WAQTC QAC COMMITTEE MEETING MINUTES

CHAIR: SEAN PARKER, ODOT

VICE CHAIR: MISTY MINER, MDT

COORDINATOR: DESNA BERGOLD, D B CONSULTING

DATE: JULY 15TH THROUGH THE 19TH, 2019

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: ANCHORAGE, ALASKA

ATTENDEES:

SEAN PARKER, ODOT

MISTY MINER, MDT

GILBERT ARREDONDO, UDOT

CHRISTOPHER RUSSELL, CDOT

DAN GETTMAN, AKDOT & PF

KEVIN BURNS, WSDOT

STEVE TAYLOR, ITD

DESNA BERGOLD

ABSENT:

BRIAN IKEHARA, HDOT

MEETING ITEMS:

REVIEWS OF AASHTO REVISIONS AND QAC PROPOSED REVISIONS FOR EACH PROCEDURE

1. Revision to Embankment/Base and In-Place Density Field Operating Procedures
    a. T 255/T 265, Moisture Content of Aggregate and Soil
        i. Fix numbering on PowerPoint - Misty
    b. T 99/T 180, Moisture/Density Relations
        i. Correct Step 8 to reference Step 7.
        ii. AASHTO – added extruder language
    c. R 75; Developing a Family of Curves
    d. T 272, One-Point Method
        i. Correct Step 8 to reference Step 7.
        ii. Performance Exam for T 99 Method – correct numbering – Garth
    e. T 85, G_{sb}
    f. Humphres
    g. T 310, In-place Density and Moisture Content of Soil-Aggregate
        i. Gauge calibration frequency – Chris
        ii. AASHTO – removed requirement to report date of last calibration
        iii. Calculation example formatting – Desna
    h. T 355, In-place Density of Asphalt Mixtures
    i. Exams
    j. PowerPoint
2. Revision to Concrete Field Operating Procedures
    a. TM 2, Sampling Concrete
        i. R 60 and TM 2 comparison - Misty

b. T 309, Temperature
    i. Replace timer - Winter
c. T 119, Slump
    i. Include the 2 ½ time limit in PowerPoints – Dan
    ii. Note 1 shouldn't be a note – Dan
    iii. Replace timer – Winter
    iv. Rewrite Step 12 second paragraph in active voice - Desna
d. T 121, Density
    i. Step 2 – it appears this must be done every time – Misty
    ii. 1 in. v 1 ½ in. – Misty
    iii. Note 2 shouldn't be note – Desna
    iv. Replace graphics – Winter
    v. AASHTO Revision
        1. New date
        2. Revised vibrator requirement (WAQTC proposal)
e. T 152, Air Content
    i. Note 2 shouldn't be note – Desna & Dan
    ii. Step 23, how many times – Dan
    iii. Step 23, should 'around the perimeter' be struck – Desna
    iv. Add standardization of measure to the PR – Kevin
    v. AASHTO revisions
        1. New date
        2. Revised vibrator requirement (WAQTC proposal)
f. T 23, Test Specimens
    i. Remove 'and Specimens' from Apparatus – Desna
g. Exams
    i. Exam 1, Q 15, more than one correct answer – Dan
    ii. Exam 2, Q 10, reword? – Dan
    iii. Exam 2, Q 22, PowerPoint doesn't cover the correct answer – Dan
    iv. Exam 3, Q 6, replace question – Dan
h. PowerPoint

3. Revision to Aggregate Field Operating Procedures
a. R 90, Sampling Aggregate Products
    i. Example of Nominal Size is in Student but not Short - Desna
b. R 76, Reduction
    i. Check for effective reduction requirement – Kevin
c. T 255, Moisture Content of Aggregate
d. T 11/T 27, Sieve Analysis
    i. Consistent use of terms – Garth
    ii. Performance Exams – revisions to match FOP – Garth
    iii. Example table within margins – Winter
e. T 335, Fractured Particles
f. T 176, Sand Equivalent
    i. Working solution – needs to be clarified – Garth
g. Exams
    i. Ratio split formula not provided – Garth, Kevin
    ii. Questions ask for percent passing, correct answer was reported percent passing – Garth, Kevin
    iii. Exam gradation template does not have same format as examples in book – Garth
h. PowerPoint

4. Revision to Asphalt I Field Operating Procedures
    a. Basics – HMA to Asphalt Mixtures – Desna
    b. ~~T 168~~ R 97, Sampling Asphalt Mixtures ~~HMA~~ (7/1)
        i. Discard first shovelful in Auger Sampling – Misty
        ii. Change Step 2 of Attached Sampling Device to read 'Pass the container twice through and perpendicular to the stream of material.' – Dan
        iii. Change 'as vertically as possible' to 'vertically' – Dan
        iv. Method 1 Plate Method change 'secure with a nail' to 'secure with nail or other acceptable means' – Dan
    c. R 47, Reducing
        i. Quartering sub steps – Garth
        ii. Step 7 of Incremental Method – add 'by either' like Step 6 – Garth
        iii. Performance Exam – Quartering Step 1 – match FOP – Garth
        iv. Refer to Step 4 for remixing – Garth
        v. Step 6b, straight edge full width of loaf – Kevin
    d. T 329, Moisture Content
        i. Should Note 3 be required? – Dan
        ii. Allow infrared thermometer and include in apparatus – Kevin
    e. T 308, Asphalt Content
        i. Cooling sample and basket assembly to room temperature – Kevin
        ii. Performance exam
            1. Step 5 doesn't make sense – Kevin
            2. Missing step after 5, total sample and assembly step
    f. T 209, G_{mm}
        i. AASHTO revised according to WAQTC's rewrite
    g. T 166, G_{mb}
        i. Add Constant mass by Vacuum on Performance Exams – Garth, Kevin
        ii. Constant Mass – FOP does not read the same as the AASHTO (less than 0.05 percent v. more than 0.05 percent) – Garth, Kevin
    h. R 66, Sampling Asphalt Material
        i. Reverse order of containers and procedure – Desna
    i. T 30, Sieve Analysis
        i. AASHTO – adopted Annexes
    j. Exams
    k. PowerPoint
5. Revision to Asphalt II Field Operating Procedures
    a. T 312, Gyratory
        i. AASHTO
            1. Changed the language concerning heating plates
            2. Changed how the mole is loaded into compacter – manufacturer's instructions
        ii. Performance exam:
            1. Add sample at 1 to 2 in. for even heating – Kevin
    b. TM 13, Volumetric Properties
        i. HMA to asphalt mixture – Winter meeting
    c. Exams
    d. PowerPoint
6. Revision to General
    a. Add SCC to terminology
    b. 'Page intentionally left blank' water mark – Kevin

7. TM 14, Asphalt Mixture Laboratory Specimens (7/5)
8. Other AASHTO revisions
    a. R 25
    b. R 96; Installation, Operation, and Maintenance of Ignitions Furnaces
9. Revision review assignments
10. Self-Consolidating Concrete Module (5/24)
    a. Basics
    b. T 347, Slump Flow
    c. T 351, VSI
    d. T 345, J-Ring
    e. Appendix – include short forms of applicable CTT methods? – Desna
11. FOP Library
    a. Disclaimer for webpage
    b. TM, 14; Asphalt Mixture Laboratory Specimens (7/9)
    c. AASHTO T 84
    d. AASTHO T 304 (6/25)
    e. ASTM D4791 – TM 16 (6/12)
    f. Proposed additions:
        i. AASHTO R 79, Vacuum Drying – Kevin
        ii. AASHTO T 331, G_{mb} Vacuum seal – Kevin
12. Administration Manual proposed revisions
13. Report from Executive Board Spring meeting (minutes sent 5/20)
    a. Redline version posted to web
    b. AASHTO R 56 (IRI) certification
    c. Laboratory Testing Technician Qualification
    d. Meeting schedule – different travel days?
14. AASHTO T 283 (6/18)
15. Other items
16. Location of upcoming meetings

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
WELCOME	Sean Parker, ODOT and Qualification Advisory Committee (QAC) Chair, welcomed the committee members to Anchorage. He then asked everyone to introduce themselves. Sean welcomed Steve Taylor, Idaho Transportation Department's (ITD) new representative to the committee.	
REVIEW OF THE TRAINING MATERIALS AND REVISIONS		
EMBANKMENT/ BASE AND IN-PLACE DENSITY (E&B/IPD)		
T 255/T 265	*Field Operating Procedure (FOP) for AASHTO T 255/T 265, Moisture Content of Aggregate and Soil* <u>Proposed revisions to the training materials:</u> Misty Miner, MDT and QAAC Vice Chair, pointed out that there were some numbering errors on the PowerPoint presentation. These will be fixed. Desna Bergold, D B Consulting and WAQTC Coordinator, proposed reformatting the formulas and examples to be consistent with other materials. She also proposed changing the variable in the percent moisture calculation from 'w' to '% moisture' as 'w' is not used in the procedure section. Sean pointed out that 'w' is used for percent moisture in other FOPs. Desna agreed it should remain 'w' and be more clearly defined in the procedure. Desna then presented the new phase diagram graphic. Vicki Sims, D B Consulting, has been cleaning up the older line drawings and helping with PowerPoint presentations. <u>There are no revisions to the AASHTO methods in 2019.</u> <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Reformat the formulas and example calculations - Insert the term 'w' in the procedure Step 17	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	- Replace phase diagram **Performance Exam Checklist:** - None **PowerPoint:** - Replace phase diagram *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 99/T 180	*FOP for AASHTO T 99; Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop* and *T 180; Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop* <u>Proposed revisions to the training materials:</u> Step 8 references Step 6 when it should reference Step 7. This will be corrected. <u>The 2019 AASHTO methods revisions:</u> New revision date The AASHTO methods were revised to include steps to address use of the extruder. This was already covered in the FOP. <u>Other revisions</u> The committee reviewed the PowerPoint presentation and agreed there could be more improvements. Gilbert Arredondo, UDOT, has provided many pictures that have been incorporated into the training materials, and he volunteered to provide a few more. The committee asked that he provide replacements for Slide 26, Annex B Slide 28, and a new picture of mechanical apparatus. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Step 8 correction	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:

	Performance Exam Checklists:
	- None
	PowerPoint:
	- New graphics for Slides 8, 11, 14, 41
	- New pictures
	  ▪ Slide 26
	  ▪ Annex B Slide 28
	  ▪ Mechanical apparatus
	These revisions will be included in the 2019 training materials.
		GILBERT ARREDONDO
		
		DESNA BERGOLD

R 75	*FOP for AASHTO R 75; Developing a Family of Curves* <u>There were no revisions to the training materials proposed.</u> <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions:</u> Chris Russell, CDOT, said that all the graphs on the Performance Exams were not the same. Desna agreed to review them and make certain they are consistent. <u>Revisions to the training materials include:</u> **FOP:** - None **Performance Exam Checklist:** - Consistent performance exam graphs **PowerPoint:** - None *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 272	*FOP for AASHTO T 272; One-point Method for Determining Maximum Dry Density and Optimum Moisture* <u>Proposed revisions to the training materials:</u> Step 8 references Step 6, it should reference Step 7. This will be corrected. Garth Newman, Allwest Testing and a former QAC member, sent an email asking that the numbering for the Performance Exam Checklist for T 99 be corrected to match the Performance Exam Checklist for T 180. This will be corrected. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Revisions to the training materials include:</u> **FOP:** - Step 8 correction (editorial) **Performance Exam Checklists:** - Correct numbering (editorial) **PowerPoint:** - None *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 85	*FOP for AASHTO T 85; Specific Gravity and Absorption of Coarse Aggregate* <u>There were no revisions to the training materials proposed.</u> <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions:</u> Gilbert will supply a picture for Slide 17.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Revisions to the training materials include: **FOP:** - Replace phase diagram **Performance Exam Checklist:** - None **PowerPoint** - Replace phase diagram - Replace picture on slide 17 *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD
HUMPHRES	*Use of AKDOT & PF ATM 212, ITD 74, WSDOT TM 606, or WFLD Humphres Curve* There were no revisions to the training materials proposed. Revisions to the training materials include: **FOP:** - None **PowerPoint** - None *There are no revisions to the 2019 training materials.*	DESNA BERGOLD
T 310	*FOP for AASHTO T 310; In-place Density and Moisture Content of Soil and Soil-aggregate by Nuclear Methods* Proposed revisions to the training materials: Chris withdrew gauge calibration frequency revision proposal. Desna reformatted the Calculation section to be consistent with other FOPs. This was approved.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	The 2019 AASHTO methods revisions: New revision date Removed requirement to report date of last calibration. This revision does not impact the training materials. Revisions to the training materials include: **FOP:** - New AASHTO revision date, new revision date - Calculation section reformatted - Cleaned up graphics - New caution placard picture **Performance Exam Checklist:** - None **PowerPoint:** - Cleaned up graphics - New caution placard picture *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 355	*FOP for AASHTO T 355, In-place Density of Asphalt Mixtures by Nuclear Method* There were no revisions to the training materials proposed. There are no revisions to the AASHTO method in 2019. Other revisions: Kevin Burn, WSDOT, pointed out that the example calculation for the density standard refers to 'Maximum Laboratory Dry Density,' the correct term is 'Theoretical Maximum Density.' This will be corrected.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Revisions to the training materials include: **FOP** (editorial)**:** - Correct example calculation 'Theoretical Maximum Density' - Cleaned up graphics **Performance Exam Checklist:** - None **PowerPoint** - Correct example calculation 'Theoretical Maximum Density' - Cleaned up graphics - New caution placard picture *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
BASICS, TOC, OBJECT, APPENDIX	*Basics of Compaction and Density Control* Updated load distribution graphic and revised HMA to asphalt mixtures. *Table of Contents, Learning Objectives, Appendix* Updated FOP titles to replace HMA with asphalt mixtures.	
EXAMS	The variable 'w' for moisture content should be carried through any related questions on the exams. The committee asked Desna to see if she can improve the T 99/T 180 and R 75 graphs. Possibly darken the whole pound and percent lines. *Committee members: refer to the exam errata for specific revisions.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
CONCRETE (CTT)		
TM 2	*FOP for WAQTC TM 2; Sampling of Freshly Mixed Concrete* <u>There were no revisions to the training materials proposed.</u> <u>Other revisions</u> Desna replaced the stopwatch with an updated graphic and Gilbert provided a few new pictures for the PowerPoint presentation. Gilbert was asked to provide pictures for Slide 9 and some additional pictures of wet sieving. <u>Discussion item:</u> Misty asked the committee to discuss the differences between WAQTC TM 2 and AASHTO R 60, *Sampling Freshly Mixed Concrete.* R 60 requires obtaining multiple increments from the middle of the load. TM 2 allows a single increment after ½ cubic yd. has been discharged. The committee found it interesting that this is similar to the method described in Note 3 of R 60. It allows for sampling for air content and slump testing after ¼ cubic yd. has been discharged. Sean shared some of the history of the methods. In the past, AASHTO has not entertained any revisions similar to TM 2 in R 60, formerly T 141. Misty wanted to know if there is support in the committee to develop a method to submit to AASHTO. It was determined that the Executive Board should be consulted before developing a proposal. This will be an agenda item at the upcoming Board meeting. If it is approved, Misty and Desna will draft a proposal for the 2020 Winter meeting. *TM 2 proposal to AASHTO will be an agenda item for the upcoming Board meeting.*	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Revisions to the training materials include: **FOP** (editorial): - Updated stopwatch graphic **Performance Exam Checklist:** - None **PowerPoint:** - Updated stopwatch graphic - Replace picture on Slide 9 - Removed Slide 21 - Additional wet sieving pictures *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 309	*FOP for AASHTO T 309; Temperature of Freshly Mixed Portland Cement Concrete* There were no revisions to the training materials proposed. There are no revisions to the AASHTO method in 2019. Other revisions Desna replaced the stopwatch with an updated graphic. Gilbert was asked to get something to replace Slide 6 and a better picture for Slide 12, without sensor buried. He was also asked to get a picture of determining the concrete temperature in the forms. Revisions to the training materials include: **FOP**: - Updated stopwatch graphic (editorial) **Performance Exam Checklist:** - None	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	PowerPoint: - Updated stopwatch graphic - Replace picture on Slide 6 and 12 - Additional forms pictures *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 119	*FOP for AASHTO T 119; Slump of Hydraulic Concrete* <u>Proposed revisions to the training materials:</u> Dan Gettman, AKDOT, asked that the 2 ½ minute time limit to perform the test be added to the PowerPoint presentation. He also indicated that Note 1 shouldn't be a note, beginning the test within 5 minutes of sampling should be a requirement. Desna proposed rewriting Step 12 into active voice. These revisions were approved. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions</u> The committee noticed that the mold section of the apparatus is oddly formatted and proposed new formatting. Gilbert volunteered to get new videos for Slides 14 and 16, and a new picture for 18. <u>Revisions to the training materials include:</u> **FOP**: - New revision date - Updated stopwatch graphic - Note 1 will become a requirement - Reformatting Apparatus section **Performance Exam Checklist:** - None	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	PowerPoint: - Updated stopwatch graphic - Added the 2 ½ minute time limit - Replace picture on Slide 18 - New videos for Slides 14 and 16 *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 121	*FOP for AASHTO T 121; Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete* <u>Proposed revisions to the training materials:</u> Misty felt that Step 2 shouldn't be required every time the test is performed because a tester may perform multiple determinations and would have to dry the measure and determine the mass each time. The committee felt that the mass of the measure should be determined each time but that it isn't necessary to for it to be completely dry. It was decided to remove 'dry' from Step 2 and indicate in Step 3 that excess water must be emptied after dampening the measure. Desna withdrew the proposal concerning Note 2, it is appropriate as a note. <u>The 2019 AASHTO methods revisions:</u> New revision date Revised vibrator requirements as per WAQTC's proposal <u>Other revisions</u> The committee decided that a formula for subtracting the mass of the measure from the mass of the concrete and measure should be included and the language in the Performance Exam Checklist be changed to match. Gilbert was asked to get a picture for Slide 7, and video for Slides 16 and 17.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Discussion item Misty wondered why 1 inch is the maximum aggregate size allowed when using the base of the air meter, but when testing the air content 1½ inch is allowed. The committee compared the FOPs and found that for T 121 the nominal maximum aggregate size for ¼ ft^3 measure, the base of the air meter, is 1 inch, for T 152 the concrete has to be wet sieved if it contains aggregate retained on the 1½ inch sieve. This is essentially the same size maximum aggregate. Revisions to the training materials include: **FOP:** - New AASHTO date, new revision date - Vibrator requirements - Revisions to Steps 1 and 2 - Additional formula for calculating the mass of concrete in the measure - Updated stopwatch graphic **Performance Exam Checklist:** - Change 'net mass' to 'concrete mass' (editorial) **PowerPoint:** - Updated stopwatch graphic - New pictures and video *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD
T 152	*FOP for AASHTO T 152; Air Content of Freshly Mixed Concrete by the Pressure Method* Proposed revisions to the training materials: Dan indicated that Note 2 shouldn't be a note as it is a requirement. This is approved. He then asked how many times the measure is to be tapped in Step 23 after opening the main air valve, the procedure says 'tap around the perimeter' which indicates multiple times. The committee decided to change Step 23 to 'tap the side of the bowl' to match the AASHTO	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	method but not include a specific number of times the measure is tapped. Kevin proposed adding standardization of the air meter to the Performance Exam Checklist, he feels that it is something in which the technician should be proficient. Many of the other members indicated that their field technicians do not perform the standardization, it is performed in the laboratory. Kevin withdrew his proposal. <u>The 2019 AASHTO methods revisions:</u> New revision date Revised vibrator requirements as per WAQTC's proposal. <u>Other revisions:</u> Dan said that there were no pictures of striking off the measure with a strike-off bar, some students have been led to believe that one must use the plate. Gilbert offered to get a picture of striking off the measure with a strike-off bar. He was also asked to get pictures for Slides 10 and 14. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Vibrator requirements - Note 2 will become a requirement - Updated graphics **Performance Exam Checklist:** - None **PowerPoint:** - Updated graphics - Add strike-off picture - New pictures for Slides 10 and 14 *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 23	*FOP for AASHTO T 23; Making and Curing Concrete Test Specimens in the Field* <u>Proposed revisions to the training materials:</u> Desna recommended removing 'and specimens' from the Apparatus section heading, it is an anomaly. This was approved. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions</u> Steve Taylor, ITD, said that the statement regarding maintaining the initial curing temperature in the Initial Curing section has been interpreted to mean that both temperature ranges can be used for concrete with design strengths of 6000 psi or more. The committee reformatted the statement for clarity. Gilbert offered to provide new pictures for Slides 3, 7, 17, 22, and 32. <u>Discussion item:</u> Steve asked if a technician should make both a 4 x 8-inch cylinder and a 6 x 12-inch cylinder when qualifying, there are Performance Exam Checklists for both. He was told that the intent is for the technician to make the size cylinder most commonly used by the agency, both is not necessary. <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Remove 'and Specimens' from Apparatus title - Revise Initial curing section **Performance Exam Checklist:** - None	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	PowerPoint: - New pictures *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD
EXAMS	Dan voiced some concerns that were sent to him about the exams. The committee reviewed the questions and made some editorial revisions. *Committee members: refer to the exam errata for specific revisions.*	 DESNA BERGOLD
AGGREGATE (AGTT)		
R 90	*FOP for AASHTO R 90; Sampling Aggregate Products* <u>Proposed revisions to the training materials:</u> Gilbert supplied new pictures of the apparatus which will be included in the Student FOP and PowerPoint presentation. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions:</u> The committee reviewed the PowerPoint presentation and decided to remove Slides 18 and 20. Gilbert offered to get a picture for Slide 37. <u>Discussion item:</u> Desna pointed out that there is an example of Nominal Maximum Size in the Student FOP but not the Short. She asked if anyone thought it should be included in the Short. The committee said no. <u>Revisions to the training materials include:</u> **FOP:** - New picture in the Student FOP	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Performance Exam Checklist (both): - None **PowerPoint:** - Remove Slides 18 and 20 - New pictures *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD
R 76	*FOP for AASHTO R 76; Reducing Samples of Aggregate to Testing Size* <u>Proposed revisions to the training materials:</u> Kevin wanted to know why the 'check for effective reduction' or the method illustrated in Figure 1 is required. He had been told that it is a recommendation 'to check' and is not necessarily a requirement even though it is a step in the procedure. Putting it on the Performance Exam Checklist indicates again that it is required. The committee agreed to remove the step from the Performance Exam Checklist. <u>Other revisions:</u> Gilbert will supply pictures for Slides 6 and 11. <u>Discussion item</u> The discussion on effective reduction continued. Dan thinks that he has seen a white paper on the effectiveness of Figure 1 in AKDOT offices. Steve thinks there may be more information he can find in ITD's files. They both agreed to try to find this information and forward it to the committee. Dan indicated that AKDOT requires the 'check' on each split or use Figure 1. Kevin feels that the steps in Figure 1 can be confusing to the student, Gilbert offered to provide a video demonstrating reduction according to Figure 1 for the PowerPoint presentation.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	The committee discussed whether it should still be a step if it isn't required every split. Would it be more appropriate as an Annex? Desna was asked to draft an Annex for discussion at the 2020 Winter meeting for possible inclusion in the 2020 Training Materials. *Desna Bergold will draft an Annex for 'effective reduction' and Figure 1 for 2020 Winter meeting.* <u>Revisions to the training materials include:</u> **FOP:** - None **Performance Exam Checklist:** - New revision date - Remove Method A – Splitting Step 5 **PowerPoint:** - New video - New pictures for Slides 6 and 7 *These revisions will be included in the 2019 training materials.*	GILBERT ARREDONDO DESNA BERGOLD
T 255	*FOP for AASHTO T 255; Total Evaporable Moisture Content of Aggregate by Drying* <u>Proposed revisions to the training materials:</u> The revision from the FOP for AASHTO T 255/T 265 will be included in the FOP for AASHTO T 255. See the discussion for T 255/T 265 for details. <u>There are no revisions to the AASHTO methods in 2019.</u> <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Reformat the formulas and example calculations - Insert the term 'w' in the procedure Step 17 - Replace phase diagram	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Performance Exam Checklist: - None **PowerPoint:** - Replace phase diagram *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 27/T 11	*FOP for AASHTO T 27 /T 11; Sieve Analysis of Fine and Coarse Aggregates and Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing* <u>Proposed revisions to the training materials:</u> Garth had emailed a suggestion for using terms consistently in the FOP. In some places, the mass of the original sample is referred to as the total mass and other the original dry mass. The committee decided it will be consistently referred to as the 'original dry mass.' Garth also recommended revising the Performance Exam Checklists to match. This was approved. <u>There are no revisions to the AASHTO methods in 2019.</u> <u>Other revisions:</u> Annex A, Time Evaluation, was discussed. Kevin indicated that WSDOT has used a mallet instead of the heel of the hand to strike the sieves while hand shaking. It can be hard to maintain the same force with the heel of the hand for multiple sieves. He also pointed out that the hand shaking, as written, is not viable for the large tray sieves. It was decided to add the option as a note in the Annex. The committee wants to discuss Annex A and the large tray sieves with AASHTO re:source and get their opinion on using a mallet instead of the heel of the hand. *Sean will talk to AASHTO re:source representative at the upcoming Annual AASHTO COMP meeting.*	SEAN PARKER

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Revisions to the training materials include: **FOP:** - New revision date - Add a mallet in Apparatus - Use the term 'original dry mass' throughout - Add a note in Annex A **Performance Exam Checklist:** - Use the term 'original dry mass' throughout (editorial) **PowerPoint:** - Revisions consistent with those in the FOP *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 335	*FOP for AASHTO T 335; Determining the Percentage of Fracture in Coarse Aggregate* There were no revisions to the training materials proposed. There are no revisions to the AASHTO method in 2019. Revisions to the training materials include: **FOP:** - None **Performance Exam Checklist:** - None **PowerPoint:** - Updated graphics *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 176	*FOP for AASHTO T 176; Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test* <u>Proposed revisions to the training materials:</u> Garth and Kevin pointed out that the instructions on mixing the Working Solution are confusing. Desna proposed language that would be easier to understand. This was approved with the addition of 'distilled or demineralized' water. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions:</u> The committee decided to move Note 2, addressing the use of tap water, into the procedure. As notes are non-mandatory, they cannot change the test method. <u>Revisions to the training materials include:</u> **FOP:** - New revision date - Move Note 2 into the procedure - Rewrite working solution instructions **Performance Exam Checklist:** - None **PowerPoint:** - New picture of a manually operated shaker *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
EXAMS	Garth and Kevin had pointed out that there are exam questions that ask for percent passing but the correct answer is 'reported' percent passing. This will be corrected. Garth also said that as the example tables in the FOP for AASHTO T 27/T 11 were updated the tables in the exam should look the same. This is approved.	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Garth and Kevin also mentioned that the ratio split formula is not included on the exam. Most of the calculation questions in the exams include the formula. This will be included on the exams. <u>Discussion item</u> There are three methods: A, B, and C; each with its own PowerPoint presentation and Performance Exam Checklist. Member agencies have been allowed to train and evaluate technicians on the method(s) commonly used in their agency. Some have been training all three methods but evaluating the technician using one Performance Exam Checklist. Does this effect reciprocity? Sean said the Board should be consulted. Misty said that she revises the written exam to cover the calculation of Method C instead of B. Sean said that he changes it to Method A. They both remember this option was agreed upon many years ago at a QAC meeting. The other committee members did not know of this option. Desna pointed out that the agreement of many years ago was not documented and it should be so that all the member agencies would be following the same rules. The committee decided that there should be an exam for each method, for a total of nine aggregate exams. Sean indicated that this change would need to be discussed with the Board. Multiple exams may affect reciprocity. *Individual exams for the three T 27/T 11 methods will be discussed with the Board.* *Committee members: refer to the exam errata for specific revisions.*	
ASPHALT (ASTT I AND II)		
R 97	*FOP for AASHTO R 97; Sampling Asphalt Mixtures* This is a new AASHTO practice based in part on the WAQTC proposed practice. AASHTO R 97 replaces AASHTO T 168.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Proposed revisions to the training materials: Desna drafted the revisions to the FOP for AASHTO T 168, Review Questions, and Performance Exam Checklists to include new sections from AASHTO R 97. These sections include sampling from conveyor belts, paver auger, windrow, and stockpiles. There were other revisions related to the new AASHTO practice that were also incorporated such as HMA to asphalt mixtures, adding release agent in apparatus, and a description on mechanical sampling device. This draft was distributed for comment before the meeting. Misty asked that discarding the first shovelful in auger sampling be included. This will be added as a note. Dan recommended some semantic revisions that were not approved. He also asked that in Method 1 (Plate Method) that 'secure (the wire) with a nail' be revised to include 'or other acceptable means.' The committee reviewed the AASHTO and decided that the means of securing the wire will not be specified. The 2019 AASHTO methods revisions: New method to replace AASHTO T 168. Revisions to the training materials include: **FOP:** - New AASHTO, new revision date, new number, new title - Replacing T 168 with R 97 - Addition of sampling from conveyor belts, paver auger, windrow, and stockpiles - HMA to asphalt materials - Others to agree with the new AASHTO **Review Questions** - New revision date - Replacing T 168 with R 97 - HMA to asphalt mixture	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	- Addition of conveyor belts, paver auger, windrow, and stockpiles **Performance Exam Checklists:** - New revision date, new number, new title - Replacing T 168 with R 97 - Addition of conveyor belts, paver auger, windrow, and stockpiles **PowerPoint:** - Replacing T 168 with R 97 - Addition of conveyor belts, paver auger, windrow, and stockpiles - HMA to asphalt mixtures *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
R 47	*FOP for AASHTO R 47; Reducing Samples of Asphalt Mixtures to Testing Size* <u>Proposed revisions to the training materials:</u> Garth recommended reformatting the Quartering Method to better distinguish the sub steps, he also recommended referencing Step 4 in 'Full Quartering' for remixing when sample portions are recombined. The committee reviewed this section and determined that Steps 5, 6, and 7 of 'Full Quartering' are redundant. These steps are to be removed and both 'Full Quartering' and 'Reducing by Apex' will refer to Steps 4 through 7. Kevin suggested that the straightedge used in the 'Incremental Method' Step 6b be 'at least as wide as the full loaf.' This was approved. Garth has also recommended 'by either' be added to the end of Step 7 as it is in Step 6. This is approved. <u>The 2019 AASHTO methods revisions:</u> New revision date HMA to asphalt mixtures Heating tools to not exceed the maximum mixing temperature	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
R 47	Removing 'heat-resistant' plastic sheeting Replacing T 168 reference with R 97 reference <u>Other revisions:</u> The committee members were asked if any member agency uses the Quartermaster mechanical splitter. At this time, no member agency allows its use. Sean proposed that the method be removed from the FOP. All agreed. The Quartermaster mechanical splitter will be removed from the training materials. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Replacing T 168 reference with R 97 reference - Revising the Quartering method - Correcting Steps 6b and 7 in Incremental Method - HMA to asphalt mixtures - Removal of the Quartermaster mechanical splitter - Adding maximum mixing temperature to Mechanical Splitter Type B - Add 'place in a container to be retained' in 'Full Quartering' Step 7a - Removing heat resistant plastic from Apparatus **Review Questions** - New revision date - Revise question 3 about mechanical splitters **Performance Exam Checklist:** - New revision date - Remove Mechanical Splitter Type A - HMA to asphalt mixtures - Adding maximum mixing temperature to Mechanical Splitter Type B - Add 'place in a container to be retained' in 'Full Quartering' - Replacing T 168 reference with R 97 reference **PowerPoint:** - Remove Mechanical Splitter Type A - HMA to asphalt mixtures	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	- Replacing T 168 reference with R 97 reference - Adding maximum mixing temperature to Mechanical Splitter Type B - Add 'place in a container to be retained' in 'Full Quartering' *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 329	*FOP for AASHTO T 329; Moisture Content of Asphalt Mixtures by Oven Method* <u>Proposed revisions to the training materials:</u> Dan asked if Note 3 should be required. The committee read Note 3 and determined that it should be removed. Kevin asked if an infrared thermometer could be allowed by this method. In Apparatus, it states, 'or other suitable device.' Infrared thermometer is allowed. <u>The 2019 AASHTO methods revisions (editorial):</u> Replacing T 168 reference with R 97 reference <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Replacing T 168 reference with R 97 reference - Removing Note 3 **Performance Exam Checklist:** - None **PowerPoint:** - Replacing T 168 reference with R 97 reference *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 308	*FOP for AASHTO T 308; Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method* <u>Proposed revisions to the training materials:</u> Kevin pointed out that there is a step missing on the Performance Exam Checklist. It should state that the sample basket and sample mass is determined. The committee agreed to add this step. <u>The 2019 AASHTO methods revisions (editorial):</u> Replacing T 168 reference with R 97 reference <u>Other revisions:</u> Steve asked that Section A2.8.1 of AASHTO T 308 be incorporated into the FOP. Section A2.8.1 allows for the test temperature to be returned to the higher temperature if there is no 'improvement' in the correction factor at the lower temperature. ITD has had this happen and the FOP does not allow for returning to the higher temperature. The committee agreed to include the statement but instead of the term 'improvement' it will state, 'If the correction factor is the same or higher.' Gilbert volunteered to provide a new picture for Slide 18. <u>Discussion item</u> Kevin disagrees with requiring the sample and the sample basket be cooled to room temperature before the initial mass is determined, Step 5 in the FOP and Section 7.6 in the AASHTO. The committee felt that if he drafted a change to the AASHTO for the 2020 Winter meeting they would discuss it then. <u>Revisions to the training materials include:</u> **FOP:** - New revision date - Replacing T 168 reference with R 97 reference	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	- Adding returning to the higher temperature in Annex Step 9 **Performance Exam Checklist:** - New revision date - Adding mass of sample and sample basket recorded **PowerPoint:** - Replacing T 168 reference with R 97 reference - New picture for Slide 18 *These revisions will be included in the 2019 training materials.* *Revisions to T 308 will be on the 2020 Winter meeting agenda.*	DESNA BERGOLD
T 209	*FOP for AASHTO T 209; Theoretical Maximum Specific Gravity (G_{mm}) and Density of Asphalt Mixtures* <u>There were no revisions to the training materials proposed.</u> <u>The 2019 AASHTO methods revisions:</u> New revision date Extensive revisions to the method based on WAQTC's proposal Replacing T 168 reference with R 97 reference <u>Other revisions</u> The Report section states, 'G_{mm} to three decimal places.' Kevin pointed out that in most FOPs it says to 'to the nearest. . .' The second is the preferred way. The FOP will be revised to state, 'to the nearest 0.001' for required accuracy. Desna was asked to look at other FOPs and make similar revisions. <u>Discussion item:</u> In drafting the revisions in the FOP to match the AASHTO revisions, Desna included the step to dry the sample to constant mass. The committee was surprised and initially thought that it was a new requirement with this revision. This step was in the	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	AASHTO method before but was never included in the FOP. The committee would like to discuss revising the AASHTO method at the 2020 Winter meeting. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Replacing T 168 reference with R 97 reference - HMA to asphalt materials - Include drying the sample to constant mass* - G_{mm} to the nearest 0.001 **Performance Exam Checklist:** - New revision date - HMA to asphalt materials - Replacing T 168 reference with R 97 reference - Include drying the sample to constant mass **PowerPoint:** - Replacing T 168 reference with R 97 reference - HMA to asphalt materials - Include drying the sample to constant mass - G_{mm} to the nearest 0.001 *These revisions will be included in the 2019 training materials.* *Revisions to AASHTO T 209 will be on the 2020 Winter meeting agenda.* **Executive Board reversed this decision.*	DESNA BERGOLD
T 166	*FOP for AASHTO T 166; Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens* <u>Proposed revisions to the training materials:</u> Kevin asked why steps to determine constant mass by *AASHTO R 79; Vacuum Drying Compacted Asphalt Specimens,* isn't on the Performance Exam Checklist, it was included on the FOP in 2018. He feels that it should be on the Performance Exam Checklist. Sean disagreed, there isn't any direction in the	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	training materials on how to perform AASHTO R 79, so it would be difficult for an examiner to determine whether it was performed correctly. Kevin suggested that an FOP for AASHTO R 79 be developed, Misty agreed and offered to assist Kevin. See the FOP Library item for further discussion and assignments concerning the development of an FOP for AASHTO R 79. The committee decided to revise the Performance Exam Checklist to state that the sample is dried to constant mass and will not specify how it is dried. Kevin pointed out that the definition for constant mass in the FOP does not match that in the AASHTO method. The FOP says, 'less than 0.05 percent change, AASHTO says, 'no more than 0.05 percent change.' The committee agreed to revise the FOP to match AASHTO editorially. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Other revisions:</u> Kevin also pointed out that there is no definition of SSD in the FOP. He recommends writing out 'saturated surface dry' the first time SSD is used. The committee agreed; this is editorial. The committee reviewed the PowerPoint presentation and recommended removing the video on Slide 30 as it demonstrates an improper method of drying a specimen. Gilbert agreed to try to get a replacement video. <u>Discussion item</u> Garth pointed out in an email that the definitions for constant mass vary in the AASHTO methods. He asked to include this on the 2020 Winter meeting agenda. Another agenda item for the 2020 Winter meeting is proposing the temperature of the water bath be revised to 77 ±2 instead of 77 ±1.8. <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Revise the definition of constant mass	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	- Include 'saturated surface dry' with the first usage of SSD **Performance Exam Checklist:** - New revision date - Revise Step 1a. to read, 'Sample dried to constant mass?' **PowerPoint:** - Updated phase diagram - Replace video on Slide 30 *These revisions will be included in the 2019 training materials.* *Definitions for constant mass and the temperature of the water bath will be included on the 2020 Winter agenda.*	DESNA BERGOLD
R 66	*FOP for AASHTO R 66; Sampling Asphalt Materials* <u>Proposed revisions to the training materials:</u> Desna recommended reversing the order of the containers and the procedure. Currently the containers come after the procedure which is not consistent with the other FOPs. This revision was approved. <u>There are no revisions to the AASHTO method in 2019.</u> <u>Revisions to the training materials include:</u> **FOP** (editorial)**:** - Reverse the order of the containers and procedure **PowerPoint:** - Reverse the order of the containers and procedure *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 30	*FOP for AASHTO T 30; Mechanical Analysis of Extracted Aggregate* <u>There were no revisions to the training materials proposed.</u> <u>The 2019 AASHTO methods revisions:</u> New revision date Adopted WAQTC proposal to move shaker time evaluation and overload determination to annexes. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Changing 'bituminous paving mixes' to 'asphalt mixtures' in Significance - Changing 'oven' to 'furnace' **Performance Exam Checklist:** - None **PowerPoint:** - Updated graphics *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
T 312	*FOP for AASHTO T 312; Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor* <u>Proposed revisions to the training materials:</u> Kevin suggested adding the requirement to spread the sample 1 to 2 inches thick for even heating to the Performance Exam Checklist. This was approved.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	<u>The 2019 AASHTO methods revisions:</u> New revision date Changed the language concerning heating the mold plates to cover equipment that does not have removable plates. Changed how the mold is to be loaded into the compactor and references manufacturer's instructions. <u>Other revisions:</u> The committee asked Desna to replace the picture on Slide 15 with one from the FOP for AASHTO R 97 presentation. They also asked her to emphasize the pressure and angle on the illustration of device movement on Slide 10. Gilbert offered to get a new picture of the apparatus to replace the one on Slide 7. <u>Revisions to the training materials include:</u> **FOP:** - New AASHTO date, new revision date - Replacing T 168 reference with R 97 reference **Performance Exam Checklist:** - New revision date - Replacing T 168 reference with R 97 reference - Add step concerning spreading the material before placing in oven **PowerPoint:** - Updated graphics - Replacing T 168 reference with R 97 reference - New pictures for Slides 7 and 15 - Emphasize pressure and angle on Slide 10 *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
TM 13	*WAQTC TM 13; Volumetric Properties of Asphalt Mixtures* <u>Proposed revisions to the training materials:</u> At the 2019 Winter meeting. Desna was asked to change HMA to asphalt mixtures. This was drafted for review and approved. <u>Other revisions:</u> The committee reviewed the Report section and added 'to the nearest' for required accuracy. <u>Revisions to the training materials include:</u> **FOP:** - New revision date - Changed HMA to asphalt mixtures - Replacing T 168 reference with R 97 reference - Added 'to the nearest' in the Report section - New phase diagram **PowerPoint:** - Changed HMA to asphalt mixtures - Replacing T 168 reference with R 97 reference - Added 'to the nearest' in the Report section - New phase diagram *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
EXAMS	The name change for AASHTO R 97, T 209, and TM 13 will be carried through all of the exams. Revised questions related to the 2019 revisions. All written exams will have a new revision date. *Committee members: refer to the exam errata for specific revisions.*	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
TOC, OBJECTIVES, APPENDIX	*Table of Contents, Course Objectives and Schedule, and Appendix* All will be revised to reference FOP for AASHTO R 97 instead of T 168. The names of T 209 and TM 13 will be revised. *These revisions will be included in the 2019 training materials.*	DESNA BERGOLD
GENERAL FILES		
TERMINOLOGY	<u>Proposed revisions to the training materials:</u> Add an entry definition for Self-Consolidating Concrete (SCC). <u>Other revisions:</u> While looking at the Terminology section the committee noticed reference to, and definition for, the Strategic Highway Research Program (SHRP). The training materials no longer discuss this program and the entry will be removed. <u>Revisions to the Terminology section include:</u> - Adding an entry for Self-Consolidating Concrete (SCC) - Removing entry for SHRP *These revisions will be included in the 2019 training materials*	DESNA BERGOLD
PAGE INTENTIONALLY LEFT BLANK	Kevin proposed that the blank pages in the training materials be marked with 'This page intentionally left blank.' This is often done so that the user is assured that nothing is missing. Sean said that he deletes blank pages. Desna explained that the blank pages are included so that the documents print correctly. It was decided that the blank pages, when they are left in the documents, have headers and footers so there is no purpose to having them identified as intentional. *No further action required.*	
OTHER AASHTO REVISIONS		

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
R 25	*AASHTO R 25; Standard Practice for Technician Training and Qualification Programs* A revised standard is included in Release One of the current AASHTO Standards. The revisions are extensive and should be reviewed. *No further action required.*	
R 96	*R 96; Installation, Operation, and Maintenance of Ignitions Furnaces* Desna informed the committee that there will be a new standard concerning ignition furnaces in AASHTO's Release Three updates. *No further action required.*	
REVISION REVIEW ASSIGNMENTS	Steve indicated that he wasn't certain what the assignment entailed. Desna explained that the agreed upon revisions to the training materials are to be verified that they are carried through the related material. Revisions in the Student forms must match the revisions in the Short forms and may need to be addressed in the PowerPoint presentations, Review Questions, and Performance Exam Checklists. She also opened the Quality Control Tracking spreadsheet which will help identify the revisions, and how they are addressed. Sean also explained that if one finds anything that they feel needs to be revised but is not part of the approved revisions, it should be noted for consideration next year. The revision review assignments are as follows: EB/DTT: Chris Russell and Dan Gettman General: Chris Russell and Steve Taylor Concrete: Gilbert Arredondo Aggregate: Kevin Burns and Misty Miner	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Asphalt: Steve Taylor and Sean Parker Administration Manual and RPIH and AASHTO name change revisions: Sean Parker The committee members will review all the training materials: Student and Short form FOPs, Review Questions, Performance Exams, Written Exams, and PowerPoint presentations for the module they are assigned. Any corrections will be sent to Desna. *Desna will send the revisions out by Sept. 6th. Review deadline is Sept. 20th.* *Committee members will review the draft revisions of the modules assigned. Corrections will be sent to Desna.*	DESNA BERGOLD QAC MEMBERS
SELF-CONSOLIDATING CONCRETE TESTING TECHNICIAN (SCCTT) MODULE		
BASICS	*Basics of Self-Consolidating Concrete (SCC)* Desna drafted the Basics section for the new SCC module. She requests that the committee members ask their concrete experts to review it. Dan and Sean said they will send it to their respective subject matter experts. *Dan Gettman and Sean Parker will have the* Basics of Self-Consolidating Concrete (SCC) *reviewed and provide feedback.*	SEAN PARKER DAN GETTMAN
T 347	*FOP for AASHTO T 347, Slump Flow of Self-Consolidating Concrete (SCC)* Dan drafted this FOP and recommended that the WAQTC require a 36-inch minimum board on which to perform the test. Technicians that have been performing this testing have noticed that the SCC patty may flow off the AASHTO required 32-inch board. The committee reviewed the draft FOP and approved Dan's proposed revision. *See item T 351*	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 351	*FOP for AASHTO T 351; Visual Stability Index (VSI) of Self-Consolidating Concrete (SCC)* Misty drafted this FOP and the additional required documents. After the committee reviewed the draft FOP, Desna recommended that the FOPs for AASHTO T 347 and T 351 be a combined FOP. Most of the steps in the procedures are identical with a few additional steps in each. The committee approved combining the two test methods into one FOP. Dan and Desna will add T 351 specific content to Misty's drafted Review Questions, Performance Exam Checklist, and written exam questions. *Desna Bergold will draft a combined FOP for AASHTO T 347/T 351.* *Dan Gettman and Desna will add T 347 content to the additional required documents.*	DESNA BERGOLD DAN GETTMAN
T 345	*FOP for T 345; Passing Ability of Self-Consolidating Concrete by J-Ring* Gilbert and Desna drafted the FOP for this method. The committee reviewed the drafted FOP and requested that a figure of the slump cone in the J-ring be added. Desna will include the figure. The committee made a few more revisions to the draft and approved the FOP. Gilbert said that he would draft the Performance Exam Checklist and written exam questions. He also volunteered to provide pictures of the testing. *Gilbert Arredondo will draft the additional required documents and provide pictures.*	GILBERT ARREDONDO DESNA BERGOLD
APPENDIX	Desna asked if the FOP short forms of the related Concrete Testing Technician (CTT) module should be included in the SCCTT appendix. These are the FOPs for T 309, T 121, T 152, and T 23. The committee approved their inclusion. *The related CTT FOP short forms will be included in the Appendix.*	DESNA BERGOLD
POWERPOINT	Desna drafted the master Slides for the PowerPoint presentation. The committee reviewed and approved. Desna will draft the PowerPoint	DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	presentations for the module but asked if anyone could provide some pictures of SCC being placed in the field. *Desna Bergold will draft the PowerPoint presentations.* *The QAC members will try to obtain pictures of SCC being placed.*	
FOP LIBRARY		
DISCLAIMER	*FOP Library Workplan* While working on the documents for the Operations Manual, Desna found a proposal to include a disclaimer on the WAQTC webpage concerning the use of the FOPs in the library. Proposed disclaimer to be posted on the web page: 'These Field Operating Procedures are to be used for training purposes only unless specifically identified in a contract document.' This was never implemented. The committee decided that it was unnecessary to pursue putting it on the webpage. *The disclaimer will not be included on the webpage and will be removed from the* FOP Library Workplan.	DESNA BERGOLD
TM 14	*WAQTC TM 14, Asphalt Mixture Laboratory Prepared Test Specimen* WAQTC TM 14 has been completed and the member agencies are ready to use it. Desna will check the formatting and have the practice included in the FOP library on the webpage. Committee members should distribute TM 14 in their agency and collect feedback. Comments and suggestions should be brought to the 2020 Summer meeting. *TM 14 will be included in the FOP Library on the WAQTC webpage.* *QAC members are to distribute TM 14 and collect feedback for the 2020 Sumer meeting.*	DESNA BERGOLD QAC MEMBERS

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
T 304	*FOP for AASHTO T 304, Uncompacted Void Content in Fine Aggregate* Kevin drafted the FOP for this AASHTO procedure. The committee reviewed it and Desna asked if the Overview, which is in the AASHTO, is necessary. The Overview is a vague restatement of the procedures that has been known to confuse technicians. The committee agreed and the Overview will be removed. Kevin volunteered to be the Champion for this FOP. Desna was asked if she kept a list of the Library FOP Champions. She indicated that the only place they are currently listed is in meeting minutes. She suggested that a list that may not be easily accessed is not the best place for this information. She suggested including the Champion's name in the Comments of the document properties. The committee agreed. Desna will also determine if there is a place in Style Guide or Workplan to provide instruction on referencing an FOP's Champion's name. *The FOP for AASHTO T 304 will be included in the FOP Library on the WAQTC webpage, Kevin Burns is Champion.* *Desna will include the location of the identity of FOP Champion in the document properties in the appropriate Operations manual document.*	DESNA BERGOLD
TM 16	*WAQTC TM 16, Determining the Percentage of Flat and Elongated Particles in Coarse Aggregate* Sean drafted the WAQTC test methods based on ASTM D4791. The committee reviewed the method and Desna asked if the Proportional Caliper Device requirements could be included instead of referencing the ASTM method. It seems pointless to draft a WAQTC method that requires the purchase of the ASTM. Sean indicated that the caliper description and figure are pretty complicated and just referencing the ASTM would work. The committee agreed.	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	The test method was approved and will be included in the FOP library on the WAQTC website. Sean volunteered to be Champion. *TM 16 will be included in the FOP Library on the WAQTC webpage, Sean Parker is Champion.*	DESNA BERGOLD
OTHER PROPOSED ADDITIONS TO THE FOP LIBRARY	*AASHTO R 79; Vacuum Drying Compacted Asphalt Specimens* *AASHTO T 331; Bulk Specific Gravity (G_{mb}) and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method* Kevin suggested that FOPs for AASHTO R 79 and T 331 be developed. R 79 is referenced in the FOP for AASHTO T 166 and T 331 is used when the specimens have open and interconnected voids and T 166 cannot be used. An FOP for AASHTO R 79 was briefly discussed while the committee discussed T 166. Kevin volunteered to draft the FOPs for both and serve as Champion. Misty expressed interest in helping with the FOP for AASHTO R 79 and offered to create the first draft and send it to Kevin. Sean will discuss these new additions to the Library with the Board. *Kevin Burns will draft FOPs for AASHTO R 79 and T 331 for the 2020 Winter meeting.* *Misty Miner will assist in drafting the FOP for AASHTO R 79.* *Sean Parker will inform the Board of these additions to the FOP library.*	KEVIN BURNS MISTY MINER SEAN PARKER
ADMINISTRATION MANUAL & RPIH	*WAQTC Administration Manual and Registration, Policies, and Information Handbook (RPIH)* Steve asked if there were any minimum experience requirements for TTQP trainers. The committee reviewed the *Administration Manual* and confirmed that there are no	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	minimum years, but a trainer must be qualified in the module they are training. The committee considered that perhaps the Board should be consulted on adding further requirements for trainers. *Sean Parker will discuss trainer requirements with the Board.* Steve asked the committee to consider requiring the Aggregate Testing Technician (AgTT) qualification as a prerequisite for other qualifications in the *Administration Manual*. Although the committee agreed that it is helpful to have this qualification first, given the training and construction schedules, it isn't feasible to require it. Desna recommended addressing this in ITD's RPIH. The RPIH is intended to be modified to cover agency specific requirements. She then searched for ITD's RPIH online and Steve was pleased to see that AgTT qualification is already listed as a recommendation for Asphalt Testing Technician (AsTT I and II) qualifications. *No further action required at this time.* <u>Revisions to the *Administration Manual* and *RPIH*</u> While reviewing the requirements for trainers in the *Administration Manual,* Desna noticed that it had requirements for 'future' instructors. This seems to be a holdover from the beginning of the program. She recommends removing the term 'future.' Desna drafted revisions to the *Administration Manual* and *RPIH* to address the AASHTO title and number revisions. *Revision to the* Administration Manual *and* RPIH *will be presented to the Executive Board.*	SEAN PARKER DESNA BERGOLD

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
REPORT FROM EXECUTIVE BOARD SPRING MEETING		
REDLINE SHORT FORM FOPS	The Board discussed a request from Garth Newman for the strike-out errata FOPs to assist in training technicians on the changes to the materials. The request was denied at the time. The Board decided that a 'redline' version, comparing the previous year's document and the current final document should be posted as well as the final short form FOP. Desna showed the committee how to access the document comparison function in Word. *No further action required.*	
R 56 CERTIFICATION	The Board asked the QAC to discuss *AASHTO R 56; Certification of Inertial Profiling (IRI)* and determine if there are possibilities for R 56 certification in the future. R 56 covers both 'Equipment Calibration Verification' and 'Operator Certification.' Can there be reciprocity with different parameters and equipment? Misty indicated that MDT does the IRI testing in house, as well as WSDOT, and AKDOT. UDOT has consultants that are qualified, ITD doesn't require qualifications. The QAC recommends surveying member agencies in how they manage the program. *Desna Bergold will discuss a survey of member agencies with the Board.*	DESNA BERGOLD
LABORATORY TESTING TECHNICIAN QUALIFICATION	The Board asked the QAC to develop FOPs for the FOP library for the following standard test methods: • AASHTO T 84, Specific Gravity and Absorption of Fine Aggregate • AASHTO T 304, Uncompacted Void Content of Fine Aggregate • ASTM D4791, Flat and Elongated Particles in Coarse Aggregate. Two of them, AASHTO T 304 and ASTM D4791 have already been drafted. Gilbert said that UDOT includes training materials on AASHTO T 84 in their *Laboratory Testing*	

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Manual, he said that he could provide the Word file to Desna. Desna will reformat into a WAQTC FOP short form for review by the QAC. *Gilbert Arredondo and Desna Bergold will draft a FOP for AASHTO T 84 for review at the 2020 Winter meeting.*	GILBERT ARREDONDO DESNA BERGOLD
MEETING SCHEDULE	The Board asked the QAC to consider future meeting schedules and whether an adjustment could reduce airfare costs. The meetings are usually scheduled from Monday at 1:00 pm to Friday at 12:00 pm. with the expectation that members travel Monday morning and Friday afternoon/evening if possible. These are possibly the most expensive days and times for airfare. It is difficult to determine what airfare costs are and whether one day will be better than another. There is the assumption that the cheapest days to fly are Tuesday, Wednesday, and Saturday. It would be difficult to arrange a 4-day meeting around these days. The committee did determine that there may be some locations that will benefit from starting on Monday morning and traveling on Sunday and later Thursday or early Friday. Those venues that require many of the members to fly on Sunday anyway. The meeting in Anchorage is an example, 4 attendees had to travel on Sunday instead of Monday morning. *The QAC will discuss the travel days when proposing meeting locations.*	QAC MEMBERS
OTHER ITEMS		
AASHTO T 283	*AASHTO T 283; Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage* This is an item from the 2019 Winter meeting. Desna drafted revisions for the AASHTO method. Sean made further revisions and sent it to ITD. Steve wants to ask ITD subject matter experts for one final review. He will ask for the review to be completed in two weeks.	STEVE TAYLOR DESNA BERGOLD SEAN PARKER

TOPIC	Discussion / *Decision*	ACTION REQUIRED BY:
	Sean asked Desna to review his revisions and provide comment. He will draft further revisions for the 2020 Winter meeting. *Steve Taylor will provide comments from ITD by Aug. 3rd.* *Desna Bergold will review the current revisions.* *Sean Parker will provide completed draft revisions for the 2020 Winter meeting.*	
LOCATION OF UPCOMING MEETINGS	The QAC will propose Reno, NV, for the location of the 2020 Winter meeting to be held January 27th through the 31st. Chris indicated that CDOT may not be able to contribute to further QAC meetings as they did this year. Desna recommended the committee hold the 2020 meeting in Utah. She said that there is a nice shopping and dining area with accommodations near a Frontrunner (commuter rail) station, Station Park, in Farmington she could look into. Gilbert knows the area and said it was pretty nice. If we could get accommodations at GSA rates, it would be a great location. Misty said that we had discussed Montana for the 2020 summer meeting, she said it didn't have to be Billings, maybe Missoula would be preferable. The QAC will propose Farmington, Utah for location of the 2020 Summer meeting to be held July 13th through the 17th. If there is any problem getting this location at GSA they would like to propose Billings, Montana as an alternate location. *The locations of the next two meetings and dates of the Summer meeting will be on the Executive Board agenda and discussed at the August meeting.*	DESNA BERGOLD