WAQTC QAC COMMITTEE MEETING MINUTES

LEADER: Garth Newman, ITD **FACILITATOR:** Desna Bergold, DB Consulting	**DATE:** JANUARY 26 - 30, 2015 **TIME:** 1:00 TO 5:00 PM MON, 8:00 AM TO 5:00 PM TUES. THRU THUR., 8:00 AM TO 12:00 NOON FRI **LOCATION:** RENO, NV
ATTENDEES: Garth Newman, ITD, QAC Chair Sean Parker, ODOT Gilbert Arredondo, UDOT Linda Hughes, WSDOT Richard Giessel, AKDOT & PF Misty Miner, MDOT Christopher P. Russell, CDOT Megan Marshal, WFL-FHWA Brad Neitzke, WFL-FHWA	**ABSENT:** Brian Legan, NMDOT

MEETING ITEMS:

1. Report from Executive Committee meetings – Garth Newman

REVIEWS OF AASHTO REVISIONS AND QAC PROPOSED REVISIONS FOR EACH PROCEDURE

2. Revisions to Embankment/Base and In-Place Density Test Methods
    a. T 255/T 265, Moisture Content of Aggregate and Soil
    b. T 99/T 180, Moisture/Density Relations
    c. T 272, Family of Curves
        i. Uses a single moisture density point to confirm an existing curve – Garth
        ii. Uses a single moisture density point to determine a new maximum dry density and optimum moisture from a family of curves – Garth
        iii. The Annex describes how to develop a family of curves. – Garth
    d. T 85, G_{sb}
    e. T 224, Coarse Particle Correction
    f. T 310, In-place Density and Moisture Content of Soil-Aggregate
    g. Other Embankment issues
        i. Developing a family of curves – teleconference
            1. Uses a single moisture density point to confirm an existing curve – Garth
            2. Uses single moisture density point to determine a new maximum dry density and optimum moisture from a family of curves – Garth
            3. The Annex describes how to develop a family of curves. – Garth
3. Revisions to Concrete AASHTO Test Methods
    a. R 60, Sampling Concrete
    b. T 309, Temperature
    c. T 119, Slump
    d. T 152, Air Content
        i. Does not require tapping sides of mold after vibrating – Misty
        ii. SCC – Garth
    e. T 121, Density
        i. Does not require tapping sides of mold after vibrating - Misty
    f. T 23, Test Specimens
        i. Does not require tapping sides of mold after vibrating for cylinders but does for beams –

Misty
ii. SCC – Garth

4. Revisions to Aggregate AASHTO Test Methods
    a. T 2, Sampling Aggregate
    b. T 248, Reduction
    c. T 225, Moisture Content of Aggregate
    d. T 11/T 27, Sieve Analysis
        i. Mechanical washer – as in T 30 – July item
    e. T 176, Sand Equivalent
    f. T 335, Fractured Particles
5. Revisions to Asphalt AASHTO Test Methods
    a. T 168, Sampling HMA
    b. R 47, Reducing
    c. T 329, Moisture Content
    d. T 308, Asphalt Content
        i. Temperature range for ignition furnace ±5º C, ±8º F – Garth
        ii. Revision in 4.1 and correction factor terminology – Rich
    e. T 209, G_{mm}
    f. T 166, G_{mb}
        i. 'Gas free' in distilled definition – Garth
    g. T 40, Sampling Bituminous Material
    h. T 30, Sieve Analysis
        i. T 27 / T11 alternative - Rich
    i. T 312, Gyratory
    j. R 35, Superpave Volumetric Design
6. Other AASHTO revisions:
    a. M 85, Portland Cement – Addition to 5.1.3 addressing reporting of limestone
    b. SCC issues – Garth
    c. T 113, Lightweight Pieces – Sean

WAQTC ISSUES

7. Archiving historical documents / list of documents / Garth's additions – July meeting
8. Intelligent compaction – Richard
9. Vibratory Standard Density / Humphres – Rich
10. Developing a Sampling Qualification – July Meeting
11. Style Guide and distinction between FOP and SOP – July meeting
12. Tracking of revisions proposed to AASHTO – Garth
13. AASHTO R 25; Standard Practice for Technician Training and Qualification Programs, proposed revisions – Garth
14. Process for updating training materials – Garth
15. Qualification for exam proctor trainers; MDT Examiner/Proctors Training Plan – Teleconference
16. File naming conventions – Desna
17. Vice Chair – Garth

Report from Executive Committee meetings		
Report	Garth Newman, Chair, reported on the last Executive Committee (EC) teleconference. Desna Bergold posted the minutes of the teleconference on the screen for reference as Garth talked about the meeting.	
Vice Chair	Garth proposed installing a Vice Chair for the QAC committee and noted that the EC has approved the motion. The QAC would nominate someone for approval by the EC. Garth asked everyone to think about it for further discussion. *This will be discussed in July. Desna will include it on the agenda.*	**DESNA BERGOLD**
AASHTO Revisions		
Embankment		
T 265	*T 265; Laboratory Determination of Moisture Content of Soils,* was developed around procedures requiring very small samples. The test method requires drying in a forced draft oven. Garth wanted to discuss whether this is necessary for drying samples for moisture / density curves (T 99 / T 180) and sieve analysis (T 27) where the samples are much bigger and could be soil/aggregate or fine and coarse aggregate mixtures. Garth asked each member how their agencies dry samples for these procedures. Sean Parker, ODOT, says his agency allows the speedy moisture (T 217) for one-point determination (T 272), but requires T 265 for full curves. WSDOT and MDT also dry the samples in the oven (T 265). Garth said that Engineers at ITD would like to use *T 255, Total Evaporable Moisture Content for Aggregates,* to dry samples for these tests. Garth thinks perhaps another test method should be developed, a hybrid of T 255 / T 265. The group agreed this is a good idea. Garth suggested that a WAQTC Test Method (TM) be developed for eventual AASHTO consideration. *Garth will work on developing a WAQTC TM.* Revisions to T 265 were proposed to AASHTO in 2014. The AASHTO Tech Section requested some changes to the over-night and constant mass language. Garth presented these revisions to the group. The revised proposal will be on concurrent ballot. *No new proposed revisions.*	**GARTH NEWMAN**

T 99/T 180	Revisions to *T 99; Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb),* and *T 180; Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop,* were proposed in 2014. The revisions include adding *T 224; Correction for Coarse Particles in the Soil Compaction Test,* as an annex (mandatory) to T 99 and T 180. This has been balloted by AASHTO. James Williams, Tech Section (TS) Chair, informed Garth that the balloting was favorable. *No new proposed revisions.*	
T 224	*T 224; Correction for Coarse Particles in the Soil Compaction Test* See T 99 / T 180 above. *No new proposed revisions.*	
T 272 and Developing a family of curves	*T 272; Family of Curves—One-Point Method,* does not adequately address developing the family of curves. It discusses how to perform a one-point determination and compare to a family that has already been generated. The Appendix (non-mandatory) to T 272 has general instructions for developing a 'family' but does not adequately define the parameters. Sean has been working on a WAQTC FOP or SOP for the library, following the appendix but giving more direction. After discussion the group decided a Standard Practice (R method) was needed for developing a family of curves. Using the AASHTO procedure as a starting point, the group drafted the Standard Practice. *The new R XX will be presented to the EC for approval and submittal as an AASHTO Standard Practice.* The committee then revised the original T 272. The proposal is a simplified Test Method to cover the procedure for forming a one-point determination and then references the new R XX for the family graph. *Revisions to T 272 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN** **GARTH NEWMAN**
T 85	*T 85; Specific Gravity and Absorption of Coarse Aggregate* *No proposed revisions at this time.*	

T 310	*T 310; In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)* Cole Mullis, ODOT, was on a task force concerning the 'calibration' blocks. Sean and Garth will follow up with Cole on this topic. *No proposed revisions at this time.*	
Concrete		
R 60	*R 60; Sampling Freshly Mixed Concrete* *No proposed revisions at this time.*	
T 309	*T 309; Temperature of Freshly Mixed Hydraulic Cement Concrete* Discontinued, WAQTC proposed a full standard in 2014. *No new proposed revisions.*	
T 119	*T 119, Slump of Hydraulic Cement Concrete* *No proposed revisions at this time.*	
T 152	*T 152; Air Content of Freshly Mixed Concrete by the Pressure Method* Misty Miner, MDT, pointed out that the procedure does not address tapping the sides of the air meter bowl when consolidating using a vibrator. This is included in T 23. The group agreed that tapping the sides should be added. Garth also proposed including a section addressing 'Placement of Self-consolidating Concrete' because filling the air-meter bowl using self-consolidating concrete is distinct and not covered. The section was added to the proposed revisions. *Revisions to T 152 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
T 121	*T 121; Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete* As is in T 152, this procedure does not address tapping the sides of the measure when consolidating using a vibrator. This procedure also needs to address self-consolidating concrete. The same language for both was included as proposed revisions.	

	Revisions to T 121 will be presented to the EC for approval and submittal to AASHTO.	**GARTH NEWMAN**
T 23	*T 23; Making and Curing Concrete Test Specimens in the Field* This procedure required tapping the outsides of the mold 'at least 10 times,' other test methods state '10 to 15 times.' It was agreed to propose using '10 to 15 times' for consistency. Self-consolidating concrete also needed to be addressed in this procedure so a section was added. The procedure does not address putting the cap on the cast cylinders although the mold is required to have one according to M 205. Language addressing placing the cap on the cast cylinder will be proposed. *Revisions to T 23 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
Aggregate		
T 2	*T 2; Sampling of Aggregates* The QAC is still concerned about the status of this 'C' method. For the benefit of the new members, Garth explained the types of AASHTO methods and that a 'C' method belongs to ASTM. There is a danger that AASHTO will discontinue T 2 as it did T 309. At the AASHTO Subcommittee on Materials (SOM) meeting in 2014 the EC gave a letter to the Tech Section (TS) chairs with a list of the methods that are of concern. The status of these methods is unknown. *Garth will follow up with the Executive Committee.* *No proposed revisions.*	**GARTH NEWMAN**
T 248	*T 248; Reducing Samples of Aggregate to Testing Size* This was revised in 2014 as per WAQTC proposal. *No new proposed revisions.*	
T 11	*T 11; Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing*	

	The mechanical washing equipment is not listed in the apparatus section but Note 1 indicates it may be used. Propose adding the equipment to the apparatus section. T 30 has a time limit for use of the mechanical washer. The group discussed and decided not to include a time limit because of variables in materials. It was decided to state that the washer should be stopped when the water is clear. *Revisions to T 11 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
T 27	*T 27; Sieve Analysis of Fine and Coarse Aggregates* *No proposed revisions.*	
T 176	*T 176; Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test* Garth said that ITD has concerns about thoroughly mixing the working solution. It has been shown that poorly mixed working solution will affect test results. Garth proposed a note with a method to mix the stock solution. The method of mixing was recommended by a chemist in ITD. There is concern that the recommended verbiage is too prescriptive and there would be resistance from AASHTO. Perhaps if more information were presented with the proposed revision it would be more acceptable. Garth will ask ITD's chemist for a white paper to support the mixing method. *Proposal withdrawn after the meeting. No further revisions proposed.*	
T 335	*T 335; Determining the Percentage of Fracture in Coarse Aggregate* *No proposed revisions.*	
Asphalt		
T 168	*T 168; Sampling Bituminous Paving Mixtures* This is a 'C' method. See T 2 for background of 'C' methods. *Garth will follow up with the chair of TS 2C.* *No proposed revisions.*	**GARTH NEWMAN**

R 47	*R 47; Hot Mix Asphalt (HMA) to Testing Size* *No proposed revisions.*	
T 329	*T 329; Moisture Content of Hot Mix Asphalt (HMA) by Oven Method* The proposal to AASHTO in 2014 was reviewed. *No proposed revisions.*	
T 308	*T 308; Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method* In the apparatus section for the ignition furnace it states "The convection-type furnace must be capable of maintaining the temperature at 578º C (1072º F)." This does not allow for temperature fluctuation and creates an issue with standardization. Garth proposed a temperature range be included, 578 ±5º C (1072 ±9º F), the same range allowed in A2.8.1 of this procedure. This range is proposed throughout the test procedure. Rich Geissel, AKDOT, withdrew his topic as it relates to the WAQTC FOP and will be on the July agenda. *Revisions to T 308 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
T 209	*T 209; Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA)* Major revisions were proposed in 2014. *No new proposed revisions.*	
T 166	*T 166; Bulk Specific Gravity (G_{mb}) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens* The definition of bulk specific gravity in this test method is "the ratio of the mass of a unit volume . . . to the mass in air of an equal volume of gas-free distilled water." It has been inferred from this statement that gas-free distilled water must be used in the procedure. T 84, T 85, and T 100 have similar definitions. A note was proposed that tap water may be used for routine testing but that distilled or demineralized water must be used for referee or disputed testing.	

	The same revision may be proposed in the future for the other mentioned test methods. *Revisions to T 166 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
T 40	*T 40; Sampling Bituminous Materials* *No proposed revisions.*	
T 30	*T 30; Mechanical Analysis of Extracted Aggregate* *No proposed revisions.*	
T 312	*T 312; Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor* requires evaluation of the molds every 12 months or 80 hours of use. Garth wanted to know if this frequency had posed a problem. Not many of the agencies have noticed 80 hours of use in less than a year. *No proposed revisions.*	
R 35	*R35; Superpave Volumetric Design for Asphalt Mixtures* *No proposed revisions.*	
OTHER AASHTO REVISIONS		
M 85	*M 85; Portland Cement*, annex A1 is *Calculation of Potential Cement Phase Composition*. Rich attempted to use the equations to check a mill test report and found that they are incomplete. The equations do not account for the presence of limestone or inorganic processing addition. The adjustment equation is absent. Rich has discussed this with a representative from AASHTO and the correction is being proposed at that level. The EC should be aware of this for the SOM and hopefully support a member state in this proposal. *M 85 Annex A1 will be on the EC Spring meeting agenda.*	**DESNA BERGOLD**
SCC issues	Revisions to T 152, T 121, and T 23 will be proposed to include language specific to self-consolidating concrete.	

T 113	*T 113; Lightweight Pieces in Aggregate* Sean has found that ODOT labs have had problems with this test method and it appears there are many different interpretations in use. Sean drafted proposed revisions, and the committee worked on them. The proposed revisions include: removal of the kerosene and tetrabtromoethane mixture for a heavy solution, additional language in sample preparation to address fine and coarse aggregate, including decanting as an option for fine aggregate, and creating the 'steps' for the procedure. *Revisions to T 113 will be presented to the EC for approval and submittal to AASHTO.* Post meeting decision: *Change the name to 'Lightweight Particles in Aggregate"*	**GARTH NEWMAN**
WAQTC Issues		
Archiving historical documents	Garth is inventorying the documents in his possession and Howe Crockett, WFL, sent Garth additional documents in file boxes. Garth will develop a list of the documents and identify their form (hard or electronic). *Garth will bring a list to the July meeting.*	**GARTH NEWMAN**
Humphres	Rich presented some of his information concerning the Humphres curve used to determine a dry density standard. He has found evidence that in some cases the curve may be predicting high dry densities. He recommends performing the compaction portion using a blended material as well as the end points of coarse and the fine to compare to the curve model. Garth, Linda Hughes, WSDOT, and Brad Nietzke, WFL, agreed and they will pursue the suggestion. *Garth, Linda, and Brad will work together on the blended material suggestion.*	**GARTH NEWMAN** **LINDA HUGHES** **BRAD NIETZKE**
File naming conventions - Desna	Desna presented a numerical folder / file naming convention that will facilitate creating the PDF manuals. Garth pointed out that there should be an underscore between the number and the rest of the file name. The group thought this was a good idea. *The naming convention will be implemented and revised in the Style Guide.*	**DESNA BERGOLD**
R 25	Garth proposed revisions to *R 25; Standard Practice for Technician Training and Qualification Programs*. The revisions	

	include adding references to the Appendixes and corresponding references in the reference section. Also updating state highway agencies (SHA) to the current usage in Code of Federal Regulations: State transportation departments (STD). Finally adding subordinates as well as supervisor to *Examination Controls and Integrity* section. *Revisions to R 25 will be presented to the EC for approval and submittal to AASHTO.*	**GARTH NEWMAN**
Tracking revisions	Garth had previously suggested that the WAQTC manual updates include errata with only the in-line revision marks. As this is an attribute in Word and not a document specific selection, the file would need to be created and printed (hard or PDF). As everyone receives full errata files it was decided the additional file was unnecessary. *No change to the files.*	
Sampling Qualification	Sean asked in July if anyone would be interested in only developing a sampling qualification. Misty explained that MDT considered this and decided that training a technician to sample material without training them on what the sample will be used for diminished the importance of obtaining a sample correctly. Others agreed. The group decided that they were not prepared to support this as a WAQTC qualification at this time. *A Sampling Qualification will not be pursued at this time.*	
Qualifications for trainers/proctors	Misty developed a trainer/proctor guide that was shared during the teleconference. The guide has since been approved for use in MDT. Garth said ITD also has guides for performance examiners. *Garth and Misty are going to work together to combine their programs for a general WAQTC plan.*	**GARTH NEWMAN** **MISTY MINER**
FOP v SOP	The need to define the difference was driven by the FOP library and possible inclusion of an SOP for developing a family of curves. As it was determined to develop an R method for AASHTO, the need for the definitions in the Style Guide is not urgent. *Topic was tabled at this time.*	
Process for	Garth pointed out there are different ways to propose revisions	

updates	to the committee. In this meeting there were revisions that were presented with corrections drafted and revisions that were presented as issues that should be resolved but without draft corrections. The preference is that the proposed corrections be drafted and if possible circulated before the meeting. Proposed revisions to the WAQTC training materials should be presented on the short form. When proposing revisions to AASHTO methods, enough lead time to discuss the proposal with each agency's subject matter experts would be helpful when possible. *Proposed revision will be drafted and distributed before the meetings when possible.* Garth also discussed that the period for review after the revisions are made to the WAQTC training materials from the July meeting is to verify the revisions are accurate. Linda suggested that QAC member(s) be assigned to review specific portions so that everyone is not expected to review the entire package given the time constraints at that time of year. *Sections of the WAQTC training materials revisions will be assigned at the end of the July meeting.*	**QAC COMMITTEE** **QAC COMMITTEE**
	During the discussion of AASHTO revisions proposed in previous years, there was concern that the QAC does not get enough information to follow the proposal through the process. Desna tracks the proposals on a spreadsheet through the SOM meeting but after that she does not have access to the balloting. Garth offered to follow up with the EC members who champion the proposals to the Tech Section. *Garth will follow up on the tracking spreadsheets.*	**GARTH NEWMAN**