

**AGC/WSDOT Structures Team
November 4th, 2011
Meeting Minutes**

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Guests

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Meeting minutes were prepared by Stuart Bennion, WSDOT Assistant State Construction Engineer, Bridge.

Topics – Constructability Review – 9th St. Bridge; Presentation – ABC on Grand Mound and Bone River; Shear Stud Field Install Waivers; Update on Synthetic Slurry Testing/DOE Coordination; Requirements for Application of Pigmented Sealer; Column/Silo connection; Candidates for Technology Team; Pre-Bid/Pre-Solicitation Meetings; Update on WSDOT Construction Outlook; Details of

Shaft/Column Spiral Reinforcement; Resin-Bonded Anchors and Reinforcing Bar

1. Welcome & Review of Agenda

Mark Gaines reviewed the agenda and added three items shown as 6a to 6c (below).

2. Constructability Review – 9th Street Bridge

Blane Kunihisa asked for AGC input on a project that is currently being designed. The goal of the project is to provide one additional lane in each direction along I-205 underneath the NE 9th St. bridge. The current roadway has SB traffic travelling between Piers 2 and 3, and NB traffic between Piers 3 and 4. There is insufficient distance to add a lane between these piers, so the Design Team is evaluating the feasibility of adding one lane between Piers 1/2 and another lane between Piers 4/5. Blane handed out typical sections and geotechnical information for this site.

While the project team has considered a number of options for completing this work, the most attractive option is to construct retaining walls (soil nail, soldier pile, etc.) in front of existing Piers 1 and 5. At one end of the structure, the soils are poor, and there is concern about length of the nails and maintaining face stability during wall construction.

The group discussed a number of options, including lengthening or retrofitting the existing bridge. These options were discarded; to meet FHWA requirements, once a portion of the structure is modified, the entire bridge will require retrofitting. The team discussed at length the possibility of constructing soil nail walls to retain the approach fill. The Team all felt that a soil nail wall was feasible at this location. It may be necessary to use long nails to get into competent material, but this shouldn't pose a constructability issue. Al Rasband suggested that the State consider sloping the face of the wall (a 1:12 slope for example) to improve face stability during excavation. The Team also suggested obtaining better geotechnical information to aid in the design of the retaining walls.

Action Item: No Action required.

3. Presentation – ABC on Grand Mound and Bone River

Pat Gallagher from the Bridge and Structures Office made a presentation on the precast substructure used on the Grand Mound project, Accelerated Bridge Construction (ABC), and lessons learned. He discussed why ABC is used and where it may be used successfully. Lessons learned on Grand Mound, previous recommendations from the AGC Structures Team, recommendations from WSDOT Construction Office, and environmental effects were described in his presentation.

When incentives for time are part of the contract, it increases the viability of precast options. The AGC Members appreciate the fact that the precast details are being included in the contract as an option, and they encouraged WSDOT to continue this practice. The AGC also briefly addressed precast substructure components that

require prestressing. They suggested that WSDOT provide the required stressing force in the member, but not dictate that prestressing is required. This will open up the potential of the contractor site-casting and post-tensioning the element. If prestressing is mandated, it will generally require the component to be constructed off-site at a prestressing plant.

The last part of the presentation described the Bone River site conditions, geometry, and ABC options that are being included in the contract.

Action Item: No action required

4. **Review of Sept. 16th, 2011 AGC meeting minutes**

No comments were made in the meeting. Those sent earlier are already corrected.

Action Item: Stuart to post the corrected minutes to the web site.

5. **Action Items:**

a) **Section 6-03.3(29)B Shear Stud Field Install Waivers**

Mark presented the revisions that have been made to this specification. The group had no comments.

Action Item: No action needed.

b) **Update on Pre-Bent Girder Stirrups**

The correct people were not at this meeting; this will be held until later.

Action Item: Move to a future agenda.

c) **Update on Synthetic Slurry Testing/DOE Coordination**

Mark reviewed upcoming effort to validate, summarize and report on the laboratory test data. Funding has been approved and Mark just reviewed and approved the scope of work provided by GeoEngineers. GeoEngineers expects to complete the majority of the work by mid-January. The report they produce will be reviewed first by WSDOT, and then will be presented to the Department of Ecology (DOE). The last task of this work is for GeoEngineers to develop draft disposal guidance that DOE may consider adopting.

Action Item: Mark to provide update at next meeting.

d) **Requirements for Application of Pigmented Sealer**

Mark Gaines discussed requirements for applying pigmented sealer. Based on discussion at the meeting, he will look at specification language that is based on the manufacturer's recommendations.

Points of interest: Our spec requires sweep blasting, but only 2 of the 4 require/recommend this. Also, time requirements for applying the pigmented

sealer are somewhat vague in the manufacturer's literature. Most manufacturers seem to suggest the concrete needs to be "fully cured", but the definition of fully cured isn't clear.

Action Item: Mark will work to revise the specifications and provide an update at the next meeting.

e) Alternate Bridge Deck Curing Practices

Mark Gaines updated the specification to require the deck to be kept saturated, but leave the means and methods up to the contractor. The group had no comments.

Action Item: No action required.

f) Bracing Requirements for Prestressed Girders

Millard Barney was not at the meeting

Action Item: Mark to include this item on a future agenda.

6. Review of October, 2011 ADSC meeting minutes

Al Rasband presented minutes from the last ADSC meeting. There were two constructability presentations that had to do with depth of shaft vs. overburden and embedment lengths into sand-stone rock. There was also a discussion on one project about artesian risks. There was also a presentation about WSDOT's construction outlook that showed a decline in upcoming work.

Action Item: No action required.

6a. Column/Silo connection

The Bridge Office does not have a standard for this and they want to develop one. A detail was shown and discussed. This detail has been used with a hatch, a ladder, and drains to keep the void dry. The proposed detail only leaves 18" clear from the face of the column to the face of the silo. WSDOT was concerned that this wouldn't provide enough access for the contractor to set the reinforcing cage and set/remove column forms. However, AGC reviewed the detail and agreed that while the access is tight, there isn't any problem accomplishing this work. This proposed detail can be left as-is.

Action Item: Mark will provide this feedback to the Bridge Office.

6b. Candidates for Technology Team

A team will be looking at how to utilize technology to make bidding and construction easier. Some of the topics this team will consider include electronic plans and specifications, electronic bidding, electronic submittals, communication-management software packages used on DB projects, and any other technology-related issues. Mark intends to put Charlie DeGasparis and Scotty Ireland's names forward as

potential candidates for this team. John Olk also expressed interest in joining this team.

Action Item: Mark will consider this further and forward on names for this team.

6c. Pre-Bid/Pre-Solicitation Meetings

SW Region has had a pre-solicitation meeting on several past projects. They asked for feedback from the team on when these meetings are useful and what sort of information should be presented. Some of the Contractor's thoughts:

- What is unique about the project?
- Traffic staging issues
- Why did you choose what you did, and what did you choose not to use?
- What are the environmental issues that controlled the design?

A Question/Answer process could also provided benefits on some projects. Pre-bid/Pre-solicitation meetings are probably only really useful where there are unique features or aspects of the project that are not fully emphasized in the contract documents.

In general, the AGC preferred meetings to be held after the project has been advertised, and preferably a couple weeks prior to the bid opening. This time-frame allows the contractors to review the plans and specifications and become familiar with the project prior to the meeting.

Action Item: No action required.

7. Update on WSDOT Construction Outlook

Mark Gaines mentioned that workload is dropping off over the next few years and much of the remaining work is wrapping up nickel and TPA projects. Unless something changes, funding from the Federal Highway Administration will likely be decreasing also. There is no word at this time of additional funding packages for infrastructure.

Design Build is a major shift in the State. There was a discussion of the use of DB in WSDOT and the limitations placed on contractors in the RFP. We are likely to see much greater use of design-build contracting in the future.

Mark provided a presentation showing the current program for highway construction, the WSDOT Method of Delivery outline (i.e., state organization, design build vs. design bid build), a breakdown of the gas tax, effects of inflation, and the future outlook.

Action Item: No action required.

8. Section 2-09.3(3)B Excavation Submittal

This item was not discussed due to time constraints.

Action Item: Mark will include this on a future agenda.

9. Details of Shaft/Column Spiral Reinforcement

The Bridge Office has a requirement for column spirals that states that double spirals should not be used. Pat Gallagher has been looking at a different way to detail bundled spiral reinforcing. His detail utilizes one bar wrapping twice (as a bundled set) and then transitioning to the set of bundles at a steeper pitch. This is different than the older details that used nested sets of spiral reinforcing; the new details eliminate the four-bar bundles that occur at lap splices and spiral terminations. Chuck Olney from Rainer Steel has reviewed the proposed detail and believes it will be easy to construct and much less expensive than using welded hoops. The AGC Members agreed that the proposed detail should work fine.

Action Item: Mark will provide this feedback to the Bridge and Structures Office.

10. Resin-Bonded Anchors and Reinforcing Bar

Mark Gaines discussed that WSDOT has two separate specifications for resin bonded anchors and epoxy bonding agent for reinforcing bars. Considering the similarities in resin-bonding threaded anchor rods and reinforcing bars, it's unclear why two separate specifications are being maintained. Mark asked for feedback from the Team if there were reasons to carry both specifications. The Team responded that they almost always use the resin-bonded anchor types of epoxies (even for bonding reinforcing steel) and there was no reason to keep both of these specifications. Based on this input, Mark will work to consolidate both these specifications together. This will essentially involve bringing the reinforcing bar requirements into the resin bonded anchor specification.

Action Item: Mark will provide an update at the next meeting.

The meeting adjourned at 12:10. The next meeting is scheduled for Dec 9th. Additional meetings will be scheduled at the December 9th meeting.