

PARSONS | Mahan

Joint Venture

WHITE RIVER BRIDGE PIER CAP 1 DELAY

ARKANSAS LEGISLATIVE OVERSIGHT COMMITTEE FOR ARDOT

Presenters Name: Parsons/Mahan Joint Venture

Date: 2/19/2020

PARSONS | Mahan

Joint Venture

- ArDOT I-40 White River Bridge Crossing located in Prairie County Arkansas.
- \$100.6 Million Project Award
- Parsons – Built on a 75-Year foundation of purpose and core values servicing Critical Infrastructure, Defense and Intelligence Markets that employ over 13,000 Engineers, Scientists, Programmers and Trades Craft personnel. Parsons is Considered to be one of the Top Bridge Designers and Builders in the World.
- CJ Mahan Construction Company –For over 40 Yrs. Has specialized in the delivery of complex, award winning and iconic infrastructure projects including four Ohio River crossings, four cable stayed suspension bridges, four long span steel truss structures, and two cast-in-place concrete segmental bridges including the tallest bridge in Virginia. Mahan has delivered hundreds of bridges on major highways and has extensive experience in Cast-in-Place concrete construction including the slab of the IHNC Lake Borne Surge Barrier Gate in New Orleans, the largest-ever continuous concrete placement in the United States



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Background of Pier One Cap of Delay

- ✓ Pier One Cap Poured 8/23/19
- ✓ Pour Delayed 2.5 Hours Due to Lightning Storm (which falls under "Act of God" Provision within the ArDOT Specifications)
- ✓ Important to mention Retarding Agent was used in Mix Design which increases initial set of concrete to 5 hours. PMJV has test results to support this.
- ✓ Owner Verbal notice of Rejection of the Pier 8/26/19
- ✓ Several Rounds of Engineering Analysis provided to Owner with one page (brief) responses rejecting cap ordering "Removal and Replacement at no cost to ArDOT".
- ✓ ArDOT provided little or no comments refuting the Engineering, Non-Destructive Testing Analysis and Structural Recommendation provided by PMJV.





Current High Water
Restricting Site Access



Current Status of Pier One Cap Delay



✓ ARDOT requires the Removal and Replacement of the Cap at no cost to ARDOT. PMJV Position;

- The issue is covered under “Act of God” provision and should be compensated.
- The directive to remove and replace the Cap, based on the Engineering and Testing Data provided, constitutes Economic Waste.



✓ Project is currently shut down due to a High Water Event caused by both USACE (release of Bull Shoals retention into White River) and recent weather impacts.



✓ PMJV is required to protect the existing beams and shoring towers between Pier One and Bent 9 from High Water Impacts and the resulting Debris requiring the remaining beams in the span be set and bolted to prevent potential collapse.

REASONS TO ACCEPT THE CAP

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

January 30, 2015

Ms. M. Elaine Edwards
Chief, Regulatory Division
Little Rock District Corps of Engineers
P.O. Box 867
Little Rock, AR 72203-0867

RE: AHTD Job Number BB0610
White River Str. & Apprs.(F)
Prairie County

Dear Ms. Edwards:

Enclosed are the Standard Individual Permit Application, Categorical Exclusion, Proposed Construction Plans and supporting illustrations for the referenced project. The proposed AHTD project will **replace the existing structurally deficient bridge over the White River on Interstate 40 in Prairie County.** A detailed project description is included in the enclosed Categorical Exclusion. Total impacts to waters of the United States include 14.47 acres of wetlands and 0.5 acre of other waters. Compensatory mitigation for unavoidable wetland impacts is offered at the Glaise Creek Wetland Mitigation Bank, 164.7 wetland credits (47 acres).

Cost and Schedule Impact



- ✓ Completion in 2020 vs 2021 or worse 2022. Additional one Year Delay Minimum.
- ✓ Claim increase from \$6M to \$12M with Potential to hit \$22M.

Act of God



- ✓ The entire issue is covered under ArDOT Specification for Acts of God which provides relief of responsibility to the Contractor for unforeseeable circumstances.

Economic Waste to Remove and Replace Cap



- ✓ Based on the Engineering Analysis and Non Destructive Testing Results, Removal and Replacement of the Cap would constitute Economic Waste.

Existing I-40 White River Bridge has been classified as "Structurally Deficient".

REASONS TO ACCEPT THE CAP

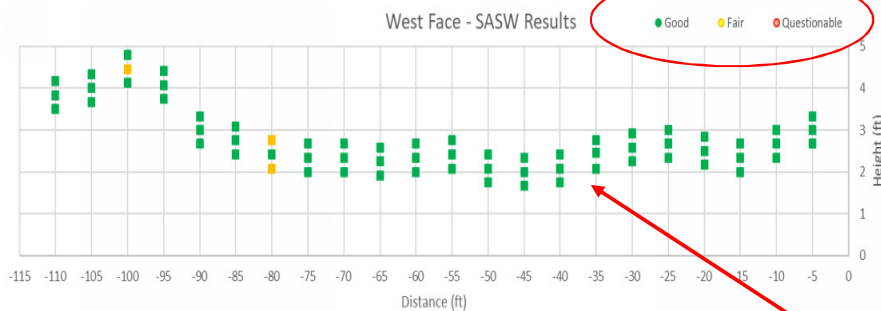


Figure A1: West Face SASW Test Results. X = 0 is at the south end, Y = 0 is at bottom of pier cap. Note that if a Fair and Good result occurs at the same location (different transducer spacings), only the Fair result is shown. The center results are for vertical tests across the lift joint with the SASW Bar with the other results above and below the lift line.

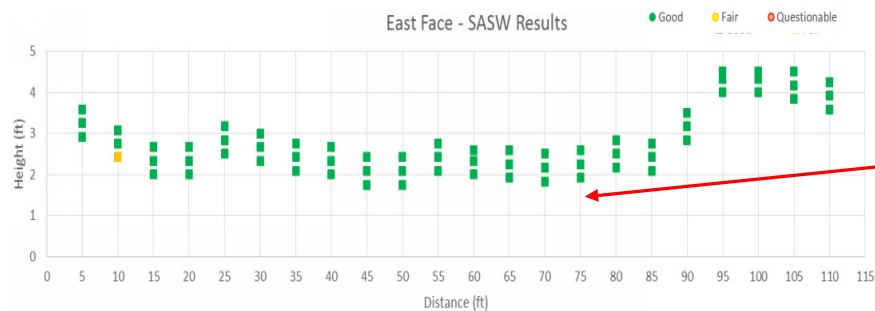


Figure A2: East Face SASW Test Results. X = 0 is at the south end, Y = 0 is at bottom of pier cap. Note that if a Fair and Good result occurs at the same location (different transducer spacings), only the Fair result is shown. The center results are for vertical tests across the lift joint with the SASW Bar.

Engineering Analysis Confirms Structural Compliance to ARDOT, AASHTO & FHWA requirements.

- ✓ PMJV provided additional analysis demonstrating Cap compliance with ArDOT.
- ✓ The Engineer of Record and ArDOT confirmed Cap meets design strength through independent structural analysis provided.
- ✓ PMJV 3rd Party Engineer concurred with PMJV analysis and confirms the Cap meets strength requirements.

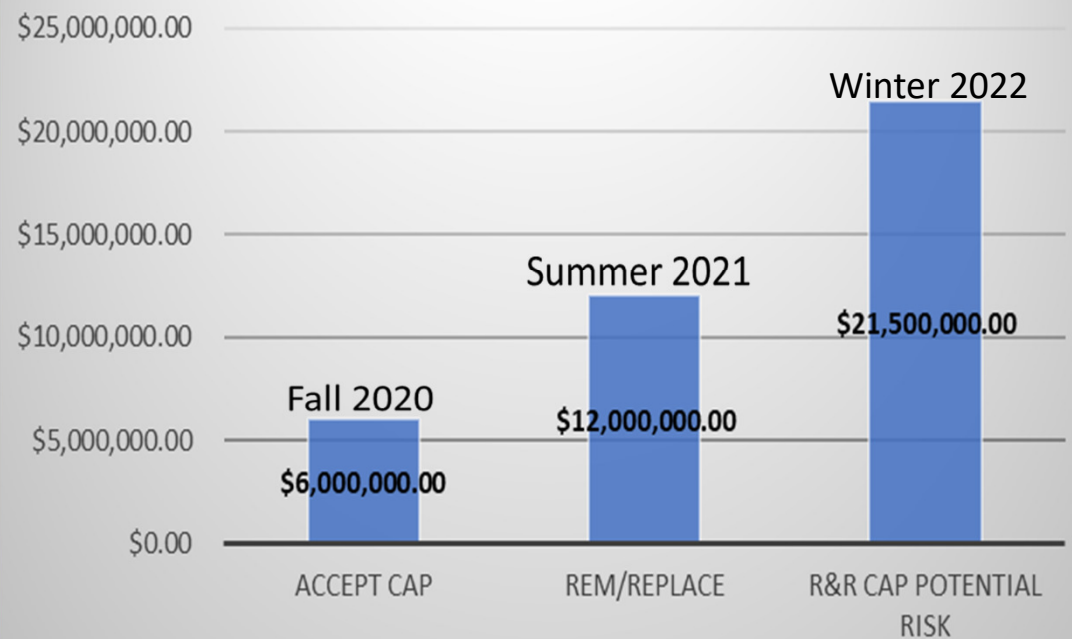
Non-Destructive Sonic Testing and Analysis of the Cap had overwhelming passing results which offset Durability concerns.

- ✓ Test results proved no "Cold Joint" exists. Spectral Analysis of Surface Waves. (SASW)
- ✓ Even if "Cold Joint" concerns exist, there are long term solutions that can be deployed.
 - Cap Sealant, Carbon Fiber Wrap, Post Tensioning etc.,



COST AND SCHEDULE IMPACT OF REMOVING THE CAP

Pier One Delay/Cost Risk Impact



Claim #1 Redesign of Pier Caps to include Pedestal not shown in original design.



Claims #2, 3 and 4 High Water for 2017, 2018 and 2019 shown at High water Elevation. Access Roads fully submerged under water

Claims 2, 3 and 4 High Water for 2017, 2018 and 2019. Access Roads shown at Normal Water Elevation.



FOUR CLAIMS UNSUCCESSFULLY NEGOTIATED

WHITE RIVER BRIDGE

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FOUR PREVIOUS CLAIMS UNSUCCESSFULLY NEGOTIATED

Claim #1 Owner Directed Revision of Pier Caps to Include Pedestals. (\$250K)



- ✓ Owner issued a Revision to the Pier Cap requiring the use of Pedestals which create much more detailed carpentry, Iron work and secondary pours. Actual costs were provided to owner and rejected without negotiation and PMJV was instructed to push claim to Claims Commission.

Claims # 2, 3 and 4 - (2017, 2018 and 2019 High Water Elevation) (Over \$11M.)



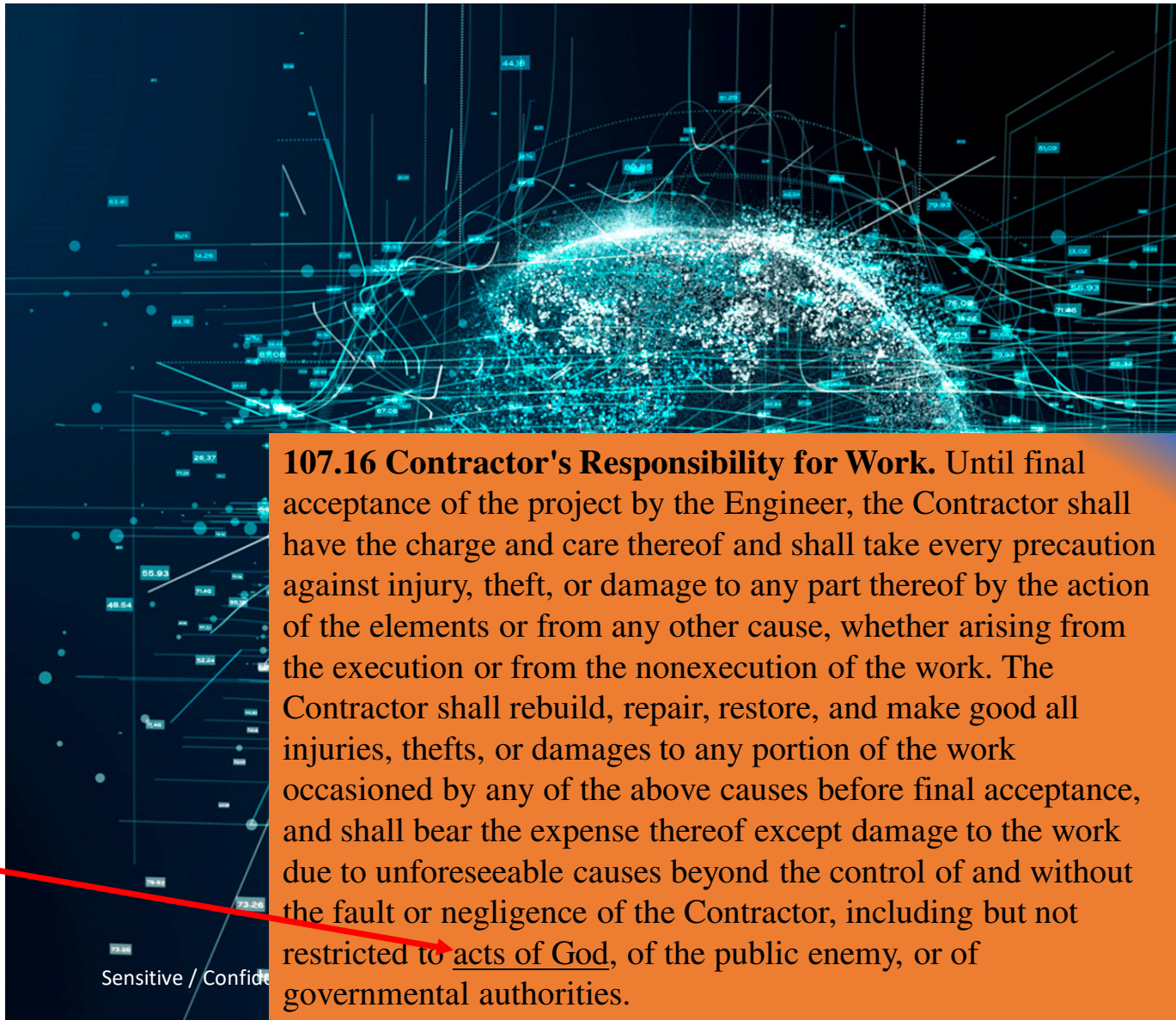
- ✓ ArDOT Plans provided defective and misleading information in the project plans and specifications resulting in 400 days of project suspension and increased costs to PMJV.
- ✓ ArDOT had provisions within the Specifications to suspend the project (SP. 108.05) yet owner rejected PMJV request to suspend.



- The contract is a working day schedule so time is of the essence. Project suspension would have allowed PMJV compensation for Mob and Demob and further allowed PMJV to pull idle equipment from the site so it could be taken off rent. The Idle Equipment on the project alone impacted the project by Millions of Dollars. PMJV relied on this Specification at Bid Time to reduce the risk of Idle Equipment during High Water Events.
- ✓ ArDOT again rejected claims without negotiation and PMJV was forced to Appeal to the Claims Commission.

CONCLUSION

- Engineering and testing of this cap has proven the Cap will perform as intended. There has been no data submitted that refutes this assertion.
- Removal of the Cap would be “Economic Waste” exposing Arkansas Taxpayers to additional costs ranging between \$12M and \$22M.
- A project that has already doubled its schedule due to High Water Events will most certainly triple in duration further delaying the traffic conversion from the existing “Structurally Deficient” structure to the new I-40 White River Bridge.
- “Acts of God” applies to this issue.
- Questions.....



107.16 Contractor's Responsibility for Work. Until final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury, theft, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries, thefts, or damages to any portion of the work occasioned by any of the above causes before final acceptance, and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the public enemy, or of governmental authorities.

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February 7, 2020

Mr. Emanuel Banks, P.E.
Deputy Director and Chief Engineer
Arkansas Department of Transportation
10324 Interstate 30 / P.O. Box 2261
Little Rock, AR 72203-2261

Re: Job No. BB0610 FAP NHPP-40-4(81)200 White River Structure and Approaches
Pier 1 Pier Cap – Directive to Remove and Replace

Dear Mr. Banks:

As I informed you via email on December 2, 2019, in anticipation of high-water conditions forecast for the site within the following week, and pending your final decision on acceptance of the Pier 1 Cap, we were forced to complete the structural steel erection across Pier 1 in order to stabilize and protect the partially erected structural steel the adjacent span 9. As I explained in my email, at that time the partially erected steel in the span 9 was supported on shoring towers within the waterway, and therefore exposed to potentially catastrophic collapse were the shoring towers to be damaged or displaced by forces associated with high flow velocities combined with drift accumulation. Although not approved by the Department in advance, these measures were absolutely necessary in order to protect the work in accordance with our obligations under Specification Section 107.16. Accordingly, on December 4, 2019, we began erection of the remaining steel in span 9.

On December 12, 2019, we received your letter of that date that responded to our request for reconsideration dated November 27, 2019. As you will recall, our November 27th request included newly received non-destructive test results that confirmed conclusively that no cold joint exists within the cap. Incredibly, despite this testing data, and despite the overwhelming body of engineering analysis and opinion provided not only by nationally-recognized structural experts, but also by your own Engineer of Record, that supported leaving the Pier 1 cap in place, your December 12, 2019 letter once again directed the removal and replacement of the cap at our expense. Since that time, we have remained at an impasse regarding reimbursement of the costs and delay impacts associated with your directive.

Over the past two months, given the ongoing threat of persistent high water, the only responsible course of action has been to leave the erected steel in place across Pier 1 until such time as low-water conditions prevail. This has prevented us from pursuing any critical path work on the Project, or complying with your directive to remove the cap. Over the past month, water levels have once again inundated the work roads, making Pier 1 and most of the site inaccessible once again.

Consequently, as I warned you would happen, the Project has been suspended and most of our work force has been laid off. Based on our experience at this site over the past three years, this suspension will likely extend until late spring or early summer, and completion of the Project within the 2020 calendar year is in therefore in doubt at this point, unless the existing pier cap is accepted by the Department.

The Department's position requiring removal and replacement of this cap is untenable given the verification test data and engineering analyses currently in hand, and is borne out of irrational fears as opposed to sound engineering judgement. Rather than exercise such judgment, or collaborate on other reasonable, less-invasive solutions available to it under the Contract, The Department's sole solution is to require complete removal and replacement, and leave the financial consequences to be sorted out by the Arkansas Claims Commission months or years down the road. While certainly expedient and painless for the Department, this approach does nothing to further the ultimate and immediate goal of the project – specifically to remove the high volume of I-40 traffic from a structurally deficient bridge as soon as possible.

Further, your position on this matter completely ignores important provisions of the Specification on which our bid pricing was based. Specifically, Section 107.16, which addresses payment for work damaged by an act of God:

107.16 Contractor's Responsibility for Work. Until final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury, theft, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries, thefts, or damages to any portion of the work occasioned by any of the above causes before final acceptance, and shall bear the expense thereof **except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the public enemy, or of governmental authorities.** (Emphasis added.)

In addition, the Department-directed removal and replacement of this Pier Cap represents a clear case of economic waste in violation of Arkansas law. In Arkansas, the standard measure of damages in construction-contract cases involving new structures is the cost-of-repairs, unless the cost to tear down and re-construct is unreasonable economic waste, then the court will award the difference in market value as a measure of damages.¹ Here, the removal and replacement of the Pier 1 Cap would constitute economic waste as the analyses and empirical evidence noted above demonstrate that removal and replacement will result in zero difference in the ability of the Cap to withstand design loads. Therefore, regardless of whether removal and replacement occurs, the value of the bridge will be exactly the same to the Department, the people of Arkansas, and the traveling public.

¹ See *Page v. Ballard*, 2011 Ark. App. 357, 2 (Ark. Ct. App. 2011); *Williams v. Charles Sloan, Inc.*, 706 S.W.2d 405, 406-407 (Ark. Ct. App. 1986) (“[W]e find that the courts’ preference for the cost of repairs measure and the economic waste exception are devices to avoid the situation where the contractor is required to tear down a structure, or otherwise commit economic waste, to correct a defect that does not detract from the market value as much as it would cost to repair it.”).

Finally, as we have discussed with the Department on several occasions including at the meeting held in Little Rock on November 6, 2019, there are better alternatives available to the Department to provide some "belt and suspenders" retrofit of the pier that could be accomplished concurrently with progressing the remaining superstructure work. These potential solutions include penetrating sealers, carbon-fiber reinforcement, external post-tensioning, installation of a cap extension on the bottom of the cap, and installing strap walls between the columns, to name a few. To be clear, while the testing and engineering performed to date do not justify any of these measures, any one of them would be far less impactful to the schedule and would minimize the cost consequences subject to dispute and resolution at the Claims Commission.

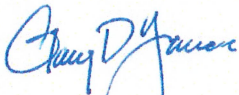
Similarly, since the field testing confirms no "cold joint" exists, and since all of the engineering analyses furnished to date verify that even if there did exist a continuous and smooth joint throughout the cap it would still meet the required design capacity, the Department can and should accept the as-built cap as being in reasonably close conformity with the plans and specifications. However, even if the Department continues to refuse to accept those conclusions, it still has the ability under Specification 105.04 to deem the work "reasonably acceptable," and allow the cap to remain in place with a corresponding cost adjustment. This alternative would not only establish a source of funding for any future maintenance concerns associated with this non-existent joint, but like the options discussed above, this approach would allow the work to continue and complete as soon as possible while minimizing the costs ultimately subject to dispute before the Commission.

As always, we are prepared to further revisit or further develop any of these alternatives as a way around the current impasse, should the Department agree to do so. However, all of these options, and all of the arguments presented herein, have been advanced previously at the highest levels of the Department without resolution. Given the overwhelming body of evidence we have provided to the Department to date, we do not believe it is reasonable or equitable to expect us to bear the financial burden of your directive to remove what has been shown to be a structurally sound pier cap, and then wait months or years to plead the case for compensation to the Arkansas Claims Commission. We also do not agree that your directive is in the best interest of the people of Arkansas, given it will result in keeping the existing, structurally deficient bridge in service for another year or more.

On this basis, and considering the current high-water induced suspension at the site, it is our belief that this matter must be elevated beyond the Department at this time. To this end, be advised that we are pursuing a hearing before the Legislative Oversight Committee for the Arkansas Highway Commission at the earliest open date on the Committee's schedule.

Sincerely,

PARSONS MAHAN JOINT VENTURE



Gary D. Yancer, P.E.

PMJV Board Member

Managing Partner, C. J. Mahan Construction Co., LLC



ARKANSAS DEPARTMENT OF TRANSPORTATION

ArDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director

10324 Interstate 30 | P.O. Box 2261 | Little Rock, AR 72203-2261

Phone: 501.569.2000 | Voice/TTY 711 | Fax: 501.569.2400

February 14, 2020

Mr. Gary D. Yancer, P.E.
PMJV Board Member
Parsons | Mahan Joint Venture
Post Office Box 490
Hazen, Arkansas 72046

Re: Job BB0610
FAP: NHPP-40-4(81)200
White River Str. & Apprs. (F)
Route 40, Section 42
Prairie County

Dear Mr. Yancer:

Reference is made to your recent correspondence concerning the Pier 1 Cap on this project and the intent to elevate this issue beyond our Department.

Parsons/Mahan Joint Venture (PMJV) should be reminded that all of the issues concerning the cap in question were due to PMJV's choices, such as:

- PMJV elected to begin the pour of the Pier 1 Cap on a night with a questionable weather forecast. A delay of a day or two in pouring the cap could have prevented this issue entirely.
- PMJV elected to resume the cap pour after an approximately three-hour stoppage due to rain creating the cold joint in the cap. PMJV could have chosen to reduce the impact and remove only what had been placed prior to the weather event.
- PMJV elected, in lieu of promptly removing and replacing the cap as directed, while retaining the right to file a claim for the removed and replaced cap, to continue to dispute its removal from August 26, 2019, until present. Therefore, PMJV's actions are delaying and increasing impacts to the completion of this project.

Your notification of the intent to elevate this issue beyond the Department and outside the scope of the Contract is noted and will remain on record. You are reminded that the Contract for this project details the appropriate appeal process as defined by Subsection 105.01 of the Standard Specifications, which clearly states that the Chief Engineer's decision is final and any additional appeal shall be filed with the Arkansas State Claims Commission. PMJV has now elected to proceed outside of the Contract, and your intent to pursue this avenue in lieu of removal of the Pier 1 Cap as directed will, by your choice, further increase the delays to this project.

Mr. Gary D. Yancer, P.E.
February 14, 2020
Page Two

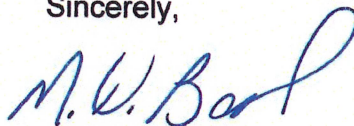
The Department has repeatedly directed you to remove and replace the Pier 1 Cap, and PMJV has continued to ignore that directive for several months, therefore further increasing the delays caused by your actions and decisions.

In the interest of the people of this State, PMJV's delays must end, and therefore you are directed to advise my office of your intent to remove and replace the Pier 1 Cap as has been directed or of your intent to continue your efforts to allow it to remain in place as constructed through an appeal to the Arkansas State Claims Commission in accordance with the Contract. Should your intent be to remove and replace the cap, it is expected that the removal work should begin within ten calendar days of the river level receding to one foot below the work road surface.

Be advised that notice of PMJV's intent to not begin the removal and replacement of the cap within the timeframe indicated or to file an appeal with the Arkansas State Claims Commission will result in the Department initiating default proceedings as outlined in the Contract.

Your response to this letter shall be provided to my office within ten calendar days from receipt of this notice. Failure to provide this information as directed will result in the initiation of default proceedings accordingly.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. W. Banks", written in a cursive style.

Emanuel Banks
Deputy Director and
Chief Engineer

c: Director
Deputy Director and Chief Operating Officer
Assistant Chief Engineer – Operations
Construction Engineer
District 6 Engineer
Resident Engineer 61
Chief Legal Counsel
Liberty Mutual Insurance Co. – Surety
Tom Branigan – Resident Agent