

AGC/WSDOT Structures Team January 4th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
X	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
X	Bennion, Stuart ¹	WSDOT-HQ	360-705-7468	bennios@wsdot.wa.gov
	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
X	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
X	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparris@atkn.com
X	Foster, Marco	WSDOT-HQ	360-705-7824	foster@wsdot.wa.gov
	Gaines, Mark	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
	Hendy, Allen	WSDOT-SWR	360-905-1522	hendya@wsdot.wa.gov
X	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
X	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Kapur, Jugesh	WSDOT-HQ	360-705-7207	kapurju@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-768-5861	maddent@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	molkj@wsdot.wa.gov
	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
X	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
	Rasband, Al	Malcolm	253-395-3300	arasband@malcolmdrilling.com
	Regnier, Ed	PCL	425-577-4217	Ed.regnier@eec-jv.com
X	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
X	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

1 Team co-chair

Guests

Attendee	Company	Phone	E-mail
Don Ross	Granite	425-508-3106	don.ross@gcinc.com
Tait McCutchan	Malcolm	206-560-0203	tmccutchan@malcolmdrilling.com
Dave Erickson	WSDOT	360-705-7829	ericksd@wsdot.wa.gov
Eric Hill	ACC	541-726-8597	erichill@AmericaConcreteCutting.com
Peter Ewen	Quigg	360-533-1530	petere@euiggbros.com
Greg Simmons	Kiewit	253-943-4064	greg.simmons@kiewit.com
Bijan Khaleghi	WSDOT	360-705-7181	khalegB@wsdot.wa.gov

Meeting minutes were prepared by Marco Foster, WSDOT Assistant State Construction Engineer - Bridge.

Topics – **Bracing requirements for prestressed girders; Review of cold weather protection specifications; Continuous concrete placement over interior piers; Requirement to cast deck within 30 days of cutting temporary strands; Steel Escalation – How is it working?; Backfill of Concrete Retaining Walls; WSDOT LEAN process; New composite Deck Bulb Tee Sections; Prestressed Girder Modification to accommodate Full Depth Precast Decks; Engineered Bracing/Picking Plans for shaft Cages; 6-02.3(12)A, Construction Joints in New Construction**

1. Welcome & Review of Agenda

Stuart Bennion welcomed the group and reviewed the agenda. A couple of visitors were introduced. Greg Simmons will be filling in for Bill Binnig for several months. Kevin Parish introduced Eric Hill from American Concrete Cutting as a guest today.

2. Review of October 26th, 2012 AGC meeting minutes

Minor edits were provided via email and incorporated. Bob Hilmes provided some additional edits to Marco.

Action Item: Marco will edit the minutes and post corrected minutes to the web site.

3. Action Items:

a) Bracing requirements for prestressed girders.

Discussion on what standard should be used for diaphragm inserts to get away from buy America and still provide some capacity for overturning has been ongoing. In previous meetings - there seemed to be support for providing alternatives in our Contracts and leave the decision on what type of insert back with the Contractor.

Stuart pointed out that adding a coupler/plate detail, along with the options already provided for inserts, and identifying capacities for each will get complex. Stuart asked the team their thoughts on leaving the details alone. The specifications have been revised to eliminate any specific bracing requirements, but require the contractor to analyze and submit calculations for bracing the girders and deck concrete placement. This requires the Contractors to pick a product and get the data sheet to determine the capacity of the selected insert. Millard said the Buy America requirement for these inserts is not a large problem – if the Contractor wants the girder fabricator to do something different they can. Stuart concluded that after further evaluation within the group we will not change our current process for designing inserts. If the Contractor wants to work with the fabricator to propose changes after award we can evaluate during the development of girder shop drawings.

Action Item: No further action required.

b) Review of cold weather protection specs

Stuart highlighted some information from ACI (Alan Hendy brought forth). The document defines what cold weather is and when cold weather protection should be implemented. ACI guidance suggests 40 degrees F. Our spec uses 35 degrees. Our specification currently places the responsibility of cold weather protection on the Contractor if there is temperatures below 35 degrees forecast within the next 7 days. Stuart asked the team for their opinion on how things are working and what language could be developed to improve our contract language. Stuart discussed the idea of paying for cold weather protection via FA? FA account allows contractors to plan work at any time and the State pays for it. A bridge deck could be poured in December in Eastern Washington and the State would not be able to prohibit it and would pay more for that decision. This is not something the State wants to pursue.

There was some discussion on the history of the last spec revision. Long time members of the group recall that the hydration process is slowed down when temperature falls below a certain threshold which will delay the stripping or next sequence in the Construction activity but that this there is nothing detrimental to the concrete as long as it is not allowed to freeze within the first few days.

There was discussion on the assignment of risk. The Contractor is responsible for the schedule – however is typically not responsible for the weather. Tom M. brought up the concept of a LS item for cold weather protection. There were some that felt this might result in Contractor's bidding at a penny in hopes of not using the item. Bob Hilmes felt the current specification is adequate but could use some improvements with regards to weather forecasts and 14 day wet cure.

Action Item: Stuart will take this discussion back to the HQ Office and if any change is brought forward he will bring those changes back to the group.

c) Continuous concrete placement over interior piers

This item was deferred to next meeting.

Action Item: Stuart will include topic in an upcoming meeting

d) Requirement to cast deck within 30 days of cutting temporary strand

Stuart asked the team whether the 30 day requirement is even reasonable. Stuart worked with the Bridge Office and determined that the prestress modeling software (PG Super) uses the 30 day time to calculate the upper bound for D120 and the lower bound D40. These camber calculations are included to determine the required A-dimension, or added concrete pad on top of the girders. This topic will consider options to revise this requirement – thereby not unduly restricting the Contractor but still not change the requirement drastically which could increase the “a” dimension and not increase the cost/weight of the girders.

Stuart highlighted some research work being conducted by Rich Brice in the WSDOT Bridge Office that will establish better requirements based on when strands should be cut (time) prior to deck placement. There was some discussion that the longer prestress girders being constructed today are not attaining the estimated camber detailed in the Contract. The effects of this change appear to affect shorter span girders more. There is also speculation that estimated camber is not being attained due to the girders being fabricated with higher strength concrete. Stuart agreed that this may be the case, but that WSDOT will still design our girders based on the design strengths and not the actual strengths, so the estimated camber in our Contracts will still be calculated the same as it has been historically done.

Millard offered to have Dave Chapman come to a future meeting and give a presentation on girder camber. The AGC Team should request to have it added to the agenda when the time is right for them.

Action Item: Stuart will bring back new language as a result of our research.

e) Steel Escalation

The team was asked their opinion on how our steel escalation clause is working. Marco brought up that we recently received a claim on a project where the Contractor felt that ENR was not adequately adjusting payment for increased steel prices. Millard agreed that ENR is not necessarily the best index to use. He felt that the index uses cost from around the Country and that east coast influence may inappropriately influence rebar cost on the west coast. He felt a Regional (west coast index) might be more appropriate. Marco asked Millard if he could provide suggestion for other indexes for consideration/discussion. There were several members of the team that felt this issue might be more appropriately handled by the AGC Admin Team.

Action Item: Millard will email Stuart and Marco some thoughts on alternative cost index's that may be more appropriate to use.

f) Backfill of Concrete Retaining Walls and Abutments

Ed Regnier brought this issue to the team at October 2012 meeting. He questioned the 14 day waiting period requirement prior too back filling retaining walls over 15'. The question was asked, "Can we fill taller retaining walls up to 15' prior to 14 days"? There was some discussion whether this would affect the creep of the green concrete and cause the top of the taller wall to deflect inwards.

Ed then asked if we would consider backfill up to 15' for abutment walls which would be consistent with the backfill for retaining walls. The Standard Specification currently does not allow backfill of abutment walls until after girders are set. The backfill of abutment walls prior to the girders being set are typically addressed on the bridge sequence sheet/general notes in the plans and are considered on a case by case basis.

The Bridge office is currently evaluating the effects of creep vs. time and will provide information to evaluate if the 14 day requirement is reasonable. Once we evaluate how we want to address this time restriction on retaining walls we will give consideration to abutment walls.

Charlie suggested we add criteria to our specification on what analysis needs to be done to determine if it is ok to backfill early.

The discussion then went back to “is this a problem” as the Contractor currently can propose a revision to our Standard Specifications if they can provide the engineering to demonstrate it is acceptable?

Action Item: Stuart will discuss with Ed and Ryan to see if this item needs to stay on as an action item.

g) WSDOT's LEAN process

The AGC is always welcome to add items the State will consider for LEAN evaluation. As the State addresses items or makes changes that effect the AGC team, this information will be brought to the group's attention. At this time there are not action items to discuss and this topic will be removed from the agenda.

Action Item: No further action at this time.

4. Modification to Prestressed Girder to Accommodate Full Depth Precast Decks

Bijan provided a power point presentation on precast concrete deck slabs. His intent with the presentation is to solicit feedback from the group on whether or not they feel this is something that has merit, is constructible, and is something that the group feels should be developed further. It is hoped to have this design criteria incorporated into the BDM in the near future.

The power point presentation provided an overview of the NCHRP report – different options for constructing precast decks. The team commented on some of the challenges associated with leveling and grouting of the individual panels. There was consensus that this accelerated type of construction would only be appropriate for rare circumstances when time is critical. There was also consensus that some type of overlay would be necessary for precast deck panels as leveling would be challenging and smoothness without an overlay would be poor.

Action Item: Stuart and Marco will forward a copy of the presentation to the team. Stuart has asked Charlie to coordinate comments for Bijan.

5. New Composite Deck Bulb Tee Sections

Bijan provided information for several designs for composite deck bulb tee girders. There was some discussion on connection between girders, how thick should the top flange be relative to how thick the CIP deck should be (thinner flange and thicker CIP deck). Millard discussed a type of connection that utilizes transverse reinforcing steel splice between girders in lieu of a welded tab.

Bijan ended the presentation with a list of questions for the team to consider and outlined next step.

Action Item: Stuart and Marco will forward a copy of the presentation to the team. Stuart has asked Charlie to coordinate comments for Bijan.

6. Engineered Bracing/Picking Plans for Shaft Cages

Stuart brought back to the group some recent discussion that had taken place at the annual AGC team lead meeting that was held last November with regards to engineered picking plans for drilled shaft cages. This topic has generated a lot of discussion amongst the group and the ADSC. A critical piece is the requirement for engineering, when there is not a guide or specification for how to analyze the tie wire connections for these cages.

Stuart then reviewed some draft language revisions that are being proposed and discussed. The proposed language would delete the requirement that the shaft submittals be stamped by a PE. However, all the remaining/existing requirements as required by the drilled shaft submittal would remain unchanged. In essence, the Prime Contractors will still be responsible to insure the cage shaft submittals and the picking plans are compatible and complete prior to the shaft submittal being approved.

The proposed language also looks at reviewing and accepting vs. approving. This is being evaluated as a WSDOT policy, but may change in Standard Specification Section 6-19 first as a trial.

There was some discussion on whether or not there should be size limits on the cage size on when specification 6-19.3(2)B, part 9, would need to be required. Charlie suggested a length to diameter ratio be used to establish criteria on when more extensive engineering is required.

Action Item: Charlie will evaluate and get back to Stuart with a reasonable length to diameter ratio. This topic will be discussed at the January 31st ADSC meeting and will be discussed again next AGC meeting.

7. 6-02.3(12)A, Construction Joints in New Construction

Stuart brought back information to help explain how our specification for a roughened surface was developed. Our current specification is prescriptive but it is accurate in assuring construction joints meet design codes. If the Contractors have

suggestions on how we could revise our current language to be less prescriptive but still meet design requirements - please bring them to the next meeting.
A suggestion was made to add, "or as approved by Engineer," after this requirement.

Action Item: This item will be discussed again at the next meeting.

Possible ASBI Training

Stuart and Bijan recently attended a Post Tensioning Institute meeting (PTI) where the topic of post tensioning training was discussed. PTI offered to provide training this spring if WSDOT could find a facility and there was enough interest expressed by Contractors (to pay for the training).

Action Item: N/A.

Future meetings

Discussed upcoming meeting dates - the February 15th meeting will be cancelled.
Next meetings will be March 15 and April 19th

AGC/WSDOT Structures Team March 15th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
X	Armour, Tom	DBM Constr.	206-730-4591	dtarmour@dbmcm.com
X	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
X	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
X	Bennion, Stuart ¹	WSDOT-HQ	360-705-7468	bennios@wsdot.wa.gov
	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
X	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
X	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparis@atkn.com
X	Foster, Marco	WSDOT-HQ	360-705-7824	fosterm@wsdot.wa.gov
	Gaines, Mark	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
X	Hendy, Allen	WSDOT-SWR	360-905-1522	hendya@wsdot.wa.gov
X	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
X	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Kapur, Jugesh	WSDOT-HQ	360-705-7207	kapurju@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-768-5861	maddent@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	molkj@wsdot.wa.gov
X	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
X	Plichta, Shawn	Graham Constr.	206-631-2334	shawnpl@grahamus.com
	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
	Regnier, Ed	PCL	425-577-4217	Ed.Regnier@eec-jv.com
	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Greg Simmons	Kiewit	253-943-4064	Greg.Simmons@kiewit.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

¹ Team co-chair

Guests

Attendee	Company	Phone	E-mail
Don Ross	Granite	425-508-3106	don.ross@gcinc.com
Ted Franco	Quigg Bros	360-591-5263	tedf@quiggbros.com
Cesar Mayor	WSF	206-515-3732	mayorc@wsdot.wa.gov
Eric Robinson	WSF	206-515-3877	robinse@wsdot.wa.gov

Meeting minutes were prepared by Marco Foster, WSDOT Assistant State Construction Engineer - Bridge.

Topics – **Constructability Review – WSF Anacortes Terminal OHL; Continuous concrete placement over interior piers; Requirement to cast deck within 30 days of cutting temporary strands; Steel Escalation – How is it working?; Backfill of Concrete Retaining Walls; Backfill of Concrete Retaining Walls and Abutment; Engineered Bracing/Picking Plans for shaft Cages; 6-02.3(12)A, Construction Joints in New Construction**

1. Welcome & Review of Agenda

Stuart Bennion welcomed the group and reviewed the agenda. A couple of visitors were introduced. Shawn Plichta (Graham Construction) will be attending with Scott for a while. Greg Simmons (Kiewit) will be filling in for Bill Binnig for several months. There were several new folks in attendance so introductions were made. Stuart reviewed today's agenda.

2. Review of October 26th, 2012 AGC meeting minutes

Minor edits were provided via email and incorporated. Bob Hilmes provided some additional edits to Marco. No further comment was received.

Action Item: Marco will edit the minutes and post corrected minutes to the web site.

3. Constructability Review – WSF Anacortes Terminal OHL

The project team provided an overview of the project. The existing terminal building will be replaced and the overhead load ramp (OHL) will also be replaced. Slides were used to provide overview of the project and layout. Access from the water is limited due to relatively shallow depth of water. It was originally anticipated that a derrick barge would be used to set OHL spans – but the reach to the largest span is probably too far for conventional cranes. Four alternatives were discussed to set span 1 (which is the closest span to the building).

Alternative 1 was to use a 700 ton derrick barge and set everything from water. This is very expensive – does not seem practical.

Alternative 2 builds a temporary work access and uses a smaller derrick. This requires piles for access.

Alternative 3 uses smaller derricks and uses the existing vehicle loading ramp and dollies to roll OHL into place.

Alternative 4 bring smaller sections in by truck and assemble in place.

There was then open discussion. Much of the work would be done at night to maintain ferry service. Welded connections are preferred to bolted connections due to corrosion concerns. In-Field welding criteria are stringent and will increase time and cost. The existing trestle/ramp is limited to 80kips. Field splices were discussed. There was some discussion on bringing the larger truss in – 3 pieces. The discussion

then went to how would the sections be supported for assembly and then set. Question was asked what space was available for staging to assemble truss. Cesar indicated the area south and west of the existing building was available.

There was a consensus that assembling sections and using smaller cranes would be preferred. There was open discussion about bolting and field welding. Options to make field welding simpler were discussed.

There is an additional slip available for use if the primary slip needs to be taken out of service for a short time.

There was some discussion on where cranes could be staged. Discussion on using 2 cranes to pick span 2 was discussed.

The Contractors requested the designers consider keeping the shaft diameter for the foundations the same. Open discussion regarding shaft/column connection.

WSF will pursue a design that has the truss being 2 pieces. Most preferred the option to deliver the truss sections by water or land is left open. The project team was satisfied they received the feedback they needed to further their design.

Action Item: Questions answered to presenter's satisfaction. No response required from AGC team. Stuart will provide WSF column to shaft connections details to make shaft diameter similar.

4. **Action Items:**

a) **Continuous concrete placement over interior piers**

This item was deferred from the last meeting. Brian Aldrich was unable to attend today so Stuart led the discussion. Stuart asked the Contractor's how they wanted to proceed. Stuart reiterated structural concerns with poring over/thru the cross beam and the induced tensile stresses created by poring thru the closure area. Stuart put it back on the Contractor to come up with a proposal to make it work. There was open discussion/brainstorming various options. The option of pouring the diaphragm the next day was put forth. The time for pour back in the closure area is typically 10 days.

Action Item: Stuart will discuss with Brian A. to see if there is opportunity to reduce the 10 day requirement.

b) **Requirement to cast deck within 30 days of cutting temporary strand**

Stuart reminded the team of previous discussions. Stuart reiterated that Rick Brice in the WSDOT Bridge Office is researching this - and it is a lengthy process to analyze estimated camber over time. How we design our girders will not be changing in the future, and how we estimate the camber and "A" dimension will also not change. There was some discussion on if we should use higher

compressive strength of the concrete in our analyses since this is how our girders are actually being constructed. This cannot be done at the time of design, as the design has to be based on the lowest possible value. There has been no real solution brought forth on this issue. Variables are reduced and engineering is easy to perform after the girders are cast, therefore it is logical to leave the requirement as it stands.

Action Item: The team suggested this item be retired.

c) Steel Escalation

Millard stated that the cost of strand and rebar are going up. In his discussion with rebar manufactures there really seems to be no good one index to estimate steel prices. Using ENR and isolating the Seattle area index would work better for rebar.

Action Item: Stuart and Marco will solicit feedback from steel suppliers to get their input (Harris Rebar, Nucor, etc...) and bring back to the group.

d) Backfill of Concrete Retaining Walls and Abutments

This was not discussed.

Action Item: Stuart will discuss with Ed and Ryan to see if this item needs to stay on as an action item.

e) Engineered Bracing/Picking Plans for Shaft Cages

Stuart brought back an edited version of section 6-19 to show a revision that eliminates the requirement for a stamped cage plan. There was some open discussion on the difficulties of stamping a tied cage – since there is no standard to design to.

Proposed contract language considering ‘reviewing and accepting’ vs. ‘approving’ was discussed. WSDOT policy with regards to “approving” vs. “accepting” is being discussed, and this issue will be evaluated by the administration team. The current 6-19 language will still refer to “approve” until the large policy change is incorporated.

Action Item: Stuart will revise standard spec 6-19 to eliminate the cage stamping requirement.

f). 6-02.3(12)A, Construction Joints in New Construction

This topic will be deferred to our next meeting.

Action Item: This item will be discussed again at the next meeting.

5. Making and Curing Concrete Cylinders

The issue is that some Contractors do not always place the curing boxes close to where the concrete placement is taking place. Testing requirements require a curing box be used and that it needs to be close to the location the concrete is placed and tested. It was suggested that this problem may actually be isolated to PCCP paving operations and not be necessarily a structures issue.

Action Item: Leave the spec as is, and remove this topic from the action items.

6. Deck Performance Concrete Bridge Special Provision

Stuart discussed minor change that we are proposing to the High Performance Concrete (HPC) specification based on lessons learned this past season. Specifically changes are proposed to;

- Scaling requirement (a rating of 2 or less)
- Humidity requirements (delete 90% humidity and add requirements to keep the deck wet).
- Changes to the timing requirements (in both shy distance longitudinal and transverse). Stuart reviewed the proposed language. Some minor modifications to wet cure timing to fogging were discussed

Action Item: Revised specification to be emailed out to the group for final review and comment.

7. Other specification changes

Stuart provided this as an update to the AGC team. The discussion referred to the minimum level of slurry in shaft excavations. Stuart discussed a recent minor change to reduce the minimum level of water head from 10 feet when placing concrete. This was due to a recent project when added water head resulted in concrete blowing out the bottom of the shaft due to the presence of weak soils.

Action Item: This issue will be discussed at the next ADSC meeting and then brought back to AGC.

Future Meeting Dates;

The next proposed date is April 19th and June 7th, 2013.

AGC/WSDOT Structures Team April 19th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
	Armour, Tom	DBM Constr.	206-730-4591	dtarmour@dbmcm.com
	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
X	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
X	Bennion, Stuart ¹	WSDOT-HQ	360-705-7468	bennios@wsdot.wa.gov
	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
X	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparis@atkn.com
X	Foster, Marco	WSDOT-HQ	360-705-7824	fosterm@wsdot.wa.gov
	Gaines, Mark	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
X	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
X	Hendy, Allen	WSDOT-SWR	360-905-1522	hendya@wsdot.wa.gov
X	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
X	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-805-5353	maddent@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	olkj@wsdot.wa.gov
	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
X	Plichta, Shawn	Graham Constr.	206-631-2334	shawnpl@grahamus.com
X	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
X	Regnier, Ed	PCL	425-577-4217	Ed.Regnier@eec-jv.com
	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Greg Simmons	Kiewit	253-943-4064	Greg.Simmons@kiewit.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
X	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

¹ Team co-chair

Guests

Attendee	Company	Phone	E-mail
Don Ross	Granite	425-508-3106	don.ross@gcinc.com
Jeff Parker	DEA	425-786-4251	jalp@deainc.com
Steven Shanafelt	DEA	253-651-4518	stsh@deainc.com
Patrick Montemerlo	DEA	425-922-3454	pdmo@deainc.com
Erik Josephson	CEMEX	360-260-6054	Eric.josephson@cemex.com
Robert Raynes	CEMEX	360-260-6052	Roberta.raynes@cemex.com

Craig Matteson	Oldcastle	509-536-3411	Craig.matteson@oldcastlematerials.com
Jeff Huff	BASF	253-320-1344	Jeff.huf@basf.com
Scott DiLoreto	BAFF	253-208-1570	Scott.diloreto@basf.com
Mike Kiggins	Kiewit	504-235-6555	Mike.kiggins@kiewit.com
Geoff Owen	Kiewit	360-609-6548	Geoff.owen@kiewit.com
Keith Muhich	Miles S & G	253-377-3462	keithm@gravelpits.com
Damian Skerbeck	Kiewit	360-693-1478	Damian.skerbeck@kiewit.com
David Machata	Mowat	206-730-2591	davemachata@mowat.com
Tim Moore	WSDOT	253-380-2875	mooret@wsdot.wa.gov
Mo Shekhizadeh	DEA	360-888-7551	mxsh@deainc.com

Meeting minutes were prepared by Marco Foster, WSDOT Assistant State Construction Engineer.

Topics – Constructability Review – City of Tacoma – Puyallup River Bridge Replacement Continuous concrete placement over interior piers; Steel Escalation – How is it working?; Backfill of Concrete Retaining Walls and Abutments; 6-02.3(12)A, Construction Joints in New Construction; Shaft Slurry Level, 6-19.3(4)B; Deck Performance Concrete Bridge Special Provision; Engineered Bracing/Picking Plans for shaft Cages; Concrete Pump Trucks, 6-02.3(6).

1. Welcome & Review of Agenda

Stuart Bennion welcomed the group and reviewed the agenda. There were a large number of guests present so introductions were made. Due to the large size of the group – Stuart adjusted the schedule so that the constructability review will be followed by the WACA/Concrete pump truck discussion will take place first.

2. Constructability Review – City of Tacoma –Puyallup River Bridge Replacement

Jeff Parker, representing David Evans and associates, provided an overview of the project. The project will be replacing the existing structure with a new cable stay bridge. Jeff used a power presentation to provide an overview of the project.

A major challenge with the project is the proximity of a rail yard that supports three separate rail lines. The Ad date is late this year/early 2014. Negotiations for R/W and railroads are nearly complete.

Work over the rail lines will need to be completed during very restrictive/limited work windows. Failure to complete the work in these narrow time frames will result in large penalties for disruption to service. There will be a timber protection system installed by the rail yard ahead of the contract. The current plan is to install a segmental box girder bridge across the tracks from west to east. The minimum number of PT bars to be installed prior to release of rigging and removal of the crane off the tracks is 16. The main question that DEA wanted feedback on - What is the

minimum amount to install track protection, lift and install a segment, and remove the crane and track protection off the tracks?

General discussion and questions were as follows;

- Will there be allowance for small service crane on the bridge? Yes – small enough to support PT operations.
- Segments will be match cast.
- There will be several segments installed prior to reaching the tracks so some learning can be achieved prior to reaching the tracks.
- There was some discussion amongst the group to see if steel plates could be eliminated.
- A concern from the Contractors is on the time required to install protection of the tracks.

There was some discussion regarding geometry control. There is also a fourth quarter moratorium at the end of the year that would disallow any RR closure. It is possible that scheduled RR closures may only allow two segments per week, maybe even just one. There are 17 segments that need to be installed over the tracks.

There was some comment from the group that cast in place may be more time efficient than precast segments.

Time estimate to install a steel plate track protection system is approximately 5 minutes per plate or approximately 1 hr. There was much discussion to eliminate this step in the process – timbers could be installed taller to insure crane will not damage tracks and eliminate the need for steel plates. A crane pad or timber decking would reduce time, almost in half.

Estimate 10 to 15 minutes to walk crane out on tracks. 10 to 15 minutes to pick the segment and set in place. Segment would be set to pick on truck so it is rolled out and lifted by simply attaching the rigging, already in place, to the crane. Doug cautioned about load on trucks with segment and lifting equipment.

Geometric control – the team recommended to not try and shim after a section is set. Rather, measure the segment after installation and adjust next piece. Geometric control can be handled on each side of the track placement. The steel tower will make adjustments of the segments easier.

Estimate an 8 man crew to couple PT bars. Approximately 16 bars need to be stressed before crane can be released – estimate 4 jacks can be working at a time. Access would need to be provided from below – estimate 15 minutes per bar to stress.

Removing rigging and swinging the crane out – estimate 15 minutes. Another 10 to 15 minutes to drive crane off. Remove protection system – 30 minutes.

The team re-emphasized the need to work with the Rail Lines to eliminate additional track protection systems. There was agreement among the group that the work to set a segment could be done in 4 hours if plates are not needed. At least 5 hours if plates are required by the RR.

LD's are in the realm of \$10k/min.

Action Item: The DEA team requested the feedback be formalized in a letter so that it could be shared with the RR in final negotiations. Ed will provide to Stuart by April 26th.

3. Concrete Pump Trucks – 6-02.3(6)

WACA members attended the meeting to discuss standard specification regarding certification of pump trucks. As it turns out – certification of pump trucks primarily addressed the safety aspects of operating pump trucks.

WACA would like to attend AGC Structures Team on a regular basis to discuss issues with concrete. Bruce Chatten provide review and outline of issues WACA would like to discuss with the group.

Bob R. summarized why he felt the more concrete is being rejected at the end of the pump. Concrete loses air as it is being pumped. Therefore – additional air is added to compensate for the air loss. The air loss is typically attributed to negative pressure in the pump line. There have historically been instances where the pump was not working appropriately and air and water is actually being introduced into the concrete by faulty seals on the pump truck. The concrete suppliers have issue with being responsible for the concrete at the end of the pump when they have no control over the pump subcontractor.

Boom angle and collection of sample also affects the test results.

Open discussions of possible solutions included; the pumpers working for the concrete supplier, only test air out of the pump for the first 2 loads and then test out of the truck the rest of the pour, or use the same pump to build the test panel that will be used to provide production concrete.

The requirement to test out of the pump came about due to the different variety of pump trucks available. The discussion ended recognizing that this issue would not be resolved today – but that the group identifies action items to further the discussion at future meetings.

Action Item: WACA will look at standardizing test method at end of pump. WSDOT will look at testing at the truck and creating pay factors for concrete acceptance (for air and slump). The AGC will review our specification and will identify who should

attend the pre-pour meeting. Pete volunteered to bring a Pump company in the next meeting.

4. Review of March, 2013 AGC meeting minutes

Minor edits were provided via email by Tom Madden and will be incorporated. Bob Hilmes also provided hard copy of minor edits. No further comment was received.

Action Item: Marco will edit the minutes and post corrected minutes to the web site.

5. Action Items:

a) Continuous concrete placement over interior piers

Brian Aldrich provided additional information to Stuart on this topic. This information covered the effect of creep and camber of the girders and effects of shrinkage of the deck during cure over the girder. Data and research Brian reviewed indicates that waiting 10 days to place the diaphragm concrete is a reasonable time limit. Kelly asked if we could/would consider reducing the wet cure requirement from 14 days at the intermediate piers to help us reduce the overall completion of the bridge. There was some discussion that this may be possible but we would then need to change/reduce the width of the closure which would create other challenges.

Action Item: Stuart will look into reducing wet cure.

b) Steel Escalation

This topic has been discussed the last two meeting. WSDOT will evaluate if the current specification can be improved to identify an index (or index's) to better adjust payment for steel cost fluctuations on projects. Last meeting, Millard stated that the cost of strand and rebar are going up. In his discussion with rebar manufactures there really seems to be no good one index to estimate steel prices. Using ENR and isolating the Seattle area index would work better for rebar.

Action Item: Stuart and Marco will research and bring additional information back to the group.

c) Backfill of Concrete Retaining Walls and Abutments

This issue has been on the agenda for several months. The question went back to the Contractors to ask if this is really a large issue. Clarification as to the discrepancy between the general notes on the bridge sheets and the standard specification still exists. The bridge plan general notes may address what elevation backfill may be placed to prior to setting the girders, but Section 2-03.3(14)I requires girders to be set prior to placing backfill if the note is not included in the plans. Section 2-09.3(1)E requires 90% of compressive strength and 14 days, except for walls less than 15 feet high waive the 14 day requirement. Can this requirement be waived for all bridge abutments?

Action Item: Stuart will research further and bring back to the group.

d) 6-02.3(12(A) Construction Joints in new construction

This item was not discussed – will be brought back to the next meeting.

Action Item: This item will stay on as an action item.

e) 6-19.3(4) B - Shaft Slurry Level

No action has been taken yet as this has not been discussed with ADSC.

Action Item: We meet with ADSC May 2nd – and will bring this topic back to group June 7th.

f) Deck Performance Concrete Bridge Special Provision

Stuart brought back an edited version of the Special Provision. The recent changes modify scaling, humidity, and texturing requirements and should go into effect very soon.

Action Item: AGC to review and comment if they have any concerns.

g) Engineered Bracing/Picking Plans for Shaft Cages

Stuart brought back an edited version of section 6-19 to show revision that eliminate the requirement of a stamped cage plan. There was also some other significant changes being proposed.

Action Item: This item will be discussed again at the next meeting.

6. Other Specification Changes

New language for Bidwell loading, Section 6-02.3(17), will be sent out to the group for review and will be discussed at the next meeting.

Future Meeting Dates:

The next proposed date is June 7th.

AGC/WSDOT Structures Team June 7th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
	Armour, Tom	DBM Constr.	206-730-4591	dtarmour@dbmcm.com
	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
X	Bennion, Stuart ¹	WSDOT-HQ	360-705-7468	bennios@wsdot.wa.gov
	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparis@atkn.com
X	Foster, Marco	WSDOT-HQ	360-705-7824	fosterm@wsdot.wa.gov
	Gaines, Mark	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
X	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
X	Hendy, Allen	WSDOT-SWR	360-905-1522	hendya@wsdot.wa.gov
X	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
X	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-805-5353	Error! Hyperlink reference not valid.
X	McDaniel, Craig	WSDOT	360 705-7823	macanic@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	olkj@wsdot.wa.gov
X	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
X	Geoff Owen	Kiewit	360-609-6548	Geoff.owen@kiewit.com
	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
X	Plichta, Shawn	Graham Constr.	206-631-2334	shawnpl@grahamus.com
X	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
	Regnier, Ed	PCL	425-577-4217	Ed.Regnier@eec-jv.com
x	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Greg Simmons	Kiewit	253-943-4064	Greg.Simmons@kiewit.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
X	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

1 Team co-chair

Guests

Attendee	Company	Phone	E-mail
Dale Bone	BBCP	206-510-0300	dalebobejr@brundagebone.com
Bill Henshaw	BBCP	206-510-3249	billhenshaw@brundagebone.com
Bruce Chattin	WACA	206-531-3395	bchattin@
Bob Lee	Berger Abam	206-431-2297	bob.lee@abam.com

Jilma Jimenez	Berger Abam	206-357-5600	jilma.jimenez@abam.com
Robert Raynes	CEMEX	360-260-6052	Roberta.raynes@cemex.com
Craig Matteson	Oldcastle	509-536-3411	Craig.matteson@oldcastlematerials.com
Jeff Huff	BASF	253-320-1344	Jeff.huf@basf.com
Scott DiLoreto	BAFF	253-208-1570	Scott.diloreto@basf.com
Tim Henson	Ralph's	206-714-9052	Tim@ralphsconcrete.com
Joshua Grible	Ralph's	206-730-3853	Josh@ralphsconcrete.com
Charles Roeder	U of W	206-543-6199	croeder@u.washington.edu
Dean Moon	WSDOT	360-570-6664	moondr@wsdot.wa.gov
Ken Shovlin	Atkinson	425-766-0250	Ken.shovlin@atkn.com

Meeting minutes were prepared by Marco Foster, WSDOT Assistant State Construction Engineer.

Topics – Bridge Deck Concrete Pour; Constructability Review – I-5 SB HOV Puyallup River Bridge Replacement; UW Research Presentation – Concrete Filled Tubes; 10 day wait for concrete placement over interior piers; Steel Escalation – How is it working?; Backfill of Concrete Retaining Walls and Abutments; 6-02.3(12)A, Construction Joints in New Construction; Engineered Bracing/Picking Plans for shaft Cages; Bidwell Loading Draft Language; PCPS Equalization; New Steel Stripe Coat; Obstruction Specification.

1. Welcome & Review of Agenda

Stuart Bennion welcomed the group and reviewed the agenda. There were a large number of guests present so introductions were made.

2. Review of April meeting minutes

Stuart asked if anyone had further comment on last month's meeting minutes. Written comments were received from Bob H. and Tom M. There were no other comments from the team.

Action Item: Marco will post the minutes to the web.

3. Bridge Deck Concrete Pour Discussion (Bruce Chattin/WACA)

Stuart reminded the team where we left off in this discussion. A follow up with the WSDOT Materials Lab did reaffirm that we will continue to test concrete out of the end of the pump and not at the back of the truck as was proposed at the last meeting. Stuart also briefly discussed concrete properties – such as permeability and strength and some proposed research that may be forthcoming.

Bruce Chattin – reminded folks of the variability of concrete properties and the difficulties with managing these variables when pumping it. The concrete providers are looking for help from the pumping companies and prime contractors in managing these variables. Bruce talked about the importance of pre-pour meetings to discuss how variables will be managed so that there are no surprises during deck pours. Bruce handed out some best practices as identified by the concrete providers.

Bob R. went thru the best practices summary. In the past – concrete providers have used small pours on a project to help to dial in/fine tune concrete properties prior to deck placement. Other times – trial batches have been made at the plant prior to any concrete being sent to the project site. Many of the items include in the best practices handout are currently included in pre-pour meeting agenda's.

The concrete pump suppliers then discussed their perspective on the process. Discussion surrounded all the different types of handling of the concrete and commented that concrete is never tested after all of the handling is completed and/or finished. A comment was made that it may be appropriate to core the in place concrete to get a better data of the in place properties of the concrete. It was noted that it is more typical that air content and slump in concrete goes down as it is pumped thru the pump truck. It is a rare occasion that the air/slump will actually go up due to worn seals in the pump.

Stuart reiterated WSDOT's desire to provide a common standard for industry so that it can be bid and expectations are understood. We do not want to go to destructive testing to evaluate concrete quality. Further discussion ensued regarding why destructive testing will not be used – basically it would not provide us data until the deck is completed.

It was suggested sample should be taken out of the middle of the truck. Stuart stated the concrete sample that is tested is somewhat in the Contractor's control. Geoff O. shared a list of the personnel he would typically request to be in attendance at a pre-pour meeting. The list does exceed what our specifications currently require. WSDOT could make the specification a more extensive list of requirements – but it seems more appropriate that the Contractor's control this.

Stuart suggested that WSDOT will most likely not make any significant changes to our current specifications until more data is available to support doing so. We will look at updating the Construction Manual to include a more comprehensive list of key personnel to invite to pre-deck pour meetings.

Bruce Chattin offered the help of WACA (to industry) to further discuss means and methods to improve concrete placement.

Stuart thanks the concrete providers and pumping company's attendance and input today.

Action Item: Stuart will work with industry to identify potential funding and research projects that assist us in developing better acceptance criteria. This will not be listed as an upcoming action item, but the AGC will be consulted as this process is further developed.

4. Constructability Review – I-5 SB HOV–Puyallup River Bridge Replacement

Prior to discussing the I-5 SB project, Dean Moon provided an update on the status of the NB project. The NB project was put on add some time ago but was pulled off add due to right of way issues. There has been some progress made on property rights and there is still optimism the issues will be resolved and that it will go back on add this fall. The contract will not change much from what was placed on add previously. The Contractor's suggested and would appreciate a list of changes if the add period is held to 4-6 weeks.

Dean then provided an overview of the SB project. Focus of the discussion looked at timelines/sequence of work and how they would mesh with work windows. The new SB bridges will be in conflict with the existing bridge. Bob Lee took over the presentation and discussed demolition concepts.

Demolition concept – the existing and new bridge will span over the Puyallup River and a railroad line. Sequence of work is anticipated to be; construct containment, demo rail, saw cut at girder flange, demo diaphragms, lift out girders, pier caps and finally pile demolition. Bob reviewed some of the details of the old bridges (weights, spans, age, etc...).

Does the proposed demo staging make sense? The Contractor's generally agreed the proposed plans would be reasonable and biddable, with concerns for the piling. It was asked if temporary piling could be installed for removal. This would be possible but temp piles in water would need to be known ahead of time to obtain permits (specific number of piles).

Existing concrete piles in the river are 4' diameter hollow piles – with the bottom filled with concrete (plug). Bob proposed a plan to place temp casing around the pile and remove to 10' below mud line. It is difficult to determine how close to plug removal may get. There was some open discussion on what can be done, driving deeper, coring out, chipping, using vibratory hammer. The prestressing in the piles will complicate this work effort.

There are 7 piles per bent and 4 bents in the water. Comment was provided to stay with the current plan and try and reduce the depth of removal – preferably 2' or less below mud line. WSDOT should also look into permitting for a large coffer area to isolate this work. Impact to the flood level water levels is a concern and will not be permitted.

Fish window work was then reviewed – permits require/limit the number of temp piles allowed. Can the Contractor get the proposed amount of work done in the time

allowed (July 15th thru October 1st)? There was open discussion on how the work would be done. This area is not navigable. The permit currently allows that 250 temporary piles can be installed. The AGC team feels it needs more information to better analyze if all the proposed work could be done in 1 fish window. There was some consensus that it would better to pursue doing the work in 2 seasons or request the permit agencies to open up criteria (more piling, allow driving at night, etc...). Perhaps a test pile could be done on the NB project to better evaluate some relaxation of permit requirements on the SB project.

Access to both sides of the river was discussed. The first 3 spans on the south side are longer – so crane placement and proximity to the new bridge was discussed. Due to the weights of the proposed girders – is it constructible from both a girder delivery and crane access perspective? Perhaps another type of girder would be better? 100 series girders might work but logistics are difficult at the limit of cranes capacity.

Action Item: The team recommended that the Project Team pursue 2 seasons (fish windows) to complete the in water work.

5. **UW Reaserch – Concrete Filled Tubes.**

Professor Roeder provided an overview on research regarding the benefits of using composite concrete filled tubes. The advantages are related to the economic benefits of reduced shaft size and expedited construction.

Dr. Roeder provided a power point presentation to convey research done to date to the team. Connection of the concrete filled tubes to other structural elements (foundations or pier caps) has been the focus of the recent research. Research is now being expanded to focus more on CFST in drilled shaft construction to accommodate lighter shafts, eliminates cages, allow shop fabricated, and are self-supporting.

Question asked by the team – will shrinkage compromise the structural integrity? There is concern that shrinkage would affect the composite nature of the shaft. Low shrinkage concrete is recommended for larger diameter tubes.

Drilled shaft construction is looking at a hybrid between concrete shafts below permanent casing and CFST from permanent casing up. The benefit would be reduced diameter. Corrosion protection is still being developed.

Action Item: Stuart will send Dr. Roeder's presentation out to the team. Dr. Roeder requested any comment/feedback from the team would be welcome.

6. **Action Items:**

a) **10 day wait for concrete placement over interior piers**

Stuart researched this with Brian Aldrich and Mark Gaines and recommended against changing the wet cure requirement over the diaphragms. The need for increased durability/serviceability is still valuable at this location as it is for the rest of the bridge deck.

Action Item: After several discussion – this specification will stay as currently written.

b) Steel Escalation

This topic has been postponed to a future meeting as there is currently a DRB decision related to Steel Escalation being evaluated.

Action Item: Stuart and Marco will research and bring additional information back to the group.

c) Backfill of Concrete Retaining Walls and Abutments

This issue has been on the agenda for several months. The question went back to the Contractors to ask if this is really a large issue. Clarification as to the discrepancy between the general notes on the bridge sheets and the standard specification still exists. Bijan reiterated that we do not want to change the current requirement for abutments.

Action Item: This issue is retired.

d) 6-02.3(12(A) Construction Joints in new construction

This item was not discussed – will be brought back to the next meeting.

Action Item: This item will stay on as an action item.

e) Engineered Bracing and Picking Plans

No comment was received from ADSC at the last meeting. Therefore - change to the current Standard Specification will be instituted in the upcoming amendments.

Action Item: This issue is retired

7. Bidwell Loading Draft Language

Ryan brought forth the concept of live loads in the review of Bidwell loading. This agenda item is primarily driven by local agency questions of WSDOT Standard Specification. Proposed language change was brought forth and consensus among the group was that the proposed language is acceptable.

Action Item: Stuart will discuss with the Bridge office and provide feedback at the next meeting.

8. PCPS Equalization

Stuart asked the team to review current language that clarifies what to do with PCPS systems using HMA and Concrete toppings.

Action Item: This item will be discussed again at the next meeting

9. New Steel – Stripe Coat

Stuart proposed a minor change to the specification to clarify stripe coating requirements for painting new steel. The language is applicable in painting existing steel, but the new steel section does not reference over to this section.

Action Item: This item will be discussed again at the next meeting.

10. Obstruction Specification

Stuart also mentioned some proposed changes we are considering with regards to our current obstruction specification. Team members raised concerns about the proposed changes.

Action Item: Stuart hung Marco out on this issue – the item will be discussed at our next meeting.

Future Meeting Dates:

The next proposed dates are September 13th, October 25th, and December 13th.

AGC/WSDOT Structures Team September 12th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
	Armour, Tom	DBM Constr.	206-730-4591	dtarmour@dbmcm.com
	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
X	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
X	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparris@atkn.com
X	Fell, Susan	WSDOT-SWR	360-759-1312	fells@wsdot.wa.gov
X	Foster, Marco	WSDOT-HQ	360-705-7824	fosterm@wsdot.wa.gov
X	Gaines, Mark ¹	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
X	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-805-5353	maddent@wsdot.wa.gov
	McDaniel, Craig	WSDOT	360 705-7823	macanic@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	olkj@wsdot.wa.gov
	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
X	Geoff Owen	Kiewit	360-609-6548	Geoff.owen@kiewit.com
X	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
	Plichta, Shawn	Graham Constr.	206-631-2334	shawnpl@grahamus.com
X	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
	Regnier, Ed	PCL	425-577-4217	Ed.Regnier@eec-jv.com
X	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Greg Simmons	Kiewit	253-943-4064	Greg.Simmons@kiewit.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
X	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

1 Team co-chair

Guests

Attendee	Company	Phone	E-mail
Russ East	WSDOT	206-370-5565	eastrus@wsdot.wa.gov
Dirk Bakker	Sound Transit	206-370-5561	dirk.bakker@soundtransit.org
Tia Raamut	Sound Transit	206-370-5561	tia.raamut@soundtransit.org
Tom Lentz	Parson Brinkerhoff	206-383-6333	lentzt@pbworld.com
Chuck Ruth	SC Solutions	360-480-1208	cruth@scsolutions.com
Patrick Clarke	WSDOT	360-705-7220	clarkep@wsdot.wa.gov

Don Ross	Granite Const.	425-551-3130	Don.ross@gcinc.com
----------	----------------	--------------	------------------------------------------------------------

Meeting minutes were prepared by Marco Foster, WSDOT Assistant State Construction Engineer.

Topics – Changes in Team Membership; Constructability Review – I-90 Homer Hadley Floating Bridge Light Rail; Steel Escalation – How is it working?; 6-02.3(12)A, Construction Joints in New Construction; Bidwell Loading Draft Language; PCPS Equalization; New Steel - Stripe Coat; Shaft obstruction specification.

1. Welcome & Review of Agenda

Mark Gaines welcomed the group and reviewed the agenda. There were a large number of guests present so introductions were made.

2. Changes in team membership

Mark Gaines announced he is back as WSDOT lead for the team. Other changes include; Susan Fell from SW Region will replace Allen Hendy, Doug Buss is retiring and Mark has asked if there could be a replacement from Van Dyke. Stuart Bennion has left WSDOT.

3. Constructability Review – I-90 Homer Hadley Bridge Floating Bridge Light Rail

Russ East provided an overview of the project. The project will modify the existing I-90 floating bridges to accommodate light rail where the current reversible/HOV lanes exist today. Fourteen miles of light rail on the I-90 section will be broken into two contracts. The focus of today's discussion pertains to the 7 mile section of I-90 on the bridges and the replacement/modification of the anchor cables that stabilize the floating bridge. High voltage lines that power the light rail system will complicate how the work can be performed as they are above the access hatches to the anchor galleys. Major work includes adding rail/track onto the bridge, drainage, and access ways for maintenance of the rail. Patrick Clarke discussed some of the details of the anchor replacement work and provided an overview of how the replacement process typically works. Anchor cables are 2–3/16th inch diameter and are stiff and difficult to handle. Access between the bridges is restricted and most often work is performed off flexi-float barge systems. There was some discussion on options for access – is it possible to go over the top of the bridge? This has been done in the past when the bridge was closed to traffic. This could be an option during nightly closures. There are also challenges with longitudinal cables that make threading transverse cables past longitudinal cables difficult. Problems have occurred with having one cable installed incorrectly above or below another cable.

Release of certain longitudinal cable requires that the reciprocal cables on the other side are released so no to miss-align the bridge longitudinally occurs. Patrick provided information on how this issue has been dealt with in the past.

Can the shoulder or lanes be closed to facilitate this work? Daytime closures are typically not allowed due to traffic volumes. Nighttime closures would most likely be available. Weekend closures are possibly available. If a cable is lost or reinstallation delayed – there would need to be an emergency response plan in place in case wind or inclement weather was pending. Not having anchorage points on the bridge for emergency attachment was raised as a concern.

It may be possible to drag new cables over the top of the pontoons but under the elevated deck.

The Contractors felt that they would be able to use smaller equipment to get materials to the access hatches safely without de-energizing the overhead power supply. Implementing safety protocols to prevent contact would be required but not be a problem. Robert Reller from Mason provided Russ with a memo from his company that provides some thoughts on how to safely accomplish anchor cable replacement with light rail power energized.

The project is currently scheduled to retrofit early 2016. The contract is expected to be DBB.

Action Item: None

4. Review of April meeting minutes

Mark asked if anyone had further comment on last month's meeting minutes. John Olk did point out a typo which will be corrected. No further comments were received.

Action Item: Marco will post the minutes to the web.

5. Action Items:

a) Steel Escalation

Mark asked the team to recap where we stand with this topic. Marco acknowledged that this action item resides with WSDOT. Currently, there is consensus amongst the team that no single cost index is a good measure of cost escalation for steel products. Reinforcing Steel is more regionally influenced, strand and plate steel is more influenced by east coast markets. There has been some discussion/thought that there should be a different/specific index used for rebar, strand and structural plate. A West Coast Regional index for rebar may work better. Millard also suggested scrap steel may be a good index.

Currently – steel markets are stable and the need for an escalation clause is not urgent. However, it was agreed that an improved specification should be developed so we are ready for any future instability in the steel market.

Action Item: Marco and Mark will work on a revision for our next meeting.

b) 6-02.3(12(A) Construction Joints in new construction

The specification as written is not very constructible when reinforcing bar is protruding and in the way of roughening the surface. The problem appears to stem from some inspectors taking a more strict interpretation of the specification as written.

Action Item: Mark will discuss with Brian Aldrich to better define what is needed to insure the proper shear is developed in the joint.

c) Bidwell Loading Draft Language

There was some discussion regarding draft language that was provided by Ryan Olson. Charlie D. agreed there needs to be some clarification as local agency interpretation of the current specification can be wrong. There was some proposed edits discussed and clarifications put forth. A proposed revision was shared and all were in agreement with the language.

Action Item: Mark will ask Mr. Bauer to review and if no further changes needed have the revised language implemented.

d) PCPS Equalization

It was unclear what the problem is with the current specification.

Action Item: Mark will contact Stuart to get clarification and if needed will bring back to the team next meeting.

e) New Steel - Stripe Coat

Stuart had raised the issue that new steel does not address the need for a stripe coat. There were a couple of comments made by the team.

Action Item: Mark will contact Stuart to get clarification and if needed will bring back to the team next meeting.

f) Shaft Obstruction Specification

Marco reminded the team about the discussion in June. WSDOT executives have requested that we re-visit our current shaft obstruction specification to see if the “no-risk to the contractor” approach for obstruction removal needs to be changed. The current specification places all of the risk associated with obstructions on WSDOT, and there is some thought that putting some of this risk back on the Contractor might be appropriate. The Contractors expressed that the current specification has been working well. There was some discussion that eliminating the obstruction clause on some contracts might work but that it will likely increase the number of differing site condition claims WSDOT receives. Marco commented that this might be a risk WSDOT is willing to accept if we think we have done a good job of describing the geological conditions.

Action Item: This issue will be discussed further with the ADSC.

6. Feedback on 2013 Annual AGC/WSDOT meeting

Mark asked the group their perspective on this year's joint meeting. Comments received included;

- Winter a better time than summer to hold the meeting
- More advance notice of the meeting date
- Good presentations
- More good news

Action Item: Mark will provide the feedback to Jeff Carpenter.

7. Organizational Changes in the Construction Office

Mark gave a brief overview of the Construction Office organization. Problems with the pontoons have been resolved. Mark is back as Bridge Construction Engineer. Mark discussed his desire to provide consistent responses to the Contractors.

Mark also announced Linea as Chief Engineer and Tom Baker as the State Bridge Engineer.

8. Use of Self Consolidating Concrete on WSDOT Projects

Mark let the team know that we will be allowing the further use of SCC on projects. The specifics need to be worked out but WSDOT recognizes the benefits to allowing the use of SCC in specific application. If the Contractors see an opportunity to use SCC Mark encouraged they submit a proposal to WSDOT for consideration.

Action Item: This item will be discussed again at the next meeting.

9. Use of shotcrete as a permanent retaining wall fascia

Marco discussed a draft specification that is being developed to use shotcrete in lieu of cast in place concrete as permanent retaining wall fascia. The specification has several key elements to insure the fascia will provide the same 75 year design life that cast in place concrete is intended to provide.

- a. Shotcrete mix design that insure specific performance requirements for compressive strength, reduced permeability, and insures good freeze/thaw durability.
- b. Preproduction testing to qualify the nozzle men, validate the method of placement and curing will provide the performance of the approved mix design, and to validate the Contractor's ability to provide the required architectural treatment.
- c. Production testing to insure each day's production meets the performance requirements of the permanent shotcrete specification.
- d. Requires continuous wet cure for 72 hours.

The Contractors were generally supportive of the draft language and acknowledged there is significant time saving associated by using shotcrete. Bob Hilmes reviewed the draft language and commented it was very similar to a specification he used

successfully in the past. Bob also recommended we look closely at the testing requirements to insure test panel thickness is appropriate to provide appropriately sized cores (diameter to length).

10. Update on bridge deck performance concrete specs.

This item is deferred until our next meeting.

Future Meeting Dates;

The next proposed date is October 25th and December 13th.

AGC/WSDOT Structures Team October 25th, 2013 Meeting Minutes

Initials	Member	Company	Phone	E-mail
	Aldrich, Brian	WSDOT	360-705-7224	aldrich@wsdot.wa.gov
X	Armour, Tom	DBM Constr.	206-730-4591	dtarmour@dbmcm.com
	Ayers, Scott ¹	Graham Constr.	206-631-2358	scotta@grahamus.com
	Barney, Millard	Conc. Tech.	253-383-3545	mbarney@concretetech.com
X	Binnig, Bill	Kiewit Pacific	425-255-8333	bill.binnig@kiewit.com
	Buss, Doug	V. VanDyke	206-817-0389	douguss@wavecable.com
X	DeGasparis, Charlie	Atkinson Constr.	425-255-7551	charlie.degasparis@atkn.com
X	Fell, Susan	WSDOT-SWR	360-759-1312	fells@wsdot.wa.gov
X	Foster, Marco	WSDOT-HQ	360-705-7824	fosterm@wsdot.wa.gov
X	Gaines, Mark ¹	WSDOT-HQ	360-705-7827	gainesm@wsdot.wa.gov
X	Griffith, Kelly	Max J. Kuney	509-535-0651	kelly@maxkuney.com
	Hilmes, Bob	WSDOT-ER	509-324-6232	hilmesb@wsdot.wa.gov
X	Ireland, Scotty	WSDOT-OR	253-305-6430	irelans@wsdot.wa.gov
	Lehman, Debbie	FHWA	360-753-9482	Debbie.Lehman@dot.gov
X	Madden, Tom	WSDOT-UCO	206-805-5352	maddent@wsdot.wa.gov
X	Olk, John	WSDOT	360-705-7395	olkj@wsdot.wa.gov
	Olson, Ryan	Mowat Constr.	425-398-0205	ryan.olson@mowatco.com
X	Owen, Geoff	Kiewit	360-609-6548	Geoff.owen@kiewit.com
	Parrish, Kevin	Hamilton Constr.	541-746-2426	kparrish@hamil.com
X	Plichta, Shawn	Graham Constr.	206-631-2334	shawnpl@grahamus.com
X	Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
	Regnier, Ed	PCL	425-577-4217	Ed.Regnier@eec-jv.com
X	Reller, Robert	Manson Constr.	206-762-0950	rreller@mansonconstruction.com
	Schettler, Jim	Jacobs Civil	206-382-6322	jim.schettler@jacobs.com
	Greg Simmons	Kiewit	253-943-4064	Greg.Simmons@kiewit.com
	Swenson, Robb	General Constr.	360-394-1407	Robb.Swenson@kiewit.com
X	Welch, Pete	Granite Constr.	425-551-3100	pete.welch@gcinc.com

¹ Team co-chair

Guests

Attendee	Company	Phone	E-mail
Davis, Ashley	Mowat Constr.	425-398-0218	ashleyd@mowatco.com
Blanchard, Monica	Manson Constr.	206-913-7498	mblanchard@mansonconstruction.com

Meeting minutes were prepared by Marco Foster, Mark Gaines and John Olk.

Topics –Steel Escalation – How is it working?;6-02.3(12)A, Construction Joints in New Construction; Bidwell Loading Draft Language; PCPS Equalization; New Steel - Stripe Coat; Shaft obstruction specification; Use of SCC on WSDOT projects;

Update on Bridge Deck Performance Concrete Specifications; Changing drilled shaft pay items to a linear foot basis, Update on slurry disposal; Electronic plans, proposals/plan holder list, printing services.

1. Welcome & Review of Agenda

Mark Gaines welcomed the group and reviewed the agenda. He asked the Team for input on whether or not to try to replace Doug Buss. The Team felt it would be better to bring someone in from the trucking industry only when there were agenda topics related to shipping and hauling. Mark also mentioned that we are working with the Bridge Office to get regular representation from bridge design on the Team.

2. Review of June meeting minutes

Mark asked if anyone had further comment on last month's meeting minutes. John Olk identified a couple minor errors which will be corrected. Mark stated he will try and get minutes sent out sooner to give additional time for Team review.

Susan Fell discussed a non-profit project that focusses on bridges in the Portland area. Mark will disseminate information to the group via email. If anyone has questions they can contact Susan.

Action Items: Marco will post the minutes to the web.

3. Action Items:

a) Steel Escalation – How is it working?

Mark opened up the discussion by summarizing the history of the steel escalation specifications. The specification was added to WSDOT contracts around 2005 or 2006 to address the volatile steel market and the difficulty contractors were having getting hard quotes on steel prices at bid time. The escalation clause is used in WSDOT contracts that exceed 200 working days. Currently the escalation clause uses a general steel price index provided at low cost by Engineering News Record (ENR).

Recently WSDOT defended itself at a Disputes Review Board meeting regarding the steel escalation clause. A contractor claimed that the index used by WSDOT was not a good index for the specific steel being used on the contract (steel pipe piles). While the Board found in WSDOT's favor, WSDOT is open to AGC review of the index that is currently in place and would consider changing the index on future projects if it would improve the bidding process. WSDOT is also agreeable to a geographically-specific index if it would be beneficial.

Mark showed a slide that included the ENR index alongside some other available steel indices. The ENR index is not as sensitive to price volatility as the other indices. In some cases, the indices are often available only to subscribers, and subscription prices can be high (\$3000+ per year). Mark suggested a couple of criteria the Team should consider when reviewing this:

1. Try to find a single index that works for all steel products (rather than multiple indices for each type of steel used on the project).

2. Look for an index that is available at little or no cost.

There was discussion that at this particular time, the index is not necessarily important in how projects are bid. There is insignificant inflation at this time and getting hard steel quotes at bid time is not a particular problem. The Team agreed that we should work on this now so a good system is in place when steel inflation becomes an issue in the future. Some AGC members suggested that steel escalation language is not needed, but most of the Team members appreciated the inclusion of the clause in the contracts. It was also discussed that the index only be used on longer duration projects (two years and up). It was also discussed that it may be necessary to use two indices (one for structural steel and steel piling, another one for reinforcing bar/prestressing strand).

The consensus was that WSDOT should look at opt in/opt out language for this specification. It would allow contractors to decide whether or not to use the steel escalation specifications on any given project. This led to discussion about how the prime contractors would handle this with their subcontractors. AGC thinks this is something that they can work out with their subs. There was also discussion about the need for the steel escalation clause on Design-Build projects because of the longer duration and the fact that the design is done after award.

Action Item: Mark will look at the Oregon DOT's opt in/opt out language and will bring revised language forward for Team review at the next meeting. AGC Members will review the current ENR index and bring forward alternate indices for WSDOT to consider.

b) 6-02.3(12(A) Construction Joints in new construction

Mark shared photos taken from Holgate to King Stage 3 that help illustrate the issue of achieving the WSDOT roughened CJ requirements when there is protruding reinforcing steel. WSDOT requires a uniformly-tined surface (i.e. a raked surface). This is OK for large, flat areas where there is no protruding bar, but is difficult for many situations (horizontal CJ's in walls, crossbeams, box girders, between bridge decks and barriers, etc.). Mark presented potential language that allows deeper, discrete impressions to be made in the concrete. It was also suggested that the Contractor be allowed to propose revisions for the Engineer to consider in areas of heavy steel congestion. Geoff commented that the proposed language is better and would allow modifications thru an RFI as opposed to a change order.

AGC agreed with the proposed language. They recommended modifying the language so that the roughening was only required within the limits of the reinforcing steel. It would create surface finish issues if the deeper impressions were carried out to the face of concrete. Mark is still working with the Bridge Office on the specifics of this language, but he will incorporate AGC comments and continue working to refine this language.

Action Item: Mark will incorporate AGC comments and continue working on this with the Bridge Office. Update to be provided at the next meeting.

c) Bidwell Loading Draft Language

As an update, Mark informed the Team that the Bridge Office had made one minor editorial modification to the language developed at the last meeting. This revised language will be incorporated into the next amendment to the Standard Specifications.

Action Item: No further action needed.

d) PCPS Equalization

Mark provided the Team with the language that Stuart had previously put together. Comments were provided on these proposed revisions:

- When the keyways are filled with cast-in-place concrete, the equalizing equipment can be removed as soon as the ties are welded. For keys that are grouted before deck placement, why does the equalizing equipment need to be left in place until the grout is at 4000 psi?
- When the keyways are filled with cast-in-place concrete, equipment can be placed on the deck when the concrete is at 3000 psi. Why is 4000 psi needed for putting construction equipment on the structure when the keyways are grouted in advance of concrete placement?
- The submittal has been changed from “submitted...to the Engineer for approval” to “submitted to the Engineer”. Is approval still required? If so, what is the turn-around time? What is the Engineer reviewing?
- Some questions were raised about the statement allowing equalizing methods that had been used on other projects (first paragraph of the section). It was suggested that WSDOT may want to consider removing this statement.

Mark will work to modify this and will bring it back to the Team at the next meeting.

Action Item: Mark to make further adjustments and bring updated version to the next meeting.

e) New Steel - Stripe Coat

Mark provided the Team with the language that Stuart had previously put together. Comments were provided on these proposed revisions:

- The first paragraph requires surface preparation and painting after shear connectors are installed in the field. It was pointed out by the Team that this has been previously addressed by WSDOT at the AGC Structures Team. WSDOT has previously allowed a shop-applied mist coat to the top flange, and has not required these surfaces to be re-primed. AGC thinks these proposed revisions are moving in the wrong direction.
- In the second paragraph, “to completely hide the surface...”. Suggest changing “hide” to “cover”.

- In the third paragraph, requires drying time to be a minimum of 12 hours. Why not rely on the manufacturer's recommendations rather than a prescriptive and arbitrary minimum time limit?

Mark will work with the Bridge Office to make adjustments to this language. It was suggested that AGC take these revisions to some of their painting sub-contractors for comment once the AGC Structures Team is satisfied with the language.

Action Item: Mark to make further adjustments and bring updated version to the next meeting.

f) Shaft Obstruction Specification

Mark opened the discussion by summarizing the current WSDOT practice of paying for all obstructions by force account. While this has worked well, there is the perception that this influences the Contractor's choice of shaft construction methods. It provides a level of protection for the Contractor and could potentially lead to selection of less-than-ideal equipment for shaft excavation. While WSDOT doesn't believe this is happening, it is a possibility with the current practice of WSDOT taking all obstruction risk.

Mark discussed the option of not providing force-account payment for obstruction removal, but instead moving to payment by differing site conditions (Standard Specifications Section 1-04.7) when a contractor believes they have encountered obstructions that couldn't have been anticipated. Mark opened this up to discussion by the Team.

Several members of the Team expressed concerns with relying only on differing site conditions to deal with obstructions. There is concern that they will have difficulty getting compensated for any obstruction removal. WSDOT typically overstates the risks of encountering obstructions. For example, virtually every Summary of Geotechnical Conditions identifies that cobbles or boulders may be present. With boilerplate language like this, how would WSDOT review and evaluate claims of differing site conditions associated with obstructions?

As possible middle ground, it was suggested that WSDOT look at establishing a contractual baseline describing what to expect for drilling conditions in the shaft. This baseline would use the geotechnical borings and other site data, and would be as specific as possible. For example, consider identifying zones of difficult drilling, expected size and quantity of obstructions, etc. The Contractor would be expected to handle this baseline level of obstructions at no cost. If conditions more severe than the baseline were encountered, there could be entitlement for force account obstruction removal. The Team suggested using the current language for most shafts, but move to the baseline model for locations where more difficult drilling is anticipated.

Mark will work on putting draft language together for the next meeting. He will also present this to the ADSC/WSDOT Task Force.

Action Item: Mark to bring draft language to the next meeting and solicit input from the ADSC/WSDOT Task Force.

g) Use of self-consolidating concrete on WSDOT projects

Mark shared the design memorandum approving self-consolidating concrete (SCC) for prestressed girders. He also relayed that WSDOT is open to opportunities to use cast-in-place SCC. He will be working with the Bridge and Structures Office to identify opportunities for SCC on future projects.

Action Item: No further action needed.

4. Update on bridge deck performance concrete specs.

Mark shared the presentation he gave at the recent Western Bridge Engineers' Seminar. He shared photos of deck constructed with and without the performance concrete, and highlighted the significant reduction in deck cracking that is being observed. Possible future changes could include limitations on the differential temperature between ambient and the deck concrete. This is a long-term project and there are no imminent changes planned for this specification.

Action Item: No action needed.

5. Changing drilled shaft pay items to a lineal foot basis

Mark shared that WSDOT is looking at changing drilled shaft pay items to a linear foot basis. There are currently about 8-10 items used for drilled shaft payment. There were no concerns raised by the AGC Structures Team. It was suggested that this be run by the ADSC/WSDOT Task Force.

Action Item: No action needed.

6. Update on slurry disposal

Mark provided an update on on-site disposal of water slurry through infiltration. WSDOT has been in discussion with the Department of Ecology (DOE). The DOE has updated its Construction Stormwater General Permit to prohibit the upland infiltration of water slurries. Mark pointed out that this conflicts with what is described in Standard Specifications Section 6-19.3(4)F. WSDOT is still in discussion with DOE and is not ready to adjust the specification language at this time.

Action Item: No action needed.

7. Update on plans, proposal/plan holder list, printing services, etc.

Mark shared that the HQ Construction Office is again looking at electronic plans and specifications. This topic was discussed with the AGC Structures Team two or three

years ago. Currently, WSDOT provides plan/specification packages for \$25 (including shipping) and requires purchaser to be listed as a plan-holder or proposal-holder. Contractors and sub-contractors are also allowed to download electronic copies of the plans in lieu of purchasing a paper copy.

Mark asked for feedback from the Team on the importance of having sub-contractors listed as plan holders. Do the proposal holders use this information or find it important? The AGC Members responded that the information is not of particular importance to them. They have their own list of sub-contractors they like to work with. It was mentioned that with electronic plans available, the plan holder list probably doesn't reflect everyone looking at the package.

Mark asked for thoughts on the \$25 price for the plan/specification package. The AGC Members aren't opposed to increasing the cost to reflect actual costs, but they would like to continue to have paper sets available for purchase. It was suggested that WSDOT provide an option for sub-contractors to submit their contact information if they are downloading an electronic set of plans and specifications.

Mark also shared the conformed set of the Standard Specifications that includes all amendments up through a certain date. He mentioned that WSDOT is looking at providing conformed project-specific sets of specifications that include the standard specifications with all amendments and special provisions. This initiative is some ways out in the future.

Action Item: No action needed.

Future Meeting Dates;

The next meeting date is December 13th.