ARKANSAS DEPARTMENT OF TRANSPORTATION

Constructability Review Procedures Manual

Recommended By:

State Construction Engineer — Date: 10-1-25

Division Head, Roadway Design — Date: 10/01/2025

Approved By:

Chief Engineer – Pre-Construction — Date: 10/3/2025

Chief Engineer – Operations — Date: 10/02/2025

Constructability Review Procedures Manual

FOREWORD

This Manual establishes uniform policies and procedures for Constructability reviews within the Arkansas Department of Transportation. A legal standard for these reviews is not established or intended. It is published solely for information, guidance, and training of the Department's employees and those in the road building industry.

The Manual does not establish any legal or administrative interpretations of the Department's contracts. In the event that the terms of a contract or specifications and the Manual are in conflict, the Manual is subordinate to the contract and specifications.

The Department wishes to acknowledge and thank the Tennessee Department of Transportation, as this manual was developed from their procedures and documentation for Constructability Reviews.

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SECTION 1 – EXECUTIVE SUMMARY

The Arkansas Department of Transportation is responsible for an integrated transportation system that provides the opportunity for economic prosperity and a high quality of life for Arkansas' citizens. In order for the Department to build fiscally responsible projects and maintain this infrastructure, development of transportation projects requires the combined effort of many resources, functional areas, and partnerships.

Recognizing the challenges associated with highway construction, the goal of the Constructability Review is to utilize the expertise of both the Department and outside resources including the Construction Industry. This allows the designer to tap into the knowledge and experience available from the construction industry and others alike. A constructability review is intended to improve project quality, minimize potential change orders during construction, and provide a buildable and biddable construction bid package.

The manual provides guidelines and procedures for establishing and conducting Constructability Reviews. It is intended that this process will further support the commitment to improving the ARDOT's plan development process and plan quality.

Appendix A outlines the process of the overall Constructability Review.

Comments and suggestions are welcomed and should be directed to the Constructability Review Coordinator.

SECTION 2 – ROLE OF THE REVIEW MANAGER/REVIEW TEAM

Since Roadway Design will have the most comprehensive knowledge of project scope, they will be best suited to determine if a Constructability Review should be conducted. Not all projects will require a Constructability Review. Projects that should be considered for a Constructability Review are as follows:

- Projects with unusual or critical construction sequencing
- Projects with critical traffic control, especially in major urban areas
- Projects where utilities may impact construction phasing and scheduled completion
- Projects where retaining walls, structures and grading are a major design component
- Any project that may benefit from the experience provided by outside resources

Determination of the need for a Constructability Review will be made during the 30% plan review for each project in development.

Once it is determined that a Constructability Review is needed, the Roadway Design Staff Engineer should submit a request for review to Construction Division through the Roadway Design Division Head. The State Construction Engineer will select a Staff Engineer to serve as the Constructability Review Coordinator. The appropriate District Engineer will be responsible for selecting District members for the Constructability Review Team. The Constructability Review Coordinator will be responsible for conducting the meetings, selecting a member to record the minutes of the meetings, and providing appropriate responses to information and suggestions provided. While suggestions are welcomed and encouraged, inclusion of such suggestions into the project may not be possible due to other design parameters and governing policies.

SECTION 3 – CONSTRUCTABILITY REVIEW PARTICIPANTS

The Constructability Review will be conducted by the Constructability Review Coordinator. The Constructability Review Team will consist of participants who have a stake in the project or can provide needed expertise. The following is a list of potential stakeholders:

- ARDOT Personnel
- Other Government Agencies
- Utilities
- Contractors
- Suppliers

Breaking down each category, the potential stakeholders are as follows:

ARDOT Personnel

- Bridge Division
- Construction Division
- District Engineers, District Construction Engineers, District Maintenance Engineers
- Resident Engineers
- Environmental Division
- Right of Way Division
- Materials Division
- Roadway Design Division
- Maintenance Division
- Transportation Systems Management & Operations (Signals, Roadway Lighting, IT)
- Utility Section – Right of Way Division
- Others may be included as determined by the Review Manager

Other Governmental Agencies

- Local public works/city engineers
- Arkansas Department of Environment Quality (A.D.E.Q.)
- Corps of Engineers
- U.S. Fish and Wildlife Agency
- Arkansas Game and Fish Commission (A.G.F.C.)
- Federal Highway Administration
- Local Fire and Police Agencies
- School Systems
- All permitting agencies (Highway Police)
- Others may be included as determined by the Constructability Review Coordinator

Utilities

- Various utilities affected by the project may be called in to discuss potential constraints. These may include utilities such as electric, gas, water, sewer, phone companies, cable TV, and railroads. The constructability review phase is an excellent time to work out phasing issues that may delay a project.

SECTION 3 (CONTINUED)

Contractors

- Bridge Contractors
- Paving Contractors
- Grading Contractors
- Specialty Contractors

Depending on the complexity of the project, one or more of the contractors listed may be asked to participate in the constructability review. Potential topics of discussion may involve a new type of bridge construction practice, blasting concerns, sensitive environmental issues, and traffic control restrictions, especially in major urban areas.

Suppliers

- This is a stakeholder that may not be called upon often but may be of great benefit. As new products are developed, vendor participation in the proper application of required specific products is vital. Benefits, limitations, and availability of various products could greatly affect phasing.

Selection of any of the participants should depend on what benefit or expertise the participant can bring to the review. The Team should be limited to a manageable size of 10 to 15 persons. On large projects, especially those with many utilities, this may not be practical. Some reviews may only focus on a particular issue, thus eliminating the need for every team member to attend all meetings. (See Appendix B for a sample participant invitation letter).

SECTION 4 – SELECTION OF CONSTRUCTION INDUSTRY PARTICIPANTS

One of the greatest benefits of the Constructability Review is the knowledge and experience that the construction industry can provide. Information regarding construction sequencing, conflicts with utilities, traffic control, and construction methods can help in reducing cost overruns, construction delays, construction changes, and traffic delays.

The Constructability Review Coordinator will determine the number and make the selection of members from the construction industry from a list of willing participants, which the Department's Construction Division will maintain from the solicitation of all pre-qualified contractors. (See Appendix C for a sample solicitation announcement). A letter will be posted as part of the pre-qualification process. The letter will also be posted on ARDOT's website. Three contractors will be chosen for each Review Team as follows:

- ARDOT's State Construction Engineer will select one
- ARDOT District Engineer over the project will select one
- One contractor will be randomly selected from the list of willing participants

The first year of initiating this process will require a letter of interest from the contractor. Participation in the Constructability Review will not preclude the Contractor from bidding for the job and is non-compensable.

SECTION 5 – CONSTRUCTION REVIEW SCHEDULE

The intent of the Constructability Review is to apply new ideas, make corrections, and determine the most appropriate design approach early in the development of the project, all with Safety as the main guiding principal. This will reduce potential problems and associated plan revisions after the project is let to contract. In order to allow adjustments in the design, it is important that Constructability Reviews be held as early as practical. To be most effective, it is suggested that a review be held prior to the plans being 60% complete. If value engineering is included in the project, it should be completed before the Constructability Review process. The State Construction Engineer reserves the right to decide if the review schedule needs to be adjusted to provide industry representatives the needed information to benefit the project. Additional reviews may be incorporated and tailored to a specific topic if needed.

Approximately two weeks before the Review Meeting, the three selected contractors will receive a hard copy or electronic set of the plans. Once the plans are distributed, they will also be posted on ARDOT's website in fairness to other contractors. These plans will be stamped for Constructability Review only; they are not suitable for bidding.

SECTION 6 – CONDUCTING THE CONSTRUCTABILITY REVIEW

The Constructability Review is dependent upon the role of the attendees and the meeting coordinator to ensure the meeting's success. The purpose of the meeting is to provide an open forum for comments and discussion of the project. It is important that all participants have an opportunity to provide input. Review of plans and reports by the attendees prior to the meeting is essential.

The following is a suggested sequence of events conducted during the Constructability Review:

- Welcome/Introduce Participants
- Agenda Topics
- Overview of project and the proposed letting schedule
- Begin discussion topics
- Address other issues
- Open the floor to allow for any presentations
- Discuss follow up and action items

It is suggested that the Roadway Design Staff Engineer ensure phasing plans, layouts, and earth imagery are available for the meeting.

SECTION 7 – RECORD KEEPING

The Constructability Review requires the input from many resources within the Department as well as outside stakeholders. It is important that all comments or suggestions be recorded in the meeting minutes. The Constructability Review Coordinator should designate a record keeper to capture all information discussed and by whom. Action items and the responsible party shall be noted and recorded.

Each participant provides valuable and diverse input to the team. However, it is not practical to incorporate all comments or suggestions into a project. Some issues may be discussed and resolved quickly in the review. Others may require further discussions with management staff and, thus, be resolved outside the Constructability Review. Each participant in the review shall, therefore, receive a summary of the meeting. The Department shall not be required to make meeting minutes available, so as to protect the participant's comments and/or suggestions. Appendix D will serve as a sample of the proper form of minutes.

The summary of each Constructability Review may provide valuable information to potential bidders of a project. This information will be made available to those potential bidders on the ARDOT Program Management webpage with all other pertinent project information. The Constructability Review Coordinator shall coordinate the availability of the review summary.

The Department does not guarantee or assume any responsibility that the information provided at the constructability review will hold in the final set of drawings. Additionally, there is no guarantee that the project will be let to contract in a specified timeframe. The project information at the review is preliminary and does not relieve the Contractor of the responsibility to examine the site, the work, the plans, the permits, and the specifications as detailed in the Department's Standard Specifications for Highway Construction once the project is posted for letting.

SECTION 8 – FOLLOW UP AND LESSONS LEARNED

Transportation projects require the functional area expertise of many Divisions within the Department. Significant benefits can be realized when construction expertise is also incorporated early into Project Development. These benefits include reduced project cost, improved construction duration, and quality of bidding documents. The results of the constructability review process in these three key areas will be evaluated for each project, providing tools for the Department to utilize on all projects.

Lessons learned from these reviews will be consolidated and posted to maximize the rate of return on future projects evaluated by the Department, minimizing risk and providing an improved quality product to the Industry as a whole. NCHRP Report 390, "Constructability Review Process for Transportation Facilities", 1997 further identifies the benefits of the Constructability Review Process. An additional resource is the AASHTO "Constructability Review Best Practices Guide", 1997.

SECTION 9 – APPENDIX

1) Project Selected for Constructability Review
2) Roadway Design Staff Engineer Initiates Review Process with Construction
3) Major Constructability Issues Verified
4) Constructability Review Team Selected
5) Meeting Held and Summary Report Distributed
6) Constructability Improvements Incorporated into Project and Summary Report Posted to Website

APPENDIX A: CONSTRUCTABILITY REVIEW PROCESS

ARDOT.gov | Jared D. Wiley, P.E., Director

CONSTRUCTION DIVISON
10324 Interstate 30 | P.O. Box 2261, Little Rock, AR 72203-2261
Phone: (501) 569-2251

September xx, 2026

Mr. Bill Smith
XYZ Construction, Inc.
123 Main St.
Little Rock, AR 72203

Re: Constructability Review
Job No. 0610000
Job Name: I-440 – East
I-40, Section 32
Pulaski County

Dear Mr. Smith:

Thank you for agreeing to participate in the constructability review for the upcoming project 0610000 on Interstate 40 in Pulaski County. Please note that participation in this review is voluntary, non-compensable, and will not prevent you from submitting a bid for the project. Anything that you choose to share will remain in confidence. The Department would like to conduct the review with you and other team members on an individual basis in person. The review will be held on October 23, 2026, at 10:00 am at the District 6 headquarters in Little Rock.

(Specific Topics and Project Questions Generated from Site Review)

Some of the topics for the review will be:

- Project Phasing & Timing
- Retaining Walls Constructability
- Utility Relocation and Coordination with other work

Example Questions:

1. Will the phasing provided by the utility plans coincide with the contractor's suggested phasing of construction (maintenance of traffic)?

2. Does the contractor have enough means to begin bridge construction in light of the existing utility and rights of way proposed for the project?

3. In reviewing the maintenance of traffic plans, do the plans presented allow for motorists to travel as needed, but allow all work to be accomplished as designed?

4. What are the timeframes for each phase of work? Can this work be done in XX months?

5. Are any cross or longitudinal drains included that seem impossible under traffic due to depths or maintenance of water flow at locations within the project?

APPENDIX B: EXAMPLE PARTICIPANT INVITATION LETTER

6. Understanding the businesses are required to have their entrances open and unobstructed, do any business accesses along the corridor pose issues to the construction of the roadway?

7. How would the contractor minimize impacts to ingress/egress to neighborhood access?

8. How would the contractor sequence construction of the large box culvert and channel?

9. How would the contractor sequence the construction of the main storm sewer system?

10. How could the contractor get creative and balance the earthwork and minimize the amount of borrow needed?

11. What are the greatest challenges of the project? What are the greatest opportunities for improvement?

Again, thank you for your assistance. If you have any questions, please feel free to contact me at 501-569-2251.

Sincerely,

John Doe
State Construction Engineer

C: Asst. Chief Engineer – Construction
Asst. Chief Engineer – Design
District 6 Engineer
Division Head – Roadway Design
Staff Construction Engineer

APPENDIX B: EXAMPLE PARTICIPANT INVITATION LETTER (CONTINUED)

ARDOT.gov | Jared D. Wiley, P.E., Director

CONSTRUCTION DIVISON
10324 Interstate 30 | P.O. Box 2261, Little Rock, AR 72203-2261
Phone: (501) 569-2251

July xx, 2026

ARDOT is planning a Constructability Review for the following District 6 project that is currently scheduled for submission in preparation for the January 2027 Letting.

PROJECT:	**061000, I-440 – East, Pulaski County**
	Interstate 40 From I-440 to Jones Rd. Exit FAP No. AHD-1234(5)
SUBJECT:	CONTRACTOR REQUEST FOR PARTICIPATION
DATE:	October 23, 2026
CONTACT:	John Doe, State Construction Engineer Construction Division john.doe@ardot.gov (501) 569-2251

PROJECT DESCRIPTION: The purpose of this project is to add an additional travel lane and resurface I-40 and widen six structures in Pulaski County. This project consists of Special Clearing, earthwork, Aggregate Base Course, ACHM Base, Binder, and Surface Courses, underdrain installation, bridge construction, pavement markings, and misc. items.

FOCUS OF MEETING: The meeting will focus on comments from the Site Review, Construction Staging Plans, Utility Relocation and Coordination of Other Work, Construction Completion Date, Retaining Wall Constructability, Bridge Phasing/Construction and Innovation in Design. The ultimate goal is a biddable, buildable, cost-effective and maintainable project.

If you are interested in participating in this review, please contact John Doe at (501) 569-2251 or by e-mail john.doe@ardot.gov by **October 6, 2026**

Please note that participation in this review is voluntary, non-compensable, and will not prevent you from submitting a bid for the project. Anything that you choose to share will remain in confidence.

APPENDIX C: EXAMPLE INDUSTRY SOLICITATION ANNOUNCEMENT

ARDOT.gov | Jared D. Wiley, 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

INTEROFFICE MEMORANDUM

October xx, 2026

TO: _____, Chief Engineer for Operations
_____, Chief Engineer for Preconstruction

FROM: _____, State Construction Engineer

SUBJECT: Constructability Review Meeting Notes, Job No. 0610000
I-440 – East
I-40, Section 32
Pulaski County

Please see the following meeting notes from the Constructability Review Meeting for the above referenced project held on October 23, 2026. Mr. John Smith, Staff Construction Engineer, is acting as the Constructability Review Coordinator on this project.

A Constructability Review meeting was held on the I-40 Widening project from I-440 to Jones Road on October 23, 2026, with construction industry representatives, Roadway Design, Bridge Division, Right of Way Division, District 6, and the Construction Division. Twelve individuals were present for the meeting. The purpose of the review was to integrate construction expertise early in the design of this 6.5-mile project that includes the addition of an additional travel lane in each direction on I-40, resurfacing of the existing lanes, and the construction of six bridges.

The construction field review plans, utility relocation plans, and preliminary bridge plans were reviewed as part of the meeting.

SPECIFIC QUESTIONS:

1. Will the phasing provided by the utility plans coincide with the contractors suggested phasing of construction (maintenance of traffic)?
2. Does the contractor have enough means to begin bridge construction for Bridges 1, 2 & 3 in light of the existing utility and rights of way proposed for the project?
3. In reviewing the maintenance of traffic plans, do the plans presented allow for motorists to travel as needed, but allow all work to be accomplished as designed? Are there any concerns that two lanes of traffic in each direction may not be able to be accomplished during the course of the contract?
4. What are the timeframes for each phase of the work? Can this work be done in 24 months?
5. How would the contractor minimize impacts to businesses and schools, especially on Jones Road and County Road 42?
6. How would the contactor sequence the widening of the work at James Bayou?

APPENDIX D: EXAMPLE CONSTRUCTABILITY REVIEW MINUTES

SUMMARY OF THE ITEMS DISCUSSED:

A. Phasing, Timing and Constructability

- Challenges associated with the work involving excavation and embankment in regards to traffic control phasing and availability of material will be reviewed as it relates to the estimated roadway quantities. Access to the area of excavation and feasibility for use for embankment further complicates the phasing and duration of the project.
- Phasing of traffic should consider center pier construction at Hwy. 151 early in the traffic control sequencing. This is considered a critical path item of work.
- Consider adding shoring at specific locations for safety of traveling public.
- The proposed full depth paving schedule on the main lanes increases complexity and phasing of traffic. Full depth paving construction may require undercut.
- Automated Work Zone Information System and Speed Enforcement Cameras should be considered due to traffic volumes and anticipated project duration.
- Consider allowing weekend closures for traffic shifts and raising grades on Hwy. 151 and Jones Road.

B. Retaining Wall, Bridge Constructability

- The construction of retaining walls is considered a critical path item of work. The number of anchors and soil subsurface will extend the construction duration.
- Shoring considerations are needed for the wall and drainage construction based on concern for poor soils on the east side of Hwy. 151.
- Additional borings would assist in constructability and planning of schedule.
- Accessibility for wall construction requires coordination with phasing of traffic control plans. Retaining wall preparation should be considered early in phasing.
- It was discussed that a breakdown of bid items on the walls (to include sub-items such as excavation, Class S Concrete, etc.) would reduce risk to the project and contractor rather than payment by square yard of the wall area.
- There may be conflicts with Bridge 2 pier in Stage 3.

C. Utility Relocation and Coordination with Construction

- The Entergy Arkansas Distribution plans indicate a potential limited overhead clearance issue at Hwy. 151 for bridge construction.
- The phasing of the XYZA lines as related to Stage 1 construction limits should be identified in the traffic control phasing notes.

SUMMARY:

The attendees were in agreement that the project appears constructable as shown; however, could be improved upon by incorporation of the Items of Discussion. All contractors reviewing the project saw this as a three phased project. Phase 1 would be utility relocation, wall, bridge, and connecting road construction. Phase 2 would be the widening of the main lanes. Phase 3 would be the resurfacing of the existing lanes. Based on the findings of the review, the construction duration would likely extend beyond the 24 months initially anticipated for this project. The consensus of the group was that this project would take between 36 and 48 months to complete.