

WSDOT/ACEC Structures Team

Meeting Minutes

10:00 AM -2:00 PM

1/19/2018

At

WSDOT Bridge and Structures Office

7345 Linderson Way SW.

Tumwater WA 98501

Attendance:

WSDOT	Jeri Bernstein, P.E., S.E.	Washington State Ferries (Co-Chair)	Yes
	Brian Aldrich, P.E., S.E.	WSDOT - HQ Bridge Construction	Yes
	Jed Bingle, P.E., S.E.	WSDOT - Bridge Design	Yes
	Michael Rosa, P.E., S.E.	WSDOT - Bridge Design	Yes
	Lou Tran, P.E.	WSDOT - Bridge Design	Yes
	Tony Allen, P.E.	WSDOT - Geotech	Yes
ACEC	Paul Brallier, P.E., S.E.	HNTB Corp. (Co-Chair)	Yes
	Bill Elkey, P.E., S.E.	Parsons	Yes
	Richard Patterson, P.E., S.E.	Stantec	No
	Chester Werts, P.E., S.E.	HDR	No
	Paul Guenther, P.E., S.E.	COWI Marine	No
	Matthew Lengyel, P.E., S.E.	FIGG Bridge Engineers	Yes
	Daniel Campbell, P.E.	ACEC - Geotech	Yes
	Joan Zhong-Brisbois, Phd, PE, SE	WSP	Yes
	Eric Herzstein, P.E., S.E.	Parsons	Yes
	Mark Gaines	WSDOT Bridge Office	Yes
	Bijan Khaleghi	WSDOT Bridge Design	Yes

Jeri started the meeting at 10:05am.

1. Welcome New Members

Introductions were held including new members Joan Zhong-Brisbois and Eric Herzstein as well as a guest Mark Gaines, the incoming Bridge & Structures Engineer.

The ACEC WSDOT Structures Team Contact list, including sponsors, were updated. Mark Gaines and Tony Allen were added as sponsors. Tony Allen proposed to have Jim Cuthbertson on the team. The team agreed with this suggestion.

2. Review and Approve Meeting Minutes from November 17, 2017 - All

Draft minutes from the last meeting on 11/17/17 were reviewed. A few minor edits were made to prepare for posting.

Paul Brallier moved that we approved the meeting minutes which was seconded by Lou Tran.

Action Item: Jed to send DB workshop notes to Joan, Eric and Mark.

3. Review WSDOT/ACEC Committee Charter – All (Jeri)

Jeri Bernstein brought a copy of the charter on screen for review. The team reviewed the entire charter.

The Team Purpose and Vision were updated to include references to geotechnical aspects, the Geotechnical Office and the Geotechnical Design Manual.

Paul Brallier mentioned that the team recently developed post-earthquake inspection guidelines. Tony asked how the Geotechnical engineers fit into the guidelines. The Team responded that the guidelines are intended only for the structural aspects.

Action Item: Jeri to update team member list and post to the web.

Action Item: Tony to review the earthquake inspection guidelines to see if there are opportunities to add geotechnical input.

Action Item: Jeri to add references to Geotechnical aspects to the website.

4. Establish DB Goals ACEC Structures Committee for the year - Paul Brallier

Design Build Workshop action items were reviewed. There was open discussion on various action items.

Item 6, Look at other agencies and DB projects outside of Washington to identify any changes or gaps in AASHTO and/or design-build contracts, and provide suggestions for additional design memorandums (assigned to Joan and Eric): Joan stated that other DOTs have similar concerns.

Florida has extensive experience – over 500 projects completed. WSDOT has average number of DB projects. Florida has a bridge design manual with special blocks of instructions in each section for application in alternative delivery projects. For CalTrans, the RFP is an effective vehicle for setting boundaries

Eric had two specific suggestions:

1. Drawing on Hawaii's example: WSDOT has quite a few conflicts, especially with SDC B, might be worth efforts to strengthen that. Foundation design capacity versus elastic. Guide spec says you can do elastic design in SDC B.
2. Drawing on California's example: California has no DB manual. They rely on some older documents. They just updated to 7th edition of AASHTO. MSE wall supported abutments are allowed in the WSDOT BDM but driven piles or deep foundations are not addressed and setbacks not provided (Caltrans does address this). How to actually design this is not well understood.

After the meeting, Eric provided a supplement to the meeting minutes considering these suggestions in more detail.

Team members mentioned that Caltrans does not allow soil nail wall supported abutments. They want tiebacks. AASHTO T-15 may have an agenda item for soil nail walls for supporting abutments in the near future. Sign bridge shaft foundation designs adjacent to MSE Walls needed to be isolated. The reinforcement needs to be designed to resist the lateral loads from the foundations. Currently there are no clear guidelines for how to do this.

Joan mentioned that the AASHTO guide specification allows multiple simply supported spans as a permissible earthquake-resisting system, but the BDM doesn't and asked if it would be reasonable to allow it? What is the rationale? Bijan mentioned WSDOT is looking for continuity in the superstructure and that we allow hinged diaphragms at intermediate piers. WSDOT also has a

reduced fixity detail for columns. Paul mentioned possibly allowing its use by a Design Builder with approval of the Bridge Engineer.

Mark mentioned that it doesn't work that way in DB and that it is better to have clear requirements listed in the technical requirements and BDM Chapter 15. Otherwise, how does the Contractor bid it? The team may want to review prohibited items in Chapter 15 to see if any are actually appropriate for DB. Some discussion by the team followed exploring whether it was better to prohibit all potentially undesirable practices with later negotiations to allow them.

Daniel mentioned that the practical solutions pause is a good step, but still makes bidding difficult. Design builders have to assume the "shalls" will not be modified for preparing their bids. Mark mentioned that it is being considered to allow practical solutions proposals that are not equal or better. Have to state savings amount at time of bid. Bid will be reduced by these amounts if accepted. A lot of good ideas are not equal or better. Bill mentioned that this is a good concept that will benefit WSDOT, which can select options a la carte with bid pricing.

Matt mentioned that Texas is not using design manuals as mandatory standards in DB contracts and that they are having trouble enforcing standards. Texas is reversing direction on using DB. Big contractors are taking over and not leaving work for local contractors.

Paul mentioned that there are issues with quality on DB projects. There are problems in California getting proper documentation. FHWA stated they would refuse to pay for things without proper documentation. Team members mentioned you generally get better quality with DBB versus DB. Paul mentioned that WSDOT is reluctant to write NCIs. They can be a tool to improve quality.

Item 1, Expansion of key personnel in RFQ: Paul mentioned the team is trying to elevate role of structural and geotechnical engineers on the DB team. Should they be listed as key personnel? A key personnel change policy is important.

Bill mentioned that the owner has selected a team based upon price and qualifications of the team. The Contract should penalize changes in personnel. Current penalties are not a big enough stick. National trends have increased pressure on engineers. If WSDOT finds value in having the selected designers be the designer, WSDOT should incentivize the correct behavior. Mark mentioned we should be cautious with penalizing personnel changes. Some changes are routine and should be expected. He is not aware of any problems with this in Washington. Switching important designers could be cause to reject the contract. Does ACEC have comments for how to modify the contract specifications?

Item 2, Increase technical credits in proposal scoring: Mark mentioned the current scoring ratio is now 90% price and 10% technical credit. Nationally this is usually a 70/30 ratio. In Washington it has been difficult to explain why we should pay more for technical credits. Mark showed a spreadsheet showing correlations between low bid and high technical scores. The data shows that there would not be much difference in who is selected if we change the weighting of technical credits. Mark shared portions of the technical credit scoring in the Coffee Creek RFP. On a structures heavy project it may make sense to have a goal specific to structures and assign a dollar value for technical credits for this goal. Betterments in proposals become contractual obligations.

Bill suggested looking at upcoming projects, and suggesting a structural goal for appropriate projects. Tony mentioned that structures are typically a larger share of the project costs, but we should also consider how to include geotechnical aspects. Mark mentioned we could include guidance in the WSDOT DB Manual for setting goals.

Paul and Joan mentioned how ACEC could play a bigger role in drafting RFP that emphasizes goal setting and engineers' role.

Bill mentioned we could increase requirements for receiving the stipend to help ensure innovative engineering is actually taking place for proposals.

Item 5, Distribute current QMP requirements for comment: Mike Rosa provided the QMP Outline for WSDOT Design-Build contracts back in November for team review.

Paul mentioned that documentation is not adequate. When other bidders get away with a lower level of documentation, everyone else will be pressured to do that also to keep competitive. Paul presented a draft list of minimum expectations for calculations. Tony mentioned that it is difficult to have a list. Not everything is applicable to all calculations. Paul mentioned that the BDM has design examples. Should we add references to them? Bijan mentioned that not all design examples are up to date. Brian suggested adding a statement that calculations shall demonstrate that all code/design criteria are met. Eric mentioned that the WSDOT DB templates already have some requirements for these.

Item 7, Draft a definition for good practice for durability that maintains flexibility and innovation: The team discussed requiring additional conservatism in designs. This will cause additional costs on all projects. AASHTO load and resistance factors already anticipate material variability. Consensus of the team is to recommend against requiring additional conservatism.

The team discussed durability requirements. The consensus was that it is best to prescribe best practices in order to meet durability requirements, rather than use predictive methods such as Life-365.

Action Item: Team to provide items that need to be addressed by AASHTO T-15 to Tony.

Action Item: Team to review the ITP and provide suggestions on how to ensure the DB team that is selected is the DB team that carries forward to construction.

Action Item: Paul to provide draft calculation requirement language, including electronic calculations for review and comment.

Action Item: Team to review calculation requirement draft language.

Action Item: Item 4: Team to have draft revisions to the RFP for Bridge & Structure (Section 2.13) and Geotechnical (Section 2.6) 6 months from the workshop (by the May 2018 meeting).

5. IBC 2019 - Jed Bingle

International Bridge Conference, June 2019: Jed and Amy have been going to this conference for several years. WSDOT will be the featured agency at the 2019 conference. Jed presented photographs of previous featured agency displays from previous conferences (US DOT and Virginia

DOT). Jed asked if ACEC would like to participate and help support the display for the conference in 2019. There will be a small booth for the 2018 conference.

Action Item: Jed to estimate costs for ACEC support and provide ideas for how ACEC could support.

Action Item: ACEC members to provide ideas on how they could support.

6. Structural Repair Procedures – Brian Aldrich

Brian introduced a proposed standard specification update addressing structural repair procedures. Two new sections would be added: 6-01.16 Repair of Defective Work and 9-20.2 Patching Material for Concrete Structure Repair (current contents of 9-20.2 would be renumbered to fall under 9-20.1 for concrete pavement). The purpose of these specifications are to contractually allow structural repairs without requiring a change order and to define requirements for structural repairs. Pre-approved repair procedures are introduced. A pre-approved repair procedure for concrete spalls and poor consolidation is provided, along with associated patching material requirements.

Action Item: Brian to provide draft to team and John Olk.

Action Item: The team will review and comment on draft within the next week or two.

7. Next meeting:

March 16, 2018 in Seattle