# WACA/WSDOT Meeting
# Minutes
# For Wednesday, December 3, 2014

*Day/Time: Wednesday, December 3, 2014 at 9:30 AM – Noon*
*Location: at WACA's Office in Des Moines*

**In attendance:**

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|---|---|---|
| David Jones, WSDOT | Bruce Chattin, WACA | Dave Burg, Ash Grove |
| Mike Polodna, WSDOT | Craig Matteson, CPM Old Castle | Monica Jones, Lafarge |
| Rob Molohon, WSDOT | Michael Craig Concrete Nor'West | Kevin Wolf, CalPortland |

**Next WACA Meeting Date:**
*Wednesday, March 4, 2015 at WSDOT HQ Mats Lab, Crimson Conference Room, 9:30 AM – Noon.*

**Future WACA Meetings Dates:**
*Wednesday, June 3, 2015 at WACA's Office in Des Moines, 9:30 AM – Noon*
*Wednesday, September 2, 2015 at WSDOT HQ Mats Lab, Crimson Conference Room, 9:30 AM – Noon*
*Wednesday, December 2, 2015 at WACA's Office in Des Moines, 9:30 AM – Noon*
*Wednesday, March 2, 2016 at WSDOT HQ Mat Lab, Crimson Conference Room, 9:30 AM - Noon*

**Meeting Minutes are available at:**
**http://www.wsdot.wa.gov/Business/MaterialsLab/WACAMinutes.htm**

**New Business:**

**Use of recycled concrete materials –** *we need to find a way to use recycled materials in concrete.*
*12/3/14 – David Jones explained the potential uses of recycled concrete rubble and recycled concrete aggregate. He indicated that commercial concrete would be good candidate to use recycled concrete aggregate. David asked for assistances from WACA to help develop this specification. Bruce Chattin briefed the group on the report done by WSU on the different applications of recycled concrete. Rob Molohon reported that he got a call from a Thurston County Inspector asking about the use of recycled concrete in Crush Surfacing Base Course (CSBC) applications. The County Inspector indicated the recycler had demonstrated compliance with toxicity requirements indicated in Section 9-03.21 of the WSDOT Standard Specifications, but the County Engineer would not allow it to use. Bruce Chattin indicated that Depart of Ecology (DOE) has a concern with pH from recycle concrete. When a concrete panel is broken it allows some hydration which increases pH. This is DOE's concern. He*

*indicated that DOE is requiring a BMP (Best Management Practice) to store recycled concrete on hard ground. Bruce indicated this is not always practical. David Jones indicated there is concern using concrete rubble and recycle concrete aggregate below the High Water Mark. Bruce indicated that WACA members are getting a lot of infrastructure and they are running out or room to store it. WSDOT should mandate the use of recycled concrete. Bruce explained how he gave the DOE a tour of Renton Recycling. He also explained to Lynn Peterson the Secretary of Transportation about the future of the existing Alaska Way viaduct. David Jones explained the testing WSU had done and indicated that commercial concrete would be a good candidate for recycle concrete aggregate. Bruce Chattin explained that in the past the industry did not have any problems with using recycle concrete until DOE's concern with pH. Bruce used Renton Recycler as an example of the challenges they are confronted with in regard to storage space and lack of use. Renton Recyclers receive about 100 trucks per day but are only selling 20 trucks per day. They are running out of room to store recycled concrete. Craig Matteson explained some of the frustration his company is having. At one facility they only recycled returned concrete from their plant, yet they still requirement to do the toxicity testing as indicated in Section 9-03.21 of the Standard Specifications. David Jones indicated we need to develop a specification requirement for recycled concrete aggregate. Bruce responded "How can we do it?" California mandates its use. Rob Molohon asked Bruce if he had the CALTRAN specification for this. Bruce indicated he would get the CALTRAN's specification. WACA indicated that there is not much concrete paving to use recycled concrete. David Jones stated he would talk to the WSDOT Project Engineers and Local Programs about the use of recycled concrete. Bruce indicated that a team would need to be put together to address the use of recycled concrete. Bruce was also concerned with who made up this team. David Jones stated to the WACA group that Kurt Williams WSDOT State Materials Engineer was re-activating the recycled materials group. Bruce Chattin asked David if we could engage with Lynn Peterson. David Jones indicated the recycled materials group is at the working level. David Jones stated that it is up to the Contractor if they want to use recycled concrete. Bruce Chattin explained that the Contractor does not want to deal with the DOE inspections associated with the use of recycled concrete. David Jones suggested that Design Build projects may be a place to use this material. WACA indicated that Design Build projects are DOE inspected. Bruce explained the rules were written based on one incident which affects others. The City of Seattle used to pay a 15% incentive to use recycled concrete. Bruce asked WACA members what would get them use recycled materials, and WACA responded "incentive for Contractors". WSDOT says use recycled concrete and DOE regulates its use. Bruce Chattin said the working group needs to identify the road blocks that prevent the use of recycled concrete. Even though recycle material is less expensive the DOE inspection inhibits its use. Mike Polodna stated "It sounds like we have a regulatory challenge with DOE. David Jones indicated that WACA needs to get a venue with DOE, Local Agencies, and WSDOT. Bruce stated that WACA needs WSDOT's partnership. David Jones asked WACA for volunteers to work on this specification. Bruce Chattin finished with the following; we will find a showcase project, get a copy of CALTRANs specification for recycled concrete, and provide three people from WACA to assist WSDOT in writing the specification requirements for using recycled concrete.*

*9/10/14 – Bruce Chattin explained how much recycled concrete is being stockpiled by WACA members and that they are running out of room to store this material. He also explained that a*

*WSDOT project refused to allow recycled concrete to be used even though this material is allowed by the Specifications. David Jones explained how WSDOT recently did not accept recycled concrete for slope protection on a project due to the steel fibers protruding from the material. Dave also asked if the members were removing reinforcing steel from the concrete rubble. WACA indicated that reinforcing steel is a valuable commodity to recyclers and they use magnets to remove the reinforcing steel. WACA indicated that WSDOT needs to create an incentive program to use recycled materials. Mark Gaines asked if recycled concrete material cost more than virgin aggregates. Bruce Chattin indicated recycled material cost less than virgin aggregates. Mark Gaines explained how the Department of Ecology is concerned with its use, specifically when used for slope protection. Mark also indicated that industry support is important to WSDOT. WACA indicated that sometimes it is difficult to control Sand Equivalent and the amount material passing the No. 200 sieve. Mark asked WACA if WSDOT needs to revisit our specification requirements for this material. WACA indicated we need to use this material, especially today when aggregate sources are becoming scarcer. Mark asked WACA to provide him pictures, data, and other items that would assist WSDOT with addressing this concern. FHWA recommended WACA members meet with the designers to discuss how to incorporate recycled concrete into contracts.*

**Old Business:**

**Issue: Quality Control Plans – David Jones**

*WSDOT is moving towards requiring QC Plans from material suppliers. Discuss how this will affect WACA members.*

*12/3/14 – David Jones explained that requiring QCPs from industry will be sometime after 2018. WSDOT's goal is get all of the department's testers WAQTC qualified by 2018. WACA asked if ACI qualifications would be recognized by WAQTC. David Jones stated yes for concrete testing. WACA indicated that ACI also addresses aggregate testing. David Jones explained what states are participating in WAQTC and what the WSDOT systems would look like. Bruce Chattin stated that WACA would like to participate in these meetings and we have very talented people within our organization and we could help. David Jones explained that currently WSDOT has two programs; Design Build and Design Bid Build and WSDOT needs them to do the same thing. Bruce indicated that WACA would like to assist in the ACI portion of this program. He also asked David to send him list of WSDOT personnel who would be interested ACI certification. David Jones indicated that would be WSDOT's Regional Materials Engineers. David Jones reminded the group that WSDOT is just looking at adopting WAQTC test methods for field testing only.*

*9/10/14 – David Jones indicated that he had not received any QCPs from WACA. Dave also had looked at Oregon DOT (ODOT) system for aggregate materials. Dave then explained that WSDOT will phase in the WAQTC system in roughly a 2 year period. Once WSDOT is compliant then Industry will need to adopt the system. Dave made it very clear that the WAQTC program is only for field testing and not for laboratories. Dave asked WACA what tests they perform to ensure quality. Do they use control charts? How is management of geology done? Are the testers qualified and is the equipment calibrated? Dave also explained that WSDOT is looking at two tier systems for QCP; Commercial Sources (high volume) and project level*

*sources (infrequent used sources). Bruce Chattin asked, "What is not working?"Dave explained some of the source variability challenges that had occur during ASA evaluations this year.Bob Raynes of Cemex explained ODOT's system and how QC testing is determined by quantities produced. Aggregate source owners use ODOT's statistical program to determine specification compliance. If the material is getting a 1.00 or greater no corrective action is required. If the material is getting less than 1.00 then corrective action is required. Dave indicated this is direction that WSDOT wants to go. Bob Raynes stated the certified tester program works; testers become more professional. There is a certified laboratory program, and Independent Assurance Inspectors (IAIs) process with ODOT. Dave indicated that WSDOT has started getting personnel WAQTC qualified and by January 2018 WSDOT will be WAQTC qualified. Allan Kramer of Lehigh NW asked if WAQTC is going to be required for concrete. Dave stated not at this time, but we could see this in the future. ACI would be acceptable for concrete tests. For now it is for aggregates only. The process will be similar to what is occurring on Design Build projects where the Contractor performs QA and WSDOT performs QV. The group asked Susan Ellis of the FHWA what has been seen nationally. Susan said they have seen a mix bag, some states have gone to contractor QA and DOT QV roles, other states still perform all testing. Rob Molohon of the WSDOT asked Susan if any states that had been using contractor QA testing have gone back to DOT QA testing. Susan stated yes. The WACA members asked Dave how WSDOT will certify their people. Dave explained that WSDOT Subject Matter Experts (SMEs) and IAIs will be certified first through WAQTC. Once the SMEs and IAIs are certified then the SMEs and IAIs will certify WSDOT technicians. Rob Shogren of Lafarge Cement asked if your laboratory is AMRL certified will this count. Dave stated no, WAQTC is intended for field testing. AMRL and CCRL are for laboratories. WACA asked Dave if you are certified in Oregon will WSDOT recognize this certification. Dave said yes, except for WSDOT's degradation test. WSDOT is going to use WAQTC where ever we can. If WSDOT wants to change a procedure then WSDOT would have work with WAQTC. Bob Raynes stated that ODOT has a two tier system for concrete. Technicians have to get certified through ACI then ODOT. Dave explained that if WSDOT modified a WAQTC test procedure the procedure will include an errata page. Dave concluded this topic with the following; we really appreciate your input. Bob Raynes stated we will provide you our QCPs.*

*6/4/14 – David Jones introduced himself to the group as the Assistant State Materials Engineer – Materials Quality and begins the discussion concerning Quality Control Plans (QCP) for both Aggregates and Concrete. The Department is going to require a QCP plans. The specification requirements for QCP's will be in the form of things that need to be included in the QCP to be acceptable. David requested that the WACA members email him at jonesda@wsdot.wa.gov with what it is that they are currently doing for Quality Control, so he can begin the process of putting a draft specification together. The Department will be adopting the Western Alliance for Quality Transportation Construction (WAQTC) program for its Tester Qualification Program and will require the materials suppliers testers are also WAQTC or ACI Qualified as part of their QCP's. It will take the Department about a year and half to two years to transition over to WAQTC. The Oregon DOT program was raised an example of program that works and should be looked.*

**Issue: Acceptance of Pumped Concrete – Bruce Chattin**

*It is well known that pumping concrete can change the air content of the concrete. WSDOT requires that sampling be conducted from the end of the delivery system, after the concrete is pumped, and leaves it to the contractor to determine how to get it there within the required specification.*

*12/3/14 – David Jones indicated that he did not want to discuss this topic since Mark Gaines from the WSDOT Construction office was not in attendance. Mark had been working with WACA on this topic. Bruce Chattin said he could bring the group up to speed on this issue. He informed the group about ACPA (American Concrete Pumping Association) program certification. Bruce briefly explained the requirements of this certification. He recommended that WSDOT require this certification for concrete pumping. Pump operators have to learn about sampling and testing concrete. Bruce Chattin stressed that the following points need to be required; Safety, Sampling, Certification, Pre-Construction meetings, and Shared responsibility.*

*9/10/14 – Mark Gaines of WSDOT handed out revisions to Section 6-02.3(10)A of the Standard Specifications and 6-2.3B of the Construction Manual (CM). This revision to Section 6-02.3(10)A will require the superintendent, foreman in charge of placing and finishing concrete, a representative from the concrete supplier, and the pump truck operator to participate in the pre-construction meeting. WACA recommended the superintendent of the truck pump company attend the pre-construction meetings. Mark then explained the guidance in 6-2.3B of the CM to the group. Bruce Chattin asked if there was a checklist type item to address concerns. Mark indicated that CM 6-2.3B has agenda requirements. Mark asked how we ensure that the pump truck meets certain quality requirements. Bruce indicated he did not find any quality standards for pump trucks. Mark and Bruce concluded this topic and stated that this item needs to be addressed by the AGC structures team.*

*6/4/14 – This item came up number one on the survey. Bruce reported that he was not been able to find any performance standards for pumping equipment. He suggested going to the AGC structures team to discuss Best Management Practices and having the pumper, concrete supplier and contractor all at a pre-pour meeting to discuss all the issues. Bruce didn't recall talking with Mark Gaines concerning the action item. David Jones agreed to ask Mark where we were with the specifications and when the next AGC Structures Team.*

*3/5/14 Mark has received no comments on his proposal from the December 11, 2013 meeting. Bob Raynes suggested a hose size requirement based on the aggregate size in the mix and thinks that ACI has a document covering this. It was also suggested to add a maintenance requirement.*

*12/11/13 – Mark Gaines presented proposed changes to WSDOT Standard Specification 6-02.3(10)A Preconstruction Meeting and to WSDOT Construction Manual Section 6-2.3B Bridge Deck Construction requiring that a representative of the pumping company attend the preconstruction meeting. Minor changes to the wording of the specification were made during the meeting. No one objected to the changes so Mark was going to take the changes to the WSDOT/AGC meeting on Friday 12-13-13 and implement them if they are in agreement.*

*Bruce Chattin proposed adding language requiring the pumping equipment to be in "good working order". Kurt stated that WSDOT would need an enforceable standard and asked if there was one available. No one knew of such a standard. WACA will propose spec language to enforce "good working order".*

**Issue: WSDOT Standard Specification 1-06.3 Manufacturer's Certification of Compliance – Greg McKinnon**

*Greg McKinnon of Stoneway Concrete inquired if the "corporate official" part of this specification applies to concrete.*

The Manufacturer's Certificate of Compliance must identify the manufacturer, the type and quantity of material being certified, the applicable Specifications being affirmed, and the signature of a responsible corporate official of the manufacturer and include supporting mill tests or documents. A Manufacturer's Certificate of Compliance shall be furnished with each lot of material delivered to the Work and the lot so certified shall be clearly identified in the certificate."

*12/3/14 – David Jones indicated that a draft revision has been approved by the HQ Construction Office and submitted to the FHWA for review. He said he was not sure if this revision would make the cut-off date for the January amendments.*

*9/10/14 – Dave indicated there has been a drafted revision by Mike Polodna and it is on his desk, but he has not had the time to review it yet.*

*6/4/14 – This item came up number two on the survey. Mike Polodna and David Jones reviewed CalPortland's Dupont Plant with Kevin Wolf and Tamson Omps. Based on that review Mike revised the draft specification and included in the handout materials. The next step is to move the revised specification up through the Construction office for approval and inclusion in the specifications. It was decided to move it forward.*

*3/5/14 - Kevin Wolf set up a review of the Dupont concrete plant operation for March 21, 2014. WSDOT and industry representatives will attend.*

*12/11/13 – Observe operation of a concrete plant in Dupont to determine how to proceed.*

***Action Plan: Mike will forward the specification on through David for review and final approval by the Construction Office.***

**Issue: Proposed Changes to the Pervious Concrete Specification – Bruce Chattin**

*12/3/14 – Bruce Chattin stated that Mark Russell of WSDOT's Pavement management group is working with the APWA and this issue is no longer a topic for this group.* ***This item will be removed from the agenda.***

*9/10/14 – Bruce Chattin has suggested some revisions the specification requirements. Dave Jones asked Bruce to provide what they have drafted so that he can present it to WSDOT's pavement management group.*

*6/4/14 – This item came out third out of six on the survey list. At this point the Cities and Counties are using pervious concrete more than the state. Tamson Omps of CalPortland suggested that City of Auburn as having a good specification. They have a maximum W/C ratio, maximum aggregate size voids in the mix design per ASTM C 29. The flow test has been used. The Quality Acceptance tests are Unit weight and cores for depth. Compressive strength testing is reported to be problematic, as a result of the load distribution on the surface of the pervious concrete.*

*3/5/14 – WSDOT has not received the proposed changes.*

*12/11/13 – Bruce will send proposed changes to Kurt.*

**Issue: Proposed Changes to WSDOT Concrete Cylinder Test Reports – Craig Matteson**

*Adding the concrete producer's truck ticket number to the WSDOT transmittal and test report would greatly simplify matching contractor testing to WSDOT testing in the case of low breaks or other issues.*

*12/3/14 – David Jones reported that test reports have been updated to include certification number of the concrete delivery ticket.* ***This issue has been addressed and will be removed from the agenda.***

*9/10/14 – WACA asked if WSDOT could indicate the ticket number on the test reports, this way they can compare their data with WSDOT's. Dave stated WSDOT will do this.*

***Action Plan: Rob Molohon will revise the transmittal for concrete cylinders to include an input field for the truck ticket number.***

*3/5/14 – Craig Matteson proposed that this be a high priority issue.*

**Issue: Type IL Cement**

*12/3/14 – Mike Polodna presented the revisions to Section 9-01.2(4) Blended Hydraulic Cement of the Standard Specifications. This section has been expanded to include; Type IP(X)(MS), Type IS(X)(MS), Type IT(PX)(LY), Type IT(SX)(LY), and Type IL(X). Mike Polodna explained the reason for these revisions. Monica Jones of Lafarge Cement indicated some concerns with these revisions. She explained that they were unable to get this material to pass the requirements indicated in the revision. Monica also explained there has been some additional research performed in this area. Mike Polodna asked if she could send this information to him. Monica reported having received a text from Rob Shogren of Lafarge in which he stated that Lafarge was Ok with the proposal.*

*9/10/14 – Rob Shogren of Lafarge Cement indicated this cement can be used in high sulfate areas in Washington State. Mike Polodna stated the current cements specified are somewhat sulfate resistant. Bruce Chattin stated that WSDOT holds cement to a higher standard. Dave Jones explained that WSDOT simply enforces the ASTM requirements. Dave asked if Type IL cement is a replacement for Type I and II. It appears to be a lesser quality than Type I or II. WACA indicated that this was an incorrect statement. At this time WSDOT has not decided to incorporate Type IL into the Standard Specifications.*

*6/4/14 – Fifteen to eighteen states allow.*

**Issue: 4 X 4 Concrete Mixes – Peter Balick**

*Peter stated that when using 4 X 4 concrete mixes on panel replacements the mix sets up so quickly that there is no time to have both the contractor and WSDOT do much testing. It was suggested that a test panel could be required and that these issues could be addressed in a special provision.*

*12/3/14 – David Jones asked the group is this a proprietary concrete mixture? If so should this material be listed under Section 9-20 Concrete Patching Material, Grout, and Mortar of the Standard Specifications? WACA stated there is no consistency in measuring the air. David Jones asked if this material could handle the freeze thaw durability in accordance with ASTM C 666. (*Note: 4 x 4 Concrete Mixes have little or no air.) *David Jones asked the group has this material been evaluated under Section 9-20 of the Standard Specifications. The difference of materials specified in Section 5-01 Cement Concrete Pavement Rehabilitation and Section 9-20 is material under Section 5-01 require testing and materials listed under 9-20 that are listed on the Qualified Products List are accepted in accordance with Section 1-06.3 Manufacturer's Certificate of Compliance.*
*WACA explained since we are not doing any concrete pavement at this time we are not willing to submit this material through the QPL process to see if it would meet the requirements of Section 9-20.*

*9/10/14 Dave Jones indicated we need to meet with the American Concrete Pavement Association NW/WSDOT about this topic.*

*6/4/14 – Michael Craig, Nor'West did not want to take this off the agenda as it is an issue needs to be addressed. David Jones stated that this issue is on his desk to address and agreed to keep it on the agenda and report the progress. A general discussion occurred David mention the possibility of addressing it through mix design data for ASTM C 666. It was asked what durability level would be used and it was suggested that use a durability factor of 50%. It was also suggested that ACI would allow for a 1% reduction in air content if you have a compressive strength at 28 days of 6,000 psi. It was suggested that we didn't want to raise the compressive strength for panel replacement jobs.*