WACA/WSDOT Meeting
Minutes
For Wednesday, September 10, 2014

Day/Time: Wednesday, September 10, 2014 at 9:30 AM – Noon
Location: at WSDOT HQ Mats Lab, Crimson Conference Room (Upstairs across from the entrance)

In attendance:

David Jones, WSDOT	Kevin Wolf, CalPortland	Rob Shogren, Lafarge Cement
Mark Gaines, WSDOT	Dave Germier, CalPorland	Bob Raynes, Cemex
Mike Polodna, WSDOT	Susan Ellis, FHWA	Craig Matteson, Oldcastle CPM
Rob Molohon, WSDOT	Tom Weist, Oldcastle Pre-cast	Allan Kramer, Lehigh NW
Garrett Webster, WSDOT	Dave Burg, Ash Grove Cement	Bruce Chattin, WACA
Michael Craig, Concrete Nor'West		

Next WACA Meeting Date:
Wednesday, December 3, 2014 at WACA's Office in Des Moines, 9:30 AM – Noon

Future WACA Meetings Dates:
Wednesday, March 4, 2015 at WSDOT HQ Mats Lab, Crimson Conference Room, 9:30 AM – Noon
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

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

New Business:

Question: How do you determine maximum Stockpile height? David Jones

9/10/14 – David Jones conducted introductions. He then asked the group about the restriction of stockpile height of 24 feet as indicated Standard Specification Section 3-02.2(6) and has it had any impact on the members of WACA. WACA members reported the specification is not for them, but for stockpiling on WSDOT construction projects. A WACA member then explained how they stockpile aggregate materials. This is not an issue with WACA. Stockpile heights are based on the working space of the mine and the processes used in the manufacturing of aggregate materials.

9-03 Specification Changes: *The specifications have deleted an allowance for variation above and below the specification limits. This allowance is no longer required as the statistical program will take into account variations such as this. Deleted the allowance for coarse aggregate blends from other sizes as they are now covered under Section 9-03.1(5) combined aggregate gradations.*

9/10/14 – David Jones explained the reason for this specification revision and the adoption of statistical acceptance of aggregate materials.

Use of recycled concrete materials – *we need to find a way to use recycled materials in 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 eventhough 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. Mark Gaines 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:

Quality Control Plans – David Jones

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

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 the plan is to get WSDOT personnel WAQTC qualified by January 2018. 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 testers. 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.

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.

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".

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."

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.

Proposed Changes to the Pervious Concrete Specification – Bruce Chattin

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.

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.

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.

Type IL Cement

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 / II. It appears to be a lesser quality than Type I / II. WACA indicated that this was an incorrect statement. Dave asked for any data was available. WSDOT still has concerns and at this time has not decided to incorporate Type IL into the Standard Specifications.

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

Standard Specification 9-23.8 Waterproofing –Jason Brewer/Scott Diloreto

Are changes needed to this specification? Should WSDOT be specifying ASTM C 1585 instead of ASTM C 642?

9/10/14 – Dave asked the group if they had any comments on this topic. The group had no comments. This topic will be removed from the next agenda.

6/4/14- This one came out of the survey as the lowest priority. There was a brief discussion of the issue. The Department is not interested in utilizing a European test procedure and asked if there were other National Standards.

3/5/14 – Kurt Williams stated that the proposed specification DIN 1048 is not usable. Jason Brewer will have a discussion with Prakash Surali to see if CRD C48 can be used instead.

12/11/13 – Mike and Scott have worked on the spec. Mike still needs to review the test procedure proposed by BASF (DIN 1048 Part 5).

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.

9/10/14 Dave Jones indicated that the American Concrete Pavement Association NW/WSDOT had not met yet, the ACPANW/WSDOT meeting is scheduled for October 6, 2014.

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.

Action Plan: David Jones will keep the group informed.

Statistical Acceptance of Concrete Aggregates – Bruce Chattin

Similar to previous attempts to apply statistical analysis to acceptance to concrete products delivered, aggregates will have the same unequal applications specifically, with sampling, risk and reward to the producers (all and none) and any bonuses are paid to the contractor not to supplier that earned them.

9/10/14 – Bruce Chattin asked if this is about risk or reward. Steve Wittstock concern from 6/4/14 was brought up again. WACA indicated that on a WSDOT contract the contractor got an incentive on the concrete Section 5-05, but received a penalty on the aggregate evaluated under Section 3-04 of the standard specifications. Bruce stated this is why WACA is concerned with QCPs. WACA indicated the No. 16 sieve was out by 0.4 % from specification limit. Rob Molohon asked why was this reported and recorded to the 0.1 accuracy when it should have been reported to the whole number. Dave Jones asked WACA to give him the contract number so that he could investigate this concern. Concrete suppliers are very concerned since they don't receive a bonus (incentive) but they do get the penalty (disincentive) from the contractor.

6/4/14 – Steve Wittstock pointed out it is possible to get a bonus for concrete pavement under Standard Specification section 5-05 (air content and compressive strength), only to have it taken away under aggregate evaluation in section 3-04. David suggested that the testing of concrete aggregates might also fall under our new QCP program for aggregates.

Tabled Items

Trial Batches for Concrete Overlay Mixes in WSDOT 6-09.3(3)B & C – Craig Matteson

The original concern about trial batches has been resolved. The remaining issue is whether a slag overlay will be included in the specifications.

9/10/14 – This topic is no longer being discussed.

3/5/14 Kurt Williams stated that the draft specification has been sent to the bridge office. Mark Gaines stated that the bridge office is looking at performance specs for all of their overlay mixes. Mark said that there are no overlays scheduled for 2 years, so this is a low priority for them.

12/11/13 – Kurt discussed this with the bridge office and they are going to performance specs for the overlay mixes. Rob Shogren will propose tests to include in the performance specs. A permeability limit will need to be included. Mark Gaines inquired about bond testing and will investigate if this should be included. Kevin Wolf said that ODOT used to run bond testing and no longer does so.

Action Plan: Action is required by the Bridge Office to change overlay mixes to performance specifications. Table this issue until

Other Topics

Prepackage Concrete for Patching

9/10/14 – Mark Gaines briefly discussed the specification revision for prepackage concrete for patching. WACA would like an opportunity to review this revision.

Self-Consolidating Concrete

9/10/14 – Mark Gaines reported that Bridge and Structures has seen successful use of this material. Bridge is comfortable with material and is in the process of drafting specifications for its use, but these specifications will not meet the Jan 2015 deadline. Mark brought up the following concerns with this material; form pressure, and segregation of the concrete material in long pours. Mark suggested that mock ups may be required. WACA asked if this material will be used in cast-in-place applications. Mark stated yes.

Performance Concrete

9/10/14 – Mark Gaines reported that WSDOT is looking at expanding its use and we are looking at different categories and it will be used in cast-in-place applications.

Mix Designs

9/10/14 – Mark Gaines stated we rely on performance for the 4000D mix, should concrete mix designs be evaluated yearly? WACA explained that it is very expensive and timely to evaluate concrete mix designs. Dave Jones explained that, in the future, WSDOT will looking at listing concrete mix designs on the QPL. WACA asked when would a concrete mix design be considered changed . Dave stated when the water cement ratio increases, sources change or mix ingredients change. Mark asked what is the costs to perform shrinkage tests and at what frequency should this test be performed. Mark also asked if we can do away with modulus of elasticity and scaling. Mark stated that Bridge and Structures is looking at existing structures that did not have performance concrete compared with structures that had performance concrete and once we get our results we will report to WACA. WACA asked if the WSDOT has looked at the impact that de-icing chemicals may have on bridges.