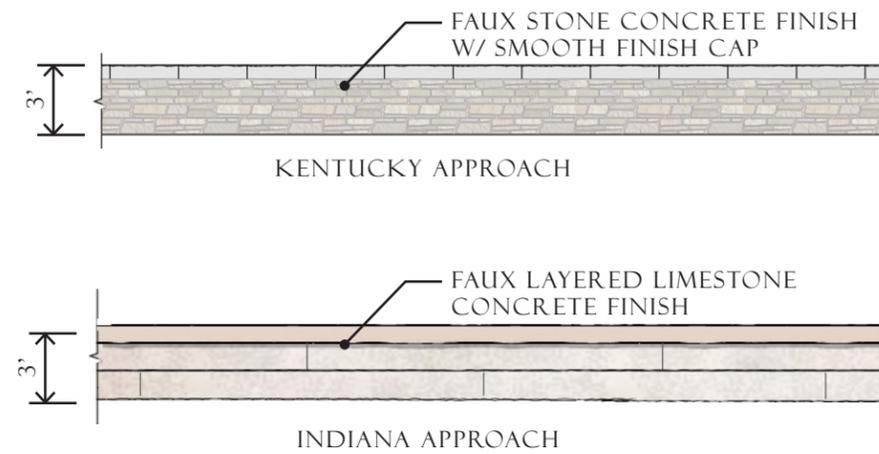
Weathered steel guardrails with wood posts or wood rails will be used in the more pastoral roadway sections such as the Ohio River Terrace area.

THE KENTUCKY APPROACH (SECTION 4)

Section 4 barrier walls will have a faux stone "creekstone" formliner finish.

THE INDIANA APPROACH (SECTION 6)

Section 6 barrier walls will be enhanced with faux layered limestone formliner with light gray or natural concrete color.



SAFETY BARRIER WALL - ELEVATIONS



WEATHERED STEEL GUARDRAIL



STEEL BACKED WOOD RAIL

6.3 FENCING AND SCREENING

6.3.1 RIGHT-OF-WAY FENCING

Where right-of way fencing occurs in prominent locations or near residences, a faux stone PVC fence that resembles the same "creekstone" pattern used elsewhere will be used. In cases where right-of-way fencing is not highly visible, a vinyl coated chain link fence is to be used. A dark green or dark brown color will reduce the visual impact of the fence and blend it in with the surrounding landscape.

6.3.2 SAFETY AND STORMWATER FENCING

This fencing occurs above retaining walls, steep slopes and around stormwater facilities as needed. It must be able to be seen through for safety and aesthetic purposes. For locations of visual prominence, a decorative tubular steel or aluminum fence, painted black, is to be used. The style of this fence will be the same as seen on Wolf Pen Branch bridge, with graceful arched tops that evoke the historical vernacular of the area. In less prominent locations, vinyl coated chain link fencing with dark color will be used.

6.3.3 NOISE WALLS & SAFETY WALLS

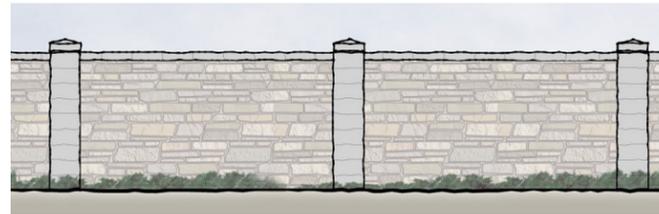
In Kentucky, these walls will be constructed to appear similar to "creekstone" walls. In Indiana, they will have a faux layered limestone texture. Depending on location, these walls will utilize either cast in place concrete with formliner, CMU with faux stone veneer, CMU with split face texture, or PVC paneling with a faux stone pattern. Pilasters of smooth gray concrete will occur along the length of the walls in Kentucky.

6.3.4 SPECIALTY FENCING

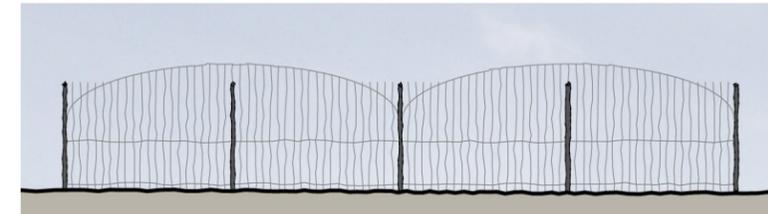
Along the Wolf Pen Branch roadway, WVB proposes a white 4-board fence that matches existing fencing currently that is found along this corridor. A fence of this type reinforces the Wolf Pen Branch Neighborhood Plan design preferences. The same fence type would be used along the roadway frontage in the pastoral Ohio River Terraces area.

6.3.5 SCREEN PLANTING

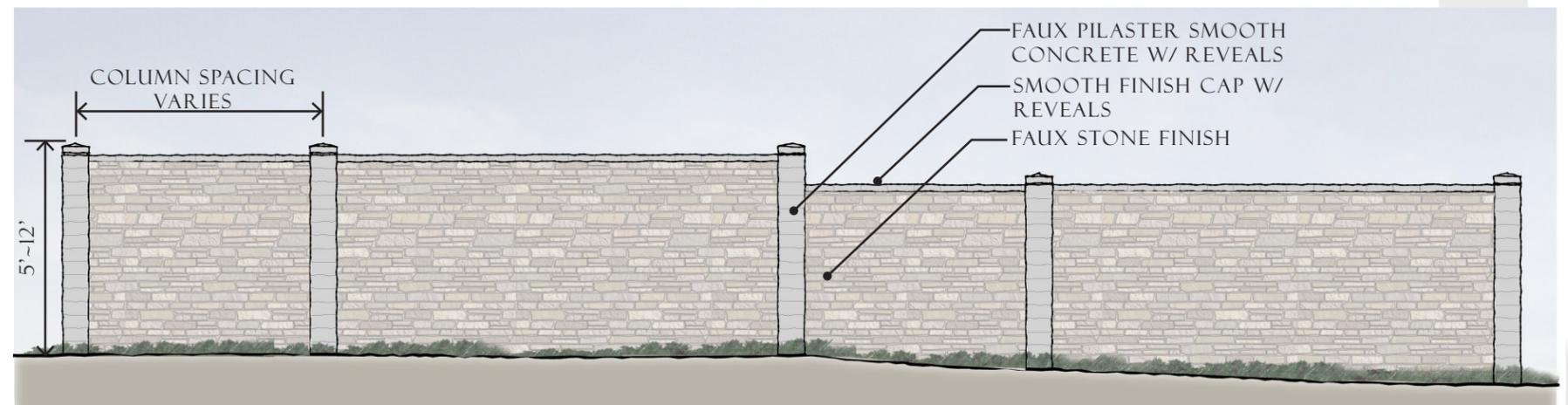
Landscape plantings will also serve to enhance screening, whether used alone in massings or in conjunction with fencing and landform berms. Where chain link fences are constructed, native trees and shrubs will be used to screen views and mask the sight of the fence itself. As mentioned previously, plantings are an essential strategy in screening views of the roadway from properties along the roadway corridor.



FAUX STONE PVC FENCE



DECORATIVE METAL FENCING



NOISE WALL/SAFETY BARRIER - ELEVATION



VINYL COATED CHAIN LINK FENCE



FOUR BOARD WOOD FENCE

7.0 STREETScape ENHANCEMENTS

The creation of more pedestrian friendly streetscape environment and adequate pedestrian circulation includes pedestrian connections at points along the interstate corridor as well as within the existing road corridors impacted by the interstate realignment and development.

These opportunities are somewhat limited, occurring in just a few locations where local roadways intersect the new improvements. The majority of these occur in Kentucky (Section 4). Where specific streetscape enhancements are needed, they will be provided with a similar level of treatment developed for Wolf Pen Branch Road and/or River Road.

7.1 LANDSCAPE

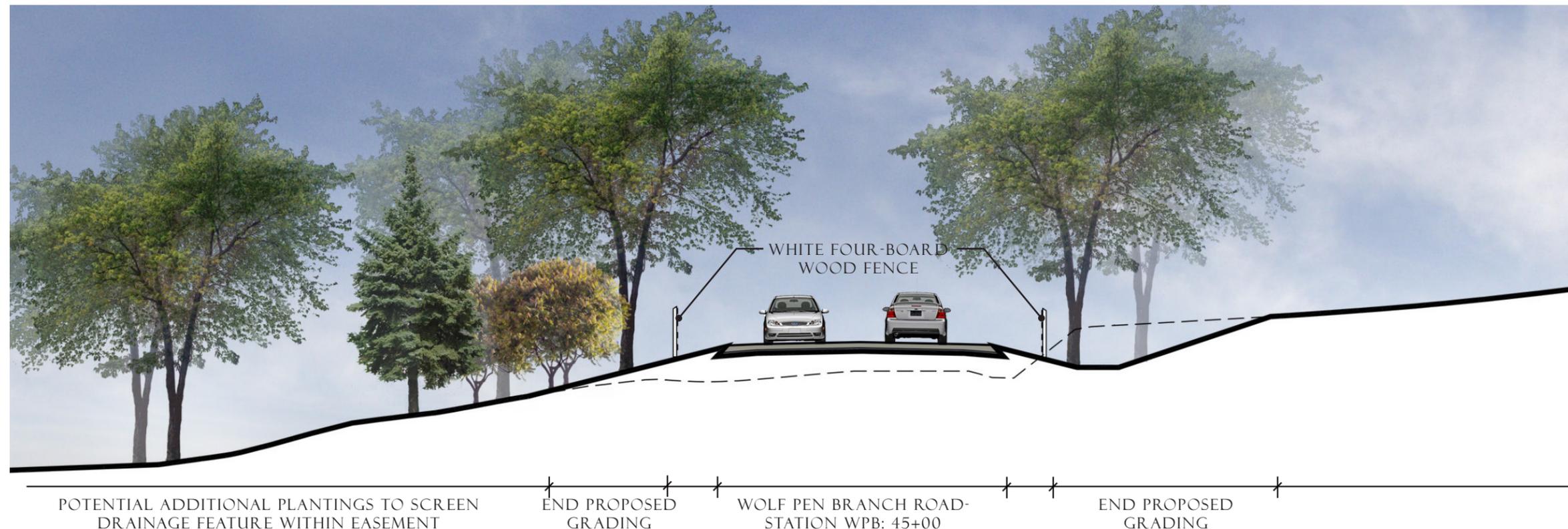
Wolf Pen Branch Road – vegetation will be utilized to maintain a narrow roadway appearance and to assist in traffic calming along this straightened passage. The overall planting concept for streetscape and trails is to tie into the existing landscape corridor of the adjacent areas as well as to provide shade and screening for both pedestrians and adjacent residences.

River Road – the landscape plantings along River Road and the adjacent creek will be native plantings with some riparian species along the water’s edge. Species that can withstand occasional flooding will be provided.

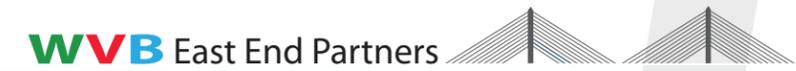
Highway 42 Intersection – where Ramp A meets this highway, there will be an opportunity to provide a combination of native trees and grasses that blend the new improvements into the adjacent landscape. Special attention towards screening the tunnel equipment building from Highway 42 and the new roadway will be a key aspect of the design.

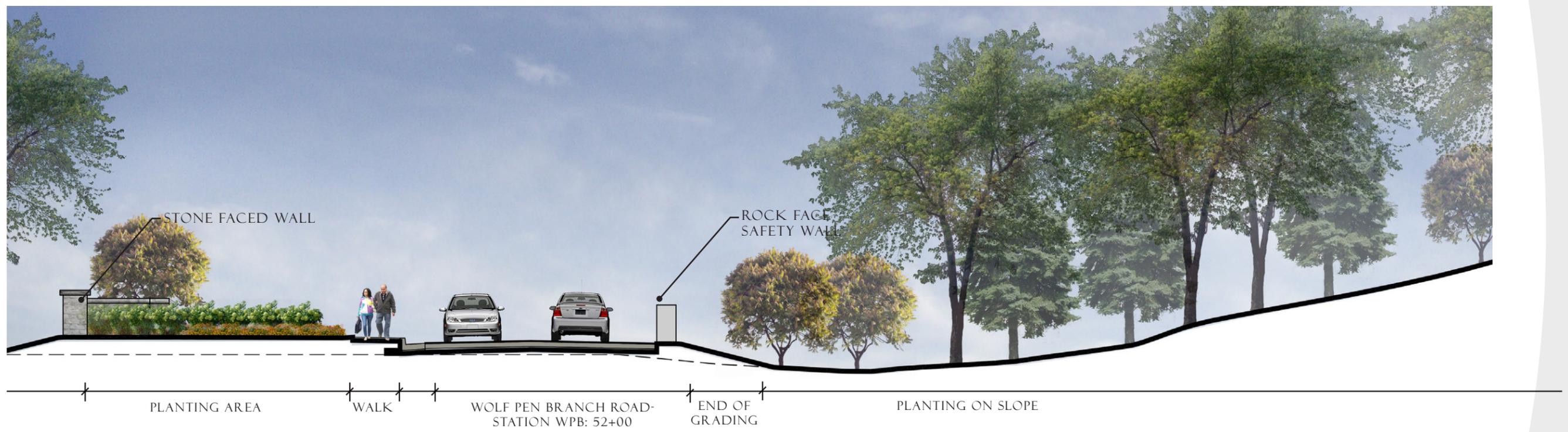
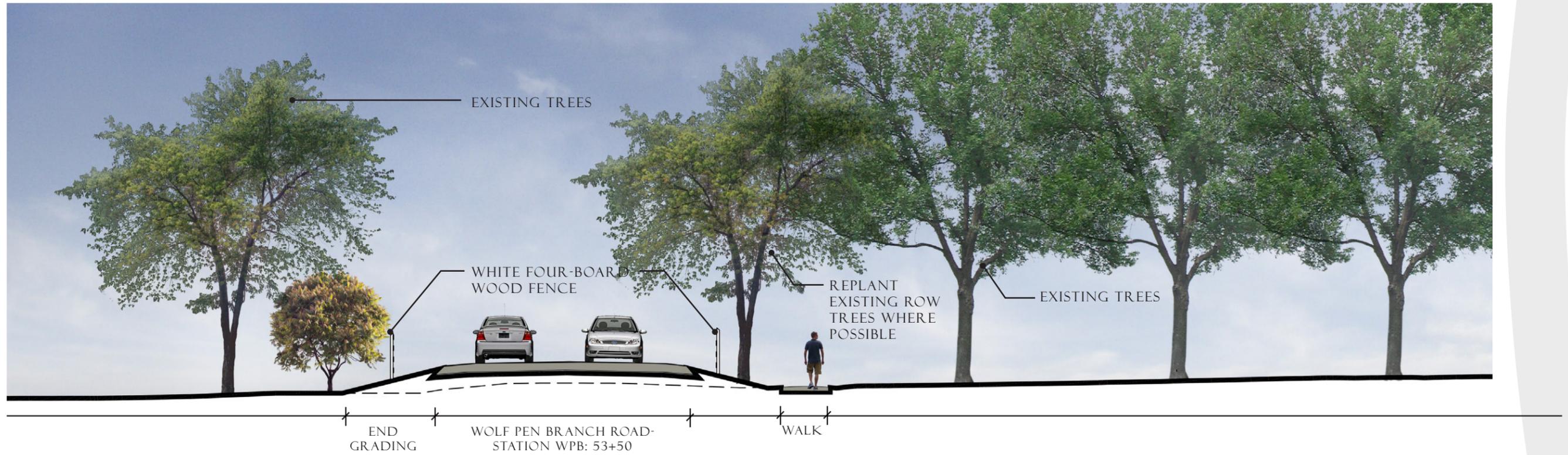
7.2 FURNISHINGS

Appropriate streetscape furnishings will be provided in order to accommodate pedestrians and bicyclists as they move through and across the corridor. Streetscape and shared use path enhancements will include site furnishings such as benches, bollards, trash receptacles.

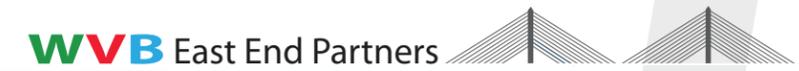


WOLF PEN BRANCH ROAD - CROSS SECTION





WOLF PEN BRANCH ROAD - CROSS SECTIONS





7.3 BICYCLE AND PEDESTRIAN FACILITIES

Adequate facilities for pedestrians and cyclists throughout the project area will be provided where appropriate. Proposed items include sidewalks, crosswalks, bike racks, site furnishings, drinking fountains and rest areas.

Wolf Pen Branch – the proposed sidewalk connection between Bridgepointe and Wolfpen Woods subdivisions will improve pedestrian circulation in this area with enhanced lighting and sidewalks.

Ohio River Terrance – Along the shared use path in the Ohio River Terraces area there is a proposed trail head and rest area.

7.4 HARDSCAPE TREATMENTS

Stamped, colored asphalt pedestrian crosswalks on Wolf Pen Branch Road will serve as traffic calming pedestrian amenities.



OHIO RIVER TERRACE - TRAIL HEAD W/ PUBLIC ART & SIGNAGE

View along the Shared Use Path showing trail head amenities for bicyclists and pedestrians, which could include benches, bicycle parking, trash receptacles, wayfinding/interpretive signage and pedestrian scale lighting.

7.5 STREET AND HIGHWAY LIGHTING

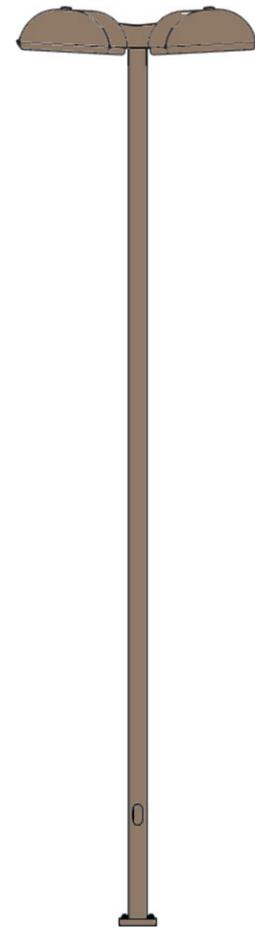
Pedestrian scale ornamental light fixtures will be utilized on the Wolf Pen Branch Road Bridge. The proposed fixture is a historic replica post light, colored black to match with the ornamental fence on the bridge deck.

Other roadway light poles will vary with context, some higher and others lower and more closely spaced, depending on lighting levels recommended in guidelines. Full cut off luminaire fixtures will minimize light glare. Light fixtures will be an energy efficient type, colored warm gray, dark brown, or black.

7.6 ROADWAY SIGNAGE POSTS

Post supports for roadway signage shall have a style and color consistent with adjacent light poles. Color to be warm gray, dark brown or black to minimize visual dissonance and to create a complementary family of vertical roadway signage and lighting appurtenances.

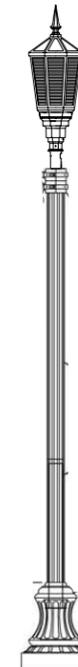
Pedestrian signage may include wayfinding and interpretive signs along the shared use path in the Ohio River Terraces area.



CORRIDOR LIGHT
DOUBLE LUMINAIRE IN MEDIAN,
SINGLE LUMINAIRE W/O MEDIAN
30' HT, DARK BROWN COLOR



BRIDGE LIGHT
DOUBLE LUMINAIRE IN CENTER OF ROADWAY
22'-6" HT, WARM GRAY COLOR



WOLF PEN BRIDGE AND ROAD LIGHT
SINGLE LUMINAIRE
15'-6" HT, BLACK COLOR

8.0 VEGETATION

Vegetation is a key consideration in order to provide screening from adjacent neighborhoods and historic properties toward the roadway.

The WVB Team's approach to planting is inspired by the natural and cultural landscape of the area:

- Natural: Rolling landforms, abrupt slopes, exposed rock faces. Scattered massings of vegetation; tall growing trees set in pastoral fields; and, verdant riparian environments.
- Cultural: Strong framing of pastoral views with contrasting of open grassy fields and arranged scattered specimen trees and dense tree and shrub massings. (Olmsted Brothers design for Drumanard is the essential example of this landscape design).

The goal of the vegetation aesthetic for the corridor is to tie into the existing naturalistic landscape character found in the area and also to restore key buffer areas where construction impacts might occur, using native tree, shrub and groundcover species that are more drought tolerant and provide habitat for native wildlife.

- Landscape planting and contour grading that:
- Screens views from historic preservation areas
- Restores historic landscapes affected by the highway construction
- Enhances residential circulation crossings and recreational areas along the corridor
- Is sensitive to the existing natural landscape context, and uses a predominantly native planting palette

Planting densities and arrangements will reflect the existing character of the landscape as follows:

KENTUCKY (SECTION 4)

In the Ohio River Terraces area, native trees and shrubs will be in scattered groupings/massings with open grasslands which reflects the pastoral nature of the existing landscape context.

More limited vegetation such as native shrubs and grasses are proposed adjacent to the tunnel portals and on either side of the roadway above the rock cut areas where there is also some potential for limited tree plantings with pockets of rock overexcavation for planting soils.

Along Wolf Pen Branch, vegetation is utilized to maintain a narrow roadway appearance and to assist in traffic calming along this straightened passage.

OHIO RIVER BRIDGE (SECTION 5)

The shorelines of the Ohio River will be impacted by bridge piers and their footings, as well as construction activity. These areas will be restored through the planting of riparian vegetation which is suited to the riverside environment.

INDIANA (SECTION 6)

The same general criteria used for the Kentucky Approach will be applied to revegetated landscape in this area: the use of native, drought tolerant trees, shrubs and grasslands arranged in massings and densities that reflect the existing landscape character and transition to adjacent properties.

The proposed planting palette for trees and shrubs is based on the 'Approved Plant List' taken from the Technical Provisions and includes the following deciduous trees, evergreen trees and shrubs:

- *Acer rubrum* (Red maple)
- *Acer saccharum* (Sugar maple)
- *Carya ovata* (Shagbark hickory)
- *Cercis canadensis* (Redbud)
- *Cornus florida* (Flowering dogwood)
- *Ilex opaca* (American holly)
- *Liriodendron tulipifera* (Tulip tree)
- *Nyssa sylvatica* (Black gum)
- *Platanus occidentalis* (Sycamore)
- *Quercus bicolor* (Swamp white oak)
- *Quercus rubra* (Red oak)
- *Juniperus virginiana* (Red cedar)
- *Pinus strobus* (White pine)
- *Taxodium distichum* (Bald cypress)
- *Callicarpa americana* (American beautybush)
- *Cornus racemosa* (Gray dogwood)
- *Hamamelis virginiana* (Witchhazel)

- *Ilex verticillata* (Winterberry holly)
- *Physocarpus opulifolius* (Ninebark)
- *Rhus aromatic* (Fragrant sumac)

In developing a more specific planting plan, microclimate conditions such as soil moisture, sun and shade as well as exposure and aspect will also be taken into consideration. Marian Cruger Coffin, one of the renowned landscape designers of historic country estates in the area, summed up our approach to selecting vegetation as using the "right plant in the right place."

The aesthetics "roll plan" attached to this submittal provides three categories of landscape conditions along the corridor. These generalizations provide a framework for the vegetation strategy for the project. Detailed plans will be prepared that reflect the nuances of each landscape area.

- Zone 1 Trees and native landscaping
- Zone 2 Natural limestone and native grass
- Zone 3 Riparian landscape

9.0 HISTORIC PRESERVATION AREAS

The closest and most impacted historic properties are the following: Merriweather, Belleview, Rosewell, J. Determan and J. Schildknecht House. Both the Belleview and Rosewell properties are addressed in our design concepts for the Ohio River Terrace Character Area. Treatments for this area include rolling berms and landforms to mimic the natural character of the area and break up the steep slopes in this area of fill as well as scattered native plantings to provide screening. The Merriweather House has views underneath the Harrods Creek so the more finished look proposed to the underside and columns of this structure will minimize impacts to this historic property. Similarly, the J. Determan House and J. Schildknecht House are adjacent to the approach structure so a similar level of finish to the underside and columns of this structure will minimize impacts to these historic properties. There is also the opportunity to utilize plantings outside the right-of-way to provide additional screening of these structures for the historic properties.

The Ohio River Terrace Character Area is a main area of concern due the new highway's proximity to historic properties (Belleview and Rosewell). The fill condition will elevate the roadway above the existing landform making screening a challenge.

In order to minimize the look of an engineered fill condition with consistent slopes, berms will be created along this fill area to break up the scale of the slopes and to provide more natural-looking landforms that fit in with the existing character.

Scattered naturalized plantings occur in swaths throughout this fill area both to screen and also to tie into the existing landscape character of the area.

Draft Project Plans

Draft Project Management Plan (4.1)

DRAFT PRELIMINARY PROJECT MANAGEMENT PLAN

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1 Introduction

1.1 Purpose

This document outlines the WVB Project Management Plan (PMP), which will be the core of the East End Crossing Project Integrated Management System (IMS). It captures the WVB processes to deliver all Project work activities, including those of WVB's suppliers and subcontractors.

The purpose of this PMP is to:

- Provide the means by which the IFA derives confidence that its expectations are understood, met and exceeded and that the Project will be carried out in accordance with specified and regulatory requirements
- Provide the objectives and policy statements which will bring direction to the business
- Present the organization and resources which will be deployed by WVB to realize IFA's Project goals
- Define the management system, processes and procedures which will operate within WVB and will serve as a reference document for staff, subcontractors and suppliers
- Define methods for controlling specialist service providers and subcontractors
- Outline interfaces with Stakeholders including the client and other interested parties, such as supply chain members, designers, other trade contractors or regulators, to whom quality requirements will be communicated
- Define the self-certification and control mechanisms, i.e. inspection, check, audit, reporting and key performance indicator (KPI) monitoring to ensure that WVB complies with all the specified requirements and that performance objectives are continually met or exceeded

1.2 Normative and Other References

PPA

Technical Provisions:

Related WBV documents:

- WVB Design Build Quality Management Plan
- WVB O&M Plan
- WVB Sustainability Management Plan
- WVB Organization Chart

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1.3 Context of The East End Crossing Contract

The IFA is tendering a contract to develop, design, construct, finance, operate and maintain a tolled bridge and associated roadways and facilities across the Ohio River. The bridge will connect Clark County, Indiana and Jefferson County, Kentucky, forming part of a new section of highway joining the Indiana State Road 265 with the Kentucky Interstate-265.

1.4 Scope of The East End Crossing Contract

The East End Crossing works covered by this Project Management Plan (PMP) includes but is not limited to the detailed design, supply chain, labor and material management and construction and maintenance of the following structures as defined and detailed in the tender documentation:

- Section 4 – The Kentucky Approach - Four lane reconstruction and extension of KY 841 to the new Ohio River East End Bridge, two lanes in each direction (distance approximately 3.3miles). This includes: reconstruction of the two-lane section of KY 841 between I-71 and US 42 to four lanes, a tunnel beneath US 42 and the historic Drumanard Estate (approximately 2,000 feet long), each carrying two lanes with shoulders and then continuing with four-lanes northwesterly across Harrods Creek, River Road, Transylvania Avenue and Transylvania Beach Road to the proposed East End Bridge.
- Section 5 – East End Bridge - Construction of an approximately 2,500 foot long 4-lane bridge (which can accommodate 6 lanes (three lanes each, opposing, with median)) over the Ohio River with a 13-foot wide pathway on the southwesterly side of the bridge.
- Section 6 -- The Indiana Approach – Excluding the Advance Construction Project, four-lane extension of SR 265 from SR 62 to the new East End Bridge, two lanes in each direction (distance approximately 4.1 miles). This includes reconstruction of the SR 265/SR 62/Port Road interchange and construction of a full-diamond interchange at an extension of Old Salem Road.

1.5 Project Key Dates

- Complete Main Span Pier Foundations – August 8, 2014
- Complete Tunnel Excavation and Initial Liner – July 10, 2015
- Complete Main Span Towers – October 9, 2015
- Complete Western Limits of Section 6 Roadway – October 5, 2015

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- Complete Eastern Limits of Section 4 Roadway – July 21, 2016
- Complete Final Tunnel Liner – May 9, 2016
- Complete Main Span Superstructure Erection – May 13, 2016
- Substantial Completion – October 31, 2016
- Final Acceptance – February 28, 2017

1.6 Project Delivery Objectives

WVB primary objectives for Project delivery are:

- Completion of the work within time and budget, meet or exceed specified quality requirements and carried out in a safe manner
- Compliance of the design and construction work with Regulatory controls
- Self-delivery of the construction works, only subcontracted specialist packages
- Customer focus and collaborative working
- Leadership, commitment and active involvement of top personnel
- Involvement of people, particularly training and evaluation of competences
- A process based approach
- A system based approach to management
- Continuous improvement
- Productivity benchmarking and improvement
- A factual approach to decision making
- Mutually beneficial relationships with all suppliers and subcontractors
- Demonstrably effective Self Certification
- Implementation of 'right first time' ethos

2 The WVB Delivery Model

The WVB Special Purpose Vehicle (SPV) brings together three major engineering and construction companies in, Walsh, Vinci and Bilfinger Berger.

The Walsh-Vinci Construction JV (CJV) will be supported by our selected lead engineer, Jacobs.

- The Walsh Group is one of North America's largest general contracting, design-build and construction management firms.

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- VINCI Concessions' expertise in design, financing, construction, operations and maintenance makes it the preferred partner of public authorities globally for the development of transport infrastructure and public facilities.
- The Bilfinger Berger Group, operates internationally, specializing in civil & industrial construction, engineering and services
- Jacobs is one of the world's largest and most diverse providers of professional technical services, including engineering, architecture, construction, and operations and maintenance.

The composition of the SPV and CJV are as shown in the Figure below.



Figure 1 – WVB delivery model

The WVB Project team brings together a unique combination of specialists who have extensive experience of delivering P3 infrastructure Projects

The WVB management team takes immediate responsibility for driving efficient and effective management systems, integrating performance management, benchmarking and improvement into day to day management of the Contract.

The Integrated Management System (IMS) strategy presented in this PMP has been developed from tried and tested processes from each member organization

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– selecting best in class – adapted specifically for the Project and combined into a fully functional set of documentation.

WVB will be accountable for delivery of the Project and is committed to the IMS. WVB will ensure that staff, designers and subcontractors adhere to it through stringent management procedures.

2.1 WVB Strategic Processes

WVB has identified the strategic processes shown in Figure 2, necessary for its operations during and beyond the bid phase, as well as their interactions. All WVB employees, subcontractors and suppliers must comply with these processes. These are:

- **Control Processes** , which control the definition of policy and the achievement of objectives. They provide guidance for delivery and support processes, ensuring their consistency. They relate to the business strategy, continuous improvement, sustainability, health and safety and Quality Assurance.
- **Delivery Processes** , which are core WVB processes and contribute directly to the achievement of Client satisfaction and the fulfillment of all stakeholders' objectives.
- **Support Processes** , which ensure proper implementation of the delivery processes and provision of the required resources.

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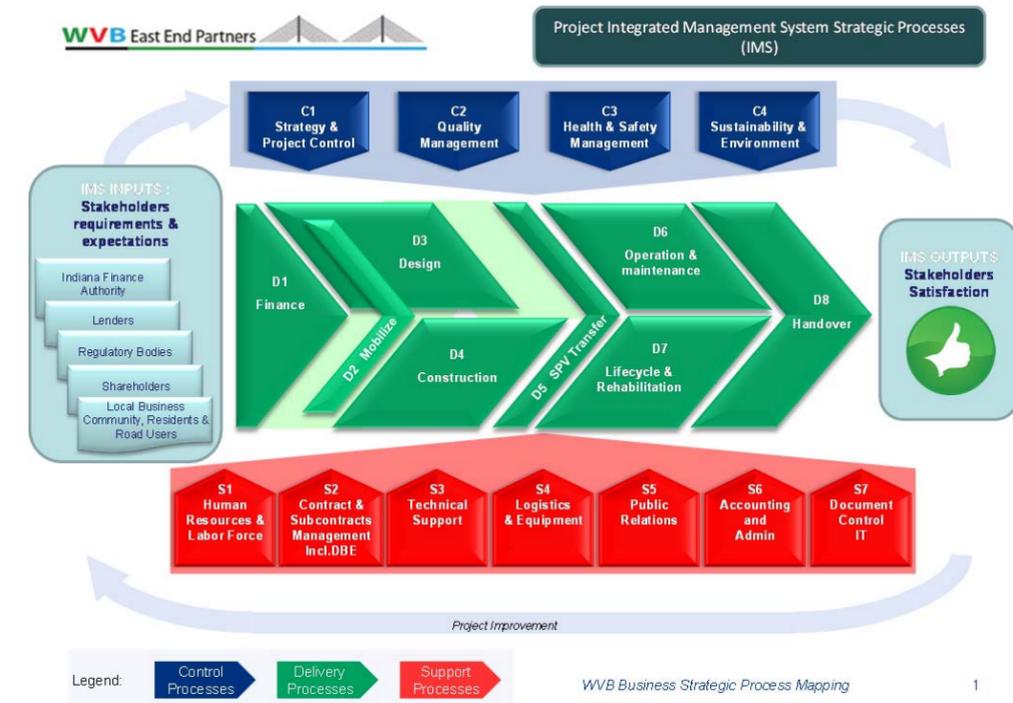


Figure 2 - WVB Strategic Processes

Each process identified above has an owner appointed by the WVB CJV Executive Committee. They are senior managers with direct responsibility for delivery and performance of the process through every level of the organization, and with the necessary authority, competence and resources to:

- Disseminate procedures, objectives and targets across and through the WVB team, our internal group of companies and our supply chain partners as appropriate
- Collect and review all information relating to the process and its operation, to ensure performance complies with pre-agreed targets set through benchmarking, both internally and externally
- Decide on any action necessary to improve unsatisfactory performance
- Implement improvements and measure success against agreed targets (Performance Indicators)
- Reassess performance targets regularly to drive continuous improvement and relentless predictability

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This allocation of responsibility for each process will generate the following benefits:

- Focus on maintaining flexible processes which are constantly challenged throughout the life of the program at every level of the organization, and ensure a high quality of service
- Provision of a single point of contact – accountable for performance of each process and accessible to WVB, Client, regulatory authorities, auditors and all stakeholders
- Instigation of an innovative approach to improving processes through management level commitment to best value and industry leading solutions

Process owners are shown in the design and construction phase organization chart in Figure 4.

Each Strategic Process includes a series of Management Processes which are further developed in Section 7 (Control Processes), Section 8 (Support Processes) and Section 9 (Delivery Processes) of this document.

Processes will be fully documented through process charts and associated documents such as management plans, operational processes, procedures or work instructions. All procedures will be disseminated to the supply chain, to ensure complete adherence throughout all operations.

2.2 WVB’s Structure and Organization

Introduction

The structure of WVB’s management team is described below and outlines the:

- Project Management Structure
- Management structure for WVB
- Roles and responsibilities of selected key personnel

Project Governance Structure

The Construction Manager, reporting to the CJV Executive Committee, will implement strategy, lead delivery, set objectives, make key decisions and act as a single point of contact for IFA representatives. Where matters need escalation, intervention from the CJV Executive Committee will be made as necessary.

WVB’s **Project management team** will be responsible for the integrated and sustainable delivery of the Project. This team will coordinate the on- and offsite design works, construction works, all subcontractor packages, review progress, performance and objectives and make appropriate decisions as follows:

- Continuous communication with to review the whole Project and decide action plans based on:

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- Key events and achievements including safety performance
- Client feedback
- Stakeholder feedback,
- Project objectives and Key Performance Indicators (KPIs)
- Internal and external audit results analysis
- Performance and productivity improvement
- Organization and adequacy of resources
- Design / Construction Progress
- Procurement progress
- Financial report: cash flow, profit and loss analysis
- Risk inventory status
- Regular management meetings are incorporated into our management communication structures
- Monday morning team meeting (1-2 hours) will review exceptions and decide on quick-time actions based on:
 - “Flash” results (weekly spot business indicators)
 - Critical incidents
 - Feedback from stakeholders
- Twice a year, the team will undertake the formal Management Review with a special focus on the performance of the IMS
- Regular reporting and integration meetings will be agreed with the IFA in advance of the Project

Project Delivery Structure

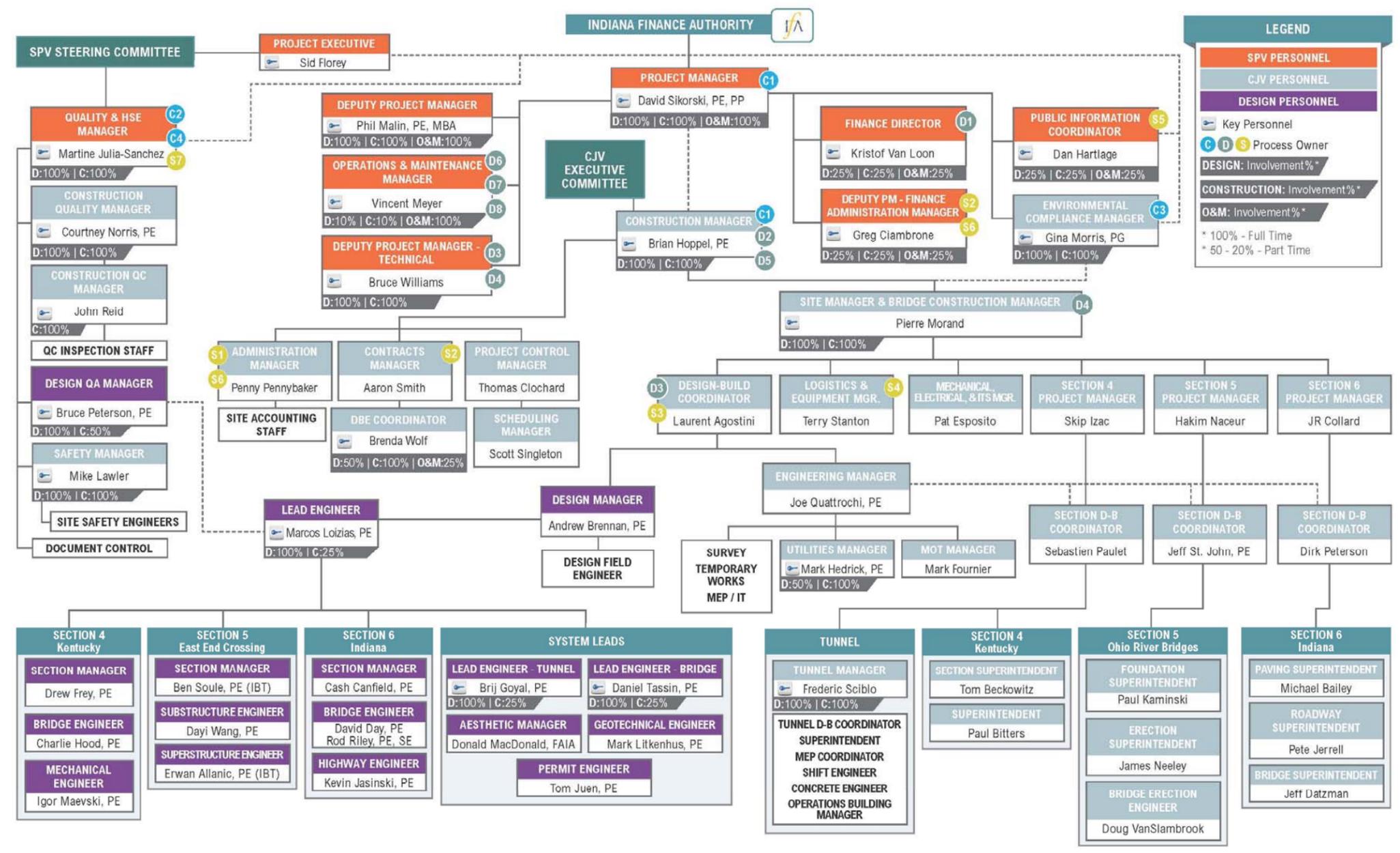
The WVB Project delivery structure will evolve depending on the needs of the business. Figure 4 below shows the WVB management team during the design and construction delivery phase.

The process owners are identified with a color code associated to the main process chart (Figure 2).



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Responsibilities, job descriptions and SQEP records will be issued for each position – with a signed letter of appointment when required. Roles and responsibilities for key positions are outlined below.

Roles and Responsibilities for WVB Key Personnel

Project Manager

C1

Purpose and Scope of Role

- To deliver the Project's objectives, satisfying the requirements of the Client, all Stakeholders and the Shareholders while, at all times, taking responsibility for the health and safety of all involved, including road users. To define, deploy, review and maintain the business vision, values and strategy. The Project Manager is the owner of the Strategy and Project Controls Process C1.

Main Responsibilities

- Lead and direct the WVB team to ensure effective and efficient service delivery to the IFA's aims and objectives
- Maintain regulator relationships throughout the works
- Lead the business relationship with IFA
- Accountable to WVB Executive Committee and IFA for the delivery of the project
- Define construction strategy, quality, safety and environment policy and objectives in line with WVB strategy
- Champion a safe approach to construction; ensure health and safety is the highest priority across all operations and make certain the provision of a safe environment for WVB personnel
- Develop business strategies, establishing WVB as a sustainable long-term business
- Lead the effective integration of construction and operations
- Lead the efficient management of all resource – people, financial, commercial and technical
- Develop and drive continuous improvement through performance management
- Achieve targeted performance objectives

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Skills and Experience

- A senior level professional experienced in the management and delivery of significant, complex and high value Project(s) / Programme(s)
- Strong knowledge of health and safety legislation and application
- A strong commercial leader, experienced in overseeing an operational business, delivering
- Highly developed interpersonal skills, with the ability to build relationships and liaise effectively at the highest levels with client, joint-venture parties, sub-contractors, suppliers etc
- Excellent communicator and leader of a multi-location, diverse team
- Vision and Inspiration - able to shape and communicate a vision of the future; expresses enthusiasm and inspires self-belief in others
- Sound Judgement – ability to deal with complex problems requiring assessment of ambiguous information
- Results focused – ability to identify and achieve outcomes satisfactory to all stakeholders, and empower others to deliver such outcomes
- Business governance – competence in business and accounting principles

Quality & HSE Manager

C2

C3

C4

S7

Purpose and Scope of Role

- lead on quality assurance, health and safety, sustainability, monitoring and reporting on compliance and performance
- lead the development of the Integrated Management System, coordinating quality / process improvement activities and monitoring and reporting on compliance and performance.
- Owner of the Quality Management Process (C2).
- Owner of the Health and Safety Management Process (C3).
- Owner of the Sustainability and Environment Process (C4).
- Ultimately responsible for the Document and Data Control, IT Process (S7)

Main Responsibilities

- Develop, deploy, review and maintain the Quality Assurance, Health & Safety, Environment Protection and Sustainability activities for WVB
- Work to deliver a level of safety and quality that meets and exceeds expectations of the Client, stakeholders and regulatory authorities
- Drive continuous improvement

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Quality

- Develop, review and maintain the management system for effectiveness and performance
- Develop adequate training program related to IMS implementation
- Report on the performance of WVB's IMS
- Liaise with the IFA and any appointed Third Party inspectors on all matters related to quality management
- Lead and drive the integrated audit program
- Capture Client and stakeholder feedback with respect to QA matters
- Assess, monitor and report on compliance against relevant legislation and WVB policies and objectives
- Manage the Quality Control team
- Oversee support function, (S7) for data control including the EDMS (Electronic Document Management System) and ensure records are being retained accordingly
- Manage and Coordinate the QA Reporting process

HSE

- Improve the environment and reduce impacts
- Provide advice and guidance on all environment and sustainability issues

Skills and Experience

- Ability to think laterally in finding solutions, exploiting new ideas
- Excellent interpersonal skills – able to build and maintain strong relationships, communicate and influence at all levels, including with third parties
- Leadership – tact and determination to be able to take forward the function and agenda, develop awareness and visibility across the business, securing commitment to actions and changes in behavior / working practices
- Extensive experience in implementing quality systems and procedures and the development of policy and plans

Deputy Project Manager Technical



Purpose and Scope of Role

- To oversee the Delivery of the Design - Build Contract, ensuring compliance with the Technical Provisions
- Owner of the Design Process (D3)

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- Owner of the Construction Process (D4)

Main Responsibilities

- TBD

Skills and Experience

- Results and process focus.
- Experience of running multi-function teams.
- Strong technical background.
- Results focused – identifies and agrees outcomes and empowers others to deliver them.
- Sound judgment – deals with complex problems and is prepared to make tough and timely decisions.
- Approachability – is visible and approachable to all
- Experienced leader of diverse teams
- Contractually aware and commercially astute

Finance Director



Purpose and Scope of Role

- To lead the attainment of Financial Close, and hereafter to oversee the finance management of the Project
- Owner of the Finance Process (D1).

Main Responsibilities

- Coordinate and manage financial accounting and reporting across WVB
- Implement robust systems and processes as appropriate
- Coordinate and manage Statutory accounts preparation and Audit clearance
- Cash / Treasury management
- Management of the financial model, to include updating with actuals and any changes in forecast assumptions
- Maintenance and development of a strong relationship with client, shareholders, funders and advisors

Skills and Experience

- Strong commercial background, from within construction, PFI or a similar technically demanding environment

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- Professional qualification desirable, e.g. or legal
- Experienced in the financial reporting requirements on large complex projects to Board Directors
- Strong communication and interpersonal skills – credible in dealing with internal companies, partners and external advisors; able to build relationships with supply chain
- Excellent negotiation skills
- Flexible and Client focused approach
- Good understanding of the design and construction on large integrated Projects

Operations and Maintenance Manager



Purpose and Scope of Role
<ul style="list-style-type: none"> • To lead and direct the operations and maintenance team to ensure effective and efficient service delivery. • Owner of the Operations & Routine Maintenance Process (D6). • Owner of the Lifecycle Maintenance & Major Rehabilitation Process (D7). • Owner of the Final Handover (D8).
Main Responsibilities
<ul style="list-style-type: none"> • Manage the O&M delivery team • Deliver Operational Services to Customer including day to day incident response • Deliver Routine Maintenance • Deliver Winter Service • Plan and schedule the rehabilitation works • Procure, organise and administer services resources • Ensure customer focus throughout the team • Develop improvement solutions and schemes to deliver road performance • Continuously monitor and analyse performance of the network and customer satisfaction, producing reports as necessary • Liaise with the IFA in publishing performance and best practices, including lane availability, route and safety performance, incident management etc • Determine and manage the performance points system • Develop and drive continuous improvement • Ensure integration of all delivery plans
Skills and Experience
<ul style="list-style-type: none"> • Qualified Engineer

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- Familiar with new technologies; ability to extract and analyse relevant data, making judgements and decisions using high tech systems where appropriate
- Customer focussed and excellent communicator, visible and approachable to all
- Ability to think laterally in finding solutions, exploiting new ideas and technology
- A broad knowledge of the needs of the customer
- Adaptability – Adapts quickly and flexibly to change and encourages others to do the same

Public Information Coordinator



Purpose and Scope of Role
<ul style="list-style-type: none"> • Oversee, manage and ensure compliance by WVB with the Public Information requirements under the PPA • Owner of the Liaison and Public Relations Process (S5).
Main Responsibilities
<ul style="list-style-type: none"> • TBD
Skills and Experience
<ul style="list-style-type: none"> • TBD

Construction Manager



Purpose and Scope of Role
<ul style="list-style-type: none"> • To lead and direct the design and construction of the East End Crossing • Owner of the Strategy and Project Controls process for the Construction Joint Venture (C1) • Owner of the Mobilization Process (D2).
Main Responsibilities
<ul style="list-style-type: none"> • Prime responsibility for the safety of all workers involved within • Accountable to the CJV executive Committee and the IFA for the Delivery of the design and construction of the Works • Defines Construction strategy, quality, safety and environment policy and objectives in line with WVB strategy • Safe construction delivery to schedule and budget

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- Efficient management of all resources – people, financial and technical
- Manage relationship between construction, operations and asset management teams
- Ensure all stakeholder requirements are appropriately accommodated within the design and construction of the works
- Manage performance and achieve targeted performance objectives
- Develop and drive continuous improvement

Skills and Experience

- Results focused - Identifies and decides outcomes and empowers others to deliver them
- Sound Judgement - Deals with complex problems and is prepared to take tough and timely decisions
- Approachability - Is visible and approachable to all
- Experienced leader of diverse teams
- Contractually aware and commercially astute

Administration Manager



Purpose and Scope of Role

- TBC
- Owner of the Human Resources Process (S1).

Main Responsibilities

- TBC
-

Skills and Experience

- TBC
-

Design-Build Coordinator



Purpose and Scope of Role

- TBC
- Owner of the Design Process D3 and Technical Support Process (S3).

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Main Responsibilities

- TBC
-

Skills and Experience

- TBC
-

Logistics and Equipment Manager



Purpose and Scope of Role

- Manage and coordinate the logistics on the complex construction site
- Reports to the Site Manager & Bridge Construction Manager.
- Owner of the Logistics Support Process (S4).

Main Responsibilities

- Coordinate site activities with respect to physical site security, location of Project areas such as stores, lay down areas, location of facilities and equipment
- Purchase facilities, equipment, and materials and works closely with the Contracts Manager to ensure processes are followed and records are kept
- Manage traffic plans and signage

Skills and Experience

- Strong coordinating and communication skills
- Strong leadership when working with different skill sets
- Previous experience on large construction sites

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3 WVB External Interfaces

Liaison procedures will be established during the mobilization period to deal with all external interfaces – including with IFA, INDOT and KYTC and other interested parties such as the transport agencies, emergency services, utilities, supply chain members, designers and other contractors working on the wider ORB Project.

The tables below will be populated with more detail at the start of the contract.

3.1 Interfaces with IFA

Activity / Entity	Subject	WVB contact point	IFA Representative contact point
General	Project Accountability	Project Director	To be completed at start of contract
	Contractual Change	Senior Commercial Manager	
Design	Design and constructability	Design and Engineering Manager	
	Physical interfaces		
Construction	Client Liaison	Project Manager	
	Progress Inspection, Testing and Handover.	Construction Managers Quality Manager	
	Safety and environmental issues	Sustainability & OHSE Director	
Operations and Maintenance	Operations Routine Maintenance Rehabilitation Works	Operations and Maintenance Manager	

Figure 6 – Communication with IFA and Third Parties

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3.2 Interfaces with Third Parties

Key Liaison Party	Activity Covered	WVB contact point	Procedure in place
Design and Construction			
Emergency Services	Site Emergency	Construction Manager	Emergency Response Plan
Utilities	Requirement to move or protect utilities	Utilities Manager	Utility Master Plan Utility Matrix
Site Security	Security matters	Construction Managers Logistics Manager (Physical security) HR Manager (Personnel security)	Site Security Plan
Department Traffic Management Center in Indiana and the TRIMARC Traffic Operations Center (collectively known as the TMCs)	Reporting of any Incidents, Accidents or Other Events During Construction	Project Manager Quality and HSE Manager	Internal reporting procedure
Operation and Maintenance			
Emergency Services	Accident, Incident or Other Emergency	O&M Manager	Emergency Response Plan
Security	Patrols of Roadway	Road Agents Patrollers	O&M Security Plan Safety Plan
Department Traffic Management Center in Indiana and the TRIMARC Traffic Operations Center (collectively known as the TMCs)	Reporting of any Incidents, Accidents or Other Events During Operations	Project Manager O&M Manager	Internal reporting procedure

Figure 7 – Liaison with Third Parties

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4 WVB Compliance and Performance Management – Self-Certification Principles

4.1 Quality Management

Principles of Process Surveillance

Process owners and enablers are responsible for delivery and continuous improvement of their own process as well as product and service compliance to the Contract.

Dedicated Quality Management Staff will:

- Support process owners, reviewing process documentation compliance with standard
- Ensure system documentation is available
- Inspect and audit the activity for compliance with the system
- Own the continuous improvement process
- Liaise with IFA for all matters regarding the IMS
- Each process is monitored for compliance and for performance:
 - Are we meeting the specifications?
 - Are our subcontractors and suppliers working to the necessary standards?
 - Have we implemented what we planned?
 - Are we meeting Project and internal objectives?

Process review meetings will be organized periodically and be chaired by the Quality Manager.

Product Compliance

The WVB quality policy targets “right first time” production. The quality control approach depends on strong internal control and self-certification principles, together with the careful management of all external parties, including subcontractors and suppliers. Competent staff are responsible for self-checking their work and supervisory staff are responsible for review or inspection. The same principles apply for WVB’s own works and subcontracted works.

Certain documentation or tasks will require further review or inspection depending on:

- Contractual and regulatory requirements

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- Legal requirements
- Internal risk analysis, e.g. Temporary Works Design Check
- Criticality of items, e.g. inspection and reception of manufactured items

Further reviews or inspection will be carried out:

- By an appointed, competent WVB staff member who is not directly involved in task planning and execution
- By an independent Quality Control Inspector (QCI) reporting to the Quality Manager
- And / or by an independent third party inspection by IFA

Who performs the work?	Who is responsible for ‘Right First Time’?	Who is responsible for independent inspection?	Who is responsible for auditing?
WVB	WVB Site team	QCI IFA Inspectors	WVB internal auditors pool IFA auditors
Subcontractor (on or off site)	Subcontractor	WVB site team QCI IFA Inspectors	WVB internal auditors pool IFA auditors

Figure 8 - Breakdown of responsibilities (principles)

Inspection and testing activities are documented in Inspection and Test Plans (ITPs), which are based on the Project specifications as well as the following risk analysis principles:

- Strong inspection regimen during “learning curve”, until expected outcomes are achieved according to performance
- No systematic hold points unless necessary
- Independent inspection only where value is added although IFA inspectors will be involved throughout delivery
- Verification by physical examination that the certification process is demonstrably effective
- Flexible and reactive organization to react to non-conforming product or service
- Robust audit process to verify the effectiveness of the above principles and to capture any area for improvement

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In the case of subcontracted works, the subcontractor will conduct its own inspections. WVB will then perform an external review, approval and / or inspection and testing process on the basis of critical points and hold points defined in the subcontractor's approved ITPs.

IFA will carry out review and approval of documentation and external inspections of work, at random or on the basis of critical points and hold points previously defined in the ITPs. The procedure for notifying the IFA of the critical points and hold points will be discussed with the IFA through alignment meetings scheduled during the mobilization period. These will then be further detailed in the Construction Quality Management Plan.

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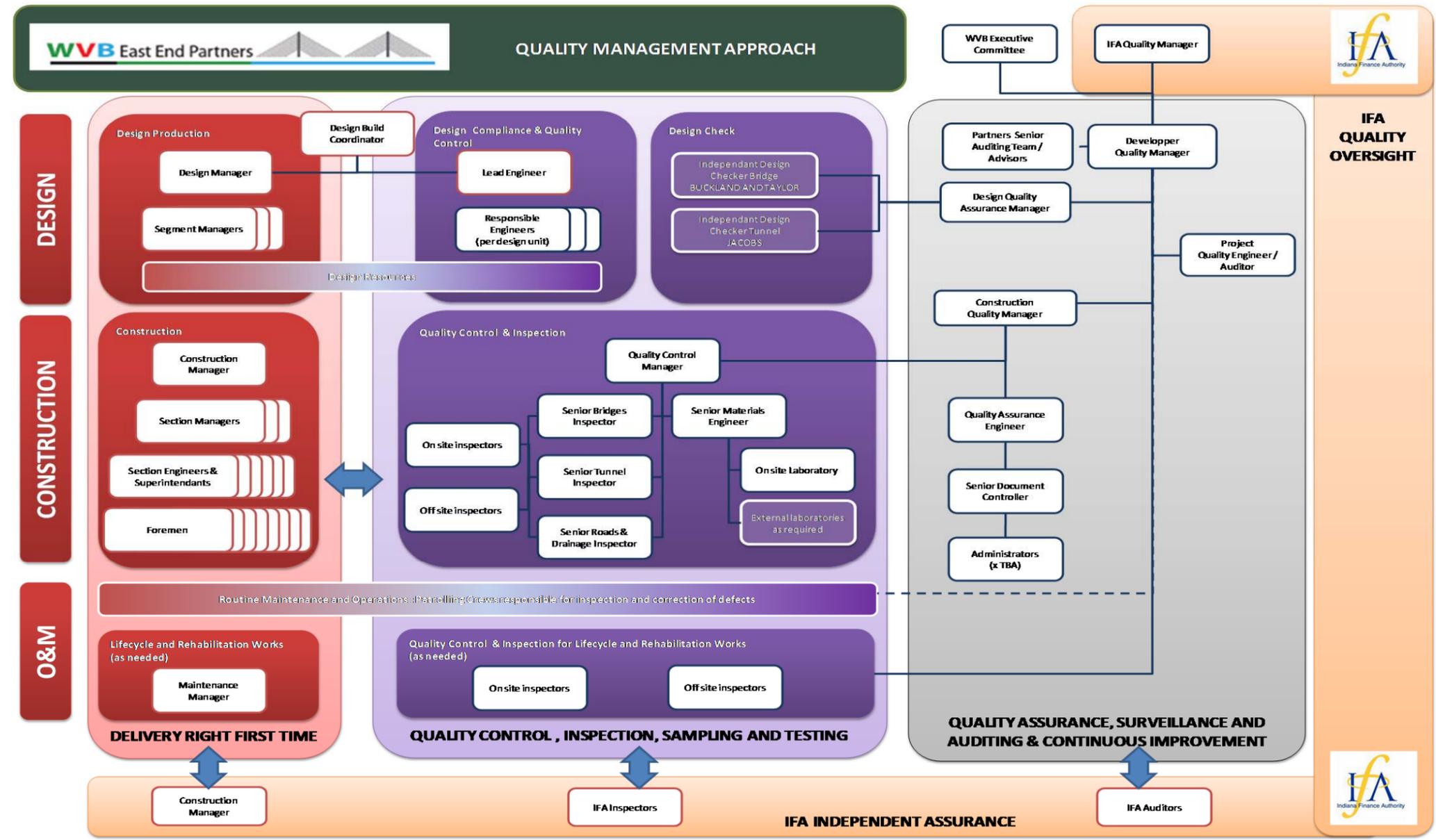


Figure 9 – Organization of the Quality team

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The self-certification process includes a robust internal audit regimen. This falls under the responsibility of the Quality Manager who will appoint qualified auditors from his team or from the parent companies to constitute the WVB audit pool. These auditors will audit the effective implementation of the IMS and processes at two levels:

- WVB assurance engineers under the direct responsibility of the Quality Manager auditing WVB processes, designer and subcontractor activities on / off site
- Parent company senior auditors, independent from WVB management, who will audit the whole Project system. Typical audit period is 6 to 8 months

The audit schedule will be prepared annually by the Quality Manager, reviewed and approved by the Project Manager and transmitted to IFA.

All audit reports will be available to IFA, which may also conduct audits.

4.2 Sustainability and Health and Safety Management

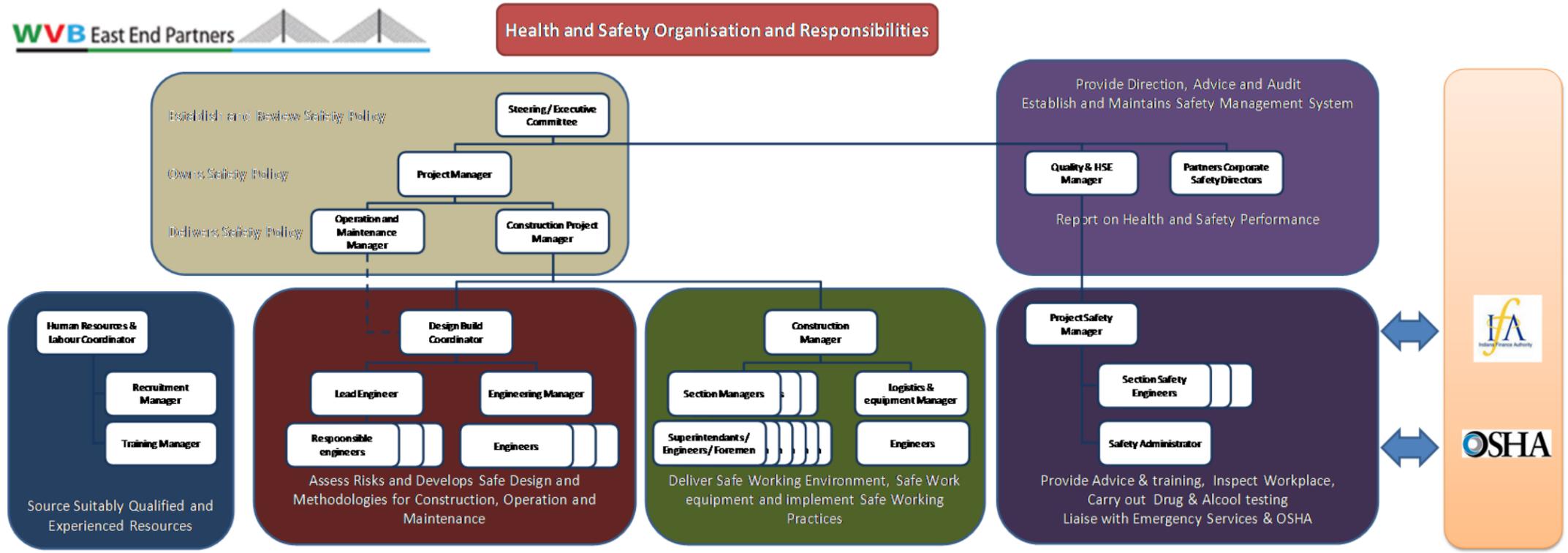
All WVB personnel and subcontractor / supplier employees will be committed to the delivery of our Sustainability and Safety Strategies and Policies as set out in our Environmental Compliance and Mitigation Plan (and associated management plans) and Safety Plan. The responsibilities of each member of staff will be detailed in their specific job descriptions to ensure their responsibilities are understood and accepted.

The Quality and HSE Manager owns both the Health and Safety Management (C3) and Sustainability and Environment (C4) control processes. She will:

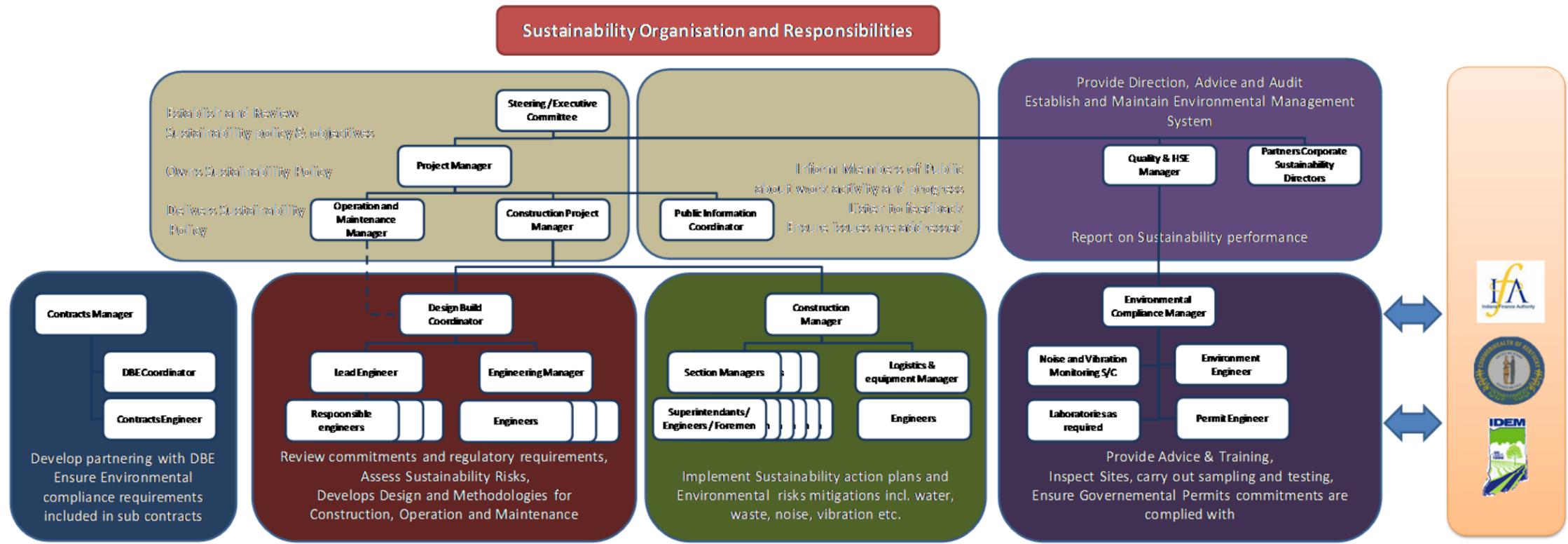
- Review related process documentation compliance with **ISO 14001** and OSHA standards
- Advise on environmental, health and safety regulations
- Inspect and audit the activity for compliance with the above
- Liaise with stakeholders for all matters regarding sustainability and safety

Responsibilities related to Health and Safety, as well as sustainability are summarized in the organizational charts next pages.

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5 WVB Management System Documentation

5.1 Integrated Management System

WVB will develop its own specific management system from its individual partner's existing documentation. The system developed by WVB Joint Venture companies will be used as a reference.

This system will be fully integrated and will comply with the requirements of and. All processes and procedures will address Quality, Safety and Environmental aspects where relevant and will be communicated to supply chain members to ensure they too are compliant.

WVB will perform, review and improve tasks as necessary to fulfill its contractual obligations. The strategy for this is described in plans, processes and procedures, as well as design and execution documentation, drawings and method statements.

Once tasks are implemented, records will be collected to provide evidence of product and service compliance with contract, client and legal requirements.

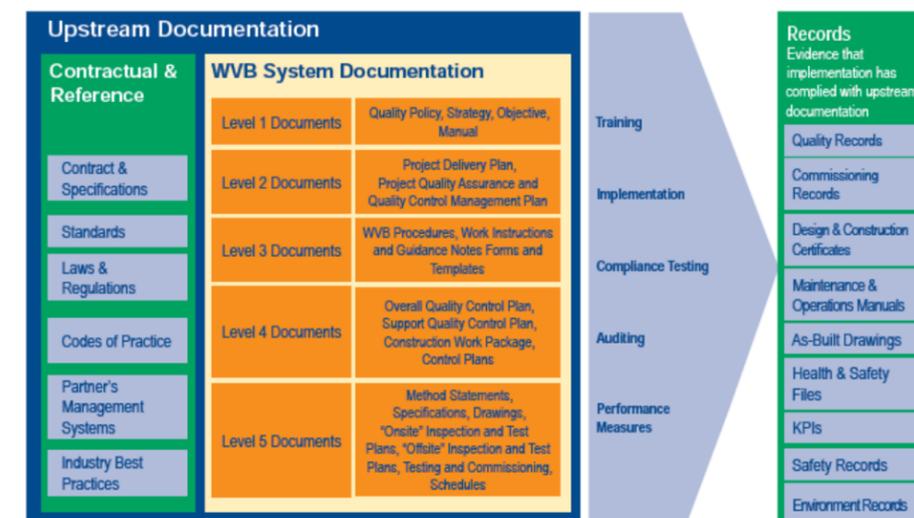


Figure 11 - Upstream documentation leading to records

All documentation will be stored in the Electronic Document Management System (EDMS). This will be accessible through the internet, subject to the completion of the necessary login process to gain access to the website.

WVB will agree with IFA a collaboration and document management platform. WVB currently uses an application called DyMaDoc. The system is currently in use for VINCI Grands Projets Projects.

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Access to DyMaDoc will be provided for members of the WVB team, IFA team, and members of the supply chain, with individual access levels altered as necessary. A Process View Interface will allow easy access from level 1 Strategic Processes to the management processes which cascade down to the supporting procedures and documentation for implementation at delivery level. This is illustrated in the chart in Figure 12 below.

WVB's records will be provided to IFA in a format that will enable easy incorporation into the O&M records.

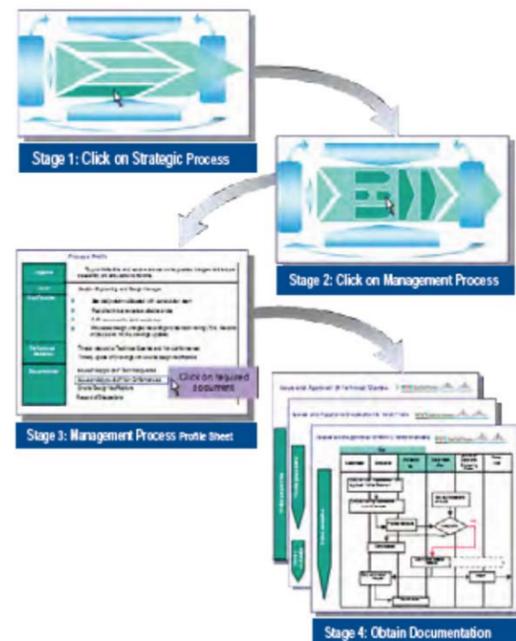


Figure 12 – WVB's IMS will be a full electronic, interactive system available on the intranet

Records

A key aspect of demonstrating that Works have been implemented in a compliant manner will be through the retention of records which verify that activities have been undertaken in accordance with contractual, legal and statutory requirements.

Records will be either generated on paper format, on PDAs, or will be extracted from the data analysis and reporting software.

Paper records will be systematically scanned and uploaded into the Document Management System.

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The organization of all records will allow for easy recovery of information and will comply with identification and traceability criterion agreed with the Client. Details of this are included in the Project quality plan.

5.2 Control of Documents

The control of documents and records is part of Support Process; S7 - Document Control, IT the owner of which is the Quality and HSE Manager. Refer to section 6.5 for details.

A general management procedure will define rules for how to code, present, develop, check, approve, circulate, revise and file all Project documents. The procedure will be supported by the Document Control system.

Document Control will fall under the responsibility of the Quality and HSE Manager. They will be responsible for auditing/ ensuring the following objectives are fulfilled:

- Documents are reviewed and approved prior to circulation, in accordance with the corresponding Project procedure
- Applicable documents are made available to users
- Obsolete documents are clearly identified
- Changes generating document revision are logged and managed in accordance with the corresponding Project procedure
- Records are collected as the works and services progress, and quality packages are generated accordingly

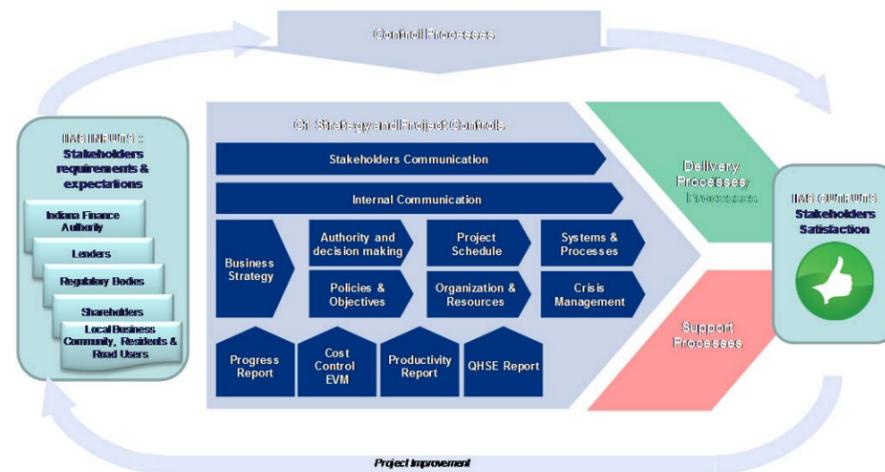
Our policy is to co-locate our designers and suppliers directly engaged in the Project delivery where possible. We recognize however that design functions require head office support, hence all remote design offices and subcontractors will access the Document Management System to upload / download documentation. There will be a fully trained document controller in each location – working closely with the WVB site and delivery team document controllers.

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6 Control Process

6.1 C1: Strategy and Project Controls

The aim of the first strategic control process is to deliver the business strategy and Project controls elements which are shown in the diagram below.



Owner	Project Manager
Enablers	Project Management Team and Project Team
Performance Measures	High level Key Performance Indicators Dashboard Client satisfaction survey Employees and stakeholders satisfaction surveys

7.1.1 Stakeholders Communication

Objectives	To ensure stakeholders' requirements and expectations are met, and keep all stakeholders informed during progression of the project.
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Key Features	<ul style="list-style-type: none"> Throughout the Project development and delivery phase, establish and maintain a forum for two way communication with the variety of Project stakeholders Use informal and formal opportunities to share information related to the Project and local improvements and benefits
Documentation	Presentations Correspondence

7.1.2 Internal Communication

Objectives	To promote strategy and policies and ensure adhesion of all and collaborative behaviors.
Key Features	<ul style="list-style-type: none"> WVB delivery team co-located in the team office and has regular engagement with JV company support function managers Internal communication – Use of DyMaDoc to store and share Project information and documentation Key members of WVB team appointed to specific roles Social and team building events
Documentation	WVB Steering Committee reports Minutes of meetings Document Control Procedure

7.1.3 Business Strategy

Objectives	To provide adequate direction and priorities to the business in line with Client, customer's, shareholder's and stakeholder's expectations.
Key Features	<ul style="list-style-type: none"> Determined by Project Manager and WVB Steering Committee members Alignment with Client strategy Develop in consultation with the Client during engagement and throughout the Bid Phase of the Project Strategy cascaded through the WVB delivery team
Documentation	Strategy document and implementation plan Sustainability Strategy

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7.1.4 Authority and Decision Making

Objectives	To define and appoint clear responsibilities and rules for decision making processes in such a way that outputs are transparent and not subject to discussion.
Key Features	<ul style="list-style-type: none"> Decision making structure clearly described Review team to support and substantiate decision making Steering Committee meeting on a regular basis
Documentation	Project governance principles

7.1.5 Policies and Objectives

Objectives	To provide direction to the business in line with Clients Project Objectives.	
Key Features	<ul style="list-style-type: none"> WVB Policy and objectives defined by Project Manager in consultation with the WVB Steering Committee Managers to communicate policies to their employees Update of policies is an output of management review. Reasons include changes of objectives, focus on weak performance or improvement 	
Documentation	Quality Policy Sustainability Policy Health & Safety Policy	Equal Opportunities Policy Drugs & Alcohol Policy KPI dashboard

7.1.6 Project Schedule

Objectives	
Key Features	•
Documentation	

7.1.7 Organization and Resources

Objectives	Organize adequate resources to suit policy and objectives
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Key Features	<ul style="list-style-type: none"> Provide the right person, with required competences and adequate equipment at the right place at the right time – fundamental for quality and safety Anticipate people leaving (staff turnover, adequate skilled resource) Identify key positions difficult to recruit and organize sufficient overlap (succession planning) Clear description of responsibilities – staff letter of appointment for key positions to ensure commitment to program objectives is well understood and cascaded down to appropriate level Complement internal skills and resources with internal companies, subcontractors – considered as partners Provide working environment, facilities that meet needs
Documentation	Organization charts Staff planning Responsibilities and job descriptions Letters of appointment

7.1.8 Systems and Processes

Objectives	Provide all staff in WVB with the appropriate work instructions or systems they need to perform their tasks. To ensure that these are continuously reviewed and improved for meeting WVB objectives.
Key Features	<ul style="list-style-type: none"> Integrated management system to cover all aspects of quality, health and safety and environmental management Processes monitored for compliance and performance through KPIs and audits Delivered by the Quality & HSE Manager, reviewed internally and approved by WVB Project Manager Submitted to Client according to the review procedure Revised in line with organizational, regulatory or statutory changes, and/ or improvement actions (based on the advice of the Quality & HSE Manager and part of the management reviews) Available to third party auditors during their audits or inspections Training as part of orientation
Documentation	Management system documentation program Management review reports

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7.1.9 Crisis Management

Objectives	To ensure that WVB Project Manager and the WVB Steering Committee takes prompt and adequate decisions regarding an unexpected event.
Key Features	<ul style="list-style-type: none"> Review of progress, compliance and performance through: Weekly meetings with the WVB delivery Team Monthly Board Management meetings Above subject to action logs with appointed owners Availability of progress reports and key performance indicators Access to detailed reports and associated documentation
Documentation	Meetings input documentation and decision logs.

7.1.10 Progress Report

Objectives	
Key Features	•
Documentation	

7.1.11 Cost Control EVM

Objectives	
Key Features	•
Documentation	

7.1.12 Productivity Report

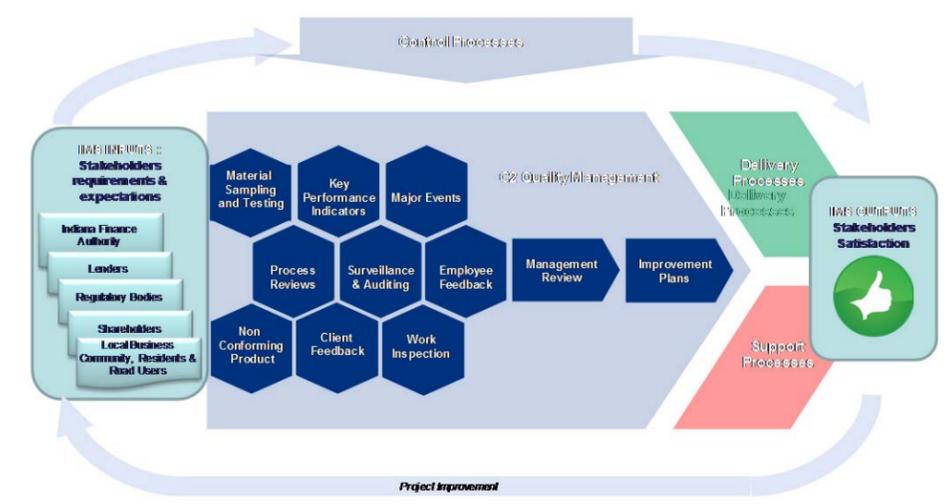
Objectives	
Key Features	•
Documentation	

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7.1.13 QSHE Report

Objectives	
Key Features	•
Documentation	

6.2 C2: Quality Management



Owner	Quality & HSE Manager
Enablers	Design & Engineering Team, Quality Team, Commercial Team
Related strategic document	Quality Strategy

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Performance Measures	High level Key Performance Indicators and selected KPIs Audit Discrepancy reports and Non-conformance closed as planned Audit and Action plans monitoring
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7.2.1 Material Sampling and Testing

Objectives	To check that the requirements established in the approved design are still met during construction activities.
Key Features	<ul style="list-style-type: none"> Approval of Inspection and Test Plans (ITP) and Materials ITPs define the records associated to the works and inspections which will constitute the work packages and go in the Final Assurance book Key stage of quality assurance, i.e. to give confidence that organization, resources, materials, documents, etc. are in place prior to the works. Surveillance from Client Representative
Documentation	Specifications Material Approval Requests, Inspection and Test plan

7.2.2 Key Performance Indicators

Objectives	
Key Features	
Documentation	

7.2.3 Major Events

Objectives	
Key Features	
Documentation	

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7.2.4 Process Reviews

Objectives	To ensure that processes are fit for purpose, continuously challenged and improved.
Key Features	<ul style="list-style-type: none"> Process owners responsible of process reviews Compliance and performance monitoring Effectiveness of process interfaces Adequacy of resources Generation of high level KPIs Main review discussed during Board meetings Analysis of system defect reports, NCRs
Documentation	Process review reports

7.2.5 Review and Auditing

Objectives	To verify that activities are conducted according to the quality, safety and sustainability requirements of the integrated management system.
Key Features	<ul style="list-style-type: none"> Initial audit plan Annual audit schedule validated during Management Reviews. Once deployed, key elements of the IMS will be audited on a quarterly cycle focusing on key risk areas and any improvement areas identified in previous audits Audit plan to cover internal suppliers and subcontracted activities Internal auditor pool using JV partner's resources Regular review of the records on the Electronic Data management System (EDMS)
Documentation	Audit plan Audit reports Auditors qualification records

7.2.6 Employee Feedback

Objectives	To capture employee's feedback in order to feed the continuous improvement process.
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Key Features	<ul style="list-style-type: none"> • Consultation of employees through representatives attending Health and Safety Committees, toolbox meetings, idea boxes etc. • Employee surveys carried out periodically • Incentive schemes for near miss, best practice, and innovation reporting
Documentation	Employee survey questionnaire Committee action logs Action plans from employee feedback

7.2.7 Non-Conforming Product

Objectives	To record and correct non-conforming product
Key Features	<ul style="list-style-type: none"> • Clear definition of non-conforming product • Adequate records and channels of reporting / decision making • Follow up of actions
Documentation	Non Conformance Reports (NCRs) process NCR trend analysis

7.2.8 Client Feedback

Objectives	To capture Client feedback in order to feed the continuous improvement process.
Key Features	<ul style="list-style-type: none"> • Client surveys carried out periodically • Client attendance at meetings • Formal and informal feedback through Project Manager
Documentation	Client survey questionnaire Committee action logs

7.2.9 Work Inspection

Objectives	To demonstrate compliance of the works with Client's and regulatory requirements To detect and address any deviation and non-conformances and ensure compliance of the as built.
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Key Features	<ul style="list-style-type: none"> • Defined and agreed inspection in ITPs • Day to day liaison with Client's Inspectors and site teams for inspection program • Documented record of hold points Record of any field change or non-compliance and if any, ensure the change or the correction is compliant
Documentation	Inspection and test plans Weekly program Site records (Work Packages)

7.2.10 Management Review

Objectives	To capture and analyses all available data to ensure IMS remains relevant, adequate and effective.
Key Features	<ul style="list-style-type: none"> • Management review panel • Opportunities to improve and / or to modify the system, policies and quality objectives are assessed. The Management Reviews analyses the results of performance and compliance indicators • Management Review input includes: <ul style="list-style-type: none"> • Results of audits • Client, customer and stakeholders feedback • Process performance and product or service conformity • Results of the analysis of accidents and near misses • Result of the analysis of environmental non conformances and near misses • Status of corrective and improvement actions • Results of action arising from previous Management Reviews • Changes that could affect the Management System • Recommendations for improvement • Management Review output consists of decisions and actions related to: <ul style="list-style-type: none"> • Improvement in the effectiveness of the Management System and its processes • Improvement of product or service related to Client requirement and satisfaction • Resource and training needs

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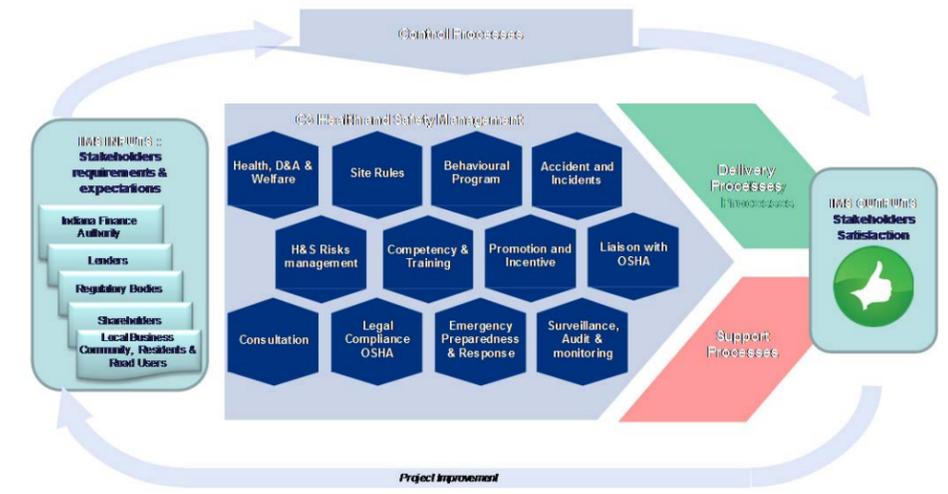
Documentation	Management Review procedure Management Reviews input data Action plans
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7.2.11 Improvement Plans

Objectives	To deliver continuous improvement of performance and productivity to achieve relentless predictability
Key Features	<ul style="list-style-type: none"> • Corrective and preventive actions issued as a result of systems or service discrepancies or non-conformance • Action plans with defined outputs, ownership and targets • Adequate resource allocation • Training and implementation plan • Review of effectiveness
Documentation	Corrective action procedure Preventive action procedure Corrective actions register Action Plan Systems defect reports

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6.3 C3: Health and Safety Management



Owner	Quality & HSE Manager
Enablers	Safety Management Team
Related strategic documents	Health and Safety strategy Health & Safety Policy
Performance Measures	H&S KPIs Action plans monitoring

7.3.1 Health, D&A and Welfare

Objectives	
Key Features	•
Documentation	

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7.3.2 Site Rules

Objectives	
Key Features	•
Documentation	

7.3.3 Behavioral Program

Objectives	
Key Features	•
Documentation	

7.3.4 Accidents and Incidents

Objectives	To record accidents and incidents and prompt information/action.
Key Features	<ul style="list-style-type: none"> Information issued to staff Accident/incident investigation carried out by trained personnel. Support from WVB company H&S experts Root cause analysis Accidents and incidents reported to WVB companies. Analysis of trends and causes
Documentation	Accident and incidents reports preparation, review and circulation process. Accident report Near Miss report

7.3.5 H&S Risks Management

Objectives	To reduce hazards and risks to personnel health and safety.
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Key Features	<ul style="list-style-type: none"> Designing for safety workshops Health and Safety Risk inventory and analysis tool to define adequate mitigations Residual HSE risk tables and mitigations included in work method statements
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Documentation	Health & Safety Plan Designers Hazards log Health and Safety Risk Analysis tool Procedure and process for work method statement preparation
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7.3.6 Competency and Training

Objectives	To ensure that personnel have adequate competence and knowledge of risks regarding Health & Safety to perform the duties they are responsible for.
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Key Features	<ul style="list-style-type: none"> Subcontractors assessment Competency requirement matrix according to risks Competency assessment and recording Orientation and training program Supervisor orientation Non speaking English workers program Records of the above for all staff and supply chain partners in WVB Staff Competency and Safety Management Systems
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Documentation	Subcontractor assessment questionnaire Competency matrix Competency and training database and records
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7.3.7 Promotion and Incentive

Objectives	To ensure engagement and adherence of all employees and supply chain partners to Health & Safety policies.
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Key Features	<ul style="list-style-type: none"> Communicate and positively influence team behavior Collective and personal incentive program based on positive interventions and contribution to best practices dissemination Behavioral safety program
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Documentation	Safety strategy Promotion and incentive program Company Newsletters / bulletins on Sustainability
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7.3.8 Compliance & Communication with OSHA

Objectives	To ensure continuous compliance with OSHA requirements and communicate as necessary
Key Features	<ul style="list-style-type: none"> • Dedicated person to liaise and discuss with Client safety teams • Independence from production • Dedicated focus on Safety factors applicable to the site
Documentation	Health & Safety Plan Presentation documents when attending conferences and workshops JV company literature

7.3.9 Consultation

Objectives	To ensure continuous communication and focus on safety throughout the WVB Project team to assess safety within all areas of the bid process.
Key Features	<ul style="list-style-type: none"> • Communication of the Project safety strategy and plan • Representatives of the WVB Joint Venture companies form the a safety working group to ensure sharing of best practice and continuous improvement from the JV companies
Documentation	WVB group companies safety documentation Safety strategy implementation plan

7.3.10 Legal Compliance OSHA

Objectives	To ensure that WVB meets legal requirements and employer's duties To enable HSE preventative actions and best practice sharing across the industry.
Key Features	<ul style="list-style-type: none"> • Safety Manager to attend forums, seminars and liaise with OSHA • Safety Manager to be on partner organizations mailing list for updates and alerts
Documentation	Applicable laws, regulations and standards

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7.3.11 Emergency Preparedness and Response

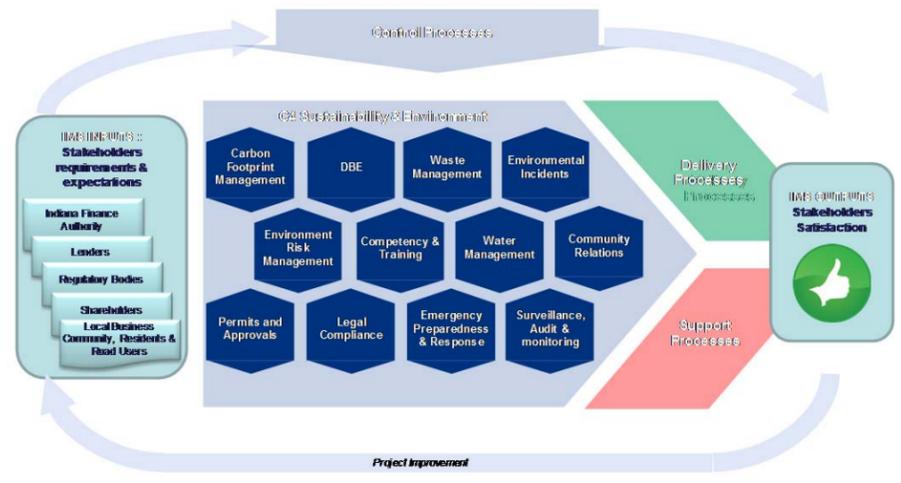
Objectives	To be adequately prepared in case of H&S emergencies.
Key Features	<ul style="list-style-type: none"> • Risk analysis to identify emergency Health & Safety situations • Ensure construction planning incorporates the requirements of emergency preparedness and emergency response
Documentation	Emergency plan

7.3.12 Review, Audit and Monitoring

Objectives	To verify that Health & Safety strategy is implemented.
Key Features	<ul style="list-style-type: none"> • Audit and measures through C2 related management process • Checklists • Indicators
Documentation	Health & Safety compliance checklist Reports Trend analysis

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6.4 C4: Sustainability and Environment



Owner	Quality & HSE Manager
Enablers	Environmental Management Team
Related strategic documents	Sustainability Strategy Sustainability Policy Sustainability Management Plan
Performance Measures	Sustainability KPIs to be developed Process performance measures to be defined

7.3.1 Carbon Footprint Management

Objectives	To maximize resources efficiency and recycling to achieve 'reduce, re-use, recycle'. To consider carbon footprint during the bid / planning process.
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Key Features	<ul style="list-style-type: none"> Dedicated planning working group Awareness and Training program Internal communication, promotion of best practices and behavior change Set up objectives on material recycling, water consumption, energy consumption
Documentation	Sustainability strategy Green House Gas (GHG) emissions tracking spreadsheet

7.4.2 DBE

Objectives	
Key Features	•
Documentation	

7.4.3 Waste Management

Objectives	
Key Features	•
Documentation	

7.4.4 Environmental Incidents

Objectives	To record environmental incidents and prompt information/action.
Key Features	<ul style="list-style-type: none"> Information issued to staff Incident investigation carried out by trained personnel. Support from WVB company sustainability and environment experts Root cause analysis Accidents and incidents reported to WVB companies Analysis of trends and causes

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Documentation	Environmental incidents reports preparation, review and circulation process. Environmental Incident report
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7.4.5 Environment Risk Management

Objectives	To reduce hazards and risks to the environment
Key Features	<ul style="list-style-type: none"> • Environmental targets and Program • Risk Inventory and analysis tool to identify significant environmental aspects and prioritize actions • Environmental risk tables and mitigations included in work method statements
Documentation	Environmental Management and Sustainability Plan Health & Safety Plan Designers Hazards log Environmental Risk Analysis tool Health and Safety Risk Analysis tool Procedure and process for work method statement preparation

7.4.6 Competency and Training

Objectives	To ensure that personnel have adequate competence and knowledge of risks regarding sustainability and the environment to perform the duties they are responsible for.
Key Features	<ul style="list-style-type: none"> • Subcontractors assessment • Competency requirement matrix according to risks • Competency assessment and recording • Orientation and training program • Supervisor orientations • Non speaking English workers program • Records of the above for all staff and supply chain partners in WVB Staff Competency and Safety Management Systems
Documentation	Subcontractor assessment questionnaire Competency matrix Competency and training database and records

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7.4.7 Water Management

Objectives	
Key Features	•
Documentation	

7.4.8 Community Relations

Objectives	To ensure continuous communication of our focus on sustainability throughout the community
Key Features	<ul style="list-style-type: none"> • Communication of the Project sustainability strategy and plan • Representatives of WVB working with the community to ensure that all requirements and expectations related to sustainability are met and exceeded
Documentation	Sustainability management plans and correspondence

7.4.9 Permits and Approvals

Objectives	
Key Features	•
Documentation	

7.4.10 Legal Compliance

Objectives	To ensure that WVB meets legal requirements and employer's duties To enable HSE preventative actions and best practice sharing across the industry.
Key Features	<ul style="list-style-type: none"> • Environmental Compliance Manager to attend forums, seminars and liaise with HSE and environmental agencies • Environmental and Compliance Manager to be on partner organizations mailing list for updates and alerts

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Documentation List of applicable laws, regulations and standards available online
Alerts and best practices available online.

7.4.11 Emergency Preparedness and Response

Objectives	To be adequately prepared in case of environmental emergencies.
Key Features	<ul style="list-style-type: none"> Risk analysis to identify emergency situations in sustainability and environment Ensure construction planning incorporates the requirements of emergency preparedness and emergency response
Documentation	Emergency plan

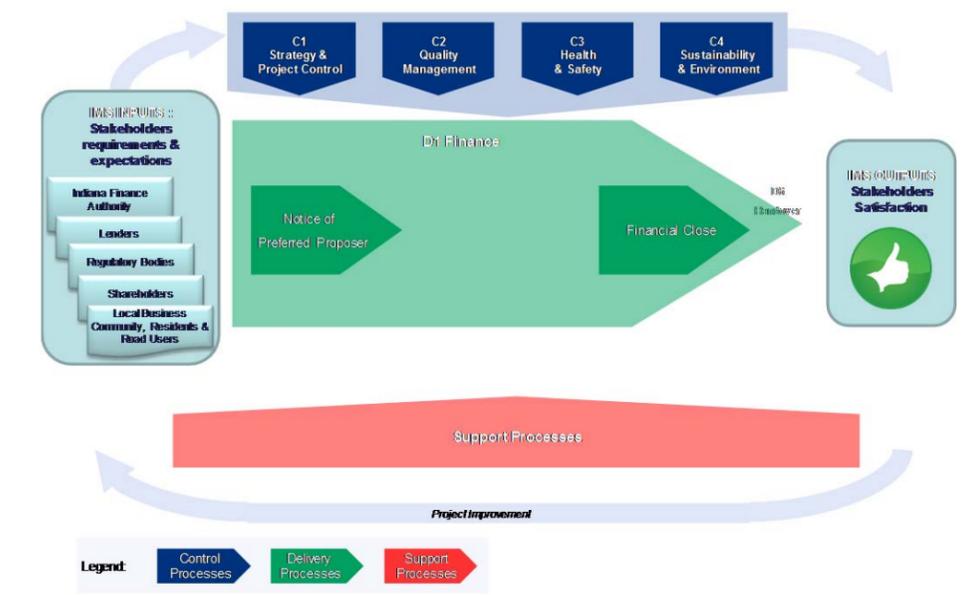
7.4.12 Surveillance, Audit and Monitoring

Objectives	To verify that Sustainability strategy is implemented.
Key Features	<ul style="list-style-type: none"> Audit and measures through C2 related management process Carbon footprint assessment Checklists Indicators
Documentation	Environmental compliance checklist Reports Trend analysis

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7 Delivery processes

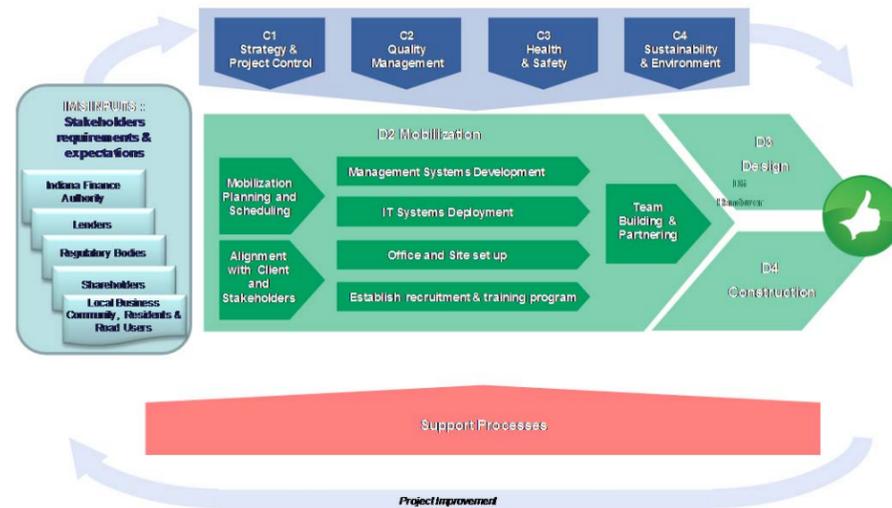
7.1 D1: Finance



Owner	Finance Director
Enablers	
Objective	
Key Features	•
Performance Measures	

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7.2 D2: Mobilization



Owner	Construction Manager
Enablers	Project team
Objective	Mobilize resources, set up organization, develop and implement systems and procure subcontractors, supplies and facilities.
Key Features	<ul style="list-style-type: none"> Set up mobilization team and resources Identify competencies needs and set up training program Assist in the process of initial recruitment for the mobilization phase Define activities organization Procure subcontractors and supply of plant, site and compound facilities Develop quality health, safety and environment plans Develop and implement the management System IMS on site Set up clear succession planning Carry out documented readiness reviews with Client prior to commencing delivery processes and procurement Other activities during phase Design Scope check, Planning & programming

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Performance Measures	<ul style="list-style-type: none"> Define with Client and implement site security rules and resources
	KPIs related to implemented / forecast programs for plans and process.

8.2.1 Mobilization, Planning and Scheduling

Objectives	To schedule the project preparation and mobilization phase to enable the main Project Contract schedule.
Key Features	<p>Management tool defining key performance targets, with a look-ahead program that will be published on a regular basis. This will include:</p> <ul style="list-style-type: none"> Administrative set up of WVB Recruitment Training Management systems IT systems Site establishment
Documentation	<p>Agreement with relevant Contract Documents</p> <p>Description of Activities</p> <p>Related Bill of Quantities</p> <p>Allowable unit time rates</p>

8.2.2 Alignment with Client and Stakeholders

Objectives	Ensure we understand the requirements and establish communication process with the Client and all stakeholders
Key Features	<ul style="list-style-type: none"> Matrix of stakeholders and identification of responsible persons within WVB Clearly identified responsibilities within mobilization team, allowing team to ensure alignment with Client and Stakeholder objectives according to defined plan Maintain contact with regulatory authorities throughout Project Where applicable, ensure registration with the relevant labor authorities, insurance companies, departments for taxes and miscellaneous duties) Where necessary, set up and implement contractual arrangements with Client and Stakeholders

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Documentation	Agreement related contract documents Process & Plan
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8.2.3 Management Systems Development

Objectives	To ensure that Plans, processes and procedures are prepared, reviewed and deployed across WVB.
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Key Features	<p>The Project team mobilizes with the human and material resources to cover:</p> <ul style="list-style-type: none"> • Technical: Design, Engineering, Methods, Site Facilities • Works, Scheduling • Health & Safety • Sustainability • Quality • Administration • Commercial • Human Resources & Stakeholders • Design & Engineering • Equipment & Logistics • IT Resources • Communication means
---------------------	---

Documentation	<p>Integrated Management System Planning</p> <p>All other related support documentation, forms & templates required to support the related activities generated by:</p> <ul style="list-style-type: none"> • Technical: Design, Engineering, Methods, Site Facilities • Works, Scheduling • Safety, Environment, Quality • Administration • Commercial • Human Resources & Stakeholders • Design & Engineering • Equipment & Logistics • IT Resources • Communication
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8.2.4 IT Systems Development

Objectives	Design and deploy business systems and communication that serves the Project objectives and constraints
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Key Features	<ul style="list-style-type: none"> • Document Management System (EDMS) supports culture of information sharing • Provision of a restricted network to ensure confidential or sensitive information is only accessed by approved parties • IT systems and EDMS will facilitate generation, release and publishing of Project documentation and therefore contribute to continuous improvement process • Underlying IT systems supporting the EDMS provide a widely accessible, secure, flexible and durable infrastructure • The benefits gained from the exceptional performance levels are driven from a combination of technology aligned with behavioral, organizational, and design and construction process improvements • Technology aligned with behavioral, organizational and design and construction process improvements will drive exceptional performance
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Documentation	<p>Methods & responsibilities relating to Document Management & relevant interface with IT Management is detailed in:</p> <ul style="list-style-type: none"> • Document Management Procedure • Project IT Plan/ Protocol • Security procedure list
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8.2.5 Office and Site Set-Up

Objectives	<p>Development of temporary site facilities according to program.</p> <ul style="list-style-type: none"> • Clearing, grubbing & landscaping • Embedded utilities • Exposed utilities • Road works & parking areas • Offices, Workshops & production facilities
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Key Features	<ul style="list-style-type: none"> • Safe construction enabled by establishing effective site layout which minimizes health and safety risks • Site areas are developed and shared across disciplines throughout the whole life cycle of the Project to build a one team ethos, and instill shared respect of Project site rules
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Documentation	Agreement & relevant contract documents regarding site installation(s) Site Installation Program of Works Construction Plan & relevant Lead Time Plan Applicable Site Rules
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8.2.6 Establish Recruitment and Training Program

Objectives	To ensure that the entire Project team has the necessary competencies and training to fulfill their roles.
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Key Features	<ul style="list-style-type: none"> • WVB job specific training provisions • Job titles, with brief description of roles, and organization structure which relate to the Project organization charts • Outline of roles and responsibilities for each job, with a summary detailing key functions of the position. • Description of main interfaces with other positions • Review of SQEP requirements for each individual role • Key Competencies, explaining requirements of each role
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Documentation	ORB Job Specific Training Programs Job Description Applicant CV Assessment Review Report
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8.2.7 Mobilization and Team Building

Objectives	To ensure that WVB values and Project objectives are shared and understood by all To set the pace
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Key Features	<ul style="list-style-type: none"> • Training and awareness sessions • Team building event
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Documentation	N/A
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8.2.7 Site Security

Objectives	To perform the identified necessary Security tasks for the site installation. To provide the material, equipment and facilities to perform the Security tasks.
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Key Features	Security plan for site, which outlines security provisions including: <ul style="list-style-type: none"> • Security Desk • Access Control • Security Alarm Point Monitoring • Personnel Database Management • Video Imaging
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Documentation	Site Security Plan Service drawings Maintenance Information
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8.2.3 Design Scope Check and Mobilization

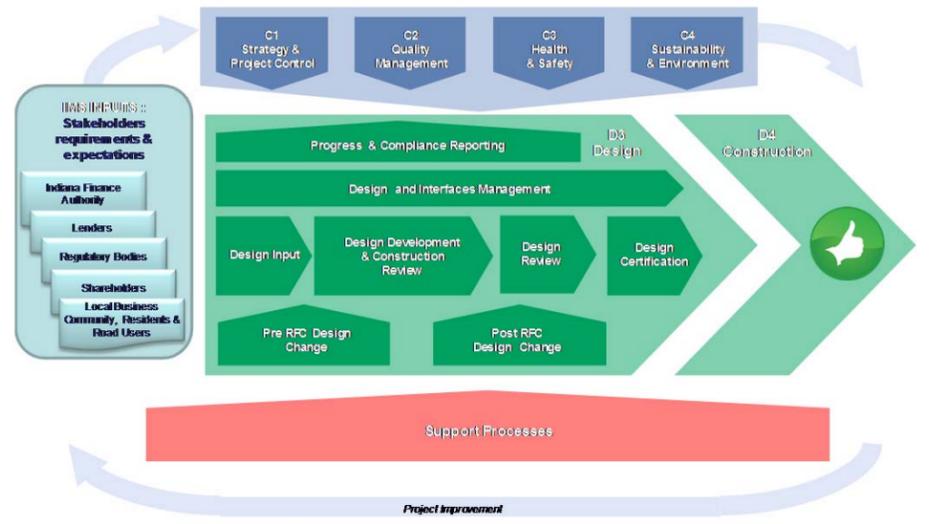
Objectives	Agree with Client on design scope, design deliverables.
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Key Features	<ul style="list-style-type: none"> • Design Concept Report • Different stages of the design • Releasing the Design Deliverables • Approval processing • RFC of Design Deliverables
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Documentation	Agreement & relevant contract documents Program of Works Construction Plan & relevant Lead Time Plan Schedule for Design Deliverables
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7.3 D3: Design



Owner	Deputy Project Manager (Technical)
Enablers	Design and Engineering Team
Performance Measures	Design deliverables published (specs drawings) on time in accordance with Lead Time Plan. Site Request processing complies with the relevant process & feedback to site within specified time. Change control processing complies with relevant process & approval of change is within specified time. Validation of material published on time as per Lead Time Plan.

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8.3.1 Progress & Compliance Reporting

Objectives	
Key Features	•
Documentation	

8.3.2 Design and Interfaces Management

Objectives	
Key Features	•
Documentation	

8.3.3 Design Inputs Analysis

Objectives	To ensure design specifications comply with contract requirements.
Key Features	<ul style="list-style-type: none"> Preliminary Design Work in Progress design leading to <ul style="list-style-type: none"> Detailed Design Use of published RFC design deliverables (Specs & Drawings) to prepare release & publish the related Construction Drawings
Documentation	Agreement & related contract documents (Contract Review) Design Program & Plan Design Control Process Clarification Requests Design hypothesis & calculation notes

8.3.4 Design Development and Construction Review

Objectives	Releasing and publishing design deliverables (specs & drawings) in accordance with program.
Key Features	<ul style="list-style-type: none"> Designer internal processing of the design input data Full calculations after interfacing with relevant team members, such as CDM Coordinator
Documentation	Schedule of Design Deliverables Project wide Design input used in Design Input Analysis

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8.3.5 Design Review

Objectives	
Key Features	•
Documentation	

8.3.6 Design Certification

Objectives	To have set of defined design deliverables published in accordance with the Program, covered by a Designer's Statement (Design Certificate). Designer's Statement will clearly state that the design deliverables are fully compliant with Project requirements (design input).
Key Features	<ul style="list-style-type: none"> • Designer clearly commits to producing design deliverables which, when executed in the construction phase, reflect the product Project requirements • Design Certificate is cross-referenced with the Work Package Certificate once works have been completed by the Construction delivery team
Documentation	Lead time plan for Design Deliverables Program and Plan for Project Design Certificates Designer's agreed Template for Design Certification

8.3.7 Pre RFC Design Change

Objectives	
Key Features	•
Documentation	

8.3.8 Post RFC Design Change

Objectives	
Key Features	•
Documentation	

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8.3.1 Permanent Materials Selection, Tests and Validation

Objectives	Ensure no permanent works material is delivered to the construction site unless previously validated.
Key Features	<ul style="list-style-type: none"> • Lead time plan to ensure adequate planning of all stages • Material Approval Request form and process clearly defining internal and external authorities • Each time the source of material changes a new Material Approval request is required the expected content of which is: <ul style="list-style-type: none"> - Certificate of compliance - Test Results - Product Data Sheet - Manufacturer Reference List - manufacturer Brochure
Documentation	Specification(s) Drawing(s) Material Approval Request "MAR"

8.3.2 Configuration Management

Objectives	Identify and document the key characteristics of the facility and ensure that change to these are fully developed, assessed and verified.
Key Features	<ul style="list-style-type: none"> • Correlation between: <ul style="list-style-type: none"> - Design Requirements - Documentation - Manufacturing details - Installation details - Commissioning - Operation and Maintenance - Physical configuration of the works - Product Details - Modification - Decommissioning

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Documentation	Change registers Drawings and specifications O&M Manuals Health and Safety File
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8.3.6 Change Control

Objectives	Ensure Early Warning/Change Management for the Project are promptly processed (recorded/ managed/ approved & costed, as applicable). Design changes are recorded, managed, approved and costed. Employer and 3 rd Party changes are recorded, managed and costed Construction changes raised are recorded, managed and costed. The HA are informed through the Early Warning process of the impact that the changes will have on the Forecast Scheme Outturn Cost.
-------------------	---

Key Features	<ul style="list-style-type: none"> • The Owner/ Authority is informed through the Early Warning process of the impact that the changes will have on the Forecast Outturn Cost • Owner/ Authority and 3rd Party changes are recorded, managed and costed • Design changes are recorded, managed, approved and costed • Construction changes raised are recorded, managed and costed
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Documentation	Management of the Change Control Process Management of the Change Control Register Management of the Change Template Change Control KPI
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8.3.7 Requests For Information

Objectives	To manage site requests for clarification, deviation & field change & their adaptation and incorporate in the design
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Key Features	Description of situation that needs authorized response in order to proceed with the relevant related task. <ul style="list-style-type: none"> • Project specification not clear &/or contradictory between each other or to the relevant Codes (clarification request) • Improvement situation would result in modification of specification &/or drawings without affecting quality (field change) • Manufactured product or services (Alternative proposal) when RFI is raised)
---------------------	---

Documentation	Design Deliverables Construction deliverables Process for RFI Template(s) for capturing RFIs
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8.3.8 Pre-construction Safety Report (P CSR) Deliverables 'IFC' Drawings

Objectives	Provide information and instruction for the coordination of the necessary flow of information starting with the Design Deliverables to be used as an "input" to provide the Pre- construction necessary safety assurance to the delivery construction team.
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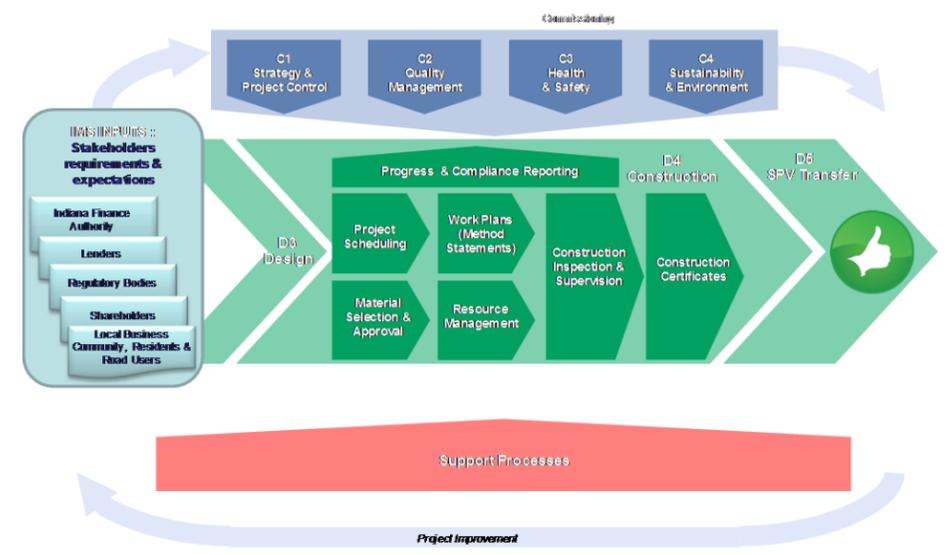
Key Features	Project information Health & Safety Information Equipment Details Design Information
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Documentation	WVB Health & Safety Policy statement & Responsibilities Insurance certificates H&S Induction Register Method Statements Construction Risk Assessments Noise Assessments Training Matrix Permit to work Register Waste Transfer Register Internal Audit Register Accident / Incident / Near Miss / Dangerous Occurrence - Reports H&S Plan
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7.4 D4: Construction



Owner	Deputy Project Manager (Technical)
Enablers	Construction team Design & Engineering Manager Support teams
Performance Measures	High level KPIs dashboard: progress, Quality, Safety and Environment Sections progress indicators

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8.4.1 Progress and Compliance Reporting

Objectives	To inform the management and the Client of the works progress and compliance.
Key Features	<ul style="list-style-type: none"> • Transparency • Report information and analysis to the management for decision making
Documentation	Programs updates and follow up Monthly reports inc. Dashboard

8.4.2 Project Scheduling

Objectives	
Key Features	<ul style="list-style-type: none"> •
Documentation	

8.4.3 Material Selection and Approval

Objectives	Ensure that material delivered to construction site is of required quality, with supporting documentation
Key Features	<ul style="list-style-type: none"> • Materials related to Bulk order/ Call off • Materials related to other than Bulk order
Documentation	Procurement Schedule Requisition Delivery note Material Approval Request Material compliance certificate

8.4.4 Works Plans

Objectives	To deliver, monitor and record the works performed according to the design, methods and ITPs.
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Key Features	Method statements, Risk assessments and mitigation measures transmitted and implemented Supervision of the works according Quality Control principles : <ul style="list-style-type: none"> • Internal inspection (self-checking and/ or inspection by supervisory staff) performed by those doing the work • External inspection, carried out by section quality controllers • Independent inspection carried out by the quality Assurance Inspectors • Client / Regulator hold points as per approved ITP • Records captured in Electronic Document Management System • Non-conforming product or processes will be recorded and submitted under Quality Assurance • Subcontractors' works are subject to the same procedure
Documentation	Quality Assurance Plan Method Statements and Risk assessments Site records issued as per ITPs (Work Packages)

8.4.5 Resource Management

Objectives	To set up resources, plant and equipment, Safe System of Work and Safe place of work to ensure a satisfactory works execution.
Key Features	<ul style="list-style-type: none"> • Support from Technical department • Support from Logistic department • Review of Method Statements by H&S Manager
Documentation	Method Statement procedure and template H&S Site inspections Equipment register

8.4.6 Construction Inspection and Supervision

Objectives	
Key Features	<ul style="list-style-type: none"> •
Documentation	

8.4.7 Construction Certificates

Objectives	
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Key Features	•
Documentation	

8.4.3 Adequate resources and Competences /Equipment / Work Conditions

Objectives	To set up resources, plant and equipment, Safe System of Work and Safe place of work to ensure a satisfactory works execution.
Key Features	<ul style="list-style-type: none"> • Support from Technical department • Support from Logistic department • Review of Method Statements by H&S Manager
Documentation	Method Statement procedure and template H&S Site inspections Plant register

8.4.4 Works Execution, Subcontractors Supervision, Inspection and Testing (8.44 WORKS PLANS)

Objectives	To deliver, monitor and record the works performed according to the design, methods (Safe System of Work) and ITPs.
Key Features	Method statements, Risk assessments and mitigation measures transmitted and implemented Supervision of the works according Quality Control principles : <ul style="list-style-type: none"> • Internal inspection (self-checking and/ or inspection by supervisory staff) performed by those doing the work • External inspection, carried out by Sections Quality Controllers • Independent inspection carried out by the Quality Assurance Inspectors • Client / Regulator Hold points as per approved ITP • Records captured in Electronic Document Management System • Non-conforming product or processes will be recorded and submitted under Quality Assurance • Seriousness of deficiency estimated according to the consequences on the delivered product (material, component, part of the work, etc.) or the finished works • A classification in defect categories is defined • Subcontractors' works are subject to the same procedure

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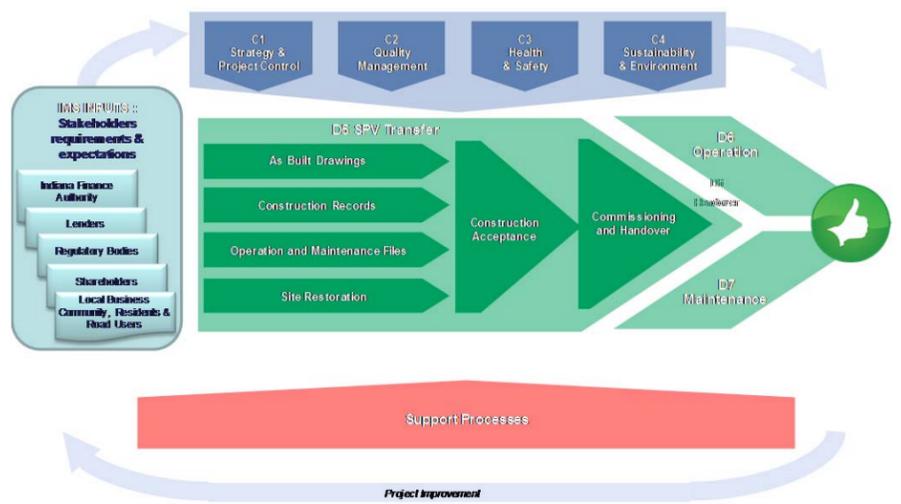
Documentation	Quality Assurance Plan Method Statements and Risk assessments Site records issued as per ITPs (Work Packages)
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8.4.5 Report Works or Process Conformity

Objectives	To inform the management and the Client of the works progress and compliance.
Key Features	<ul style="list-style-type: none"> • Transparency • Report information and analysis to the management for decision making
Documentation	Programs updates and follow up Monthly reports inc. Dashboard

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7.5 D 5: SPV Transfer



Owner	Construction Manager
Enablers	
Performance Measures	

8.5.1 As-Built Drawings

Objectives	
Key Features	•
Documentation	

8.5.2 Construction Records

Objectives	
Key Features	•

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Documentation	
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8.5.4 Site Restoration

Objectives	
Key Features	•
Documentation	

8.5.5 Construction Acceptance

Objectives	
Key Features	•
Documentation	

8.5.6 Commissioning and Handover

Objectives	
Key Features	•
Documentation	

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(HINKLEY D5 COMMISSIONING)

8.5.1 Factory Acceptance Tests – (as applicable for purchased items for Main Civil Works)

(Nuclear significant items have extra Third Party inspections.)

Objectives	To verify that manufacture of equipment follows quality procedures to achieve objectives. To check that characteristics of equipment comply with specification in term of material and functionalities before delivery.
Key Features	<ul style="list-style-type: none"> • Inspection and testing defined in ITPS • Inspection and testing planning in liaison with suppliers/ subcontractors • Dedicated resources for regular inspection and audit (specialized trades/ experts/3rd party as required) • For directly supplied item or assistance to the Client on request
Documentation	Procedures to monitor manufacturing Manufacture progress report Inspections and audits reports during manufacturing Manufacturing records Acceptance test report

8.5.2 Site Acceptance Tests (as applicable for purchased items for Main Civil Works).

(Nuclear significant items have extra Third Party inspections.)

Objectives	To ensure that equipment is installed correctly.
Key Features	<ul style="list-style-type: none"> • Inspection and test plans • Organization of onsite logistics in liaison with suppliers/ subcontractors • Management of interface between construction and QA team
Documentation	Procedures to monitor installation Installation and inspection records Site acceptance report

8.5.3 Acceptance of Work Packages and Records

Objectives	To get Client's acceptance of Work Packages
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Key Features	<ul style="list-style-type: none"> Completion of Work packages as the works progress as per ITPs Clearance of snags Filing and accessibility to approved Work Packages
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Documentation	Work Package program Final inspections Closed NCRs and snags Work packages
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8.5.4 Final Sign-Off

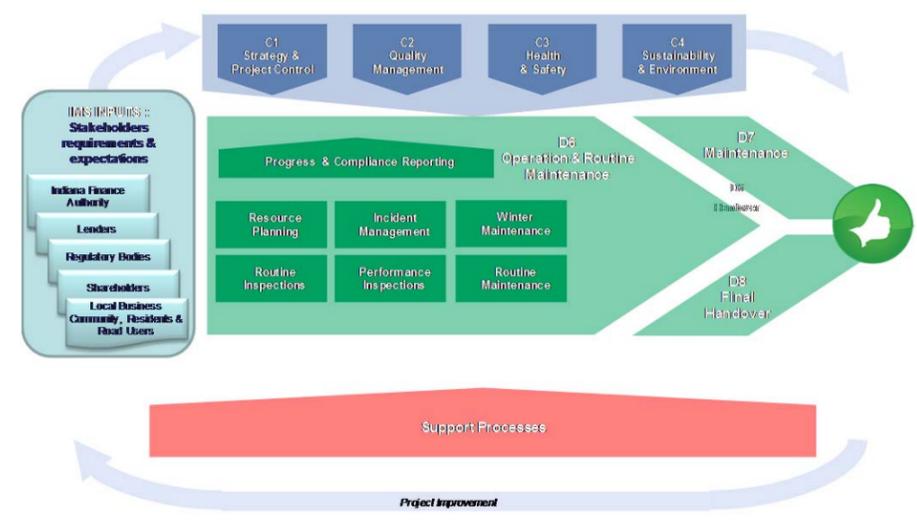
Objectives	Client to formally approve deliverable installations.
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Key Features	<ul style="list-style-type: none"> Program of handover of deliverables as per key dates throughout the construction process to enable the final handover of the works
---------------------	--

Documentation	Work packages program and status Work packages List of contract reference documents Client key dates
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7.6 D 6: Operations & Routine Maintenance



Owner	Operations and Maintenance Manager
Enablers	
Performance Measures	

8.6.1 Progress and Compliance Reporting

Objectives	
Key Features	•
Documentation	

8.6.2 Resource Planning

Objectives	
Key Features	•
Documentation	

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8.6.3 Incident Management

Objectives	
Key Features	•
Documentation	

8.6.4 Winter Maintenance

Objectives	
Key Features	•
Documentation	

8.6.5 Routine Inspections

Objectives	
Key Features	•
Documentation	

8.6.6 Performance Inspections

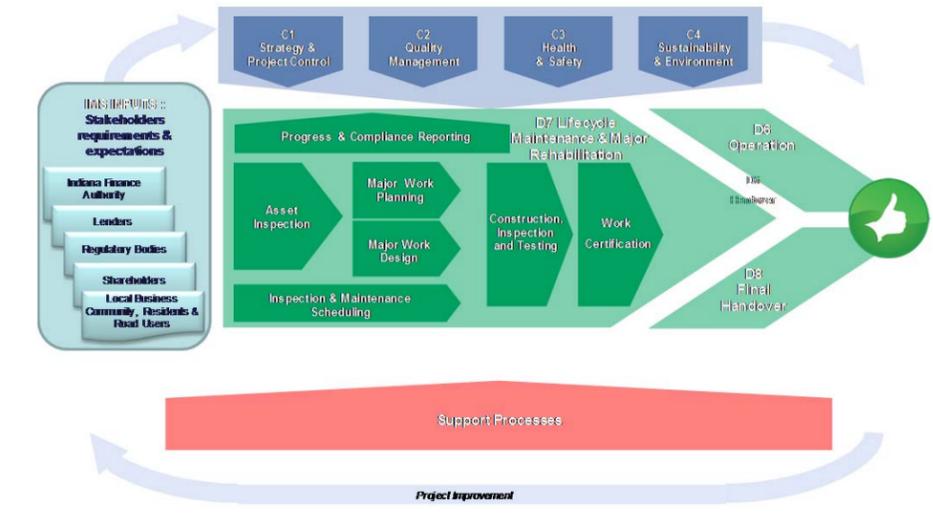
Objectives	
Key Features	•
Documentation	

8.6.7 Routine Maintenance

Objectives	
Key Features	•
Documentation	

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D7: Lifecycle Maintenance & Major Rehabilitation



Owner	Operations and Maintenance Manager
Enablers	
Performance Measures	

8.7.1 Progress and Compliance Reporting

Objectives	
Key Features	•
Documentation	

8.7.2 Asset Inspection

Objectives	
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Key Features	•
Documentation	

8.7.3 Major Work Planning

Objectives	
Key Features	•
Documentation	

8.7.4 Major Work Design

Objectives	
Key Features	•
Documentation	

8.7.5 Inspection and Maintenance Scheduling

Objectives	
Key Features	•
Documentation	

8.7.6 Construction, Inspection and Testing

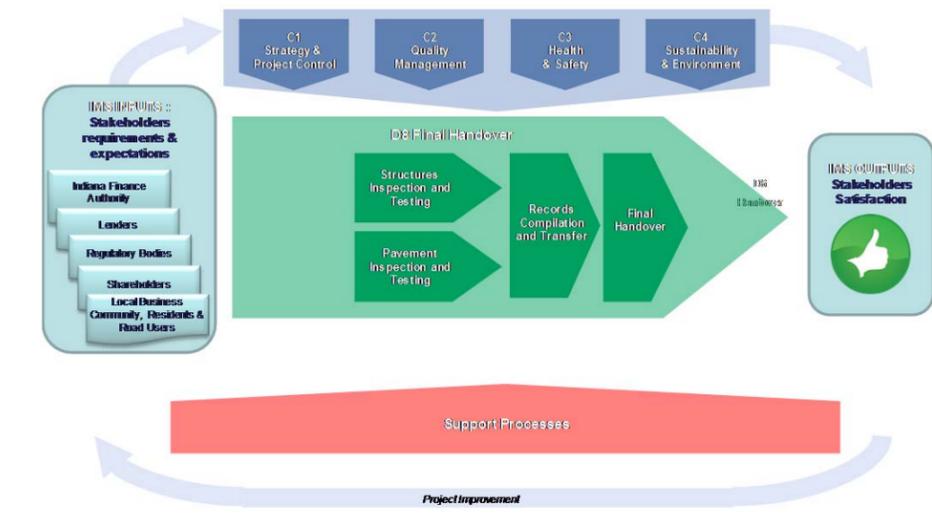
Objectives	
Key Features	•
Documentation	

8.7.7 Work Certification

Objectives	
Key Features	•
Documentation	

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D8: Final Handover



Owner	Operations and Maintenance Manager
Enablers	Construction team, Quality team
Performance Measures	<ul style="list-style-type: none"> • Progress on the Work Package Execution • Progress on Work Package Construction Completion Certification (Program & Plan) • Completion of testing and commissioning as applicable for the works in accordance with the agreed time frames (Schedule & Plan) • Completion of system installations in order to meet the testing and Commissioning time schedule • Testing and Commissioning dependencies across Project and Work Packages understood and communicated to facilitate timely and effective decision making and effective action • Testing and Commissioning resource deployed effectively and efficiently to plan in each Work Package area • Stakeholders are not delayed or compromised in testing their operational processes (people and procedures)

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8.8.1 Structures Inspection and Testing

Objectives	
Key Features	•
Documentation	•

8.8.2 Pavement Inspection and Testing

Objectives	
Key Features	•
Documentation	•

8.8.3 Records Compilation and Transfer

Objectives	All significant Project documents will be stored for an agreed duration according the statutory obligations relating to the nature of the document; e.g. quality and technical reports, commercial and accounting reports, employment, tax etc.
Key Features	<ul style="list-style-type: none"> • Statutory limitation starts to run from an agreed fixed date (date of acceptance) or date(s) based on the gradual execution completion date(s) (dates of gradual acceptance) • Storing the documents which make up the intellectual property of WVB in accordance with the “Experience feedback”
Documentation	<ul style="list-style-type: none"> • Project Document Filing Plan (with identification of filing duration per type of document) • Overall Project Document Archive Register

8.8.4 Final Handover

Objectives	
Key Features	•
Documentation	•

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8.6.1 Commissioning

Objectives	To enable delivery of systems, integrated with the construction process by providing detailed program & planning to successfully report and deliver systems to the expectations required for acceptance.
Key Features	<ul style="list-style-type: none"> • Commissioning activities appropriately managed throughout the Commissioning program • Commissioning is considered early in the program to reduce associated risks to the Project • Design criteria and acceptance standards for testing and commissioning activities are provided in due time as per program • Demonstrate the intent, process and method of commissioning activities for handover • Ensure consistent definition and understanding of commissioning activities
Documentation	<ul style="list-style-type: none"> • Process for Interrelationship and interdependencies between the Integration, Commissioning and Handover processes • Program & Plan for Commissioning • Schedule(s) for testing and commissioning • Testing & Commissioning method statements • Health and Safety considerations • ITP (Inspection and Test Plan) • Defined design and acceptance criteria/ tolerances • A Schedule of Testing and commissioning responsibilities • Detailed commissioning time schedule & logic diagram's • A schedule of witnessing activities and hold points • Pro-Forma test sheets • Status of systems for handover

8.6.2 O & M Manual

Objectives	Set of documents necessary to undertake correctly the maintenance of installations in optimized condition(s).
Key Features	<ul style="list-style-type: none"> • Detailing of the Access/ Cleaning and Maintenance Strategy from the Design Team (if applicable) • Detailing of the Plant/ Equipment Replacement (if applicable) • Listing of any Associated Equipment

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Documentation	<ul style="list-style-type: none"> • Commissioning manuals and safety instructions • User manuals for the equipment or installations and any restrictions for use • Maintenance manuals together with maintenance frequencies and maintenance note books • The list of consumables recommended for servicing operations • Instructions for assembly or dismantling of interchangeable equipment with corresponding diagrams • The list of spare parts, their quantity if provided and their suppliers • Inventory of the most frequent faults and the remedies • Attendance registers for the Client's representatives at training sessions on the use of equipment or installations organized by the Company if they are contractual • The procedure for reporting defects under warranty, including the defect reporting form, the deadlines for intervention and the closure of defects
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8.6.3 Lifetime Records

Objectives	All Project significant documents are to be stored for an agreed duration according to the statutory obligation with regard to the nature of the document: quality and/ or technical records, commercial, accounting, employment, tax...
Key Features	<ul style="list-style-type: none"> • Statutory limitation starts to run from an agreed fixed date (date of acceptance) or date(s) based on the gradual execution completion date(s) (dates of gradual acceptance) • Storing the documents which make up the intellectual property of WVB in accordance with the "Experience feedback"
Documentation	Project Document Filing Plan (with identification of filing duration per type of document) Overall Project Document Archive Register

8.6.4 H&S File

Objectives	To provide information and instruction for the coordination of the necessary flow of information starting with the Design Deliverables to be used as an "input" to provide the Health & Safety File to the satisfaction of the CDM Coordinator.
Key Features	<ul style="list-style-type: none"> • Project Information • Health & Safety Information • Equipment Details • Design Information

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Documentation	Design Deliverables Construction Deliverables Work Package Construction Completion Certifications
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8.6.5 Final Assurance Book

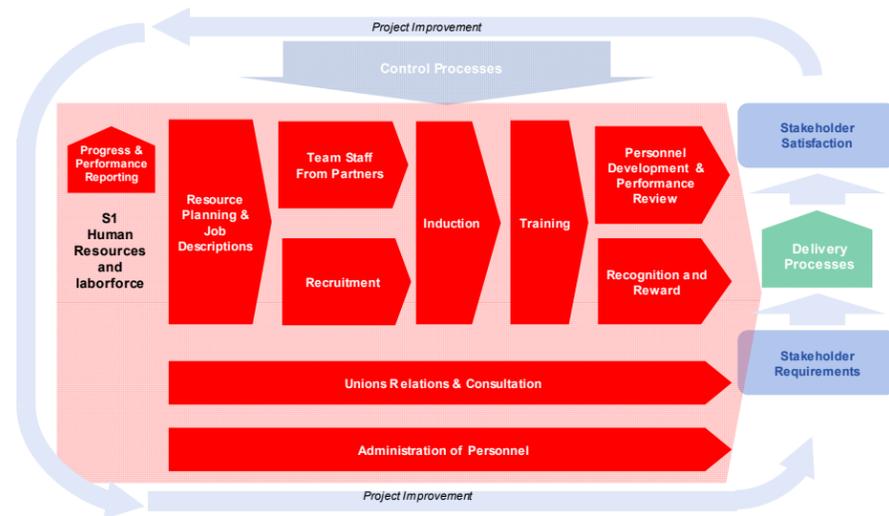
Objectives	To set of both technical and quality assurance requirements that have been applied Project-wide for providing assurance to the Owner &/or key Stakeholders.
Key Features	<ul style="list-style-type: none"> • To trace the evidence in Product Assurance <ul style="list-style-type: none"> - Verification and Validation - Testing - Field Service Experience - Analysis of Design - Traceability - Configuration Consistency • To trace the evidence in process assurance: <ul style="list-style-type: none"> - Requirements Integrated Management System (IMS) - Configuration Management/ Configuration Control (CM/CC) - Risk Management
Documentation	Work Package Construction Completion Certificates As built design deliverables (specs and drawings among others) H&S File

Objectives	
Key Features	
Documentation	

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8 Support processes

8.1 S1: Human Resources



Owner	Administration Manager
Enablers	Construction Managers HR Team
Performance Measures	Training rate Diversity index Achievement of individual interviews Industrial relations disputes / personnel claims Staff retention rate Provision of SQEP personnel
Objective	
Key Features	

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Documentation

9.1.1 S1 Human Resources

Objectives	Assessing and defining the programmed people to be employed with the level of competence for individuals against, especially those key roles defined in the Project Organization Chart. It also defines the regime of assessment and auditable documentation supporting the individual's assessment rating.
Key Features	<ul style="list-style-type: none"> Staff planning, identifying needs Definition and understanding of the skills gap Competence Ratings is to provide authorization for individuals to prepare, originate, review, and authorize design & construction deliverable documentation; and where appropriate, increase and develop roles under supervision
Documentation	Agreed & updated Project Organization Chart Generic job roles and descriptions Project-wide histogram of people to be employed

9.1.2 Assignment of Staff From Partners

Objectives	To ensure proper coordination with partners in recruitment.
Key Features	<ul style="list-style-type: none"> Decision making process Job description and person specifications Interfaces with HR Trainees and pre graduate internships
Documentation	Correspondence CVs

9.1.3 Recruitment of Management, Skilled Engineers and Workforce

Objectives	To provide adequate resources as required by the business.
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Key Features	<ul style="list-style-type: none"> • Staff planning • Cooperation with local Agencies • Anticipate staff turnover and difficult periods to provide dedicated resources • Identify key positions harder to recruit – organize succession plan
Documentation	Recruitment policy and strategy Equal opportunity policy Job descriptions and person specifications Recruitment and selection process Recruitment advertising process Application forms Succession planning and identification Orientation checklist

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9.1.5 Promotion / Identification of Skills and Competences

Objectives	To set out the Project Management expectation & the achievement of them regarding both skills and Health & Safety competencies, how these may be specified, judged and improved over time.
Key Features	<ul style="list-style-type: none"> • Appointment of only Suitably Qualified and Experienced Personnel (SQEP) • Competency is the addition of Experience, Knowledge & Qualification • All Project Management staff employed are to have a demonstrable competence in both health & safety matters and appropriate management or supervisory skills • All tradesmen and operatives employed Project-wide are to have a demonstrable skill level incorporating health and safety training • Competence must be demonstrable for an individual's core competence, as well as any other safety critical operations that the individual may carry out. For example, a tradesman would require the relevant skills card for his core competency, but may also require evidence of competency for the driving of a fork lift truck.,
Documentation	Training needs identification (training and development database) Performance management Appointment and recording of Suitably Qualified and Experienced Personnel (SQEP) 00000/WVB/S1-/04-/PRO/10007

9.1.6 Introduction

Objectives	To ensure people understand the Project strategy, policy, organization and systems requirements. (Process may be delegated to Construction Manager deputy)
Key Features	<ul style="list-style-type: none"> • Orientation sessions chaired by member of senior management • Safety orientation session for all workers • Specific orientation for visitors, drivers etc. • Full orientation for management including contract, commercial, quality etc. • Multiple choice questionnaire to check knowledge and understanding • Orientation records maintained

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Documentation	Orientation training demonstrations Orientation booklet Orientation records Orientation procedure of WVB Team Members 00000/WVB/S1/06-PRO/10008
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9.1.7 Training

Objectives	To develop and sustain people's skills and competences to suit the needs of the business
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Key Features	<ul style="list-style-type: none"> • Training program established each year based on business strategic needs as defined in the training plan, succession planning requirement and personnel demands identified during yearly appraisals • Training program monitoring reports are reviewed by the Management Committee • Training organizations are selected by the HR Manager and evaluated according to the supply chain process
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Documentation	Training Plan Appraisal process and guidance notes Behavioral competencies Competency framework Identification of skills Training needs identification (training and development database) Review and feedback process
----------------------	--

9.1.8 Performance Management and Recognition

Objectives	To ensure staff commitment to WVB's values, objectives and working standards.
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Key Features	<ul style="list-style-type: none"> • Promotion of Culture and Values • "Open door" management style • Individual staff assessment performed yearly • Bonus and incentive policy • Discipline and grievance procedure • Employee Relations
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Documentation	Staff assessment records Disciplinary process Sickness absence Probationary review
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9.1.9 Continuous Monitoring of Site Workforce Welfare

Objectives	To demonstrate welfare
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Key Features	<ul style="list-style-type: none"> • Liaison with unions
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Documentation	Workforce feedback Outputs of site inspections
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9.1.10 Occupational Health support

Objectives	To prevent danger incurred by any personnel potentially not fit for their position or under the influence of drugs or alcohol. To identify and prevent occupational illnesses.
-------------------	---

Key Features	<ul style="list-style-type: none"> • Health and safety screening • Specific health checks for at risk positions • Drugs and alcohol testing • Availability of medical support and first aid for all personnel
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Documentation	Storage of information on secure Document Management system.
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9.1.11 Consultation / Industrial relations

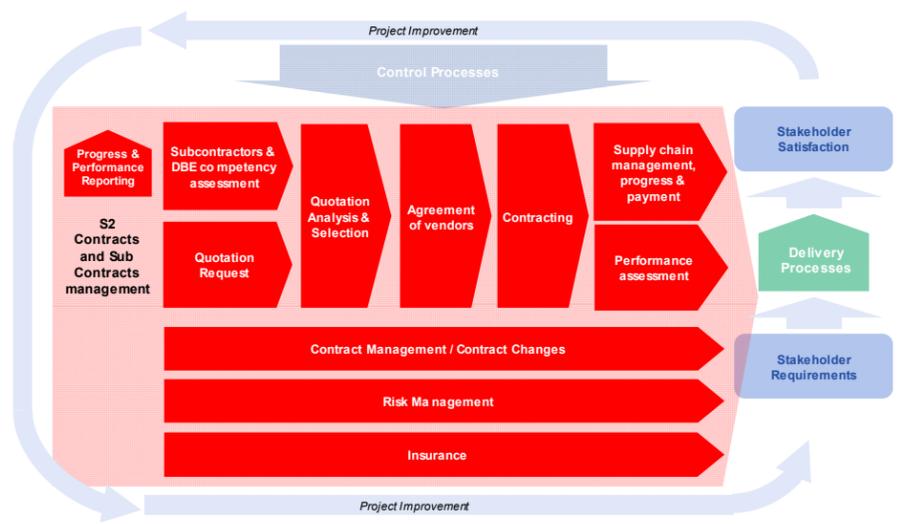
Objectives	To ensure collaborative and "employee welfare" focused relationship with employee representatives.
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Key Features	<ul style="list-style-type: none"> • Setting up Union consultation • Develop continuous and transparent relationships with representatives • Employee's representative attendance to Health and Safety Committee
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Documentation	Employee representative communication. Security Aftercare Procedure 00000/WVB/S1-/12-/PRO/10010 WVB/Nuvia Security Vetting Interface Procedure 00000/WVB/S1-/12-/PRO/10009
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8.2 S2: Contracts and Subcontracts Management



Owner	Deputy PM Finance Administration Manager
Enablers	Project Site Manager, Construction Manager, Procurement Manager.

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Performance Measures	Commercial KPIs: <ul style="list-style-type: none"> • Management & mitigation of risks within mitigation plan requirements • Identification & conversion of opportunities within set opportunity plan • Procurement of suppliers • Supply chain • Management of change • Reliability of estimating & forecasting • Payment(s) made within the terms of agreement(s)/ contract(s)
Objective	
Key Features	
Documentation	

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9.2.1 S2 Contracts and Subcontracts Management

Objectives	•
Key Features	•
Documentation	

9.2.1 Commercial Management Including Reporting, EVA and Audit

Objectives	To provide the works in compliance with Project requirements while keeping to the extent feasible & practicable the: <ul style="list-style-type: none"> • Lowest capital cost • Lowest whole life cost • Cost certainty
Key Features	<ul style="list-style-type: none"> • Ensure Project-wide commercial coordination (Supply chain) • Manage the cost estimate • Manage the Commercial Reporting (cost, EVA, audits) • Manage the Change Order process
Documentation	Overall Commercial Plan Relevant Commercial Procedures Relevant Commercial records Commercial KPIs

9.2.2 Contractual (PMIs, Variations)

Objectives	To ensure contract changes, Client instructions & variations are captured & controlled.
Key Features	<ul style="list-style-type: none"> • Development of contracting strategy with Clients, partners • Legal analysis
Documentation	Design Changes after issue of IFC documentation Changes issued by the Client or Third Party All other changes that will affect cost or time Change Control Register Early warning to Client

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9.2.3 Early Warning Notices and Risks Management

Objectives	To set out Early Warning/ Change Management to ensure: <ul style="list-style-type: none"> • Design changes are recorded, managed, approved and costed • Client and 3rd Party changes are recorded, managed and costed • Construction changes raised are recorded, managed and costed
Key Features	<ul style="list-style-type: none"> • The Client is informed through the Early Warning of the impact that the change(s) will have on the Cost • Risks and opportunities valuation • Risk management: mitigation measures, regular reviews
Documentation	Change Control Register Early warning to Client

9.2.4 Contract Payments & Client Financial Meetings

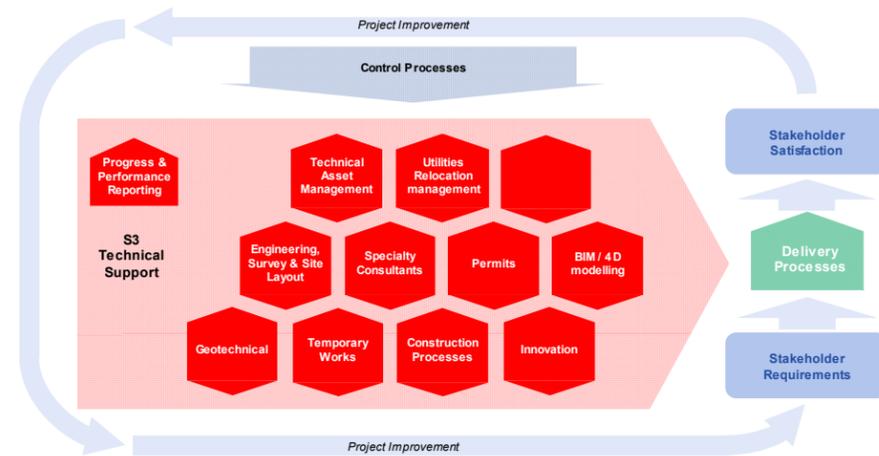
Objectives	To ensure payments made within the terms of contract.
Key Features	<ul style="list-style-type: none"> • Prompt payment • Correct payment
Documentation	Payment certificate request

9.2.5 Cost Control & Financial Approvals

Objectives	To secure the costs.
Key Features	<ul style="list-style-type: none"> • Accuracy of cost • Reporting internally & externally to • Accurate & prompt payment of suppliers
Documentation	WBS register Delivery tickets & invoices Analytical Costing Report(s) Analytical Spending Report(s) KPIs

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8.3 S3: Technical Support

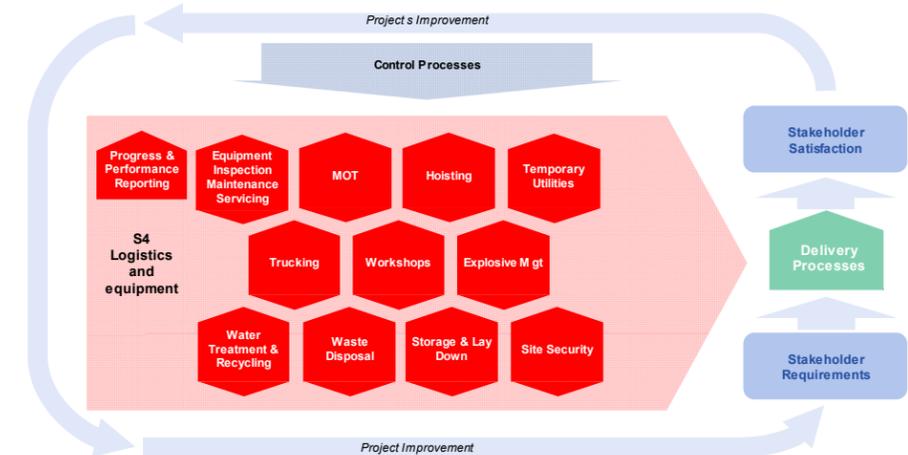


Owner	Design-Build Coordinator
Enablers	Engineering team
Key Features	<ul style="list-style-type: none"> • Provision of expert advice on Construction processes, Best Practice and new ideas • Planning and programming support to site based staff • CAD modeling and Construction sequencing • Geotechnical, site survey and temporary works • Technology advice, (Concrete etc.) • Offsite sampling and testing • Specialists support throughout design and construction
Performance Measures	KPIs To be defined. Technical advice costs monitored by partner companies.
Objective	To provide the delivery team with technical support and manage interface with the designers
Key Features	<ul style="list-style-type: none"> • Value engineering workshops • Design review • Expertise

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Documentation	Design Quality Plan & Procedures
	Survey Procedures
	Technical Queries Procedures

8.4 S4: Logistics Support



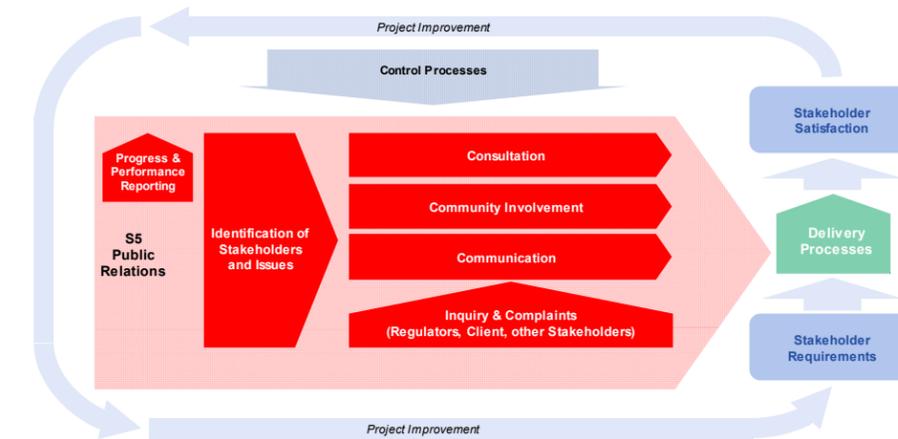
Owner	Logistics and Equipment Manager
Enablers	Construction Manager and Procurement Manager
Key features	<ul style="list-style-type: none"> • Establish Framework agreements for products and services • Place orders, keep records for buying and hiring of items • One point of contact for arrangements of site establishment including workshops, stores and lay down areas • Waste skips etc. set up in set locations around the site as construction activities change • Keeping of records in accordance with the Waste Management Plan for categorization & disposal of waste. (Meet legal obligations) • Ensures plant and equipment comply with standards (Certification, safety and Noise) and the positions are as per the Construction site plans with safe operating envelopes • Ensures Plant Operators have CPCS and plant operator specific cards

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	<ul style="list-style-type: none"> Preventive maintenance plan for purchased plant Creation of Safe Lifting plans for construction operations Traffic Management solutions, segregation pedestrians / vehicles Maintenance of Color code for lifting equipment on sites. Inspections of lifting gear Set locations for plant, skips, stores, lay down areas Responsibility for site security
Performance Measures	Plant performance: efficiency/ Productivity records Plant within program Plant compliance with maintenance requirements Supplies delivered to site destination within allocated unit time Breach to applicable Site Rules within acceptable allowable specified requirement (analytical approach & analysis) Waste production within forecast (analytical approach & analysis)
Objective	To provide and maintain Logistics support to the construction teams.
Key Features	<ul style="list-style-type: none"> Plant and equipment complying with standards (safety and Noise) Drivers with CPCS cards Preventive maintenance plan . Traffic Management solutions, segregation pedestrians / vehicles Color code for lifting gears
Documentation	Plant register Compliance Certificates and Inspection records Maintenance planning Staff competency cards

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8.5 S5: Liaison and Public Relations

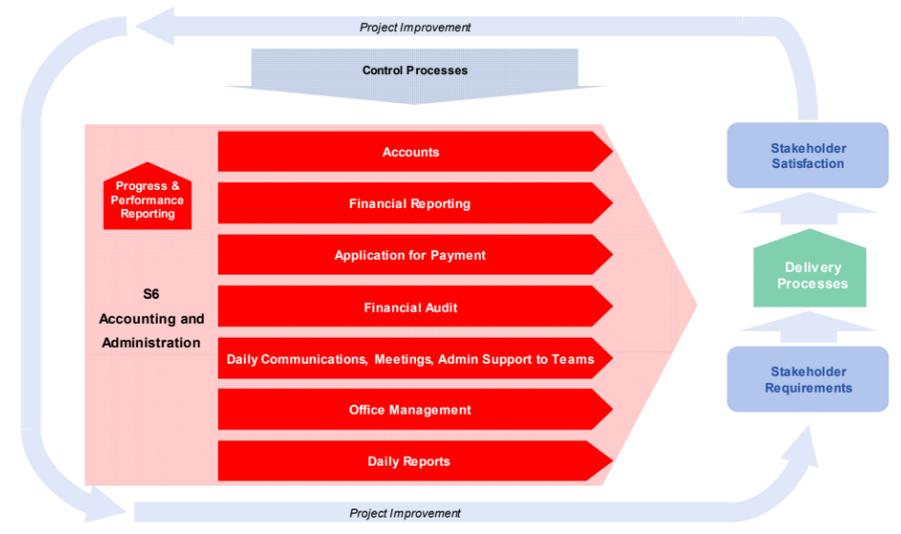


Owner	Public Information Coordinator
Enablers	Liaison and PR team, Security team, Admin and Logistics team
Key features	<ul style="list-style-type: none"> Support the Client in liaison with Stakeholders and Regulators Support charities, schools and community initiatives – (via Site Licensee approvals) Involvement in Project progress information and bulletins Audit satisfaction through surveys and complaints analysis to develop improvement actions Where and when applicable revise procedure/ MS, add to register of commitments and inform Customer Services
Performance Measures	Query/ Complaints response time within allowable specified time Customer satisfaction Undesired publicity Smooth relationship with neighbors and stakeholders
Objective	To ensure the delivery and the feedback of information to the local communities

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Key Features	<ul style="list-style-type: none"> • 24-hour Freephone Project Helpline • Liaison with Stakeholders and local authorities • Support charities, schools and community initiatives • Clear information to local residents through information meetings and newsletters • Monitoring noise reduction and other mitigations effectiveness • Audit satisfaction through surveys and complaints analysis to develop improvement actions
Documentation	Newsletters Queries/ complains follow up register

8.6 S6: Accounting and Administration



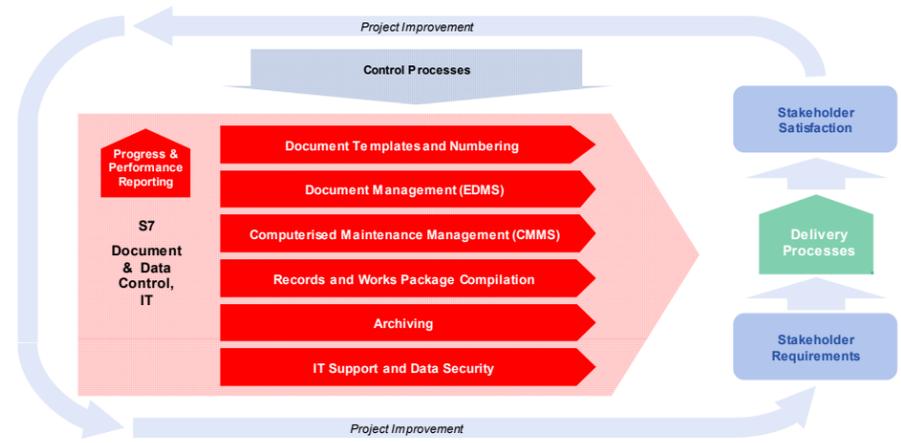
Owner	Deputy PM Finance Administration Manager
Enablers	Admin team, IT technician, Logistics Manager

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Objective	The supply support service covering all areas of basic administration necessary for the successful delivery of the Program.
Key features	<ul style="list-style-type: none"> • Control of the WVB Site Establishment ensuring welfare of personnel • Compliance with Office safety and site emergency procedures • Enabler for achieving energy efficient offices • Dedicated control and responsibility for the site establishment purchases • Administration team support for daily activities • Point of contact for site visits etc.
Performance Measures	Complaint related to welfare of personnel Conform to training dispensed to Office safety and site emergency procedures Compliance with site rules regarding energy efficient offices Site establishment purchases within allowable budget Site visit process complied with
Objective	
Key Features	
Documentation	Administration Plan Administration Procedures Administration Records

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8.7 S7: Document & Data Control, IT



Owner	Quality & HSE Manager
Enablers	Document controller, Construction team, Design and Engineering team
Key features	<ul style="list-style-type: none"> Electronic Document Control system "EDMS" as unique platform for correspondence, drawings and records Specific search/ retrieve functions to provide easy access to key data
Performance Measures	Design deliverables released and published on EDMS (progress as per lead time plan) Construction deliverable released & published on EDMS (progress as per lead time plan)
Objective	To ensure Project documentation is prepared, collected, captured and disseminated in a controlled manner according to TW specification.

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Key Features	<ul style="list-style-type: none"> DyMaDoc as unique platform for correspondence, drawings and records Double filing system for records allowing for quality packages or health and safety files content retrieval. Specific reporting database to provide Client with easy access to key data WVB will have its own ICT team for co-ordination of internal and external providers. WVB will provide helpdesk for staff
Documentation	Document Control System, (DyMaDoc) user manual Quality Plan Document control procedures and processes

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Draft DBE/Workforce and Diversity Plan (4.1.2 and 4.1.3)

DBE PERFORMANCE & WORKFORCE/EEO PROJECT PLAN

The WVB DBE Performance and Workforce/EEO Plan reflects our grass-roots approach to exceeding the goals with our DBE plan identifying at least 9% DBE participation, establishing partnerships, and leaving a measureable impact on the community.

WVB East End Partners (WVB) understands that the Ohio River Bridge East End Crossing Project (Project) requires a diverse and well-trained workforce to stimulate economic growth and viability of Southern Indiana and Kentucky. From experience, WVB incorporates the following to achieve a successful DBE Performance and Workforce Project Plan:

- Leadership Commitment
- Defined Goals
- Community Involvement

The commitment from the WVB and its partners is throughout this DBE/Workforce Plan. WVB assures our commitment to exceeding the 9% DBE goal, 15% minority and 10% women workforce goals in this DBE/Workforce Plan. Lastly, our proudest approach is the interpersonal contacts and personal relationships with the Louisville/Southern Indiana workforce and business community throughout this DBE/Workforce Plan.

4.1.2 PRELIMINARY DBE PERFORMANCE PLAN

Individual members of WVB have a proven history of exceeding the DBE and workforce/EEO goals on projects. Under the direction of 49 CFR Part 26, the following are key components to the WVB’s DBE plan:

- A.** Dedicated DBE Team
- B.** Proactive outreach and community engagement
- C.** Specialized DBE attention
- D.** Packaged work scopes
- E.** Required DBE participation from major subcontractors
- F.** DBE progress reported to IFA and WVB’s Executive Committee and Senior Management
- G.** A capacity-building program to ensure a legacy

In addition to attracting, retaining, and improving subcontractors and material suppliers already prequalified, WVB’s objective is to identify companies that have potential to perform work on this and future projects. WVB will achieve this through the cumulative efforts of our designers, consultants, and subcontractors. WVB will strengthen the individual DBE companies that participate in this Project for greater opportunities in the future.

A. DEDICATED WVB DBE TEAM

WVB has assembled a team with over 60 years of combined experience to execute the DBE Plan. The WVB DBE Team is led by four individuals with extensive DBE/EEO experience:

- **Brenda Wolf**, DBE Coordinator
- **Doug Cunningham**, DBE Compliance Advisor
- **Marvin Jackson**, Assistant DBE Advisor
- **Maurice Sweeney**, Diversity and Inclusion Advisor

Brenda Wolf is the DBE Coordinator. Brenda’s qualifications include:

WVB DBE/EEO TEAM

Doug Cunningham, Maurice Sweeney, and Marvin Jackson will assist with the DBE efforts for the Project.



- 17 years of construction experience; 7 years as the Regional EEO Officer/DBE Coordinator for Walsh Construction Company.
- Led DBE solicitation and procurement activities for Walsh Construction Company’s Milton/Madison Bridge project in Madison, Indiana; project is currently exceeding DBE goals.
- Led DBE/EEO efforts for Walsh Construction Company’s I-69 White River to CSX project in Washington, Indiana.

Doug Cunningham is the DBE Compliance Advisor. Doug’s qualifications include:

- 35 years of construction experience; 21 years working in the implementation, monitoring and enforcement of diversity programs.
- Led DBE/EEO efforts on Walsh Construction Company’s Dan Ryan Expressway Reconstruction Project to achieve 48 percent minority and female workforce (exceeding the goal of 19.6 percent); earning Walsh the Road Builders Association “Workforce Diversity Award.”
- Led DBE/EEO efforts on Walsh Construction Company’s Marquette Interchange Project to achieve 22 percent DBE participation (exceeding the goal of 12 percent) by working with local community leaders to develop strategies maximizing hiring of local employees and minority contractors.

Marvin Jackson is the Assistant DBE Compliance Advisor, who has experience on several Walsh projects to exceed M/W/DBE participation goals. Marvin’s qualifications include:

- 14 years construction experience, 7 years working with public school systems, faith-based organizations, W/M/DBE firms and participation goals.
- DART Green Line Expansion Project, working with seasonal interns, Dallas Public Schools, and community organizations to achieve 42 percent M/DBE participation (exceeding the goal of 39 percent)



THE 2007 WORKFORCE DIVERSITY AWARD FOR DAN RYAN EXPRESSWAY

Doug led the DBE/EEO program on the \$724 million Dan Ryan Expressway projects. The project had a 19.6 percent goal for minority and female workforce. Walsh achieved 48 percent — nearly 2.5 times the goal. As a result, the Illinois Road and Transportation Builders awarded Walsh their first-ever “Workforce Diversity Award.”

Maurice Sweeney is the Diversity and Inclusion Advisor for our DBE Team. Maurice brings with him an impressive résumé in community involvement and DBE participation and retention directly in the Greater Louisville Area. Maurice’s résumé highlights include:

- More than 30 years of diversified experience in leadership and strategic planning
- Co-Creator and Director of the Kentucky Engineering Scholar Program
- Creator of the Minorities in Construction (MIC) Training Program
- Executive Director for the Office of Minority Affairs, Kentucky Transportation Cabinet
- Co-founder of Project BUILD, Business United in Leadership Development
- Creator and founder of Kentucky State Governments’ Management Trainee Program
- Founding board member of the Hispanic/Latino Business Council
- President of the Kentucky Chapter, National Association of Human Rights Workers

The WVB DBE Team has initiated personal contact with DBEs early in the project pursuit process. These initial meetings began in early March and have progressed over the last seven months. WVB recognizes that the importance and scope of the Project will require the DBE Team’s full-time dedication with multiple layers of support (e.g., community, faith-based, public school, chambers of commerce, etc.). The DBE Team has selected supporting outreach/community relation firms native to the Louisville/Southern Indiana area to assist with diversity and inclusion for the Project. We have met with the following certified DBE firms and individuals expressing interest as DBE consultants:

- **NAACP**, Antia Fields
- **Vick Strategic**, Talmadge Vick
- **Indiana Strategic Resource Group**, Aleta Mungal
- **Engaging Solutions**, Venita Moore, Debra Wilson

The WVB DBE Team, along with our management staff, will be co-located at the Project office. IFA management and WVB management will have direct access to the DBE Team.

B. PROACTIVE OUTREACH & COMMUNITY ENGAGEMENT

WVB realizes the importance of community engagements and relationships to the success of the DBE plan. The DBE Team is actively reaching out to the local business community and have identified three levels of businesses:

1. Certified and prequalified DBEs
2. Certified but not yet prequalified DBEs

OUTREACH AT SIMMONS COLLEGE

WVB DBE outreach at Simmons College hosted over 56 DBE companies and 95 individuals.



3. Companies that are not certified or prequalified, yet qualify

WVB has hosted several community outreach events identifying these companies on all three levels. The events are listed in **Table 4-1**.

In addition to outreach events and direct calls to previously identified DBEs, WVB used published lists from KYTC and INDOT, and the database resources of the following agencies and local organizations to identify 2,033 DBE firms:

- Louisville Metro Human Relations Commission
- Women Business Center of Kentucky
- Ohio River Valley Women’s Business Council
- Louisville Hispanic/Latino Coalition
- Lexington Minority & Women Contractor Training Program
- Kentucky Minority Business Council
- National Association of Women Business Owners (NAWBO)
- Kentucky Procurement Assistance Program
- Tri-State Minority Diversity Supply Coalition
- Minority Enterprise Development of Western Kentucky

WVB presented Project information to DBE firms at all WVB-sponsored DBE Outreach meetings and provided information describing our team and the Indiana and Kentucky DBE certification and prequalification procedures. These informational documents can be found at the end of this Preliminary Plan. The presentation included the following topics:

- Introduction of WVB
- ORB East End Crossing Project Overview
- ORB East End Crossing Project Details
- DBE Opportunities
- DBE Certification Information
- Prequalification Information

An important part of the WVB DBE Plan includes personal contact with local community organizations and agencies. From these contacts, we received information concerning local certified DBE firms, mentoring opportunities, and local DBE capacity. The WVB met with the DBE firms, agencies and community organizations shown in **Table 4-2**.

TABLE 4-1: WVB COMMUNITY OUTREACH EVENTS HOSTED OR ATTENDED

Date	Host	Event	DBE's	Location
03/13/12	WVB	WVB hosted a DBE outreach meeting	35	Muhammad Ali Center, Louisville, KY
03/14/12	WVB	WVB hosted a DBE outreach meeting	31	Sheraton Hotel, Jeffersonville, IN
03/20/12	KYTC	WVB attended a DBE outreach meeting	42	Memorial Auditorium, Louisville, KY
03/23/12	One Southern Indiana	Diversity conference	21	Horseshoe Casino, New Albany, IN
05/16/12	NAWBO	ORB information meeting	23	Hyatt Regency, Indianapolis, IN
06/28/12	Metro Government	9th Window of Opportunity Reception	13	Water Tower, Louisville, KY
06/29/12	IFA	IFA DBE Networking Event	64	St. Stephen Church, Jeffersonville, IN
08/06/12	WVB	WVB hosted a DBE Outreach Meeting	56	Simmons College Campus, Louisville, KY

TABLE 4-2: WVB COMMUNITY AGENCIES AND ORGANIZATIONS CONTACTED

Date	Host	Event	Contact	Location
06/07/12	TMG	WVB met with TMG, Brad Mook	Brad Mook	TMG Offices, Louisville, KY
06/19/12	Louisville Urban League	WVB met with Engaging Solutions, Venita Moore	Venita Moore	Louisville Urban League offices, Louisville, KY
06/20/12	Louisville Urban League	WVB met with Indiana Strategic Resource Group, Aleta Mungal	Aleta Mungal	Louisville Urban League offices, Louisville, KY
06/21/12	WVB	WVB met with Kentuckiana Trucking, Kenny Aubrey	Kenny Aubrey	Crown Suites, Louisville, KY
06/29/12	WVB	WVB met with C. Lee Construction	Chip Lee	St. Stephen Church, Jeffersonville, IN
06/29/12	WVB	WVB met with Messier & Associates, Inc.	Fernando Messier	St. Stephen Church, Jeffersonville, IN
06/29/12	WVB	WVB met with J&B Steel Erectors, Inc	Brian Rummel	St. Stephen Church, Jeffersonville, IN
06/29/12	WVB	WVB met with TKT & Associates	Christy R. Jarboe	St. Stephen Church, Jeffersonville, IN
07/12/12	TSMSSDC	Tri-State Minority Supplier Diversity Council Business Opportunity Expo	Suzanne Ruark	Kentucky International Convention Center, Louisville, KY
07/19/12	NAWBO	NAWBO 10th Year Anniversary Open House	Ellen Reitmeyer	Persimmon Golf Course
07/26/12	American Ready Mix	WVB met with American Ready Mix, Joe Lee Phillips	Joe Lee Phillips	American Ready Mix Offices, Louisville, KY
08/15/12	WVB	DBE/Workforce Community Inclusion Round Table and Discussion	Glenda Berry	Guthrie Mayes Offices, Louisville, KY
09/12/12	ASCE U of L	ASCE Meeting	Brooke Benton	University of Louisville

WVB will look first to the local community to fulfill the DBE goals of the Project. We understand that local involvement is important and will strive to maximize it through a concerted local outreach led by our DBE Team. Our second emphasis to obtain DBEs will be on a regional basis. WVB will look to the surrounding states for DBE firms that are or can be certified and eventually prequalified by INDOT for participation in the Project. Finally, WVB will look nationally for DBE firms that have demonstrated a positive track record with experience on other large projects similar to the Project.

A copy of WVB’s DBE Matrix is at the end of this Preliminary Plan. **Table 4-3** represents information from the Matrix.

TABLE 4-3: DBE INVITATION/RESPONSE BREAKDOWN	
DBE Contractors Identified by WVB	2,033
DBE E-Mail Invitation	1,459
DBE Attendees at WVB Outreach Events	237
Number of Expressions of Interest	54

C. SPECIALIZED DBE ATTENTION

WVB recognizes the Project’s DBE firms require specialized attention. WVB provides this attention in the following areas:

1. Assistance and Resource Programs
2. Business Management
3. Mentor Protégé Program

The specialized attention is the combined efforts of the WVB and community agencies and organizations.

1. Assistance & Resource Programs

The trained WVB staff will meet the differing needs of small and disadvantaged businesses with a true sense of cooperation and partnership. This support will include:

- Pre-bid scope clarification
- Bid preparation

- Contract compliance
- Payment and procedural processes
- Determination of goals and standards
- Bonding
- Cash flow management
- Material purchasing

WVB took the initiative to identify community organizations and agencies that assist in disadvantage business development, including:

Women Business Center of Kentucky (WBC): WBC Director, Sharron Johnson, under the umbrella of the Small Business Administration, provides a platform for women entrepreneurs to start and grow their businesses. The WBC will be offering Women in Construction classes, which WVB identified as a DBE assistance program.

Louisville Community Development Bank Enterprise Group (LEG): The LEG provides emerging businesses with training, workforce services and assistance. WVB has identified the LEG as a DBE assistance agency and location for a DBE plan room.

Youth Build Louisville (YBL): YBL Director, Lynn Rippey, and WVB have a shared focus on the development of lives and communities in the Louisville area. WVB and YBL will work together on workforce development and DBE firm development training classes at the YBL campus in Louisville, Kentucky.

Metro Bank: WVB met with Metro Bank’s President, Mr. Pedro Bryant, and have identified small business development loans that base the loan amount on contract award and two-party check systems that will allow DBE firms to add capacity without losing cash value.

In addition to the community-based resources, WVB offers in-house training classes benefiting the DBE firms. The training classes are as follows:

- Safety Training (e.g. OSHA 10-hour and 30-hour)
- Superintendent and Foreman Training
- Project Engineer Training
- Crane Awareness
- Profit/Loss Statement Training

WVB will offer these in-house classes free to DBE firms.

MANAGEMENT TRAINING

WVB jobsite project management training classes will be offered to all DBE firms..



2. Business Management

WVB regularly extends technical assistance to its DBE firms. Two areas of especial benefit to DBE firms on this Project and future projects include:

- Assistance with bonding
- Invoicing and payment

Assistance with Insurance and Bonding: Walsh Construction has introduced DBE firms to insurance and surety brokers in the past that have resulted in long-standing business relationships. Walsh-Vinci JV can also offer bonding assistance to DBE firms. Walsh-Vinci JV has a corporate bonding policy requiring all subcontractors and suppliers with contracts over \$250,000 to provide payment and performance bonds unless upper management specifically waives this requirement. Walsh-Vinci JV specifically provides for this waiver based upon the firm’s DBE status. For the Project, Walsh-Vinci JV will continue to assist DBE firms on an as-needed basis.

As part of the WVB DBE plan, we will provide assistance in overcoming limitations such as inability to obtain bonding or financing. This can be completed by simplifying the bonding process, reducing the requirements, eliminating the impact of surety costs from bids, and providing services to help DBEs and other small businesses obtain bonding and financing.

Explanation of Invoicing and Payment: All Walsh-Vinci JV subcontract agreements will contain a payment clause. This applies whether the subcontractor is a DBE firm or not.

- Subcontractors submit progress payment applications to Walsh-VINCI JV on a monthly basis for work performed for the previous month.
- Walsh-VINCI JV pays progress payments to subcontractors or DBEs no later than ten days after receipt of payment from Owner.
- As a prerequisite for payment, Walsh-VINCI JV requires subcontractors to provide certified payrolls, waivers, and affidavits as specified by applicable statute.
- To facilitate payments to all subcontractors and major material suppliers, Walsh-VINCI JV will implement TEXTURA as an electronic clearing house.

As part of the WVB DBE Plan, Walsh-VINCI JV will monitor and verify work committed and performed by DBEs on the Project. This information will be reported to IFA via affidavits to IFA stating the payments made to DBE firms.

DBE firms face unique financial challenges affecting their ability to respond to projects of this size and complexity. WVB realizes these challenges exist and commits to expediting the payment process to DBEs when possible such as weekly payments versus monthly payments thus offering financial assistance.

3. Mentor Protégé Program

The mission of the Mentor Protégé Program is to build effective working relationships between leaders of established companies and emerging DBE firms. This allows the emerging DBE businesses to benefit from the knowledge and experience of the established firm. The framework of the Mentor-Protégé Program is:

- Objective
- Process
- Selection
- Responsibilities

The WVB Mentor-Protégé Program is specific to the protégé’s scope of work.

Program Objective: The objective of the WVB Mentor-Protégé Program is to cultivate an established small

CHIP LEE OF C.LEE CONSTRUCTION

C. Lee Construction, founded by Frederick ‘Chip’ Lee, is an established excavation, demolition and trucking company based in Griffith, Indiana. C. Lee Construction, founded in 2005, has been working with WVB on various projects in Northern Indiana for several years. C. Lee is a certified Indiana DBE/MBE firm selected by WVB to participate in the Mentor Protégé Program.



MESSIER LETTER TO WVB

“In addition, we are extremely excited that you and your team have offered us the opportunity to participate in your Mentorship program.” - Fernando Messier, CEO



business ready to grow to the next level, promote growth in the Louisville/Southern Indiana economy, and leave a positive benchmark on the community. The program enables DBE firms to:

- Secure financing and loans, allowing them to take on additional responsibilities and scope
- Train existing staff and prepare newly-trained tradespeople to round out their workforces
- Diversify existing services and add new services
- Train and recruit to broaden their base of services

Program Process: WVB strongly believes that being a mentor is not just subcontracting work to small businesses. The mentor-protégé relationship involves:

- Working together in monthly meetings
- Developing and implementing the protégé business plan to obtain the desired results
- 24 module classroom training provided by Mentor
- Providing guidance to allow these firms to be successful in the short and long term.

Program Selection: The companies targeted to participate will have a desire to make their business plan work and are committed to making their business successful. WVB targets firms that are looking for a long-term relationship, which increases the likelihood of success. WVB will team these firms with large subcontracting firms who offer opportunities to share skills and expertise in areas of design, engineering, and construction. Working through faith-based and community-based organizations with our Mentor-Protégé Program, we will target established local DBE firms in the Louisville Community.

Roles and Responsibilities: The mentor assists the protégé in developing implementation plans, which identify the needs, actions, and results required for the protégé to be successful.

WVB management team will provide mentoring opportunities to DBE firms on the Project. Through the one-on-one mentoring experience, many of our subcontractors increase their technical capability, staff size, and ability to pursue a larger scope of future work. As a seasoned mentor, WVB provides formalized mentoring to subcontractors who show exceptional determination and potential. In those cases, we offer side-by-side review and discussions with key staff, strategies and encouragement regarding work

procurement, risk management, planning, scheduling, billing, productivity, safety, and quality.

WVB is actively meeting with DBE firms concerning mentoring possibilities. Additionally, WVB has mentor-protégé commitments with the following DBE firms on this Project:

- **C. Lee Construction Services**, Griffith, IN
Owner: Frederick “Chip” Lee
- **Messier & Associates Inc.**, Jeffersonville, IN
Owners: Fernando and Juan Messier

A copy of the preliminary WVB Mentor-Protégé Plan can be found at the end of the Section.

D. ENCOURAGING PARTICIPATION OF DBE FIRMS AND IDENTIFYING POTENTIAL SCOPES OF WORK AND PACKAGING OF WORK SCOPES

WVB will structure scope packages and buildable units to provide the maximum availability of work to the DBE firms. We will consider, where appropriate, breaking bid packages in time units as well as scope units, which will aid in providing maximum opportunities to identified DBE firms limited by prequalification or bonding limits.

Dividing Work Into Economically Feasible Units

The size and complexity of the Project lends itself to dividing the work by the three Project sections: the Kentucky Approach; the Ohio River Bridge; and Indiana Approach. Instead of one large complex project, WVB will construct three smaller projects concurrently.

The design and construction of the Project will extend over multiple construction seasons. In order to create size-appropriate bid packages (economically feasible units) for small and emerging business capabilities, Walsh-VINCI JV will consider dividing project packages by section and construction season. This division will assist DBEs faced with prequalification and bonding limitations. For example, if a potential DBE firm is currently prequalified to execute \$5,000,000 annually in bridge construction, but is interested in quoting \$8,000,000 over duration of the project, Walsh-VINCI JV will issue two annual \$4,000,000 subcontracts and submit a Subcontract Request Form for \$4,000,000. A second Subcontract Request Form will be

issued when the first \$4,000,000 of work is completed. This will help to achieve the DBE goal, and will help in the overall growth of the DBE company as it builds financial strength and confidence to perform larger projects. This approach maximizes the engagement of local DBE firms.

Identifying Percentage of the Total Project

WVB has identified many subcontracting opportunities for construction and design, as well as opportunities for material supply. WVB communicates these opportunities through personal contacts, outreach meetings and DBE opportunity seminars. A complete listing of all DBE contacts made by WVB is included in our Project DBE Matrix, found at the end of this section.

WVB will base anticipated DBE participation for the Project on the values of subcontracting packages intended for award to DBEs. We will express our anticipated DBE participation amount as a percentage of the total amount of the Project. **Table 4-4** lists these anticipated procurements by scope packages, interested DBEs, and potential percentage. As indicated in this Table, WVB intends to exceed the 9% DBE goal for the Project.

After award, WVB will communicate and track the actual DBE participation on a continual basis throughout the Project using a monthly DBE Report. The DBE Report will list each DBE firm, their estimated value of work, original contract amount, amount paid for period, and amount paid to date. A Sample DBE Report can be found at the end of the Section.

TABLE 4.4-1: WVB ANTICIPATED DBE PARTICIPATION

Scope Package	Potential DBEs	Potential %
Aggregate Haul	Messier & Associates	0.07%
Clearing	King's Trucking & Excavation	0.01%
Bridge Builders	Cherokee Construction and Excavation, LLC	0.01%
	Free Contracting, Inc.	
	Jones and Bourland, Inc.	
	NWK Construction Inc.	
	PBTHNOJJ Construction Company, Inc.	
	Vic Enterprises	
Concrete and Flatwork - Miscellaneous	Pioneer Associates, Inc.	0.04%
	Eaton Construction Co., Inc.	
	DC Concrete, LLC	
	Martin Asphalt and Concrete Construction	
	Seven Seas Construction	
DBE Consultants	Engaging Solutions	0.01%
	Indiana Strategic Resource Group	
	United Construction & Design Group	
	Vick Strategic	
Design Consultants	Corn Island Archaeology	0.01%
	K&S Engineers	
	Khafra Engineering;	
	Rangaswamy & Associates	
	Shrewsbury & Associates	
Drainage	Third Rock Consultants	0.01%
	Spartan Construction Inc.	
	Corbitt & Sons	
	Seven Seas Construction	
	Leong Enterprises	
	C & L General & Mechanical Maintenance	
Reyes Group, Ltd.		
Electrical	T.E.M. Electric Company	1.01%
Excavation and Embankment Construction	HTA Enterprises	1.16%
	C Lee Construction	
	Central Engineering & Construction Assoc.	
Fuel and Petroleum Supplier	Big Meadow Oil, Inc.	0.01%
	Jacobi Oil Services	
General Conditions	Mezzetta Construction	0.01%

Scope Package	Potential DBEs	Potential %
Guardrail, Attenuators, Fence, Signals	NWK Construction Inc.	0.16%
	Contractors Corporation	
	C-Tech Corporation	
	Dallas Dean, Inc.	
	JAG, Inc.	
	CLS Industries	
	Professional Fence Co.	
Highway Lighting, Traffic Signals, Fiber Optic Cables, ITS	Bansal Construction Inc.	0.01%
	The Hoosier Company	
Landscaping	B&B Contracting	0.31%
	C.A. Fulkerson	
	Cedar Valley	
	Earth Images	
	Environmental Landscape	
	NWK Construction Inc.	
Precast Beams - Furnish/Install	Choice Construction	0.53%
	Javier Steel Corporation;	
	Amelie Construction & Supply, LLC	
Quality Control and Materials Testing	Barr & Provost	0.01%
	Resource International, Inc.	
Reinforcing Steel - Furnish	Circle City Rebar, Inc.	0.76%
Reinforcing Steel - Install	J & B Steel Erectors	0.01%
	D.T. Read Steel Company	
	Bar-Tie Reinforcing, Inc.	
	Javier Steel Corporation	
SIP Forms - Furnish and Install	J & B Steel Erectors	0.30%
	Javier Steel Corporation	
Structural removal and demolition	Cherokee Construction and Excavation, LLC	0.01%
	CINCO, Inc	
	L.L. Brown Construction	
	HCL, Inc.	
Structural Steel - Furnish and Install	Choice Construction	0.01%
	Amelie Construction & Supply, LLC	
	Javier Steel Corporation; Louisville	

Scope Package	Potential DBEs	Potential %
Structural Steel - Painting and Coating	Atlantic Painting	0.01%
	Central Painting	
	Antoine Adams Painting, Inc.	
Survey	Barr & Provost, Inc	0.01%
	Classicle, Inc.	
	Jacobi, Toombs and Lanz	
	Structure Designs	
	United Construction & Design Group	
	Vision Engineering;	
Sealing and Masonry Coating	Cardinal Indiana, Inc.	0.01%
	Eaton Construction Co., Inc.	
Readymix Concrete	Advanced Ready Mix	2.89%
	AR Concrete & Supplies, LLC	
	American Ready Mix	
	Bancroft Group	
Traffic Maintenance	K.V.W.V. Traffic Control Holdings, Inc.	0.01%
	M.A.S. Markers, Inc.	
	S&T Partners, LLC d/b/a Traffic Control Services	
	B&B Contracting	
Trucking	King's Trucking & Excavation	1.84%
	C Lee Construction	
	Hoosier Bulk Transport, Inc.	
	K&A Trucking, Inc.	
	LRP Trucking	
	Messier & Associates	
	Nubian Transport Management, Inc.	
	Oatts Trucking	
MU Trucking		
POTENTIAL TOTAL DBE PARTICIPATION		9.23%

OUTREACH EVENT

WVB Project Manager, David Sikorski, along with personnel from Walsh and Jacobs, at an outreach event.



E. REQUIRING MAJOR SUBCONTRACTORS TO PROVIDE DBE PARTICIPATION

Major subcontractors on this Project include design consultants, electrical, signage, asphalt paving, excavation, aggregate suppliers, guardrail/fencing, structural and reinforcing steel erection, bridge construction, tunneling, landscaping, and trucking. This accounts for 30 percent of the overall Project value. WVB will require, and assist, any subcontractor awarded on the Project to meet the DBE goal for their individual scope of work whenever it is reasonably achievable.

Walsh-VINCI CJV will utilize the same Subcontract Agreement document for all subcontractors. All subcontractors will be required to report their DBE participation on a monthly basis throughout the life of their contract for inclusion on the DBE Report. Additionally, the WVB Team will review the subcontractor DBE progress reports monthly.

EXAMPLE MONTHLY DBE REPORT

This is an example of a Monthly DBE Report the WVB will provide to IFA.

SAMPLE DBE REPORT				DBE Goal:		Month: July		Year: 2012						
DBE Firm Name	Address	Scope	Estimated Value of Work	Estimated Start Date	Estimated Finish Date	Orig. Contract Amount	Change Orders	Revised Contract Amount	Amount Paid from Previous Period	Amount Paid for Period	Amount Paid to Date	Amount Remaining on Contract	Payments Received from DBE?	Notes/ Action Items
210103 Cleveland Innerbelt			\$ 44,176,546			\$ 44,614,029	\$ 1,342,421	\$ 45,956,450	\$ 22,212,034	\$ 277,537	\$ 22,489,571	\$ 24,077,522		
3D Visual Concepts	4671 Derbyshire Drive, North Randall, OH 44128	Design Services	\$ 6,800	9/17/10	12/30/13	\$ 6,800	\$ -	\$ 6,800	\$ -	\$ -	\$ 6,800	\$ -	No	
Amelle Construction & Supply LLC	725 Saxonburg Blvd, Ste 2, Saxonburg, PA 16056	Fit Structural Steel	\$ 8,216,193	3/15/11		\$ 8,216,193	\$ 26,136	\$ 8,242,329	\$ 1,777,210	\$ -	\$ 1,777,210	\$ 6,465,119	No	
Armstrong Steel Erectors Inc.	50 S 4th St, Newark, OH 43055	Fit Structural Steel and Prestressed Beams; SIP Formwork	\$ 4,943,059	4/1/11		\$ 4,943,059	\$ (575,461)	\$ 4,370,598	\$ 3,802,969	\$ -	\$ 3,802,969	\$ 67,628	No	
ASC Group Inc.	800 Freeway Drive North, Ste 101, Columbus, OH 43229	IGF Design Review	\$ 10,000	4/1/11		\$ 10,000	\$ -	\$ 10,000	\$ 22,508	\$ -	\$ 22,508	\$ -	No	complete
Atlantic Painting	10019 Southwest Highway, Oak Lawn, IL 60453	Viaduct Painting	\$ 14,600	2/1/11	2/28/11	\$ 14,600	\$ 5,850	\$ 20,450	\$ 20,450	\$ -	\$ 20,450	\$ -	No	
Balast Construction, Inc. DBA Balast Fence	1930 S. Miles Rd, Suite 2, Warrensville Heights, OH 44128	Fence	\$ 48,750	11/19/10	7/7/11	\$ 48,750	\$ -	\$ 48,750	\$ 41,073	\$ -	\$ 41,073	\$ 7,677	No	
CAD Concepts Inc.	1120 Chester Ave, Cleveland, OH 44114	Design Services	\$ 285,250	9/17/10		\$ 285,250	\$ -	\$ 285,250	\$ 369,295	\$ -	\$ 369,295	\$ -	No	
CAD Concepts Inc.	1120 Chester Ave, Cleveland, OH 44114	Design Services	\$ 81,930	6/1/11		\$ 81,930	\$ -	\$ 81,930	\$ 94,226	\$ -	\$ 94,226	\$ -	No	
Clarke Family Trucking	5669 Columbia Dr, Bedford Wb, OH 44146	Trucking	\$ 691,826	7/5/11		\$ 236,660	\$ 153,447	\$ 390,106	\$ 137,636	\$ -	\$ 137,636	\$ 252,471	No	
Cleveland Industrial Concrete Floors, Inc.	13200 York Delta Road, North Royalton, OH	Flatwork												

F. REPORTING OF DBE PROGRESS TO IFA AND WVB EXECUTIVE MANAGEMENT

WVB will provide monthly DBE status reports to IFA as well as our Executive Committee. This report will summarize recruitment strategies and results to date, reporting on outreach events, and communication to the community. WVB will provide current DBE participation percentages details, discussions of status and progress. WVB will also outline future strategies to achieve or exceed the goals.

Dispute Resolution Process

All Walsh-VINCI CJV subcontract agreements contain a dispute resolution clause. This applies whether the subcontractor is a DBE firm or not. The law of the state in which the project is located governs these agreements. All claims resulting from work on the Project will follow the administrative process outlined in this section. This applies to all firms.

Process for Effective and Timely Communications with DBE Subcontractors

Communication with the DBE and small business community and stakeholders organizations is an important component in making the DBE subcontracting plan a success.

Advertising: Dissemination of information to the community will come in multiple forms and include information on the contracting process, contact information, supply, subcontracting and consulting opportunities with the timelines, technical assistance opportunities, and scheduled events. These forms include:

- Project website
- Electronic communications through e-mail
- Quarterly newsletters
- Social media through Facebook or Twitter
- Interest form
- Feedback form

WVB will evaluate the feedback and interest forms on a regular basis and implement strategies and changes that should be made based on information from the evaluations.

Process for Managerial and Technical Performance Reviews, Feedback, and Improvement

Not all DBE or small business firms have the managerial or technical resources necessary to compete with their industry peers thus affecting their ability to successfully respond to procurements of this size and complexity. WVB provides DBE subcontractors direct support related to cost estimating, staffing, scheduling, contract compliance, bid preparation, financial assistance, cash flow management, job planning, certified payroll processing, and record keeping.

On this Project, WVB will review DBE firm performance and provide feedback:

- **Daily:** Walsh-VINCI CJV jobsite personnel will work with DBE staff on a daily basis concerning job planning and job scheduling. This will include discussion of means and methods to accomplish the required construction tasks. Each DBE firm has an assigned Project Engineer or Assistant Project Manager to assist and direct the DBE firm on a daily basis.
- **Weekly:** Attendance at weekly job progress meetings by DBE firms is encouraged to discuss important project topics and future scheduling requirements.
- **Monthly:** Each month, WVB will review and discuss the monthly progress payment application, certified payroll submittals, monthly schedule updates, and other record keeping requirements.
- **Annually:** WVB will review, verify, and report to IFA the DBE firms completed work amount that contributes to DBE Participation Goal.

G. ONGOING POST BID ACTIVITY LEGACY

The nature of the design-build process provides for potential post-bid involvement of DBE firms. Through the pre-bid period we have, through outreach events and personal contacts, created an extensive list of potential DBE firms. As the design process progresses, WVB will continue to evaluate the work available with the capabilities of the potential DBE firms in mind. We are committed to providing opportunities to the DBE community throughout the duration of the project.

4.1.3 PRELIMINARY WORKFORCE DIVERSITY AND SMALL BUSINESS PERFORMANCE PLAN

WVB’s Preliminary Workforce Diversity/Small Business Performance Plan is designed to grow a workforce, not just for this Project, but also for sustainable careers in the construction industry. A diverse and well-trained workforce is vital to the economic growth and longevity of the Louisville and Southern Indiana area. The challenge is getting an adequate labor pool to meet the demands of this Project, future transportation projects, and the construction industry in general. With the commitment of the WVB leadership and management, the WVB will exceed the 15 percent minority and 10 percent female workforce goals using the following Workforce/EEO Plan outline:

- A. WVB Diversity Management Team
- B. Proactive Workforce Outreach and Recruitment
- C. Education and Training Employees
- D. Retention
- E. Benchmark and Accountability
- F. Integration and Legacy

A. WVB DIVERSITY MANAGEMENT TEAM

WVB’s Diversity Management Team consists of Brenda Wolf, Doug Cunningham, Marvin Jackson, and Maurice

Sweeney. Each has extensive experience in the diversity and workforce development field. The Team’s role will be:

- Identifying and aligning the supply of local minority and female workers.
- Establishing partnerships, using existing workforce and disadvantaged business supportive services.
- Identifying “assist agency” community-based and faith-based organizations for training programs.

The role of community-based and faith-based community organizations will include supplying and training skilled and unskilled labor personnel. The faith-based community organizations will further facilitate outreach and communication to neighborhoods and surrounding communities.

B. PROACTIVE WORKFORCE OUTREACH AND RECRUITMENT

WVB’s team is sensitive to the importance the Project has in energizing the local economy and providing jobs either directly through employment on the Project or through subcontracting with local firms and suppliers.

WVB is fully aware of the work volume projected for the Louisville region through 2016 and has factored those anticipated workforce demands into planning for the Project.

As a member of the WVB Team, Walsh Construction Company brings a wealth of experience in developing and implementing similar programs throughout the area. For example:

- **The Dan Ryan Expressway Project, Chicago, IL**
Minority hiring goal of 19.6 percent and achieving 48 percent
- **Marquette Interchange, Milwaukee, WI**
Achieving 22 percent minority workforce

While past performance is one indicator used to forecast future results, the WVB DBE Workforce/EEO Plan serves to assure that WVB will work diligently to build the necessary resources to support proven approaches. Furthermore, concentrated efforts will focus on the development of new creative strategies to enhance community integration through equal employment opportunities (EEO). The result will be a viable plan designed to achieve ambitious yet realistic workforce utilization goals on the Project.

WVB’s approach for encouraging participation in the Workforce/EEO Plan begins with knowing the area demographics and collaborating with the existing community organizations to find interested and qualified minority and female applicants to enter the project training programs. WVB will develop a candidate pool that is representative of the population to meet the goals of the Project. At the same time, we will increase our apprenticeship requirements to give more individuals an on-the-job experience. This does not happen on its own. We have to get individuals into these positions, assist them, and bring them together with those who can help. We will make this happen!

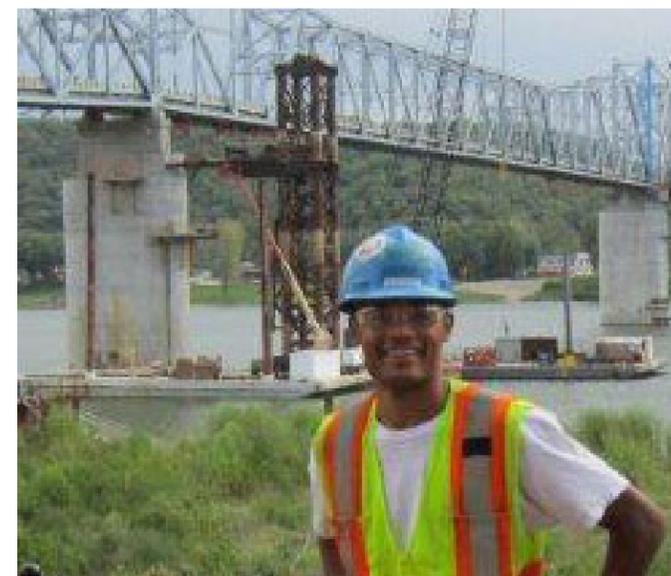
The WVB Workforce/EEO Management Team actively participated in events shown in **Table 4-5**.

TABLE 4-5: WVB WORKFORCE/EEO MANAGEMENT TEAM COMMUNITY OUTREACH EVENTS

Date	Event Photo	Host	Event	Location
06/27/12		Louisville Urban League	2012 Career Expo	Jeffersontown Community Center, Jeffersontown, KY
07/27/12		Congressman Yarmuth	Congressman John Yarmuth’s Veterans Job and Resource Fair	United Auto Workers Hall
08/02/12		MBE – Lexington	Minority Business Expo	RUPP Arena, Lexington, KY
08/23/12		Power of Work KY	Kentuckiana Works – Power of Work Job Fair	The Heyburn Building, Louisville, KY
08/29/12		University of Louisville	U of L Part-Time Job Fair	University of Louisville Campus, Louisville, KY

JOB-READINESS PLAN IN ACTION

WVB has proactively set the Job Readiness Plan in action through the Louisville Urban League’s Construction Pipeline Training Program. Graduate Nacee Sarver is currently working on the Walsh Construction Company’s Milton-Madison Bridge project as a laborer in the Local Union 795.



C. EDUCATING AND TRAINING EMPLOYEES

WVB is not recruiting a workforce simply to achieve or satisfy a number. We are recruiting individuals to invest in and train, strengthening the Louisville/Southern Indiana workforce. WVB will educate employees by utilizing a combination of the following programs:

1. WVB Job Readiness Training Program
2. WVB On-the-Job Training Programs (OJT)
3. Career Partnering and Mentoring
4. Kentucky Engineering Scholars Program (KESP)

The training will be the combined efforts of the WVB and community-based programs.

1. WVB Job Readiness Training Program

Working directly with local organizations that have established training programs is an important first step in building participation. WVB has started this process by meeting directly with the Louisville Urban League and discussing how WVB can use their Kentuckiana Works Construction Pipeline Pre-Apprenticeship Training Program as an avenue for feeding qualified individuals into union apprentice programs and WVB OJT programs. It is our intent to capitalize on the already established local community organization programs as a source for local qualified applicants. WVB proactively set the Job Readiness Plan into action: WVB Team Member, Walsh Construction Company, has employed a recent Construction Pipeline Training

Program graduate, Nacee Sarver. Nacee is a laborer on Walsh’s current Milton-Madison Bridge Project, a project that connects Milton, Kentucky, with Madison, Indiana, over the Ohio River. Nacee arrived on the project with all the soft-skill requirements for the position. His employment with Walsh Construction Company stands as a testimonial to the success of this local job-readiness training program.

During the design phase of the Project, WVB will continue to use pre-apprentice job-readiness training programs to target and integrate local residents to fill laborer and skilled trades construction jobs. The databases from these programs will:

- Provide the number of people that are interested in careers in construction.
- Assist with increasing minorities and women into the workforce.
- Attract active cooperation of participants in the WVB DBE Mentor-Protégé Program.
- Provide applications from interested individuals.
- Provide a break down on minority and women in various trades and skill levels.

In addition to the Urban League’s program, WVB will utilize other job-readiness resources from these local organizations:

- **Kentuckiana Power of Work Program**
Director: Elvin Stampley
- **Lexington Minority & Women Contractor Training Program**
Director: Marilyn Clark
- **Hispanic/Latino Coalition**
Director: Emily Dyer
- **Canaan Community Development Center**
Director: Terra Leavell
- **Women Business Center of Kentucky**
Director: Sharron Johnson

The WVB Workforce Team has contacted or met with the following community-based workforce agencies and businesses in defining their respective or potential roles within the Project’s implementation of the community outreach element of the Workforce/EEO Plan shown on **Table 4-6**.

WVB has begun taking the following steps to work with community-based organizations to identify qualified individuals for participation in this Project:

- Advise all employment offices, trade schools, and colleges attended by substantial numbers of minorities that the Project-related contractors are hiring minorities/women qualified for various trades/crafts positions.
- Review any allegations or reasons for rejection of any minority/women individual referred for employment (should circumstances require).
- Visit employment and minority/women-owned organizations who can refer qualified applicants and develop relationships with them.
- Send written notices to all appropriate organizations to solicit qualified applicants.

2. WVB On-the-Job Training Program (OJT)

The primary objective of the WVB On-the-Job Training Program (OJT) is to bring minorities, women, and disadvantaged persons from apprentice status to a fully-experienced employee. The OJT Program provides the opportunity and training for disadvantaged individuals that may not otherwise have such an opportunity to learn a skill or trade. WVB is committed to participate in an OJT program consistent with INDOT and KYTC’s On-the-Job Training Programs. The WVB Workforce/EEO Plan will exceed the Project goals. WVB Team Member, Walsh Construction Company, presently has eleven trainees enrolled in approved training programs on four INDOT projects. WVB addresses OJT through the following three avenues:

- College and High School Co-Ops
- Professional OJT
- Trade specific OJT

Date	Host	Event	Contact	Location
06/19/12		WVB met with the Canaan Community Development Corporation	Terra Levell	Canaan Community Development Corporation, Louisville, KY
06/20/12		WVB met with Louisville Urban League, Center for Workforce Development	Juanita Sands	Louisville Urban League offices, Louisville, KY
06/20/12		WVB met with WBC of KY.	Sharron Johnson	Women’s Business Center of Kentucky Offices, Louisville, KY
06/20/12		WVB met with GTS Staffing	Sonya Ragland	Goodwill Temporary Staffing Offices, Louisville, KY
06/21/12		WVB met with Americana Community Center	Emile Dyer	Americana Community Center, Louisville, KY
07/12/12		WVB met with Metro Bank	Pedro Bryant	Metro Bank Offices, Louisville, KY
07/13/12		WVB met with Whitney M. Young Job Corp., Louisville, KY	Felicia Lee	Job Corp, Louisville, KY
07/26/12		Kentuckiana Works – Power of Work Program	Elvin Stampley	Power of Work Offices, Louisville, KY
08/06/12		WVB met with the Greater Louisville Building and Construction Trades, AFL-CIO	Dr. Joe Wise	Greater Louisville Building Const. Trades Office, Louisville, KY
08/23/12		Met Youth Build Louisville	Lynn Rippy	Youth Build Offices, Louisville, KY
08/29/12		Met Our Fathers House	Mike White	Our Fathers House Campus, Louisville Kentucky
09/21/12		Harambee Community Outreach Celebration Job Opportunity Fair	Terra Levell	Canaan Development Corp. Offices, Louisville, KY
10/03/12		University of Louisville Engineering Career Fair	Angela Cline	Papa John’s Stadium, Louisville, KY

Walsh-VINCI JV is very familiar with EEO requirements on federal-aid highway contracts, and Walsh currently is signatory to the INDOT 2012 OJT Training Program and Partnership Agreement.

College and High School Co-Ops: WVB will provide construction industry exposure to local community high schools and colleges in a variety of ways. WVB will use established contacts with these schools to offer speaking engagements to talk about the Project and the professionals or trades involved. WVB will offer students the opportunity to be involved with a tour of the site as part of a field trip. These efforts to expose students to the Project and related professions have been very successful in the past. WVB members began this process by meeting with the University of Louisville ASCE Student Chapter on September 12, 2012, presenting Project highlights and information.

WVB will work closely with local universities to recruit, train, and retain professional workers. WVB will employ both interns and co-op trainees and target minority and female trainees from:

- Iroquois High School
- Fairdale High School
- Central High School
- University of Kentucky
- University of Western Kentucky
- University of Louisville
- Purdue University
- Ball State University
- Rose-Hulman Institute of Technology

Walsh-VINCI JV will use existing, time-tested internship/co-op programs as the basis for the white-collar OJT program.

Professional OJT: WVB’s lead design firm, Jacobs, and its design consulting firms and subconsultants, will employ a minimum of four trainees on the Project. These trainees will gain experience in the areas of bridge design, highway design, CAD drawing, and shop drawing reviews as well as other design functions.

Walsh-VINCI JV and subcontractors will employ ten professional trainees for a minimum of 800 hours (Table 4-7).

Firm	Tasks	Hours
CONSTRUCTION	Safety	100
	Surveying	200
	Construction Services	100
	Quality Control	100
	Construction Management	100
	Quality Accounting	100
	Cost Accounting	100
	Total	800
DESIGN	Bridge Design	100
	Highway Design	200
	Drainage Design	100
	CAD Design	300
	MOT Design	100
	Total	800

Trade-Specific OJT: WVB will offer a pre-apprentice program that provides training in the skilled construction trade classifications. Standard training programs for each craft classification are included in the OJT Program. The program ensures that the trainees consistently receive the level and quality of training necessary to perform in their respective skilled trade classifications. Each developed training program details the skills provided to the trainee and the minimum number of training hours received in each trade. As each training activity is completed, periodic reviews are required and specific detailed information provided indicating when, where, and the number of hours completed for each activity.

Often minorities and women have difficulty in pursuing skilled labor jobs because of a lack of exposure to the trades and an understanding of the prerequisites required to enter the trades. WVB will work through faith-based and community-based organizations to educate potential applicants about the different trades and the skills needed to enter these trades. The program provides an opportunity for interested candidates to go through a multi-step, pre-screening process to evaluate each candidate’s ability to pass the requirements necessary to enter the training program.

As a union employer, Walsh-VINCI JV will work closely with local labor unions to recruit trainees/apprentices. Walsh-VINCI JV and the unions will distribute the trainees among the work classifications based on the Project needs and the availability of journeymen. The anticipated number of trade trainees to be used is shown in Table 4-8. Trainees from the local area will be encouraged and utilized. In addition to the local labor unions providing minority and female apprentices, WVB will conduct systematic and direct recruitment through public and private sources likely

Trade	Number
Pile Drivers	5
Iron Workers	10
Carpenters	13
Operating Engineers	12
Laborers	25
TOTAL	65

to yield minority and women trainees, to the extent that such persons are available.

Walsh-VINCI JV will retain primary responsibility for meeting the training requirements for trade trainees employed and trained by project subcontractors. Where applicable, training special provisions will be a part of the subcontract agreements.

WVB has already contacted the local unions to discuss OJT requirements. On August 8, 2012, WVB met with Joe Wise of the Construction Trades Council along with Tim Murphy, Job Placement Director for the Construction Pipeline. The group discussed a plan to “ramp-up” the number of individuals entering the construction trades training programs in anticipation of the Project. The Louisville Urban League offers graduates from the Construction Pipeline Pre-Apprentice Program, “fast-tracking” through union-sponsored “boot-camps”. This “fast-tracking” will prepare individuals for formal entry into the established trade union apprentice programs.

JOBSITE SAFETY TRAINING



WVB will furnish detailed workforce requirements on a timely basis to aid in the scheduling of these training programs. The union apprenticeship programs have pre-established offsite training in addition to the on-the-job training that will take place. Apprentices have school-type training that they will attend during the construction season. They will attend these training sessions away from their normal duties (usually one week in duration) on the Project with no fear of losing their employment. Upon return, they will return to their previous position.

3. Partnering and Mentorship Program

Another unique component of the WVB Workforce/EEO Plan is our Partnering and Mentorship Program. This program includes mentoring opportunities for unskilled labor desiring to enter the skilled trades, and high school, college, and graduate students interested in construction management, engineering, and architecture. WVB also supports existing locally-based individuals who may need assistance to re-enter the construction workforce.

The mentoring program offers opportunities to disadvantaged high school and college students with internships on the Project. The program will give students hands-on exposure to the day-to-day operations of the Project during both summer and winter breaks. WVB will seek prospective candidates from local higher educational facilities and will select the most qualified students at varying grade levels, based on grades, community service, and recommendations from their professors. The internships will continue throughout

the duration of the Project as long as interns maintain their grades. WVB will replace any intern that leaves the program with a qualified applicant. Upon successful college graduation, WVB will seek a permanent position for graduates depending on their education and field of concentration.

As an integral part of the Workforce/EEO Plan, WVB will conduct training and mentoring educational workshops throughout the life of the Project. We plan to have training meetings or mentoring workshops in the following areas:

- Safety Training
- General Training
- Project Progress Meetings
- Project Partnering Meetings
- Training Workshops for OJT Trainees
- Training Workshops for Individual Mentorships

4. Kentucky Engineering Scholars Program (KESP)

WVB will reinstate the Kentucky Engineering Scholars Program (KESP). Maurice Sweeney, WVB's Diversity and Inclusion Advisor, was the co-creator and director of the Kentucky Engineering Scholars Program. As in the original KESP, all of WVB's Team Members are committed to creating and leaving a legacy as a product of the Project. As a part of this lasting legacy, WVB plans to reach out to the community, particularly to women and minorities, encouraging them to consider a career in the civil engineering field. The intent of KESP is to inform young adults of support and guidance available for in the form of mentoring, information, and employment opportunities.

The primary goal of the KESP is to graduate traditionally under-utilized students in the transportation field of civil engineering by sustaining interest in and assisting with appropriate preparation for the work force. The KESP will target economically- and socially-disadvantaged high school students interested in civil engineering and guide them into the appropriate programs at their respective schools, promote the field of transportation engineering, provide part-time and summer employment opportunities, and offer mentoring services to participants.

The number and quality of underprivileged students entering the work force is a general concern among the engineering community. Colleges and universities

are deficient in minority or female students with proper preparation for continued education in the civil engineering field. WVB hopes to increase this number through efforts involved with the KESP and the cooperation of high school and university staff.

WVB will require all member firms, including designers, consultants and subcontractors, to participate in the KESP on a volunteer basis. A draft copy of WVB's KESP can be found in the appendix of this section.

D. RETENTION

A part of WVB's commitment to workforce diversity and long-term investment in the Kentuckiana area is the retention of employees. WVB is working with local agencies and support services to provide avenues for continuing education classes and workshops for employees. WVB has initiated this installment of the workforce plan by meeting with local agencies such as:

- Greater Louisville Building and Construction Trades Office
- Job Corps, Whitney M. Young Center
- Kentuckiana Minority Business Council
- Kentucky Division of Workforce

WVB requires all subcontractors and suppliers to commit to achieve the Project goals. Project-specific contract language and contract response forms, outlined in the EEO agreement, will be made a part of all contract documents. WVB will use the resources of inclusion consultants, designers, subcontractors, and local resources to help create positive economic impact and provide significant areas of economic opportunity as a result of this Project.

E. BENCHMARK AND ACCOUNTABILITY

WVB will monitor the Workforce/EEO Plan, along with people who are local advocates, for the commitments we plan to announce and the successes we will achieve. We will exceed the 15 percent minority and 10 percent female workforce goals for the Project.

WVB will track and review results, and modify the Project-specific plan, to ensure targets are achieved. By measuring WVB performance on a specific basis using up-to-date utilization statistics the Workforce Team can make adjustments that will satisfy both WVB and Project goals. This process includes:

- Monitoring with multiple levels of input and community oversight.
- Assessing the defined performance criteria.
- Modifying to accommodate the workforce needs and Project requirements.

To measure the Project's success in obtaining broad-based diversity, WVB will verify workforce participation by:

- Holding monthly meetings with IFA, INDOT and KYTC to review workforce participation against the Project goals.
- Submitting monthly and semi-annual reports.
- Requiring monthly reports from subcontractors and reviewing performance with them.

To measure the Project's success in obtaining OJT goals, we will verify participation by:

- Holding all subcontractors to EEO regulations
- Submitting trainee introduction and termination/completion forms, and monthly trainee reports
- Submitting monthly total workforce reports
- Submitting quarterly trainee evaluations
- Submitting annual report

WVB will verify the success of the program through proven methods of tracking and reporting, striving for constant improvement.

OUTREACH

DBE Compliance Advisor, Doug Cunningham, speaking to job applicants at the Jeffersontown Career Fair.



F. INTEGRATION AND LEGACY

Once the Project is completed, WVB is committed to leaving the workforce with retained skills to ensure their future productivity. WVB's Workforce/EEO Plan will train and integrate the minority/disadvantaged workforce into the construction industry, leaving them with jobs skills they can apply locally or nationally.

In order to achieve the Project's goals and objectives, WVB has outlined a plan of action that moves words from paper to pavement. WVB does not take these commitments lightly and sees the Workforce/EEO Plan as a document stressing interdependent activities designed to bring multiple benefits to all stakeholders of the Louisville and Southern Indiana community.

FIGURE 17: KENTUCKY ENGINEERING SCHOLARS PROGRAM

Maurice Sweeney, WVB's Diversity and Inclusion Advisor and creator/former director of the KESP, presenting a student award.



SUBCONTRACTOR EXPRESSION OF INTEREST



OHIO RIVER BRIDGES

East End Phase

Interested in working together?

Fill out the form below and e-mail to
ORBEastEndProject@walshgroup.com

Please provide contact information:

FIRM NAME		CONTACT NAME		
STREET ADDRESS		CITY	STATE	ZIP
OFFICE PHONE	CELL PHONE	EMAIL		

What scope of services does your firm provide? (check as applicable)

<input type="checkbox"/> Aggregate Supply	<input type="checkbox"/> Earthwork	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Trucking
<input type="checkbox"/> Asphalt Paving	<input type="checkbox"/> Electrical	<input type="checkbox"/> Painting	<input type="checkbox"/> Utility Services
<input type="checkbox"/> Concrete Paving	<input type="checkbox"/> Excavation	<input type="checkbox"/> Rebar	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Demolition	<input type="checkbox"/> Fencing	<input type="checkbox"/> Signage	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Drainage	<input type="checkbox"/> Formwork	<input type="checkbox"/> Site Clearing	<input type="checkbox"/> Other: _____

Tell us about your DBE and Prequalification status:

Are you currently a certified DBE Firm? (check one) <input type="checkbox"/> Yes, in Kentucky <input type="checkbox"/> Yes, in Indiana <input type="checkbox"/> No	Are you currently prequalified? (check one) <input type="checkbox"/> Yes, in Kentucky <input type="checkbox"/> Yes, in Indiana <input type="checkbox"/> No
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If certified, please provide the following information:

CERTIFYING AGENCY	CERTIFICATION NUMBER	CERTIFICATION TYPE: <input type="checkbox"/> Disadvantaged Business Enterprise (DBE) <input type="checkbox"/> Minority Business Enterprise (MBE) <input type="checkbox"/> Woman-Owned Business Enterprise (WBE)
CERTIFYING AGENCY	CERTIFICATION NUMBER	CERTIFICATION TYPE: <input type="checkbox"/> Disadvantaged Business Enterprise (DBE) <input type="checkbox"/> Minority Business Enterprise (MBE) <input type="checkbox"/> Woman-Owned Business Enterprise (WBE)
CERTIFYING AGENCY	CERTIFICATION NUMBER	CERTIFICATION TYPE: <input type="checkbox"/> Disadvantaged Business Enterprise (DBE) <input type="checkbox"/> Minority Business Enterprise (MBE) <input type="checkbox"/> Woman-Owned Business Enterprise (WBE)

Other Comments?

Build the Future with us...

OHIO RIVER BRIDGES

NEXT STEPS...

1

OBTAIN DBE CERTIFICATION with either the **Indiana Department of Transportation** or the **Kentucky Transportation Cabinet**.

Indiana: Visit the Indiana government website to first register with the State of Indiana: <http://www.in.gov/idoa/2464.htm>

Kentucky: Visit the KYTC website for the application and additional information: <http://transportation.ky.gov/Civil-Rights and Small Business-Development/Documents/UCP-Application.pdf>

Then, complete the application for DBE/ACDBE certification by visiting: <http://www.in.gov/indot/2748.htm>

2

PREQUALIFY YOUR BUSINESS with either the **Indiana Department of Transportation** or the **Kentucky Transportation Cabinet**.

Indiana: For more information about INDOT's prequalification process visit the following website for complete details and the application form: <http://www.in.gov/indot/2740.htm>

Kentucky: For information regarding KYTC prequalification, see the information included in this packet and visit: <http://www.transportation.ky.gov/Construction-Procurement/Pages/Prequalification.aspx>

3

STAY INFORMED! Complete the Subcontractor Expression of Interest form in this packet to keep up-to-date on specific subcontracting opportunities.

A wealth of DBE information specific to the Ohio River Bridge Projects can be found at: <http://www.kyinbridges.com/disadvantaged-business-enterprise/>

Or, email us:
ORBEastEndProject@WalshGroup.com



Build the Future with us... OHIO RIVER BRIDGES

Indiana Forms...

1

OBTAIN DBE CERTIFICATION

Attached is the **Indiana State Registration form for Indiana as well as the DBE/ACDBE Certification form.** For more information, visit the Indiana government website <http://www.in.gov/idoa/2464.htm> and Indiana DOT's website <http://www.in.gov/indot/2748.htm>.

2

PREQUALIFY YOUR BUSINESS

Attached is the **Indiana Prequalification Application.** For information regarding INDOT's prequalification process, visit <http://www.in.gov/indot/2740.htm>.

If you need help, email us:

ORBEastEndProject@WalshGroup.com



Build the Future with us... OHIO RIVER BRIDGES

Kentucky Forms...

1

OBTAIN DBE CERTIFICATION

Attached is the **Kentucky UCP Application.** You can also visit the KYTC website for the application and additional information: <http://transportation.ky.gov/Civil-Rights-and-Small-Business-Development/Documents/UCP-Application.pdf>

2

PREQUALIFY YOUR BUSINESS

Also attached is the **Kentucky Prequalification Application.** For more information about KYTC prequalification, visit: <http://transportation.ky.gov/Construction-Procurement/Pages/Prequalification.aspx>

If you need help, email us:

ORBEastEndProject@WalshGroup.com

DBE MATRIX

Louisville-Southern Indiana Ohio River Bridges Project East End Crossing

Contractor	Service	Detail	Contact	Address	City	State	Zip	Phone	Fax	County	Email	IN	KY	OH	KYTC Pre-Qual.	WVB Outreach												Response to WVB Solicitation																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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WVB East End Partners Comprehensive Mentoring Tool Kit

1. Classroom Training (Provided by Mentor)

WVB (“Mentor”) has established a comprehensive Mentoring Tool Kit that provides organizations with a clear overview of best practices relative to safety, financial management, quality control, equipment management and project administration.

This Tool Kit contains 24 modules drawn from the Mentor’s own internal training program. These fundamental components were specifically chosen to help C. Lee Construction Services and Messier & Associates Inc. (“Protégés”) develop and enhance their key operational processes and procedures in order to achieve a greater level of success.

These training sessions will be incorporated into the Mentoring Plan on a monthly basis:

<p>EQUIPMENT Equipment Management</p>	<p>INSURANCE Understanding Insurance</p>
<p>HUMAN RESOURCES Anti-Harassment & EEO Compliance</p>	<p>LEGAL Intro to Risk Management</p>
<p>PROJECT MANAGEMENT Cost & Revenue Reporting Field Cost Management Scheduling Quantity and Productions Field Clerical Practices Invoice Processing Payroll Management Procedures Managing Correspondence Cost & Revenue Forecasting</p>	<p>SAFETY Fittings/Slings/Rigging First Aid Blood Borne Pathogens Flagging Training OSHA 10-30 Hour Competent Person - Scaffolding Rough Terrain Cranes Crane Safety Awareness Competent Person - Confined Spaces Competent Person - Excavation Competent Person - Fall Protection</p>

2. Benchmarks

Measurable benchmarks to be reached by the Protégé at successive stages of the Mentor/Protégé plan; the overall success of the Mentor/Protégé program will be measured by the extent to which it results in:

- a. The Protégé will attend a minimum of 1 training classes per month with a follow up review meeting. Classes may be selected from the Mentor’s internal training program. The goal is for the protégé to utilize the training program to improve the capabilities of their firm and will allow the protégé to discuss and ask questions in a follow up session. The training program will help to improve the competency of the protégé staff and

provide guidelines for establishing management systems for the firm. The mentor will monitor the training of the protégé to assure that the protégé is getting training on the full range of topics available.

- b. The mentor will assist the Protégé in estimating and bid preparation. A member of the mentor’s estimating team will be made available to the protégé to assist in review and final preparation of their bids prior to submittal. The goal is to aid the protégé in developing systems for preparing estimates and provide support that will lead to an increase in the amount of contracts awarded to the protégé.
- c. The mentor will conduct a preconstruction conference with the protégé at the start of construction of a project. The preconstruction conference will be set up to aid the protégé in set up, procurement and management systems that need to be in place when entering into the construction phase of a project.
- d. The mentor will perform quality assurance audits with the mentor protégé on existing contracts to aid in monitoring and managing their work. This will aid the protégé in developing their skills to successfully manage highway projects.
- e. The protégé will successfully complete a contract working with the mentor.
- f. The protégé will implement systems that will allow them to successfully participate with other Contractors other than the mentor.
- g. The protégé will increase their financial capacity to do work.

3. Monitoring

- a. Both parties hereby specifically consent to the monitoring of this contract by the appropriate Federal and State officials or their agents, and agree to cooperate with such agencies.
- b. Both the Mentor and Protégé agree to evaluate the progress of the Plan at scheduled intervals with the results reviewed by IFA.

4. Financing

In the event that the Protégé requires additional working capital to finance a project, the Mentor will work with the Protégé along with IFA to develop a loan package. The Mentor will assist the Protégé with the development of an estimate, cash flow and work schedule. This information will be used by IFA to develop comprehensive financial projections and assumptions to accompany the loan package. The IFA will then assist the Protégé in gathering any additional required documentation and furthermore, will conduct a final review of the loan package prior to submittal.

The Protégé is responsible for submitting the loan application to federal loan programs or commercial lending institutions. The IFA’s involvement will vary on a project-by-project basis.

5. Bonding

In the event that the Protégé is required to secure bonding for a project, the Mentor will work with the Protégé to develop a bond application. The Mentor will assist the Protégé with the development of a work schedule and work in progress schedule. This information will be used by the Protégé to prepare a bond application. The Consultant will then assist the Protégé in gathering the necessary documentation and furthermore, will conduct a final review of the bond application prior to submittal.

The Protégé is responsible for submitting the bond application to various bond brokers in order to secure the necessary bonding.

The IFA’s involvement will vary on a project-by-project basis.

6. Duration

This agreement will expire 36 months following the approval date.

7. Devotion of Time

The Mentor is prepared to devote a minimum of 5 hours and a maximum of 20 hours per Month toward directly working with the Protégé.

8. Modifications

The agreements within this Plan may NOT be modified except in writing and must be signed by both the Mentor and Protégé and approved by IFA.

9. Procedure for Notification of Termination

- a. The Mentor or Protégé retain the right to terminate this agreement by showing cause in a written notice to all parties, including IFA.
- b. IFA may terminate the approval of this agreement by showing cause in a written notice to both the Mentor and Protégé.

10. Privacy Act Provision

The information contained herein and on any attachments is to be used for WVB Mentor-Protégé Program purposes only and may not be disclosed without the expressed written consent of all parties involved within the agreement.

11. Acknowledgement Statement

I understand that participation in the WVB Mentor-Protégé Program is strictly voluntary and is neither a guarantee for a contract opportunity nor a promise of business; but that the Program’s intent is to foster a positive long-term business relationship. I, the undersigned, on behalf of the organization participating in the Mentor-Protégé Program, agree that the organization and all of its employees, officials and agents shall conduct themselves at all times in accordance with the highest business ethics and appropriate business conduct.

12. Certification

I hereby declare that all statements made herein are true, accurate and complete to the best of my knowledge. I authorize the IFA and/or its agents to gather such information (business or personal credit information) as deemed necessary for participation in this program. By signing this form, I also certify that neither the business nor any of the owners have tax liens and agree to abide by all program guidelines or inform appropriate IFA officials if, at any time, I am unable or unwilling to do so.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers on the day and year first above written.

Date

WVB (Authorized Office Name) Signature

ACKNOWLEDGEMENT: Subscribed and sworn to before me this ____ day of _____, ____.

Notary Public; Commission expires _____

Date

Agent for the Protégé (Authorized Office Name) Signature

ACKNOWLEDGEMENT: Subscribed and sworn to before me this ____ day of _____, ____.

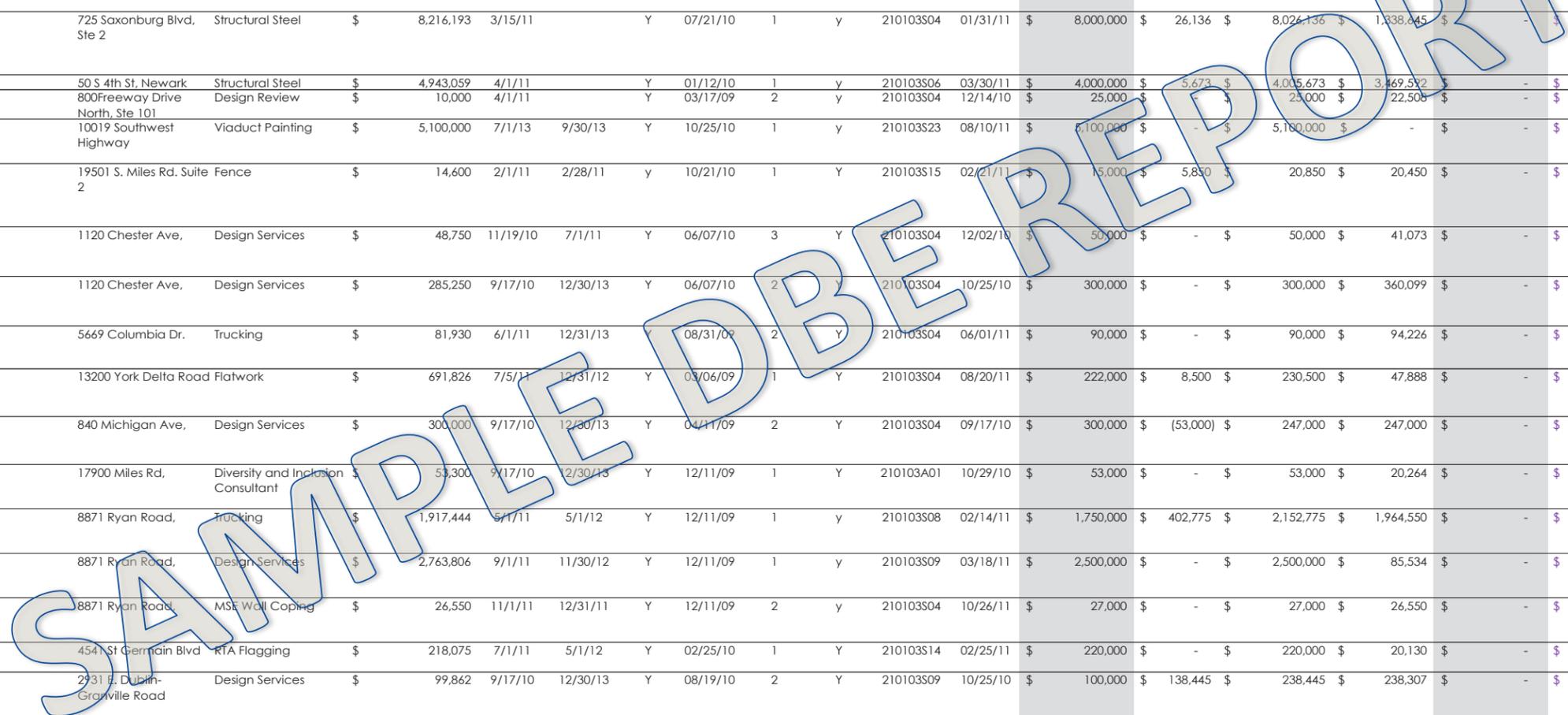
Notary Public; Commission expires _____

SAMPLE DBE TRACKING FORM REPORT
 DBE REPORT

Contract: \$ -
 DBE Goal: \$ -

Report No.:	
Month:	Year:

SAMPLE DBE REPORT PROJECT NAME												\$ 26,693,000	\$ 716,484	\$ 27,409,484	\$ 9,993,294	\$ 19,762	\$ 10,013,257	\$ 17,460,553		
DBE Firm Name	Address	Scope	Estimated Value of Work	Estimated Start Date	Estimated Finish Date	DBE Cert	Date Certified	Tier Level	Status	Contract Number	Contract Date	Orig. Contract Amount	Change Orders	Revised Contract Amount	Amount Paid from Previous Period	Amount Paid for Period	Amount Paid to Date	Amount Remaining on Contract	Payments Received from DBE?	Notes/ Action Items
DBE Company #1	4671 Derbyshire Drive	Design Services	\$ 16,800	9/17/10	12/30/13	Y	05/13/10	2	Y	210103S04	10/29/10	\$ 16,000	\$ -	\$ 16,000	\$ 6,800	\$ -	\$ 6,800	\$ 9,200	No	
DBE Company #2	725 Saxonburg Blvd, Ste 2	Structural Steel	\$ 8,216,193	3/15/11		Y	07/21/10	1	y	210103S04	01/31/11	\$ 8,000,000	\$ 26,136	\$ 8,026,136	\$ 1,338,645	\$ -	\$ 1,338,645	\$ 6,687,491	No	
DBE Company #3	50 S 4th St, Newark	Structural Steel	\$ 4,943,059	4/1/11		Y	01/12/10	1	y	210103S06	03/30/11	\$ 4,000,000	\$ 5,673	\$ 4,005,673	\$ 3,469,592	\$ -	\$ 3,469,592	\$ 536,081	No	
DBE Company #4	800 Freeway Drive North, Ste 101	Design Review	\$ 10,000	4/1/11		Y	03/17/09	2	y	210103S04	12/14/10	\$ 25,000	\$ -	\$ 25,000	\$ 22,508	\$ -	\$ 22,508	\$ 2,492	No	complete
DBE Company #5	10019 Southwest Highway	Viaduct Painting	\$ 5,100,000	7/1/13	9/30/13	Y	10/25/10	1	y	210103S23	08/10/11	\$ 5,100,000	\$ -	\$ 5,100,000	\$ -	\$ -	\$ 5,100,000	No		
DBE Company #6	19501 S. Miles Rd. Suite 2	Fence	\$ 14,600	2/1/11	2/28/11	y	10/21/10	1	Y	210103S15	02/21/11	\$ 15,000	\$ 5,850	\$ 20,850	\$ 20,450	\$ -	\$ 20,450	\$ 400	No	
DBE Company #7	1120 Chester Ave.	Design Services	\$ 48,750	11/19/10	7/1/11	Y	06/07/10	3	Y	210103S04	12/02/10	\$ 50,000	\$ -	\$ 50,000	\$ 41,073	\$ -	\$ 41,073	\$ 8,927	No	
DBE Company #8	1120 Chester Ave.	Design Services	\$ 285,250	9/17/10	12/30/13	Y	06/07/10	2	y	210103S04	10/25/10	\$ 300,000	\$ -	\$ 300,000	\$ 360,099	\$ -	\$ 360,099	\$ -	No	
DBE Company #9	5669 Columbia Dr.	Trucking	\$ 81,930	6/1/11	12/31/13	Y	08/31/09	2	Y	210103S04	06/01/11	\$ 90,000	\$ -	\$ 90,000	\$ 94,226	\$ -	\$ 94,226	\$ -	No	
DBE Company #10	13200 York Delta Road	Flatwork	\$ 691,826	7/5/11	12/31/12	Y	03/06/09	1	Y	210103S04	08/20/11	\$ 222,000	\$ 8,500	\$ 230,500	\$ 47,888	\$ -	\$ 47,888	\$ 182,612	No	
DBE Company #11	840 Michigan Ave.	Design Services	\$ 300,000	9/17/10	12/30/13	Y	04/17/09	2	Y	210103S04	09/17/10	\$ 300,000	\$ (53,000)	\$ 247,000	\$ 247,000	\$ -	\$ 247,000	\$ -	No	
DBE Company #12	17900 Miles Rd.	Diversity and Inclusion Consultant	\$ 53,300	9/17/10	12/30/13	Y	12/11/09	1	Y	210103A01	10/29/10	\$ 53,000	\$ -	\$ 53,000	\$ 20,264	\$ -	\$ 20,264	\$ 32,736	No	
DBE Company #13	8871 Ryan Road.	Trucking	\$ 1,917,444	5/1/11	5/1/12	Y	12/11/09	1	y	210103S08	02/14/11	\$ 1,750,000	\$ 402,775	\$ 2,152,775	\$ 1,964,550	\$ -	\$ 1,964,550	\$ 188,225	No	
DBE Company #14	8871 Ryan Road.	Design Services	\$ 2,763,806	9/1/11	11/30/12	Y	12/11/09	1	y	210103S09	03/18/11	\$ 2,500,000	\$ -	\$ 2,500,000	\$ 85,534	\$ -	\$ 85,534	\$ 2,414,466	No	
DBE Company #15	8871 Ryan Road.	MSE Wall Coping	\$ 26,550	11/1/11	12/31/11	Y	12/11/09	2	y	210103S04	10/26/11	\$ 27,000	\$ -	\$ 27,000	\$ 26,550	\$ -	\$ 26,550	\$ 450	No	
DBE Company #16	454 St Germain Blvd	RTA Flagging	\$ 218,075	7/1/11	5/1/12	Y	02/25/10	1	Y	210103S14	02/25/11	\$ 220,000	\$ -	\$ 220,000	\$ 20,130	\$ -	\$ 20,130	\$ 199,870	No	
DBE Company #17	2931 E. Dublin-Granville Road	Design Services	\$ 99,862	9/17/10	12/30/13	Y	08/19/10	2	Y	210103S09	10/25/10	\$ 100,000	\$ 138,445	\$ 238,445	\$ 238,307	\$ -	\$ 238,307	\$ 138	No	
DBE Company #18	5152 S. Tecumseh Road.	Design Services	\$ 700,000	9/17/10	12/30/13	Y	06/08/09	2	Y	210103S04	10/22/10	\$ 725,000	\$ 182,105	\$ 907,105	\$ 862,153	\$ -	\$ 862,153	\$ 44,952	No	
DBE Company #19	11925 Pearl Rd Ste 401	IQF Design Review	\$ 1,000,000	4/1/11		Y	07/28/09	2	Y	210103S09	12/21/10	\$ 1,200,000	\$ -	\$ 1,200,000	\$ 515,896	\$ 17,291	\$ 533,188	\$ 666,812	No	
DBE Company #20	8001 Old Granger Road	Trucking	\$ 2,000,000	5/1/11	9/30/13	Y	02/23/09	2	Y	v	02/04/11	\$ 2,000,000	\$ -	\$ 2,000,000	\$ 611,628	\$ 2,671	\$ 614,299	\$ 1,385,701	No	



KENTUCKY ENGINEERING SCHOLARS PROGRAM

Overview

WVB East End Partners (WVB) and our Design Firms, Design Consultants, Professional Services Firms, and Subcontractors are committed to creating and leaving a legacy as a result of the Ohio River Bridge East End Crossing Project. As a part of this lasting legacy, WVB issues this plan to reach out to the community, particularly to women and minorities, encouraging them to consider a career in the civil engineering field. It is our intention that this plan be implemented through the Ohio River Bridge East End Crossing Project and the KYTC Disadvantaged Business Enterprise (DBE) Program. A portion of this program is to engage young adults by means of the Kentucky Engineering Scholars Program (KESP), where support and guidance are available to select high school and college students in the form of mentoring, information, and employment opportunities.

Kentucky Engineering Scholars Program (KESP)

The goal of the KESP is to identify, encourage, mentor, track and graduate minority and women students in the transportation field of civil engineering by sustaining interest in and assisting with appropriate preparation for the work force. The KESP will target and identify these underutilized students interested in a career in civil engineering and guide them into the appropriate programs at their respective schools, promote the field of transportation engineering, provide part-time and summer employment opportunities, and offer mentoring services to participants.

Past History

In 2005, only one African American graduated in the state of Kentucky with a degree in civil engineering. KTA recognized that the inclusion of women and minority students interested in a career in civil engineering, particularly African Americans, were a viable missing part in our efforts to have more women and minority civil engineering firms in Kentucky. The number of minority, and to a lesser degree women, entering the work force as civil engineers is a general concern among the engineering community. College and university staffs observe few economically and socially disadvantaged women and minority students with proper preparation for continued education at the collegiate level in the civil engineering field. This was also supported by the lack of women and minority working at Kentucky engineering firms, municipalities, utility companies and at KYTC. This recognition led to the creation of the KESP.

The intent of the Walsh DBT is to reinstate the KESP as part of the Ohio River Bridge Downtown Crossing Project. As a team, the Walsh DBE team and the KYTC DBE coordinators will serve as advocates for increasing the number of women and minorities seeking a career in civil engineering. These individuals and the support they get from their Executives will be important in maintaining and moving this program forward. This group forms the KESP team and will be collocated in the Project hub office. The goal of the

KESP team is to make contacts, organize meetings, select participants, oversee mentoring and employment opportunities, and, in general, ensure that the program stays on track and accomplishes the overall goals and objectives. The following pages outline these goals, objectives, and strategies for implementation at the high school and college level of the KESP.

Introduction

The KESP has been designed as an ongoing project to help identify and develop women and minorities with degrees in civil engineering and is subject to change based on new information or unforeseen issues that may include:

- Timing
- Student Participation
- Agency Participation
- Funding

High Schools

Initially the KESP for High schools and Colleges used the following outline to develop its outreach and programmatic strategy:

- 1) High Schools
 - a) Preliminary Tasks, Data Collection
 - b) Goals and Objectives
 - c) Participants
 - d) Marketing
 - i) Strategies
 - ii) Literature, Brochures
 - iii) Website (Independent or Link from Project Site)
 - e) Participant Selection
 - i) Recruitment
 - ii) Qualifications
 - iii) Interview
 - iv) Number of Participants
 - v) Selection
 - f) Participant Meetings
 - i) Introductory Meeting
 - ii) Periodic Contact

- g) Assigned Mentors
 - h) Part-Time Employment Positions
 - i) Summer Employment Positions
 - j) Quarterly Seminars
- 2) Colleges
- a) Preliminary Tasks, Data Collection
 - b) Goals and Objectives
 - c) Participants
 - d) Marketing
 - i) Strategies
 - ii) Literature, Brochures
 - iii) Website (Independent or Link form Project Site)
 - e) Co-Op Opportunities
 - f) Retention Program for Engineering Students

The KESP for high school students will continue to evolve in an effort to become more practical and user friendly.

Once the KESP team became aware of the number of underutilized women and minority students entering college with little information regarding civil engineering as a career; we decided to develop a plan that would identify groups of women and minority high school students which we could create a program allowing them to have a greater exposure to civil engineering and interest in the field as a career choice. The next section details the plan for the KESP at the high school level.

Preliminary Tasks, Data Collection

The initial goal is to focus on the preliminary work regarding this program and to start gathering information and making contacts. The preliminary tasks include:

- Inquire and solicit at the local Boards of Education for guidance and support concerning the KESP
- Research local high schools to identify suitable matches for this program
- Contact school officials at potential high schools to identify interest in the KESP
- Pursue interested high school administrators by meeting with faculty, counselors, and principals to inform them of KESP and identify potential students
- Meet with College and Junior College administrators

Goals and Objectives

With the ORB East End Crossing Project infrastructure project expected to last six years, the KESP has an opportunity to reach out and make lasting connections with the community. Our sights are set on impacting women and minorities in the engineering field starting at the middle school level.

Some of our goals and objectives at the high school level for the KESP participants are to:

- Educate high school students about civil engineering as a career
- Guide students to an appropriate curriculum path for a future in engineering
- Offer part-time and summer employment opportunities to selected students
- Establish connections between civil engineers and high school students through mentoring, presentations, and employment
- Create a sense of camaraderie among the KESP participants

Participants

Participation and assistance outside of WVB is crucial to the success of the KESP. Outside participants involved in the implementation of the KESP may include Jefferson County Public Schools (JCPS), University of Louisville (U of L), Kentucky Transportation Cabinet (KYTC), Federal Highway Administration (FHWA), City of Louisville's Public Works Department, Metropolitan Sewer District (MSD), community groups and programs such as Upward Bound, Black Achievers, the Lincoln Foundations and others. Any women or minority students with an interest in civil engineering from Kentucky or Southern Indiana will be provided information to encourage them to participate in the KESP.

The school participation for the KESP will concentrate on the area surrounding the Project. The school selection process will include the following steps:

- Solicit assistance from the school administrators
- Invite representatives from possible schools to hear an overview of the program
- Establish an official contact for participating school
- Move forward with the assistance of counselors and teachers to identify student candidates

WVB will focus efforts in Jefferson County, Kentucky initially with the option of partnering with other teams on the Project to extend beyond Jefferson County.

The following schools in Jefferson County have pre-civil engineering related curriculums such as calculus, trigonometry, physics, computer aided drafting or surveying, which makes them considerations for the KESP. The schools' name, engineering related courses, and other relevant information are listed below.

1. **Butler Traditional**
Course offered: CADD
2. **Central High School Magnet Career Academy**
Course offered: GIS/GPS
Other: Students assist in documenting crime areas for police
3. **Doss High School Magnet Career Academy**
Course offered: GIS/GPS
Other: Students work for Metro Parks preparing mapping
4. **Eastern High School**
Course offered: GIS/GPS
Other: Website development
5. **Iroquois High School Magnet Career Academy**

Course Offered: CADD

6. Jeffersontown High School

Course Offered: GIS/GPS, CADD

Other: Assisted with Lewis and Clark display at the Kentucky State Fair

Jeffersontown High School recognizes the critical need for engineers and technology specialists, not only nationally, but also in the greater Louisville area. This recognition led Jeffersontown High School to participate in the nationally accredited high school pre-engineering/engineering technology curriculum called Project Lead the Way. The Walsh DBT hopes to partner with Jeffersontown High School to promote the civil engineering discipline through Project Lead the Way with the hope of improving the 50% attrition rate of students pursuing post-secondary degrees in engineering and technology fields.

7. Pleasure Ridge Park High School

Pleasure Ridge Park High School has a large need for advisors/mentors. This is an area in which the Walsh DBT can make a large impact on the younger community with long-lasting connections.

8. Waggener Traditional

Course Offered: CADD

9. DuPont Manual High School

10. Male High School

11. Ballard

Since 2005, KESP participants have come from these high schools but we have also had participants from, Jeffersonville, Indiana, Lexington and Russellville, Kentucky.

Marketing

It is imperative to the success of the KESP that WVB efficiently communicates the efforts and opportunities available through this program with the community, local high schools and universities, and the other design teams on the Project. To accomplish this task, the services of the DBE Consultant firms for WVB will be sought help with marketing strategies that effectively target the proper age levels, particularly the younger mass we intend to attract.

Strategies

Marketing strategies for the high school participants in this project included the promotion of the KESP involving literature, brochures, website, and Power Point presentations.

Literature, Brochures

For the high school group, literature focused more on generalities regarding a career in the field of civil engineering. This approach generates interest among the students, without overloading them with specific details of the engineering profession. The details can be presented when we identify an interested group.

Brochures and flyers for participating high schools included the following:

- Brochure defining civil engineering with the various concentrations and examples of practical application
- Brochure listing scholarships for potential engineering students that include contact information to guide inquiring parties
- Brochure explaining the Engineering Scholars Program and soliciting interested students

Website

A website link from the Project website will be established to allow the public to be better aware of the totality of the Project. This website will serve as a vehicle for displaying the KESP's activities, a method of tracking the impact of the program and an information center for KESP participants.

Participant Selection

Once the participants are selected, the focus is shifted to informing the students about the field of civil engineering. It is important that the KESP accept applications from all levels of high school students, freshman to seniors, since interested students must gear their schedules toward a science and math based career. This section outlines the process of participant selection by the Kentucky Engineering Scholars Program.

Recruitment

The KESP team realizes that depending on the interest and cooperation from high schools, we might approach the participant selection as more of a recruitment procedure than an open application process. It has been determined that it is necessary to recruit high school students for the KESP rather than just setting up an application process or depending on various schools with math or engineering focus. We will concentrate our attention to female or minority students who excel in math and science.

Qualifications

Like all successful programs, there must be guidelines for participants. Below is a list of qualifications for potential members of the KESP.

- Female or minority students
- Socially and economically disadvantaged students
- Plans to pursue a degree in civil engineering
- Competence in math and science
- Minimum GPA of 2.5

Application and Interview

Once potential participants are identified, they will complete an application in order to supply general information as a method of tracking students in the future if the program continues throughout the duration of the Project and also a means of determining student interest. This preliminary information-gathering session will serve as an indication about whether the students have the genuine interest required to pursue involvement in the program.

Prior to making final selection, all interested individuals will speak with a member of the KESP team. This is our opportunity to interact with the students and get an idea about their suitability for the program. The KESP team member will visit the participating high school and meet with the students and parents, if desired, to make them feel more comfortable and provide a chance to speak again with the students' teachers and counselors if appropriate or need be.

Number of Participants

The initial goal is to accept 20-25 students. The number of students and the area in which we take this program is flexible, depending on the students and general interest in the KESP. If a large number of students show interest, then the number of participants may be modified. At this point, it is difficult to predict the impact of the KESP, but the programs ability to be flexible and capable of change is important.

Selection

Assuming each applicant meets the qualifications, the selection of the students for the KESP will be based on the student's interest in civil engineering, the resume, recommendations from the schools' faculty and counselors, and a brief meeting with the students.

Participant Meetings

It is vital that there be solid lines of communication between all levels of participants in the KESP. Thus, periodic meetings are planned to help keep everyone on track, on task, and informed about each other's needs.

Introductory Meeting

Once he/she accepts the offer, an introductory meeting will be held with all KESP participants, parents, school contacts, mentors, representatives from the Walsh DBT firms, and other KESP participating members. This meeting should be casual in nature and will address the following:

- Allow all parties to officially meet each other
- Summarize our goals and expectations for the KESP participants
- Express goals and objectives to parents
- Discuss portfolios and tracking

Periodic Contact

After the initial meeting quarterly presentations will be held and part-time and summer employment opportunities will be discussed. These activities will require periodic contact among the KESP participants to assure things are running smoothly.

Forms and levels of contact include:

- Sign in Sheets
- Pre-application forms
- Student Profile sheets
- Evaluation forms
- KESP team reports

Methods of contact:

- Email
- Phone call
- Home visits
- Personal meeting
- Written correspondence

The mentors should take this time to inform students about skills and useful information regarding the civil engineering or transportation related fields. Possible topics include:

- Preparing for a college education in engineering
- Completing a degree from an accredited institution
- Obtaining a Professional Engineering license
- Becoming familiar with computer programs used by engineering firms
- Developing interpersonal skills
- Practicing business ethics
- Building a professional resume

This contact will provide a chance for the students to express their feelings about the program, ask questions, assist the KESP team to assess impact, and allow for issues to be addressed before becoming problems. Maintaining effective communication will enable the KESP to maximize impact.

Assigned Mentors

Mentoring is a very important part of this program. No one will be asked to mentor or continue to mentor if they do not agree with the program's goals and objectives. The program seeks only willing participants as both mentors and protégés. Mentors will be identified during summer employment activities with KESP participating partners. A KESP partner is any engineering firm or business that utilizes and has a need for civil engineers. Each active student in the KESP will have an engineering mentor to act as an encourager, source of guidance and information regarding engineering and assistance in effectively preparing for a career in the engineering field. Possible mentoring activities may include:

- Contact students via email, phone call, or personal meeting.
- Plan for assigned students to shadow at work.
- Be available to answer questions and inquiries from assigned students regarding engineering.

Part-Time Employment Positions

For some students participating in the KESP, part-time employment positions will be available. These positions will be available from participating partners. The goal is to give high school students in the KESP a clear understanding of what civil engineers do as well as provide some practical value added engineering work experience while still attending high school. We realize this might be a difficult challenge with the students' school schedules, but would be worth the effort.

Some of the things necessary to make this work include:

- The companies must be local, so transportation is not an issue.
- KESP participants will fill the limited number of positions.
- Each position will follow a formal hiring process – the position will be posted to the KESP group, resumes will be gathered, references will be contacted, and interviews will be held in order to make a final selection if the number of interested students is higher than part-time job openings.
- Job descriptions must include engineering related work.
- Employers will provide the KESP coordinator with student/employee evaluations at the end of the job experience.

Summer Employment Positions

Summer employment positions will be available to some KESP students. Like the part-time employment, the summer positions will be available from local KESP partners. The goal is to give high school students an idea of what it will be like to have a career in civil engineering and provide practical value added engineering work experience during the summer months.

Some of the things necessary to make this work include the following:

- The companies must be local, so transportation is not an issue.
- Each position will follow the formal hiring process should there be more job applicants than jobs available. The KESP participants resumes will be gathered, references will be contacted, and interviews will be held in order to make a final selection.
- The summer job will last approximately eight weeks during June and July.
- Job descriptions must include engineering related work.
- Student/employee evaluations will be provided for student portfolios.

Quarterly meetings

For the participants in the KESP, engineers will hold quarterly meetings at local offices. The meetings will bring all the participants of the KESP together for informative sessions and casual interaction, perhaps over lunch. This interaction will allow a sense of unity among the group and a chance to share experiences, knowledge, and concerns among all members involved. These gatherings may include any of the following:

- Presentations about various aspects of civil engineering
- Field trips to job sites.
- Visits to other civil engineering or transportation related sites
- Tours of local engineering firms
- Advice from newly hired engineers
- Brief updates on the recent events of the KESP
- Opportunity for the students to share their experiences

Colleges

There is concern in the civil engineering field about the low retention rate of students within the field and specifically of minorities at institutions in the U. S. Keeping women and minority students interested in engineering and the discipline of civil engineering while in college will be our goal and challenge. We hope to get these students interested early in high school, assist them in the college preparation, and follow up with the students to completion of a civil engineering degree.

Preliminary Tasks, Data Collection

Similar to the steps involved with the high school program, the college program required meetings and discussion about the implementation in local colleges. The initial goal is to focus on the preliminary work regarding this program and to start gathering information and making contacts. The initial objectives include:

- Research regional colleges and universities to discern suitable matches for this program
- Contact administrators and department heads in the engineering programs at potential colleges and universities to identify interest in the KESP

- Pursue interested colleges and universities by meeting with department heads, faculty and administrators to inform them of our KESP

Goals and Objectives

With this vast transportation infrastructure project expected to last six years, KTA sees an opportunity to reach out and make lasting connections with the community. Our sights are set on impacting women and minorities in the engineering field, encouraging them to persevere and complete a civil engineering program, and provide opportunities that would help them in their future careers. Some of our main goals and objectives include:

- Educate college students on the various disciplines in civil engineering
- Encourage students to continue their pursuit of a civil engineering degree and increase retention in civil engineering programs
- Offer summer and part-time employment opportunities to selected students
- Establish connections between engineers and college students through mentoring, presentations, and employment
- Create a sense of camaraderie among the KESP participants
- Provide KYTC a source for recruiting civil engineers as well as employees for transportation related services.

Participants

The KESP will spend its time developing relationships with Kentucky institutions which offer degrees in civil engineering or participates in the KYTC 3/2 program. These schools include most of the State funded colleges and Universities. Our primary focus will be on the Speed School at the University of Louisville due to its proximity to the Project. Below are the aforementioned institutions, a description of their engineering curriculum, additional outreach programs, and the relationship of the KESP to the institutions.

University of Louisville

The convenient location allows for the ease of college student participation in the KESP and enables the university to act as a resource for the participating high schools. The success of this program at the collegiate level will depend on how the University of Louisville chooses to participate. The KESP will mentor and encourage qualified college students, but there are many other opportunities involving the university. Such opportunities and ways of participation by U of L range from providing shadowing opportunities for high school students at the J. B. Speed School of Engineering to acting in an advisory capacity with participating high schools.

The University of Louisville's Speed School has a unique engineering program in that it offers a Bachelor of Science Degree and Master of Engineering in five years. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

The University's masters program requires cooperative consideration for the Engineering Scholars Program and its participants. Freshmen and sophomores are required to attend classes their 1st two years and have co-op jobs during their junior and senior years. This means summer jobs for any ESP participants would have to be delayed until their last years. This void may be filled by using high school students or civil engineering students from other colleges. Since the university is located in Louisville, it is close to the Kennedy Interchange Project, and the students are very accessible to many of the engineering firms involved in the project.

University of Kentucky

The University of Kentucky (UK) has an accredited Bachelor of Science Degree in Civil Engineering as well as a Master of Science in Civil Engineering, the Master of Engineering in Civil Engineering, and the Doctor of Philosophy in Civil Engineering.

Kentucky State University

Located in the state capital, Kentucky State University, founded as a historical black college, provides an ideal environment for our outreach to minorities.

Kentucky State University has an outreach program called the Summer Transportation Institute (STI) funded by the FHWA. WVB hopes to connect with STI through the ESP to increase the impact of this program. The STI is designed to stimulate and sustain interest in the transportation field and increase the number of students who choose careers in the transportation industry. The program is geared toward middle school students and provides an opportunity to introduce these students to the relationships between math and engineering before reaching high school.

Others

KESP students can also be enrolled in other state Programs offering 3/2 programs similar to that of Kentucky State University. These schools include Murray State University, Western Kentucky University and Morehead State University.

Retention Program for Engineering Students

The KESP can be viewed as a program to help improve retention among civil engineering students, although this responsibility ultimately falls on the institutions themselves. Providing assistance through mentors, practical job experience, and offering development opportunities through seminars, field trips, and tours can supply the additional support to keep students involved and interested in the civil engineering field.

Quarterly Seminars

For the participants in the KESP, engineers will hold quarterly seminars at local offices. The seminars will bring all the participants of the KESP together for informative sessions and casual interaction. This interaction will allow a sense of unity among the group and a chance to share experiences, knowledge, and concerns among members involved. These gatherings may include any of the following:

- Presentations about various aspects of the Kennedy Interchange
- Field trips to job sites on the Kennedy Interchange project
- Tours of local engineering firms
- Advice from newly hired engineers
- Brief updates on the recent events of the KESP
- Opportunity for the students to share their experiences
- Shadowing on the job as well as at the University

Through outreach, mentoring, financial assistance, and encouragement, the KESP hopes to impact the underutilization of women and minorities in the field of civil engineering by giving them opportunities and the support to succeed in high school and college. WVB hopes that the KESP will plant roots in the community and continue its impact long after the ORB East End Crossing Project is completed.

Draft Project Sustainability Plan (4.1.6.c.vi)



DRAFT SUSTAINABILITY MANAGEMENT PLAN

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1 Introduction

This document provides an initial indication of the measures WVB will implement on the East End Crossing Project to manage sustainability issues and achieve IFA’s stated sustainability goals. It should be read in conjunction with all other elements of our Environmental Compliance and Mitigation Plan, our Safety Plan, DBE Performance Plan and Workforce Diversity and Small Business Performance Plan.

In addition to our draft plans for Quality and Safety Management, this draft SMP clearly demonstrates our intent to develop and maintain the very highest standards with regards to sustainability on this Project. We are committed to responding to the sustainability concerns of our parent companies, clients and stakeholders. We will engage with clients, stakeholders, suppliers and staff to ensure sustainability is embedded in the way we work. We recognize our responsibility to society at large and to respond to sustainability challenges.

The SMP will be a component part of the Project Environmental Compliance and Mitigation Plan, which is in turn part of the Project Management Plan. It will apply during all Project stages, and highlights how WVB will address sustainability objectives during both performance of construction work and the operating period.

At this stage, the SMP is based on information available to WVB at bid development stage – including the 2012 Record of Decision (ROD), 2012 Supplemental Final Environmental Impact Statement (SFEIS), 2003 Final Environmental Impact Statement (FEIS) and 2012 Section 106 First Amended MOA. This draft plan will be developed further following contract award for final submission for IFA approval prior to Commencement of Design.

1.1 Purpose

The purpose of this document is to outline the controls and mitigation measures WVB will implement to maximize the positive impacts, and reduce or eliminate the potential adverse impacts, of the East End Crossing Project.

As a component part of the Environmental Compliance and Mitigation Plan it will provide a:

- framework to ensure all of WVB’s sustainability responsibilities are discharged
- means to identify Project sustainability commitments and constraints, targets and objectives

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- mechanism for checking that commitments have been applied during design, construction and O&M phases of the works
- mechanism for auditing and evaluating the application of controls and mitigation measures and the handling of sustainability issues during all Project stages

2 Sustainability Strategy and Objectives

WVB's approach to sustainability management is founded on both the JV parent companies' and IFA's objectives. This is captured in WVB's Sustainability Strategy, as illustrated in figure 1, which sets out our commitments within four key areas and 12 sub-categories.

People & Communities	Climate Change & Energy
Our people Health and safety Communities	Climate change Energy Transport and materials
Biodiversity & Natural resources	Governance & Partnership
Reduce impact & enhance biodiversity Sustainable water use Waste	Governance Customers Supply chain

Figure 1: The WVB sustainability strategy is based on four key areas, founded on both our own and IFA's social, economic and environmental objectives

This approach will ensure we satisfy (and where possible exceed) IFA's expectations, as well as the stated Project goals and objectives shown in Table 1.

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Table 1: The Project sustainability goals and objectives and where these are covered in the WVB Sustainability Strategy

Project Goal	Objectives	Element of Sustainability Strategy
Safe and secure	Maintain a safe environment for the public & workers	
Provides long term security	Detect, deter & prevent security risks	
Improves cross-river access & mobility	Consider access & amenities along multi-use pathways Provide and enhance level of service	
Optimizes life-cycle costs	Use durable materials	
	Use recyclable materials	
	Minimize waste	
Provides economic opportunity	Consider the impact of ice & snow control materials	
	Achieve diverse workforce goals	
	Create DBE, small business opportunities & subcontracting	
Protects and conserves environmental resources	Consider the source of materials based on sustainability principals.	
	Use recycled, recyclable & waste materials	
	Use green infrastructure storm water management design principles	
	Protect, conserve and enhance all environmentally sensitive areas	
Provides for proactive engagement with the public.	Minimize & eliminate waste	
	Optimize energy efficiency in construction & operations	
Provides for proactive engagement with the public.	Communicate the goals & achievements of the sustainability plan with the public	
	Include sustainability goals, efforts & activities in the Public Involvement Plan	

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3 Sustainability Targets

As described in Table 2, WVB's sustainability targets will be implemented onsite throughout the East End Crossing Project. Potential for continual improvement and performance beyond established targets will be evaluated and implemented throughout all stages of Project delivery.

Table 2: WVB sustainability targets, which will be met and (wherever possible) exceeded to drive continual improvement across the Project

Measure	Project Target	Target Monitoring
Construction targets		
DBEs employed	9% of workforce	DBE, Procurement and HR Managers to review and report on progress against target
Minority employees	15% of workforce	DBE, Procurement and HR Managers to review and report on progress against target
Female employees	10% of workforce	DBE, Procurement and HR Managers to review and report on progress against target
To be completed		

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4 WVB Integrated Management System

4.1 Background

The WVB Special Purpose Vehicle (SPV) brings together three major engineering and construction companies in Walsh, Vinci and Bilfinger Berger.

The Walsh-Vinci Construction JV (CJV) will be supported by our selected lead engineer, Jacobs.

- The Walsh Group is one of North America's largest general contracting, design-build and construction management firms.
- VINCI Concessions' expertise in design, financing, construction, operations and maintenance makes it the preferred partner of public authorities globally for the development of transport infrastructure and public facilities.
- The Bilfinger Berger Group operates internationally, specializing in civil and industrial construction, engineering and services
- Jacobs is one of the world's largest and most diverse providers of professional technical services, including engineering, architecture, construction, and operations and maintenance.

Between them the Project partners have unparalleled breadth and depth of experience in delivering Projects safely, sustainably and to the highest quality. Our success is based on a mix of experience, innovation and quality systems, and is encapsulated in our Integrated Management System (IMS). All elements of the Project will be controlled by the IMS.

The WVB IMS is presented in the WVB Project Management Plan and is founded on a process approach that drives clear allocation of ownership and responsibility.

4.2 WVB Strategic Processes

Through the development of its IMS, WVB has identified the following strategic processes necessary for its operations, and the interactions between them:

- **Delivery Processes** – contribute directly to the achievement of client and stakeholder objectives and satisfaction.
- **Control Processes** – define policy and the achievement of objectives. They provide guidance for delivery and support processes and ensure their consistency. They concern the business strategy, continuous improvement, sustainability, health and safety and quality assurance.
- **Support Processes** – ensure proper implementation of delivery and provide the required additional resources.

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WVB has integrated sustainability, environmental, safety and support control functions into these core processes as shown highlighted in yellow in Figure 2.

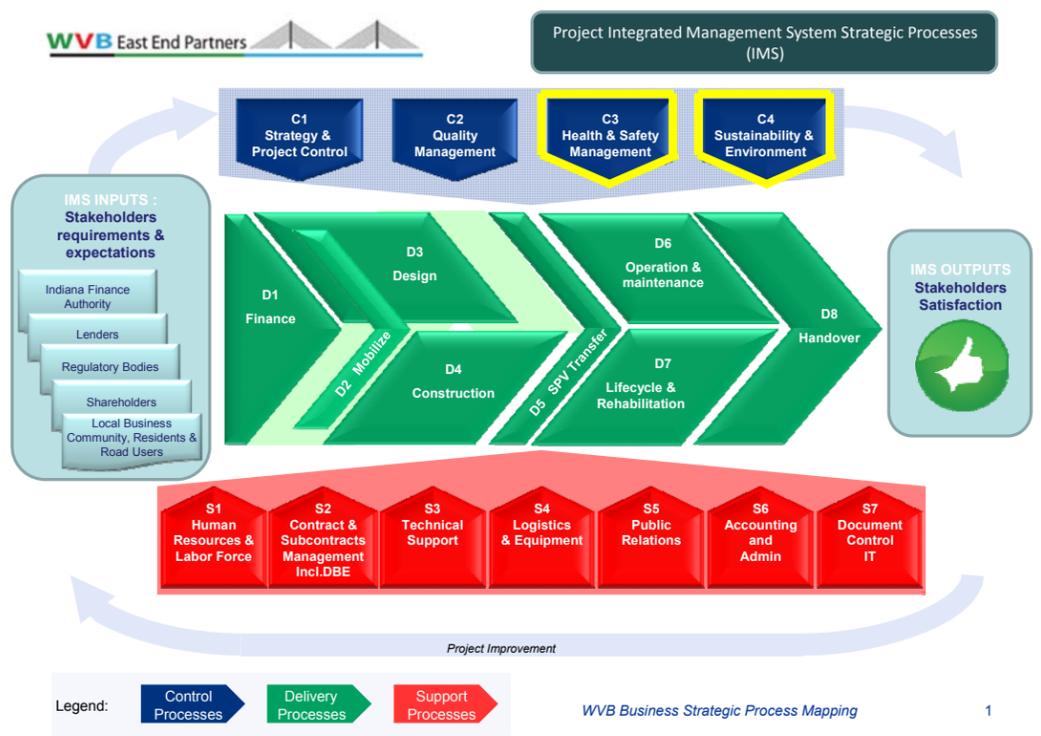


Figure 2: Sustainability elements of WVB's Integrated Management System

Both control processes C3 Health and Safety Management and C4 Sustainability and Environment will influence our achievement of the Project sustainability goals and objectives. More details about these processes and process owners' responsibilities (including the main organization chart) can be found in the WVB Project Management Plan.

Figure 3 below shows the management processes that make up control process C3 Health and Safety Management. Safety management processes will be described in more detail in the Project Safety Plan.

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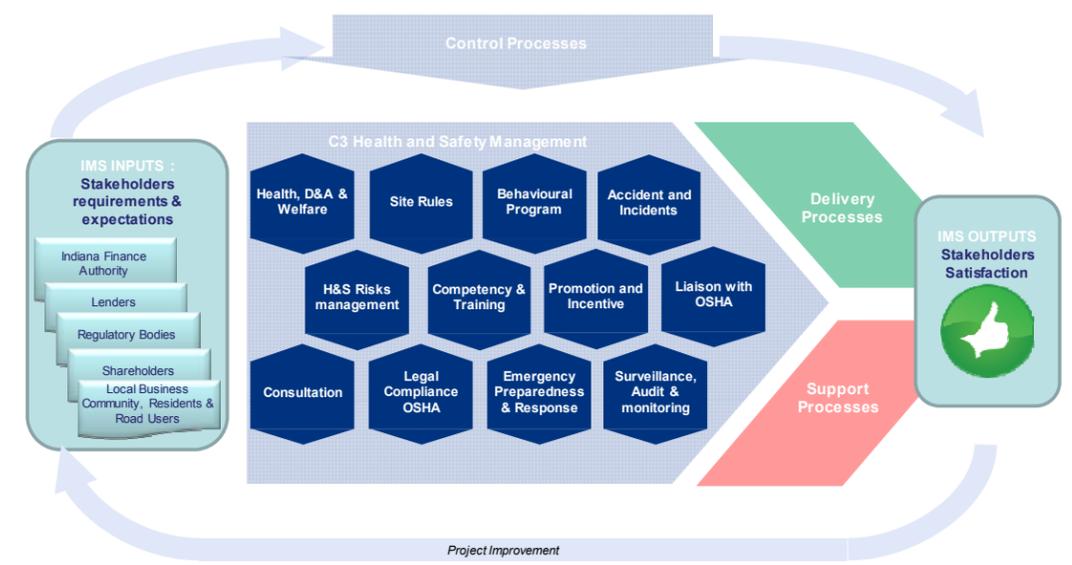


Figure 3: Control process C3 will ensure we maintain a safe environment for the public and workers in all Project stages

Figure 4 shows the management processes that make up control process C4 Sustainability and Environment. These processes will be described in more detail in the Project Environmental Compliance and Mitigation Plan.

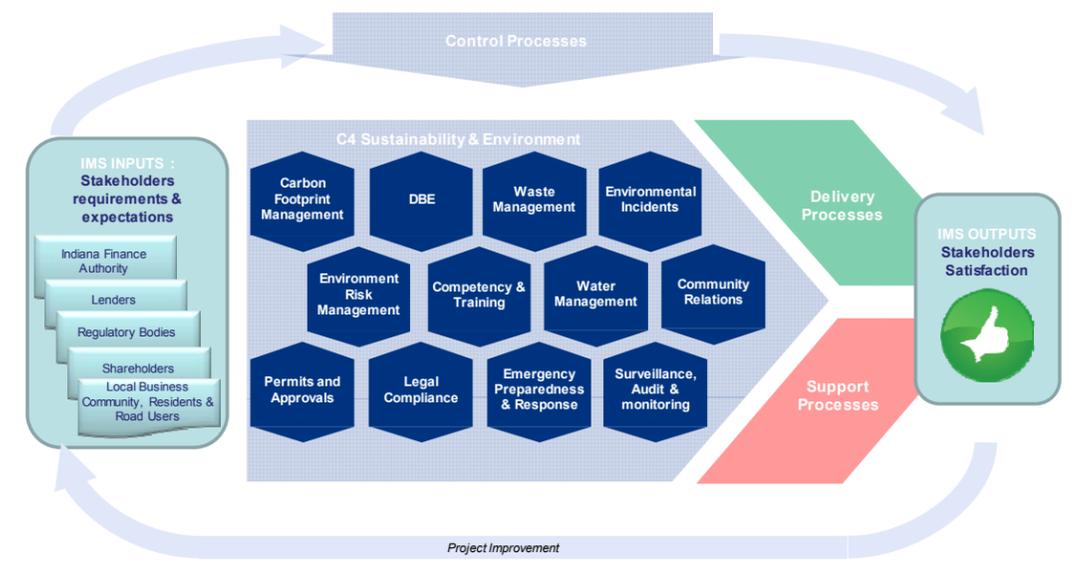


Figure 4: Control process C4 will ensure sustainable and responsible delivery of the East End Crossing to the full benefit of the local community

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Processes will be fully documented through process charts and resources such as management plans, operational processes, procedures and work instructions.

An online process view interface will permit easy access to all documentation on the Project intranet.

4.3 WVB Organization for Managing Sustainability

Figure 5 shows WVB's proposed organization for managing sustainability on the Project.

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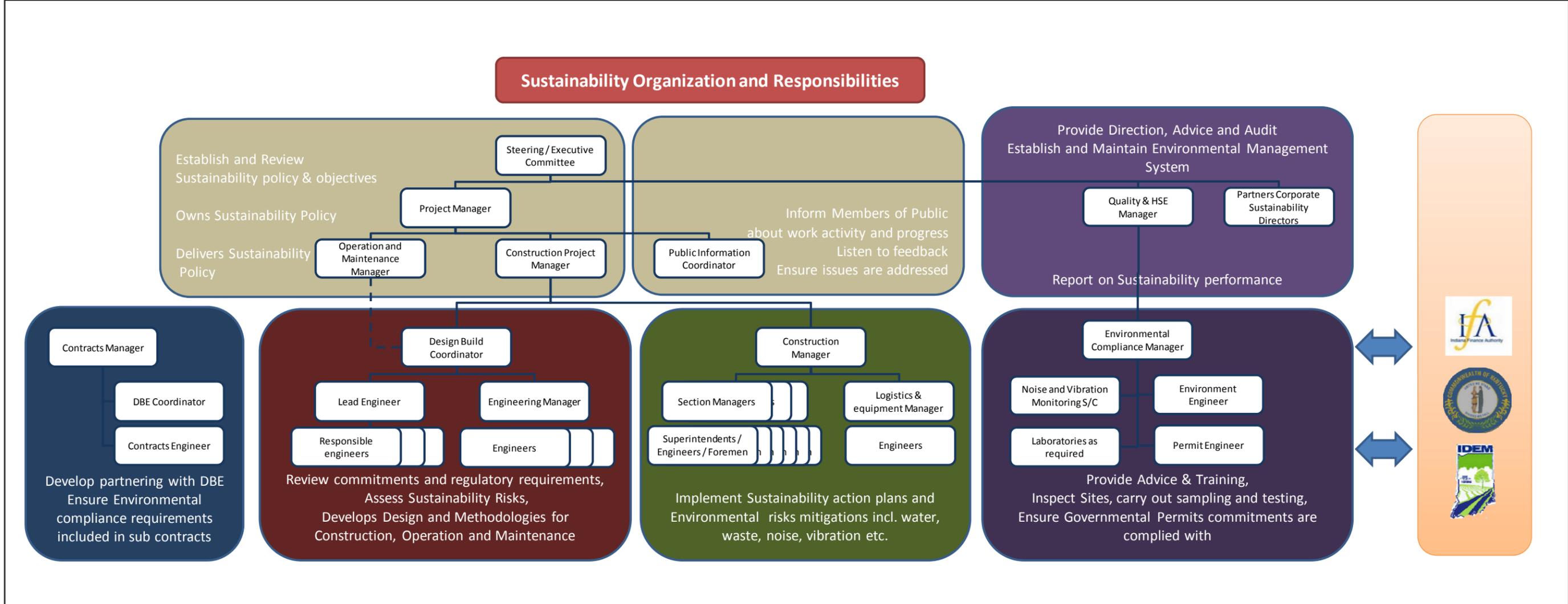


Figure 5: WVB organization, ensuring those with responsibility for delivering exemplary sustainability are integrated fully throughout our Project delivery team

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4.4 Roles and Responsibilities for WVB Personnel

Table 3 highlights the main sustainability responsibilities for the Project.

These responsibilities will be developed and established as a formal part of the WVB Management System. Responsibilities for sustainability, environment, quality, health and safety, schedule, cost, etc. will be combined and communicated to all personnel in their job description to ensure clear understanding and commitment.

Table 3: WVB staff sustainability responsibilities – each will drive exemplary delivery throughout all stages of the Project

Owner	Sustainability and Environmental Responsibilities
Project Manager	<ul style="list-style-type: none"> Ultimately responsible for the sustainable performance of the Project Promotes corporate social responsibility and sustainable construction to the Project team Present at key meetings with client and local groups
Quality and HSE Manager	<ul style="list-style-type: none"> Leads on sustainability as well as health and safety, monitoring and reporting on compliance and performance Owens the Health and Safety Management control process C3 and Sustainability and Environment control process C4 Develops, deploys, reviews and maintains the Sustainability Policy, Sustainability Strategy, Safety Policy and Safety Strategy Provides advice and guidance on all sustainability issues Works with the Public Information Coordinator to communicate with stakeholders and manages public relations in relation to sustainability Liaises with client representatives on sustainability issues
Environmental Compliance Manager	<ul style="list-style-type: none"> Directly supports and contributes to Quality and HSE Manager responsibilities Develops, deploys, reviews and maintains sustainability activities for WVB Delivers sustainability and environmental standards that meet and exceed the expectations of the client, stakeholder and environmental bodies

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Owner	Sustainability and Environmental Responsibilities
	<ul style="list-style-type: none"> Responsible for ensuring all governmental permit commitments are complied with Improves the environment and reduces Project impacts Provides advice and guidance on all sustainability and environmental issues Supports / provides training Develops and implements monitoring to ensure WVB compliance and performance against regulatory constraints, Project management commitments and sustainability targets Responds to technical queries Collects information and data, analyses findings and issues reports on progress against KPIs Reports information related to sustainability management Ensures all required certification and documentation for waste contractors used is in place Monitors and audits Project compliance with all legal and client waste management requirements Investigates additional opportunities to divert waste from landfill and to maximize operations in accordance with the waste hierarchy Ensures the collection, correct analysis and reporting of waste data (including office waste) from across the Project
Environmental Compliance Manager	Provides assistance to the Environmental Advisor on the following: <ul style="list-style-type: none"> Collects information and data, analyze findings and issue reports on progress against KPIs Reports information related to sustainability and environmental management
Permit Engineer	<ul style="list-style-type: none"> Ensures all governmental permit commitments are complied with Completes environmental monitoring to ensure WVB compliance and performance against regulatory constraints and Project management commitments

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Owner	Sustainability and Environmental Responsibilities
Logistics & Equipment Manager	Responsible for: <ul style="list-style-type: none"> • All logistics and related processes, i.e. owns support process S4 – Logistics and Equipment • The provision and maintenance of water drainage and treatment systems • The compliance of vehicles, plant and equipment entering site with regard to environment and safety regulations and site rules, e.g. noise or particles emissions • The maintenance of vehicles, plant and equipment • The reporting of data required for the sustainability and environmental KPIs, e.g. carbon emissions • The maintenance and cleanliness of site haulage roads • The wheel washing facilities maintenance and cleanliness of access roads • All site facilities including waste collection and disposal, in collaboration with the Waste Manager
DBE Coordinator	<ul style="list-style-type: none"> • Leads liaison with Disadvantaged Business Enterprises (DBEs) • Ensures national targets are met and exceeded in placing funds with persons who qualify as disadvantaged small business operators
Construction Manager / Section Project Managers / Section Engineers	<ul style="list-style-type: none"> • Develop environmental risk assessments specific to each method statement • Develop and implement operational controls, including briefings and brown bag talks • Assist in obtaining all necessary consents and liaise with external agencies • Ensure compliance with consents including obtaining monitoring information
Site Engineers, Foremen and Operatives	<ul style="list-style-type: none"> • Implement the controls and requirements as set out by the SMP, method statements and specialist reports

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Owner	Sustainability and Environmental Responsibilities
Public Information Coordinator	<ul style="list-style-type: none"> • Communicates and contributes to community stakeholders • Manages public relations after liaising with client • Supports client responses to public enquiries / complaints • Organizes workshops / seminars for local residents to attend so the Project and its impacts can be explained • Liaises with the client regarding school and local community initiatives • Responsible for WVB internal communication
Contracts Manager	<ul style="list-style-type: none"> • Verifies compliance with sustainability standards and specifications of enquiries received • Ensures sustainability requirements are included in contracts along with adequate clauses to allow for commercial action in case of failure to meet requirements

4.5 Management System Documentation

The WVB IMS has been developed from the WVB JV partners' existing management documentation. This process has amalgamated best practice from each partner organization to ensure the IMS not only reflects industry-leading control processes, but is also aligned with wider WVB and IFA requirements.

The system is fully integrated and complies with the requirements of ISO 9001:2000, ISO14001:2004 and OHSAS 18001:2007. All processes and procedures address quality, safety and environmental aspects, where relevant.

4.6 Sustainability Records

Sustainability records to be kept onsite will include, but not be limited to:

- Site inspections
- Audit records
- Training records
- Waste management records (waste transfer notes, waste carriers' certificates, disposal facility licenses/permits, Site Waste Management Plans)
- Materials reclamation, reuse and recycling information and data
- Energy (including carbon footprint) and water consumption records

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- Information on additional KPIs, and ongoing evidence of continual improvement
- Output from meetings with statutory authorities
- Incoming and outgoing correspondence with affected parties and statutory authorities
- Environmental near miss, incident and accident records (including mitigation measures adopted and lessons learned)
- Queries and complaints – a database of all communications with the general public and other stakeholders

5 Sustainable Management

The following sections set out WVB’s proposed controls to achieve each of the Project sustainability objectives. The information within each section will continue to be developed as further information becomes available and Project plans progress. The measures here are in addition to those that will be set out in our Environmental Compliance and Mitigation Plan, which will address specific Project environmental risks in more detail. All team members will receive training in these measures and related objectives and targets as part of our Environmental Compliance and Mitigation Training Program.

5.1 People and Communities

Our central business purpose is to serve people. We provide the necessary infrastructure to enable them to live, work and travel and in delivering this have clear opportunities to provide local social and economic enhancement, for example through the provision of employment and training opportunities. Our work also poses risks, however, particularly in terms of safety, but also in terms of the environmental impacts of our works – for example noise and vibration and increased traffic congestion on local roads.

WVB will, through our delivery of the East End Crossing Project, identify and take action to realize all positive opportunities and address all potential risks in relation to people, safety and communities.

5.1.1 Our people

WVB is committed to sustainable recruitment and training practices to ensure we maximize the local economic benefits of the East End Crossing and provide a satisfied workforce that is fully committed to achieving the Project objectives.

This will support achievement of the IFA Project objective to provide economic opportunity.

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During Construction

We will:

- Include local labor in our recruitment strategy
- Implement a training program to raise workforce competencies and motivation to achieve excellence. This to include a mandatory Environmental Awareness and Training Program to ensure all team members are aware of our environmental requirements and how to deliver them.
- Champion sustainability, e.g. through regular workshops
- Ensure our staff are consulted and involved
- Collect, respond to and recognize suggestions and feedback
- Reward employees through appropriate incentive schemes
- Promote our diversity and inclusion agenda

During Operations

We will:

- Include local labor in our recruitment strategy
- Implement a training program to raise workforce competencies and motivation to achieve excellence. This to include a mandatory Environmental Awareness and Training Program to ensure all team members are aware of our environmental requirements and how to deliver them.
- Champion sustainability, e.g. through regular workshops
- Ensure our staff are consulted and involved
- Collect, respond to and recognize suggestions and feedback
- Reward employees through appropriate incentive schemes
- Promote our diversity and inclusion agenda

5.1.2 Health and Safety

Safety will be our priority throughout the East End Crossing Project. We will provide a safe working environment for all involved with, or potentially affected by, our activities, including WVB, INDOT and KYTC employees, nearby residents and the traveling public. Our approach to achieve this will be set out in our comprehensive Project Safety Plan. This will ensure as a minimum we comply at all times with OSHA and PPA requirements and where possible exceed them.

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This will support achievement of the IFA Project objective to maintain a safe environment for the public and workers and to provide long-term security.

During Construction

We will:

- Embed risk analysis at the design and works preparation stages to engineer a safe program of works and detect, deter and prevent all construction security risks
- Engage with clients and designers to reduce construction safety and security risks through design and engineering before works start
- Manage and optimize logistics and lifting assets to prevent interfaces and mitigate risks
- Implement, measure and review our Health and Safety policy
- Train and raise awareness of the workforce
- Make explicit, communicate and enforce our non-negotiable Health & Safety Rules
- Engage with our supply chain and the public to achieve our objectives
- Develop, test and implement an Emergency Response Plan, Environmental Incident and Response Plan and Pollution Prevention Plan to ensure we are adequately prepared in case of safety, environmental or other emergencies

During Operations

We will:

- Embed risk analysis in all preparation activities to develop and implement safe programs of operations and maintenance activities and detect, deter and prevent all long-term security risks
- Engage with clients and designers to reduce O&M safety and security risks through design and engineering before works start
- Manage and optimize activities and logistics to eliminate or minimize interfaces with live traffic and mitigate risks
- Implement, measure and review our Health and Safety policy
- Train and raise awareness of the workforce
- Make explicit, communicate and enforce our non-negotiable Health and Safety Rules
- Engage with our supply chain and the public to achieve our objectives

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- Develop, test and implement an Emergency Response Plan, Environmental Incident and Response Plan and Pollution Prevention Plan to ensure we are adequately prepared in case of safety, environmental or other emergencies

5.1.3 Communities

WVB is committed to being a good neighbor, engaging, working with and supporting the communities local to the Project. This will include minimizing negative local impacts of the works as well as maximizing the positive benefits to the local community.

Our measures to maximize employment of local personnel and companies, including DBEs and smaller businesses are described in our DBE Performance Plan and Workforce Diversity and Small Business Performance Plan.

Our actions in this area will support achievement of the IFA Project objectives to achieve diverse workforce goals and maintain proactive engagement with the public.

During Construction

We will:

- Engage with Project stakeholders, understand and act appropriately on their feedback
- Work with local communities at the design stage to provide a legacy we can be proud of
- Include sustainability goals, efforts and activities in the Public Involvement Plan
- Engage with local schools and colleges
- Help raise competences in the local labor pool by providing training opportunities, including for locally-sourced team members and supply chain
- Support apprenticeships
- Encourage staff to volunteer in the community
- Seek to minimize local construction impacts – for example our shortened tunnel and portal designs, optimized tunnel cross-section and raised portal profile will reduce excavations and the number of trucks needed to remove rock material from site; to limit noise and vibration impacts on nearby properties as a result of tunnel excavation works we will fit blasting doors and use specifically selected detonators; our enhanced Roundabout Interchange solution and temporary traffic staging will maintain unrestricted access to the Port of Indiana throughout the works

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- Assist our clients to proactively keep neighbors informed of the construction works; maintain ongoing communication through informal contact and weekly meetings with transport agencies during construction to jointly manage and mitigate impacts on the traveling public, ensuring safety and minimal impacts on local roads

During Operations

We will:

- Engage with Project stakeholders, understand and act appropriately on their feedback
- Engage with local schools and colleges
- Include sustainability goals, efforts and activities in the Public Involvement Plan
- Help raise competences in the local labor pool by providing training opportunities, including for locally-sourced team members and supply chain
- Encourage staff to volunteer in the community
- Consider best practice and innovations to minimize impacts during operations – for example, we will minimize bridge deck joints and incorporate state-of-the-art technologies for necessary joints, bridge deck and pavement textures to minimize noise in operation
- Seek to minimize local impacts of any maintenance works – for example, we will adopt a preventive maintenance strategy to minimize the need for larger rehabilitation works, which would have greater impacts on local residents and road users
- Assist our clients to proactively keep neighbors informed of maintenance and rehabilitation works; maintain ongoing communication through informal contact and weekly meetings with transport agencies to jointly manage and mitigate impacts of maintenance activities on the traveling public, ensuring safety and minimal impacts on local roads

5.2 Biodiversity and Natural Resources

All infrastructure Projects, in both the construction and operational phases, have the potential to impact negatively on natural resources and biodiversity. Negative impacts can include temporary or permanent land take, resulting in the loss of habitat and / or mobility of wildlife and the loss of vegetation; increase in noise, light, and vibration disturbance – particularly during breeding and nesting seasons; and impacts on water quality. As well as protecting endangered, rare and threatened species, we must prevent the spread of invasive species. We also have a duty to make sustainable use of resources, including through the reduction of waste.

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5.2.1 Reduce Impact and Enhance Biodiversity

WVB will make every effort to minimize the environmental impacts of our activities in order to protect natural resources (including endangered, rare and threatened species) and enhance local habitats.

This will support achievement of the IFA Project objectives to protect and conserve environmental resources and optimize life-cycle costs (including protecting, conserving and enhancing all environmentally sensitive areas and considering the impacts of ice and snow control materials on the local environment).

During Construction

We will:

- Develop and deploy our Environmental Management System, which is certified to ISO 14001
- Identify potentially affected habitats and species and adopt best practice measures to minimize the impacts of our activities
- Identify opportunities for enhancement of habitats to offset unavoidable loss of overall habitat
- Develop designs to limit construction impacts and minimize Project footprint during construction works
- Provide training and raise awareness among the workforce (e.g. via posters) to enable identification and reporting of protected and invasive species
- Engage with local wildlife groups
- Monitor and check effectiveness of protection measures

During Operations

Our approach will make efficient use of ice and snow control materials while maximizing safety of road users. Control materials will be selected that create minimal impact on surrounding wildlife, habitats and water resources.

We will:

- Develop designs to limit ongoing operational impacts and minimize Project footprint – for example by incorporating a roundabout into our solution for the Section 6 Indiana Approach
- Select a sustainable planting palette that is adapted, native, low water use and contains no invasive species
- Deploy our Environmental Management System, which is certified to ISO 14001

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- Maintain records of potentially affected habitats and species and adopt best practice measures to minimize the impacts of ongoing O&M activities
- Plan revegetation works around breeding, nesting and migration seasons
- Provide training and raise awareness among the workforce (e.g. via posters) to enable identification and reporting of protected and invasive species
- Engage with local wildlife groups
- Monitor and check effectiveness of protection measures

5.2.2 Sustainable Water Use

By placing only a minimum burden on water resources through the efficient use of water (and in particular clean water), and ensuring ground and surface water are adequately protected, we will support achievement of the IFA Project objectives to protect and conserve environmental resources. This will include meeting the IFA aim to use green infrastructure storm water management design principles.

In line with the IFA aim to protect, conserve and enhance environmentally sensitive areas, we will also work with the Louisville Water Company to ensure the full protection of the Wellhead Protection Area (WHPA) at all times and eliminate the risk of any water supply contamination.

During Construction

We will:

- Develop, implement, monitor and update a Groundwater and Surface Water Management Plan
- Assess and reduce our direct and indirect water footprint during construction
- Adopt best practice in water use to minimize water wastage, including instilling a water efficient site culture
- Develop solutions to collect, treat and reuse site drainage runoff, ground and process water
- Treat trade effluents effectively
- Bring forward permanent works drainage where possible for use during construction as a measure to prevent pollution
- Optimize design and construction methodology to reduce dewatering
- Develop designs and construction methodologies that limit the need for construction activities in the water – for example we have reduced the waterline footing dimensions, which as well as facilitating construction and

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- reducing requirements to work in the water, will also minimize river flow disruptions and future riverbed scour
- Liaise with the Louisville Water Company; comply with environmental / erosion and sediment control and best management practices approved by the Company; use only materials and equipment approved for use in the WHPA; submit any plans for dewatering for Louisville Water acceptance prior to implementation
- Employ best practice measures during construction works in the Ohio River
- Store materials appropriately, away from bodies of water, and employ best practice dust and sediment control measures; store potential pollutants in clearly labeled containers in designated locked and bunded areas
- Ensure vehicle refueling is completed by trained personnel, in line with a clear refueling protocol, within designated and bunded areas isolated from water courses and drains
- Provide emergency spill kits onsite and train personnel in spill control

During Operations

We will:

- Assess and reduce our direct and indirect water footprint during construction
- Adopt best practice in water use to minimize water wastage, including instilling a water efficient site culture
- Treat and dispose of effluents effectively
- Incorporate storm water management technology into our design to enhance water quality in the Ohio River during operations; this will be achieved through early development of a Storm Water Pollution Plan for Sections 4 & 5
- Employ water efficient cleaning and maintenance equipment, e.g. to power wash structures during post-winter maintenance
- Consider potential for water pollution in the selection of ice and snow control materials, paints, cleaning and other maintenance chemicals, particularly for use on bridge structures over water; adopt best practice measures during their use
- Store maintenance materials appropriately, away from bodies of water, and employ best practice dust control measures; store potential pollutants in clearly labeled containers in designated locked and bunded areas
- Ensure any vehicle refueling onsite is completed by trained personnel, in line with a clear refueling protocol, within designated and bunded areas isolated from water courses and drains

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5.2.3 Waste

As a key part of our efforts to minimize the environmental footprint of these works, WVB will ensure waste is minimized, stored and disposed of in a controlled manner, in compliance with legal requirements, and in accordance with the highest tiers of the Waste Hierarchy.

In developing our design we will consider waste at all stages of the Project – including during construction, O&M and end of life disposal. This will support achievement of several IFA Project objectives, including to:

- Optimize life-cycle costs – through the use of durable and recyclable materials and the elimination of unnecessary waste
- Protect and conserve environmental resources – by reducing waste and using recycled, recyclable, and waste materials to reduce the need for new materials to be procured

As well as reducing waste to landfill, the measures described below will additionally reduce the environmental impacts of transporting materials to and from site.

During Construction

We will:

- Produce, implement, monitor and update a Waste Management Plan (WMP), setting out the controls that must be implemented for the storage, removal and disposal, monitoring and general management of waste produced onsite
- Optimize designs to reduce waste generation in construction, for example, optimizing the roadway profile for the south portal to decrease rock excavation and increasing the amount of fill material to be used north of Harrods Creek to decrease haul off from the Project
- Maximize use of recycled materials in the works; where practical, establish separate material type stockpiles to support recycling onsite and reuse temporary falsework and formwork
- Continue coordination talks with local quarry plants and work with local businesses to take excavated material and recycle it back into the East End Crossing Project as well as into other surrounding construction Projects
- Incorporate all material possible on site, for example using excavated materials at the Middleton Creek fill zone and to build earthen berms for noise reduction and view shed improvement for the historic districts such as Rosewell House

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- Maintain our ‘right first time’ quality approach to avoid waste and requirement for reworking
- Reduce, sort and recycle office waste
- Manage waste collection and ensure optimum segregation for reuse and recycling

During Operations

We will:

- Consider operational and end of life waste issues during the design stage; including specifying durable materials to increase life cycle – for example using weathering steel in the East End Bridge construction and concrete for the pavement
- Maintain our ‘right first time’ quality approach to avoid unnecessary waste
- Reduce, sort and recycle office waste
- Manage waste collection and ensure optimum segregation for re-use and recycling

5.3 Climate Change and Energy

Actions to minimize the causes of climate change and ensure efficient use is made of energy and fuel in all Project stages will have positive environmental impacts as well as enabling cost savings. Of particular consideration on this road infrastructure Project will be our efforts to reduce transportation impacts. In addition to reducing greenhouse gas emissions and fuel use this will increase the local benefits of the Project, for example by encouraging use of local suppliers.

5.3.1 Energy

WVB is committed through all stages of the Project to optimizing energy use, demonstrating efficiency and encouraging the adoption of best practice behaviors with regards to fuel and energy use both on and offsite.

This will support achievement of the IFA Project objectives to protect and conserve environmental resources and optimize energy efficiency in construction and operations.

During Construction

We will:

- Develop and implement a Construction Energy Management Plan
- Introduce initiatives to reduce conventional energy use and increase energy

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- Select low energy consumption products, plant and equipment during site installation
- Train and brief our employees to save energy through responsible use of appliances
- Promote and monitor energy efficient use of plant and equipment
- Renovate office space where practical to incorporate green building initiatives

During Operations

We will:

- Develop and implement an Operational Energy Management Plan
- Introduce initiatives to reduce conventional energy use and increase energy efficiency during operations
- Select low energy consumption products, plant and equipment
- Train and brief our employees to save energy through responsible use of appliances
- Promote and monitor energy efficient use of equipment
- Renovate office space where practical to incorporate green building initiatives

5.3.2 Transport

By assessing the sustainability of transport choices made at all Project stages (including commuting, trade vehicles, materials supplies and on-site transport) we will be better placed to implement measures to reduce the transportation impacts of the Project.

This will support achievement of the IFA Project objective to protect and conserve environmental resources.

During Construction

We will:

- Calculate the distance to be traveled and resulting transport carbon footprint as part of our materials and subcontractor procurement process
- Promote local sourcing and procurement
- Promote the use of recycled / site won materials
- Co-locate in office space within one mile of the Project site.
- Promote tele- and video-conferencing and the use of public transport

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- Develop a transport plan including shuttles / car pool / cycling arrangements for personnel
- Consider carbon emissions in the selection of vehicles
- Implement idling policies for all vehicles

During Operations

We will:

- Calculate the distance to be traveled and resulting transport carbon footprint as part of our materials and subcontractor procurement process
- Promote local sourcing and procurement
- Establish our maintenance yard and operations facility on Parcel 25 of the excess right of way (to include office building with reception; staff and visitor parking lot; covered vehicle garage and workshop space; covered sand and salt storage facility)
- Promote tele- and video-conferencing and the use of public transport
- Develop a transport plan including shuttles / car pool / cycling arrangements for personnel
- Consider carbon emissions in the selection of vehicles
- Implement idling policies for all O&M team vehicles
- Support advance user notification of any accidents or incidents on the roadway to prevent traffic delays and unnecessary user vehicle idling; implement maintenance works during off peak hours (period B) to minimize traffic impacts and increased emissions

5.3.3 Carbon Emissions

In order to support achievement of the IFA Project objectives to protect and conserve environmental resources and provide long-term security, we will implement all practical measures to reduce CO₂ emissions from all Project operations and prepare to adapt to the impacts of a changing climate in future.

During Construction

We will:

- Assess our carbon footprint using VINCI's in-house modeling tool GESTim™, set targets to reduce our GHG emissions, monitor performance and identify areas for improvement

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- Adopt and promote best practice and seek innovation to reduce our carbon footprint during construction (e.g. through reducing transport requirements as described above)
- Procure materials and services from sustainable and local sources
- Reclaim and reuse materials onsite wherever possible
- Use low-volatile organic compound (VOC) paints / coatings and adhesives
- Select sustainable options and features for site office accommodation
- Positively change culture to encourage individuals to be more resource and carbon efficient
- Consider climate change risk and opportunities for adaptation measures

During Operations

We will:

- Assess our carbon footprint using VINCI’s in-house modeling tool GESTim™, set targets to reduce our GHG emissions, monitor performance and identify areas for improvement
- Adopt and promote best practice and seek innovation to reduce our carbon footprint during operations and maintenance (e.g. through reducing embedded carbon in the works through the use of recycled and site-won materials as described above)
- Procure materials and services from sustainable and local sources
- Use low-volatile organic compound (VOC) paints / coatings and adhesives
- Select sustainable options and features for office accommodation
- Positively change culture to encourage individuals to be more resource and carbon efficient
- Consider climate change risk and opportunities for adaptation measures

5.4 Governance and Partnership

Open and honest communications and the fair treatment of all involved in this Project will facilitate efficient, safe and sustainable delivery at all stages. WVB is dedicated to working collaboratively with the IFA to identify and implement the best solutions to suit the IFA’s needs and satisfy end users. We have established in our Project Management Plan our clear organizational structure and management processes, including our proven, efficient decision making process. This incorporates our promise to implement two-way means of communication at all times in order to listen and respond to customer and supply chain needs and concerns. By providing clarity in cascading all management requirements and

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objectives throughout our supply chain – including sustainability requirements and targets – we will additionally expand the positive influence of the Project and enable achievement of all IFA goals.

5.4.1 Governance

WVB is committed to ensuring transparency throughout delivery in order to build trust and enable a collaborative management approach by providing appropriate information to all stakeholders.

As well as facilitating fair, effective and efficient management of the Project, this will in particular support achievement of the IFA Project objectives to maintain proactive engagement with the public and communicate the goals and achievements of the sustainability plan with the public.

During Construction

We will:

- Detail and publish our governance structure and decision making process
- Manage risks across the Project organization
- Consider stakeholder feedback at all relevant levels
- Ensure staff feedback is incorporated into decision making
- Consider sustainability in our business decision making process

During Operations

We will:

- Maintain our decision making process from the construction phase in order to maximize consistency and familiarity with the process
- Detail and publish our governance structure and decision making process
- Continue to manage risks across the organization
- Consider stakeholder feedback at all relevant levels
- Ensure staff feedback is incorporated into decision making
- Consider sustainability in our business decision making process

5.4.2 Customers

We are dedicated to supporting our customers’ business and Project strategies and going beyond their expectations wherever we have an opportunity to do so.

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This will support achievement of the IFA Project objective to improve cross river accessibility and mobility, including considering access and amenities along multi-use pathways and providing an enhanced level of service locally.

During Construction

We will:

- Work with customers during design and construction to achieve their sustainability aspirations during construction and wherever possible exceed them
- Benchmark best practices in order to actively propose optimum Project solutions
- Agree on Project-specific sustainability deliverables to help customers make sustainable choices
- Ensure customers are kept informed of all relevant issues
- Consult regularly and involve customers in the decision making process

During Operations

We will:

- Work with customers during design and throughout the operations period to achieve their sustainability aspirations during operations and wherever possible exceed them
- Benchmark best practices in order to actively propose optimum Project solutions
- Agree Project-specific sustainability deliverables to help customers make sustainable choices
- Ensure customers are kept informed of all relevant issues
- Consult regularly and involve customers in the decision making process

5.4.3 Supply chain

It is our aim to develop win / win partnerships with our supply chain and collaborate to deliver innovation in sustainability. We will promote local and responsible sourcing and procurement throughout our supply chain in both construction and O&M phases of the Project.

This will support achievement of the IFA Project objective to provide economic opportunity, including by creating DBE and small business opportunities (e.g. subcontracting opportunities) and considering the source of materials based on sustainability principals.

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During Construction

We will:

- Work with our supply chain to deliver the joint set of Project sustainability objectives
- Ensure all sustainability commitments are cascaded through our supply chain
- Provide supply chain companies access to training, skills and business development workshops to expand their competencies
- Promote local sourcing and procurement and the use of DBEs and smaller enterprises
- Raise competencies and motivation within our supply chain

During Operations

We will:

- Work with our supply chain to deliver the joint set of Project sustainability objectives
- Ensure all sustainability commitments are cascaded through our supply chain
- Promote local sourcing and procurement and the use of DBEs and smaller enterprises
- Raise competencies and motivation within our supply chain