

2020 WAQTC EXAM TASK FORCE MEETING MINUTES

RECORDER: DESNA BERGOLD, COORDINATOR

DATE: DECEMBER 17, 2020

TIME: 12:00 PM MST

LOCATION: <https://meet.google.com/dvx-roff-rhy>

ATTENDEES:

LARRY ILG, ODOT, VICE CHAIR
L. SCOTT NUSSBAUM, TREASURER, UDOT
MIKE SAN ANGELO, AKDOT & PF
MISTY MINER, MDOT, VICE CHAIR
LORI COPELAND, ITD
RANDY MAWDSLEY, WSDOT
SONYA PUTERBAUGH, AASHTO RE:SOURCE
DESNA BERGOLD, D B CONSULTING

ABSENT:

SHARON TAYLOR, NDDOT
SEAN PARKER, ODOT, CHAIR

AGENDA ITEMS / OBJECTIVES:

1. ASTM D3740 (Soil)
 - a. Review additional questions and the topics that need to be addressed
2. ASTM C1077 (Aggregate)
 - a. Review additional questions and the topics that need to be addressed
 - b. Additional test methods that would be required
3. ASTM C1077 (Concrete)
 - a. Review additional questions and the topics that need to be addressed
 - b. Additional test methods that would be required
4. Recommendations to the Executive Board
 - a. ASTM D3740 (Soil)
 - b. ASTM C1077 (Aggregate)
 - c. ASTM C1077 (Concrete)
5. WAQTC unique exam acceptance criteria
 - a. Original exam – 70 percent overall – 60 percent per test method
 - b. Retest – 70 percent overall even if retesting on only one – 60 percent per test method thereafter
 - c. Recommendation to the Board

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| TOPIC | Discussion / <i>Decision</i> | ACTION REQUIRED BY: |
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| OVERVIEW | <p>Mike San Angelo, AKDOT, began the meeting with a discussion about the nature of the WAQTC exams. The primary focus is the Performance Exams which are meant to measure the technician’s understanding of and ability to perform the tests. He does not want the enhanced written exams to change that emphasis. The group agreed that the focus should remain on the Performance Exams.</p> <p>Scott Nussbaum, UDOT and WAQTC Treasurer, asks what are WAQTC’s goals. UDOT does not require <i>ASTM D3740, Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction</i> nor <i>C1077, Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation</i> accreditations. It only comes up when a company with customers other than the DOT wants to use WAQTC certifications to meet this accreditation. He is unsure what benefit there is to member agencies.</p> <p>Misty Miner, MDT, and QAC Vice Chair, said that outside companies have asked to use the ASTM accreditations in lieu of the WAQTC. The ASTM accreditations cannot be used to receive a WAQTC qualification, agency acceptance of these accreditations depends on the agency’s requirements. She does not feel that there is a benefit to MDT to meet the ASTM requirements.</p> <p>Mike suggested that the Task Force brainstorm a list of advantages and disadvantages. Desna suggested that first the group review the ‘Additional Questions Summary’ and the ‘WAQTC Exams – additional questions spreadsheet’ that she and Sonya Puterbaugh, AASHTO re:source, developed.</p> | |
| ADDITIONAL QUESTIONS SUMMARY AND SPREADSHEET | <p>Desna explained that the summary and spreadsheet are intended to inform and assist the Task Force in developing recommendations to the Executive Board. There has yet to be a decision of whether to try to meet the ASTM requirements or not.</p> <p>She further explained that she used Sonya’s initial review of the soils and aggregate exams to develop a count of additional questions that would need to be developed and what they should cover for each exam. She also reviewed the concrete exams using Sonya’s example. Before the meeting, Desna asked Sonya to</p> | |

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| | <p>review the spreadsheet to determine if it covers the major issues. Sonya said it covered things pretty well.</p> <p>Desna briefly went over the summary, attached, which lists the number of questions necessary and additional requirements, when appropriate.</p> <p>Randy Mawdsley, WSDOT, suggested we look at possibly addressing one discipline at a time. He asked about criteria for asphalt exams. Sonya explained that the requirements of <i>ASTM D3666, Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials</i>, are vague and that re:source already accepts WAQTC certifications for D3666 accreditation.</p> | |
| <p>ASTM D3740 (SOIL)</p> <p>ASTM C1077 (AGGREGATE)</p> <p>ASTM C1077 (CONCRETE)</p> | <p>Larry Ilg, ODOT and WAQTC Vice Chair, pointed out that adapting the soils exams to meet ASTM D3740 appears to be the easiest. Only additional questions are required. Meeting C1077 for concrete and aggregate would also require additional test methods. Additional test methods would increase the time it takes to certify.</p> <p>Desna explained that WAQTC may also need to add or adjust content in AASHTO T 99/T 180 to cover the ‘Significance and Use’ portion of <i>ASTM D698, Laboratory Compaction Characteristics of Soil Using Standard Effort</i>, and <i>D1557, Laboratory Compaction Characteristics of Soil Using Modified Effort</i>, that is not in AASHTO.</p> <p>Lori Copeland, ITD, asked if we would be required to train and test on ASTM methods. She is concerned that this would cause a lot of confusion for the technicians. Sonya said that the exams do not need to cover the ASTM methods, only AASHTO methods, although when the ASTM has a section such as the ‘Significance and Use’ it needs to be addressed.</p> <p>Desna indicated that the training materials probably do cover the information in the ASTM ‘Significance and Use’ section. She will verify this and determine what may need to be adjusted if the recommendation to the Board is to meet ASTM D3740.</p> <p>Mike recommended that initially the additional questions could be the same for all three iterations of the exams to reduce the number of questions that need to be written. Alternate questions can be developed at a later date.</p> | |

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| | <p>The Task Force discussed the advantages and disadvantages of meeting the ASTM requirements for each of the disciplines. The list is attached.</p> <p>Scott asked that each attendee indicate what they would like to recommend to the Board. He says that he is not in favor of expending the effort to try to meet the ASTM requirements and would prefer to focus on improving the exams for all the training materials.</p> <p>Larry suggested that the effort to meet D3740 would be manageable and he recommends moving forward with it. He held off making a recommendation for C1077 and would like to table it for now. Mike agreed with Larry and indicated he would also recommend improving all the exams. Randy concurred with Mike and Larry.</p> <p>Misty does not think meeting the ASTM requirements would benefit MDT, but if the effort will benefit other members of WAQTC, she will support it.</p> <p>She also said that she is good with recommending moving forward with meeting the ASTM D3740 requirements and tabling C1077. Lori agreed with Misty.</p> <p>The task force decided to recommend to the Board to direct the QAC to write additional questions for the soils to meet the D3740 requirements and table C1077 discussions.</p> <p>Desna will review ASTM D698 and D1557 and determine if the ‘Significance and Use’ sections are already covered and if there needs to be adjustments to help inform the Board decision.</p> <p>Larry was asked to forward the Task Force’s recommendation to the Board and try to get a decision before the QAC Winter Meeting.</p> <p><i>Larry Ilg will send the Executive Board the Task Force’s recommendations and ask everyone to vote in one week.</i></p> | LARRY ILG |
| EXAM IMPROVEMENT | All agreed that whether or not the Board decides to pursue ASTM compatibility, the spreadsheet information should be forwarded to the QAC as a guide to improve the existing written exams. | |
| EXAM CRITERIA | <p>Currently the criteria to pass the written exam is:</p> <ul style="list-style-type: none"> • Original exam – 70 percent overall – 60 percent per test method | |

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| | <ul style="list-style-type: none"> • Retest – 70 percent overall even if retesting on only one method – 60 percent per test method thereafter <p>Scott said that Learning Management Systems cannot handle the different exam criteria for section and overall scores and partial reexaminations. UDOT has had to continue scoring the written exam by hand. He would like the WAQTC to consider revising the written exam passing criteria.</p> <p>Misty said that MDT has managed to get their system to deal with the written exam criteria.</p> <p>Scott indicated that he did not have a recommendation for alternate exam criteria and is willing to table the discussion. Desna suggested that adjusting the exam criteria be included on the Executive Board Spring Meeting agenda. Scott agreed and said he would try to have a recommendation by then.</p> <p><i>Adjusting the written exam criteria will be included on the Executive Board Spring Meeting agenda.</i></p> | DESNA BERGOLD |
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The Task Force recommendations to the Board:

1. Forward the ‘WAQTC Exams – additional questions spreadsheet’ to the QAC with direction to use the information to improve the written exams.
2. Direct the QAC to develop additional questions for the Embankment & Base and In-Place Density written exams to meet the criteria of *ASTM D3740, Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction*.
3. Table discussions of whether to develop additional questions for the Aggregate and Concrete modules to meet *C1077, Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation*, requirements until the above efforts are complete.
4. Disband this Task Force and, if necessary, form another if C1077 discussions resume.

Advantages/disadvantages

The advantages and disadvantages of developing content to meet each discipline, many advantages and disadvantages are common:

ASTM D3740 (SOIL)

ADVANTAGES

- May not need to add much except more questions
- When there are more questions there is a better assessment of technician knowledge
- Could be an opportunity to recruit more member agencies

DISADVANTAGES

- Increase length of training
- Negative impact on performance exams
- Adjust for 'Significance and Use' sections
- Need to be aware of ASTM updates – could affect materials updates
- Time to take the written exam will increase
- Additional customers, possibly from vertical construction

ASTM C1077 (AGGREGATE)

ADVANTAGES

- When there are more questions there is a better assessment of technician knowledge
- Could be an opportunity to recruit more member agencies

DISADVANTAGES

- Additional test methods
- Increase length of training
- Negative impact on performance exams
- Time to take the written exam will increase
- ACI reciprocity
- Additional customers, possibly from vertical construction

ASTM C1077 (CONCRETE)

ADVANTAGES

- When there are more questions there is a better assessment of technician knowledge
- Could be an opportunity to recruit more member agencies

DISADVANTAGES

- Additional test methods
- Adjust for sampling
- Increase length of training
- Negative impact on performance exams
- Time to take the written exam will increase
- ACI reciprocity
- Additional customers, possibly from vertical construction

Summary of WAQTC Written Exams

ASTM D3740 (Soil)

Number of additional questions test methods would require (approximate, some topics may be folded into existing questions or multiple topics may be covered in one question).

| Test Method – FOP | Exam No. | No. of additional questions | Additional comments |
|--|----------|-----------------------------|---|
| AASHTO T 265 – Moisture Content of Soils | 1 | 5 | AASHTO does not have a section on significance and use, ASTM C566 does. Information covering the ASTM sections would need to be included in the training materials and questions written. |
| | 2 | 4 | |
| | 3 | 5 | |
| AASHTO T 99 / T 180 – Maximum Density, Optimum Moisture (some questions pertain to only one) | 1 | 9 | AASHTO does not have a section on significance and use, ASTM does. Information covering the ASTM would need to be included in the training materials. |
| | 2 | 8 | |
| | 3 | 9 | |
| AASHTO T 272 – One- Point | 1 | 4 | |
| | 2 | 4 | |
| | 3 | 4 | |
| AASHTO T 310 – In-place Density | 1 | 4 | |
| | 2 | 4 | |
| | 3 | 4 | |

ASTM C1077 Aggregate

| Test Method – FOP | Exam No. | No. of additional questions | Additional comments |
|---------------------------------------|--|-----------------------------|---------------------|
| AASHTO T 11 - Washing | 1 | 4 | Combined with T 27 |
| | 2 | 4 | |
| | 3 | 5 | |
| AASHTO T 27 – Gradation | 1 | 5 | Combined with T 11 |
| | 2 | 5 | |
| | 3 | 7 | |
| AASHTO T 85 – Coarse Specific Gravity | 1 | 5 | |
| | 2 | 5 | |
| | 3 | 5 | |
| AASHTO T 84 – Fine Specific Gravity | Would need to be included to meet full ASTM C1077 Aggregate. | | |

ASTM C1077 Concrete

(Desna reviewed)

| Test Method – FOP | Exam No. | No. of additional questions | Additional comments |
|--|---|-----------------------------|---|
| AASHTO R 60 | Would need to be included to meet full ASTM C1077 Concrete. | | |
| AASHTO T 309 – Temperature | 1 | 4 | Questions on Sampling would need to be consistent with the AASHTO/ASTM methods. |
| | 2 | 2 | |
| | 3 | 3 | |
| AASHTO T 119 – Slump | 1 | 5 | Questions on Sampling would need to be consistent with the AASHTO/ASTM methods. |
| | 2 | 8 | |
| | 3 | 5 | |
| AASHTO T 121 – Density / Unit Weight | 1 | 4 | Questions on Sampling would need to be consistent with the AASHTO/ASTM methods. |
| | 2 | 3 | |
| | 3 | 3 | |
| AASHTO T 152 – Air Content Pressure Method | 1 | 5 | Questions on Sampling would need to be consistent with the AASHTO/ASTM methods. |
| | 2 | 6 | |
| | 3 | 5 | |
| ASTM C173 – Air Content Gravimetric | Would need to be included to meet full ASTM C1077 Concrete. | | |
| AASHTO T 23 – Making Specimens | 1 | 7 | Questions on Sampling would need to be consistent with the AASHTO/ASTM methods. |
| | 2 | 6 | |
| | 3 | 6 | |