Highlight in yellow = being worked on by the sub task group.

Highlight in Blue = issue addressed.

Highlight in green = co-chairs are working on issue

No highlight=no action on item yet.

Numbers in (nn) = original CALTRANS log number for comment. Note some comments were duplications and have been moved to the duplicates list by industry.

Beginning with the April meeting, ISSUE-SPECIFIC ACTION ITEMS ARE INDICATED IN BOLD, WITH UNDERLINE.

Issue 1. (1)

New mix design when RAP Specific Gravity changes by > ± 0.06

Comment: (3/6/2013) This is being addressed by focus group.

(3/12/2013) CT is looking for data – they don't know what else is changed. CT wants industry bidders to try to make the value. Caltrans will provide language on this, asking for contractors to take action, modify their JMF. CT is trying to make sure contractors manage their stockpiles. (see upshot # 12)

Comment - (4/1/13) Industry would like data from Caltrans – make request at next Superpave STG meeting on 4/11/13.

(4/11/2013) CT has no data to show – They will show it when it becomes available.

(5/15/2013) Waiting for more data.

Issue 2. (3)

VMA for ¾ and ½ inch mixes (13.5/14.5)

Comment: (3/6/2013) Industry is providing information based on the last meeting.

(3/12/2013) CT not seeing a problem with this. Problem is when Hveem mix design is put into a Superpave mix design. Data are limited. Industry is providing information and their position on this. The VMA requirements during JMF verification/production is -1+3.

Comment – (4/1/13) Delete VMA requirement for 1" HMA Type ~~A~~ C in Mix Design Table.

(4/11/2013) CT: re: "Delete VMA requirement for 1" HMA Type ~~A~~ C in Mix Design Table." **This will be resolved in the spec to match what is in the existing thype C SSP.**

Comment – (4/1/13) Need field data from pilot projects.

(4/11/2013) When data are sent out from CT the data are sanitized. CT will put data out within a week of receipt. This is updated weekly.

(4/11/2013) **Joe will add two columns to the Caltrans Data Sheet. (RAP specific grav, and Binder Content) Joe will re-send out the data sheet from mthe pilot projects.**

Issue 3. (4)

Dust Proportion for 3/8" mix (0.9 -2.0)

(3/12/2013) Industry will establish a focus group for this item. CT wants data and recommended tolerance.

Comment – (4/1/13) Want more information from Caltrans concerning the need for this requirement.

(4/11/2013) CT picked the range based on what other people are doing. CT says this is the best they could come up with. Please feel free to come back to CT with a better number. **Industry will survey its members and report at the May meeting, with a recommendation. Industry will send dust proportion data to Rita by 25 Apr 2013. Contact Audrie .Spears@dot.ca.gov and send her the data.**

(5/15/2013) e mail was sent out to get data – Industry is still waiting for data from contractors. CT is waiting for the data. CT is looking for any data on the 3/8" only mix. Superpave or otherwise. The more data industry provides, the better CT will be able to make the decision. CT says this 3/8 requirement is at the request of industry and a by-product of the 3:1. Industry says that issue here is that they are being told how to obtain the performance. **Contact Audrie .Spears@dot.ca.gov and send her the data**.

Issue 4. (18)

QA Test Turn-around time should be same as QC test turnaround time

Comment : (3/6/2013) This is not within the scope for Rock Products.

Issue 5. (19)

To resolve dispute both QC and QA data should be reviewed. Initially by Engineer and Contractor and then ITP, if needed.

Comment : (3/6/2013) This is done. May be complete – will discuss in the larger group. Data sharing is already in the spec.

(3/12/2013) This is required already.

Issue 6. (21)

Minimum binder content of 7.5 (BTW) (8.1 BDW) may be a problem. Does Caltrans have data to support this change?

Comment : (3/6/2013) CT says they don't think this is an issue. Industry needs to provide data. Industry is working on this.

(3/12/2013) Industry in the process of collecting data to bring back to Caltrans

Comment – (4/1/13) See Industry document on data collection

Comment – (4/1/13) Caltrans needs to provide data to support changes. Industry ACT Co-chairs will address this with their Caltrans Task Group on April 9 2013.

(4/11/2013) Resolution pending receipt of data from UCPRC

(5/15/2013) Data from Superpave job is available. There will be a meeting between CT and UCPRC and Joe will report back.

Issue 7. (23)

It is very difficult to screen RAP on a ¼" screen. Why is this required? Nearly all state fractionate on the ½" or 5/8" screen.

Concern: (3/12/2013) This is moved to RAP RAS group.

Issue 8. (30)

Section 39-1.01C(1): "Submit quality control test results within 2 days of request" This is a very tight time frame since AASHTO T283 takes longer than this to perform…If the test result is requested on the day of production this is impossible to meet. Also is this business days or regular days?

Comment : (3/12/13) Joe agrees with this and will make the adjustments to the specification. (see upshot # 13)

Resolution: Section 39-1.10(C)1 has been modified to "Submit all completed quality control test results within 2 days of a request. Submit all quality control tests within 7 days of a request."

22Mar13

Comment – need clarification. Want 7 business days for T283 & T324. Per plain language…is it "business days" or just "days?" Is this the same as issue # 31 (72 hours to 3 business days). Consider challenge if contractor must rely on 3rd party testing lab.

(4/11/2013) CT says this is 7 calendar days. Under plain language, "days" is calendar days.

Issue 9. (50)

Where is the data? Several projects have been put out on a 'pilot' basis. There are rumors that not all the criteria have been met and 'concessions' have been made. Information gathered on these projects need to be shared with industry and other Caltrans Districts.

Comment : (3/12/2013) CT and industry will both collect data.

Issue 10. (103)

Section 39-1.02M(4)(d) JMF Verification: Dust Proportion (DP) (design value +/-0.5%). Not a good idea. Are we saying that if we have a DP design value of 1.1, then we will be allowed 0.6 to 1.6 during production? I'm not sure that's a good idea. Same thing on the low side of the range. EXAMPLE: Let's assume a mix design P_{be} of 4.2%, a P200 of 4.7% and a corresponding DP of 1.1 So if the P200 were to increase to, say 6.0%, using the P_{be} of 4.2%, DP would be 1.43. So a P200 delta of 1.3 would change the DP by 0.33. And a DP tolerance of +/- 0.5 would be a P200 range of ~2%. Though allowed in the gradation tolerance, it would be terrible for volumetrics. A more severe example would be a DP design value of 1.4 with an allowable tolerance of 0.9-1.9? I don't think so! Not many producers will want their P200 to be changing by 1.3% or more from mix design to production. Though we've seen the generation of large amounts of fines during production, we all know this is not a good practice. In addition, it will likely cause VMA to drop more than the allowable 1%. It should be sufficient for the DP to be within the design range of 0.7-1.4.

Comment: ~~Tony will edit this down, we will bring forward at next meeting. (see upshot # 14)~~ CT response: Unless otherwise specified, CT tolerances are based on the range.

Issue 11. (2)

Why are we adding Freeze Thaw requirement AASHTO T 283?

Comment: (3/6/2013) Industry and Caltrans were told this is a pilot. CT does not plan to remove this requirement for freeze-thaw.

Comment:

Issue 12. (5)

Requirement for T283 dry strength may be problematic for RHMA-G mixes

Comment: (3/06/2013) Caltrans data does not show the 120 PSI strength as problematic. Industry is collecting data on this Issue.

(3/12/2013) Caltrans waiting for test results from industry. Goal is to get as many quality mixes through this as possible.

(4/8/11) Industry/Caltrans needs to run dry strength on successful RHMA-G (see issue No. 6)

(4/11/2013) There is no discussion at this time within CT to do away with T283. UC PRC research for the last year, and other multi year research suggests T283 be a very unreliable indication of moisture sensitivity for HMA, so why would this be more accurate for RHMA-G? T283 and other states' versions of this test are currently in use. **Caltrans and industry will collect data on this on an ongoing basis.**

(5/15/2013) Industry will continue to provide additional information. CT should dump T283 .

Issue 13. (6)

Temperature for HWT 140 F.

Comment: (3/6/2013) AASHTO says temp for Hamburg wheel tracker is between is 50-70 C. Temperature was chosen because it is the temperature typically used. This is not a change.

(3/12/2013) Joe sent information from other states back to the co-chairs. CT says see what the data show. CT does not see any problems early on in this. Expectation is that you will have less than about 12 mm of rutting. More data are needed on Superpave across the board. CT will be double setting at 50 and 60 degrees C. Industry is encouraged to do this as well.

(4/11/2013) CT is looking at data from other states. When they get more information on this they will bring it back to the group.

(5/15/2013) CT is still looking. They run samples at both 50 and 60 to see what the difference is. CT and industry are still looking at this and adding data.

Issue 14. (7)

What is significance of the Asphalt Binder Set Point calculation? Is this different than mix design OBC? This calculation is unnecessary.

Comment : (3/6/2013) Industry: there is a bug in there that gives you 2/10 less oil than you are looking for. Industry will provide more information on this. Caltrans will look at this as well. This may not be needed.

(3/12/2013) Caltrans will take this out of the specification.

Issue 15. (8)

Is there a 5 day review and 20 day waiting period for an adjusted JMF after a failed verification?

Comment : (3/6/2013) CT: This is standard Spec language and the answer is "YES."

(3/12/2013) CT: Yes. This is intended to be identical to Section 39.

Issue 16. (9)

Fracture faces criteria (what is impact on available materials)

Comment : (3/6/2013) Industry will have to do a physical analysis to see if they meet the crush count to meet Superpave. If not, they will have to make an economic decision to make the capital investment to buy the equipment to meet this.

Issue 17. (10)

Removing the word "consecutive" for QC quality characteristics test for 1 days production is counter to the FHWA peer review teams recommendations

Comment: (3/12/2013) CT: This is not a correct statement, problem is that CT can't find the words to properly express the intent. CT looking for collaboration with industry to fix this. Industry and CT will meet to discuss between meetings.(see upshot 15)

(4/11/2013) Joe will work with Rita to resolve this and report back at the May meeting.

Resolution The word consecutive has been added back in. Caltrans is only comfortable with this if the next paragraph in the specification remains .

(5/15/2013 Only the word "any" will be delete, otherwise the spec stays as follows:

For any quality characteristic except smoothness, if ~~any~~ 2 consecutive quality control test results for 1 day's production do not comply with the specifications:

1. Notify the Engineer
2. Take corrective action
3. Show how you will comply with the specifications before resuming production and placement on the State highway

For any quality characteristic except smoothness, if any 3 quality control test results for 1 day's production do not comply with the specifications:

1. Stop production
2. Notify the Engineer
3. Take corrective action
4. Show how you will comply with the specifications before resuming production and placement on the State highway

Issue 18. (11)

New language regarding 3 consecutive quality characteristics may be problematic

Comment : (3/6/2013) CT will work with co-chairs to re-work the language. Co-chairs will come up with the draft language.

Industry and CT will meet to discuss between meetings.(see upshot 15)

(4/11/2013) Joe will work with Rita to resolve this and report back at the May meeting.

Comment (JFP) See issue 17

Issue 19. (12)

Language regarding 2 consecutive quality tests, as it is written, production has been stopped and this is not the case. Bullet #3 should be removed or at least the wording "before resuming production and placement on the State highway"

Comment : (3/6/2013) This is related to Issue 10. See Issue 10.

Industry and CT will meet to discuss between meetings.(see upshot 15)

(4/11/2013) Joe will work with Rita to resolve this and report back at the May meeting.

Comment (JFP) See issue 17

Issue 20. (13)

In the table for Miscellaneous Minimum Quality Control, Do we really need to test Asphalt rubber binder viscosity for all OGFC? The table in 39-1.01D does not specify

Comment: (3/6/2013) Pending determination by larger group.

(3/12/2013) No one has a problem with this.`

Issue 21. (14)

Reference to AASHTO Certified Laboratory, are technicians required to be certified for viscosity test?

Comment : (3/6/2013) CT says yes, technicians will be performing an AASHTO test, so they must be tested and witnessed by CT IA. They will need to be attached to a lab or something. CT is working on the written test for a letter of proficiency for an AASHTO test.

(3/12/2013) For any portion of the superpave mix design, testers are required to be certified in that test, and the labs must be CT certified, AMRL accredited, and all techs need to be certified under the CT program, per CT IAP. For HMA, certification is not required for QC testers, but is strongly encouraged by CT. If viscosity test is a part of the contractor's QC the tester does not have to be certified.

Issue 22. (15)

Are satellite laboratories considered AASHTO accredited? Need guidance somewhere; QC/QA Manual?

Comment: (3/6/2013) Caltrans is not requiring small construction labs to be AMRL accredited. Industry concern: satellite labs at plants in the field cannot be accredited because there is not a full-time engineer in the trailer. CT will provide the guidance. Industry will discuss and review.

(3/12/2013) AMRL accreditation is required for labs doing mix design work. Satellite labs need to be CT certified, and meet the requirements of the CT IAP. CT will provide guidance defining what is a satellite lab.

Issue 23. (17)

Note 2 regarding RAP moisture not clear

Comment : (3/6/2013) More information needed from industry to clarify this question.

Comment : (3/6/2013) Caltrans is OK with this and is awaiting data from industry to show what the difficulty is, and what the majority of the other states are doing.

(3/12/2013) CT will reword this statement. 39-1.01D(7) number 2 at the bottom. (also include in 39-1.01D8)

22Mar13 – See comment in margin!

Resolution: Spec language changed to "Determine the aggregate moisture content in continuous mixing plants at least twice a day during production"

(4/11/2013) Caltrans will make the change by May mtg.

Resolution: Change made

Issue 24. (20)

Will Engineer be responsible for mixes containing too much binder when request to lower binder content is denied?

Comment : (3/6/2013) Industry will seek clarification from larger group. What is the intent of this question?

(3/12/2013) This has gone away in the Superpave spec.

Issue 25. (22)

Is cryogenically crumb rubber allowed?

Comment : (3/6/2013) CT: uh, never mind. ~~This is not allowed in the specification.~~

(3/12/2013) It has to be ambient ground

Issue 26. (25)

Can ether size fraction be used without the other? Can ether size fraction be used without the other?

Comment : (3/6/2013) With the pilot, both fractions must be used. The Superpave spec non-pilot percentages of fractionated RAP will be at the contractor's option.

(3/12/2013) For non-pilot, when RAP is greater than 15%, you must fractionate. There is no requirement to use both sizes, except with the pilot.

Issue 27. (26)

There needs to be a statement that both fractions shall be used at the percentages determined by the contractor equal to 25.0 ± 1.0 percent.

Comment : (3/6/2013) The language is clear in pilot projects. - contractor must use these percentages.

Issue 28. (27)

How is RAS being addressed for use in Superpave? Will RAS be allowed in Superpave?

Comment : (3/6/2013) This is not addressed in the Superpave currently, but it will be in the final spec. This is pending work by RAP/RAS sub task group.

Issue 29. (28)

Can batch weights be accumulative for RAP (and RAS when allowed) at batch Plants

Comment : (3/12/2013) Currently this is beyond the scope of this group. This is part of the MPQP.

Issue 30. (29)

Section 39-1.01B: "Final riding surface exclusive of OGFC" This would be clearer if the term OGFC matched what is written for the surface course definition above. Possibly change to "exclusive of HMA-O or RHMA-O" to match the surface course definition?

Comment : (3/12/2013) CT will clarify this language.

Resolution: Spec language changed to "**top layer:** Final riding surface exclusive of HMA-O or RHMA-O."

22Mar13

Comment – This is OK.

Issue 31. (31)

Section 39-1.01C(1): "For tests performed under AASHTO T324 (Modified) as specified in section 39-1.01D(1), submit test data and 1 tested sample set within 72 hours of sampling." Is this business hours or regular hours?

Comment : (3/12/2013) It is 72 regular hours. Caltrans will change this to "Three business days."

Resolution: Spec language changed to "For tests performed under AASHTO T324 (Modified) as specified in section 39-1.01D(1), submit test data and 1 tested sample set within 3 business days of sampling."

22Mar13

Resolution – see comment #8.

Issue 32. (32)

Section 39-1.01C(2)(b) On the chart for Air Voids Content: The test method is shown as AASHTO T 269 but on the CEM-3512SP it is shown as SP-2. These should match.

Comment : (3/12/2013) CT will investigate this and remedy it.

Resolution: CEM 3512SP has been changed from SP-2 to AASHTO T269

22Mar13

Comment – change has been made on CEM #3512SP. Verify that it has been posted on web site!!!

(4/11/2013) CT will update the web site. Check in in May meeting.

(5/15/2013 CT will update the web site, as soon as the new staff person is on board. Check in in the June meeting.

Issue 33. (33)

Section 39-1.01C(2)(b) On the chart for Air Voids Content: Why are there values for $N_{initial}$ and N_{max}? This format is extremely confusing. The number of gyrations don't seem to apply to this section.

Comment : (3/12/2013) Industry will look at this again to validate that there is an issue. It may make sense as is. CT we will wait for the comment back from industry.

22Mar13 **Comment – Joe Peterson will insert the "@" symbol to eliminate confusion.**

4/11/2013 Joe will make the change and confirm in May mtg.

(5/15/2013) CT Comment: Upon further review if the @ sign is used it would signify that the air voids have to be at that value i.e. Ninitial@ 8.0 means at 8.0, The spec requires greater than 8.0 at Ninitial. CT does not want to put the @ sign in.

Issue 34. (34)

Section 39-1.01C(2)(b) On the chart for Gyration Compaction: "N_{max}=130" According to the N_{max} calculation in SP2, for the N_{des} of 85 the N_{max} should be 133 (with one decimal it is 132.5).

Comment : (3/12/2013) CT is using hard limits on gyrations, rounded.

Issue 35. (35)

Section 39-1.01C(2)(b) On the chart for Gyration Compaction: "N_{ini}=8" According to the N_{max} calculation in SP2, for the N_{des} of 85 the N_{ini} should be 7 (with one decimal it is 7.4).

Comment : (3/12/2013) CT is using hard limits on gyrations, rounded.

Issue 36. (36)

Section 39-1.01C(2)(b) On the chart for VMA: All of our other volumetrics are matched up with the typical Superpave specs (i.e. VFA, air voids, dust proportion, etc.) If our VMA is required to be higher we will not necessarily have the same success in results as the rest of the country that is using Superpave. Superpave specifies 13.0 for ¾", 14.0 for ½", and 15.0 for 3/8". Why are we not matching our VMA requirements with SP2?

Comment : (3/12/2013) CT not seeing a problem with this. Problem is when Hveem mix design is put into a Superpave mix design. Data are limited. Industry is providing information and their position on this. The VMA requirements during JMF verification/production is -1+3.

4/11/2013 This is ongoing. CT will lock at 13 if industry wants. **Joe will send clarification to the DME's on VMA requirement. May meeting report back.**

(5/15/2013) Comment (JFP) The VMA requirement of 13.5 is during mix design only. In verification and production the specified value is 12.5. This has been clarified to the DME's.

Issue 37. (37)

Section 39-1.01C(2)(b) On the chart for Hamburg Wheel Track, note c: "Test plant produced HMA" Since this chart is for mix design this requires the supplier to do a full mix design and run it through the plant prior to verification just to get test results for the Hamburg test. If there is fear of there being a difference between lab compacted and plant produced this should be tested at the verification, not on plant produced material during the mix design phase.

Comment : (3/12/2013) CT encourages contactors to do this in the design phase. Include the cost of the verification in your unit price.

22Mar13 Requiring HWT (with plant-produced material) as part of JMF "verification" is onerous…expensive and time consuming. Why not use lab-produced material…like we do for all other tests…as part of the JMF submittal? If contractors consistently fail HWT during production, Industry is willing to revisit this proposal.

4/11/2013 Caltrans will provide guidance on splitting samples and running the JMF this way. Joe will coordinate with Al for presentation at the May meeting.

(5/15/2013) Joe will send out draft lab instruction language that reinforces what CT thinks is a good process. The time of 20 days will not change. CT will do what the spec says on plant-produced material. This is part of the verification process. Split samples would be too convoluted and too difficult to enforce. CT will encourage the districts to communicate with industry partners when the lab portion is all done. You would call the RE and coordinate splitting a hot drop sample – if you are happy with the results, you call the RE and say, "Yes, proceed with the verification." CT will not consider the mix design complete until they have the hot drop sample. The lab instruction will recommend to the districts that they do accept the 3511 and 3512 with the mix design submittal, less the hot drop verification. The acceptance/verification time does not start until the contractor notifies the RE to proceed with testing on the hot drop.

Issue 38. (38)

Section 39-1.01C(2)(b) On the chart for Hamburg Wheel Track (inflection point minimum number of passes): it indicates that there is a footnote "f" however there is no footnote f below the table.

Comment :

Resolution: Spec Language changed, "f" deleted

22Mar13 – This has been done.

Issue 39. (39)

Section 39-1.01C(2)(c): "For each job site delivery of LAS" Is this supposed to mean delivery to the plant?

Comment : (4/11/2013) Yes, this means delivery to the plant.

Issue 40. (40)

Section 39-1.01C(2)(c) 1.5 under Batch Mixing: "of the dry aggregate weight" Everything else in the new specification is TWM, why is this TWA?

Comment :

Resolution: Spec Language changed to "1.5. Asphalt binder content as a percentage of the total weight of mix"
22Mar13 – This has been done.

Issue 41. (41)

Section 39-1.01C(2)(c) 2.8 under Continuous Mixing: "of the dry aggregate weight" same (as #6

Comment :

Resolution: Spec Language changed to: Asphalt binder content as percentage of the total weight of mix calculated from:
22Mar13 – This has been done.

Issue 42. (42)

Section 39-1.01D(1): "the engineer re-verifies the JMF if HMA production has stopped for longer than 30 days and the verified JMF is older than 12 months". The way this reads, as long as we are producing off of the verified JMF once every 30 days we do not have to re-verify, even if the JMF is older than 12 months.

Comment :

Resolution: Spec Language changed to "The Engineer reverifies the JMF if HMA production has stopped for longer than 30 days and the verified JMF is less than 12 months old."

22Mar13 – This has been done.

Issue 43. (43)

Section 39-1.01D(3): "3. HMA Plant Manager" Is it really necessary to have the plant manager present? In most cases it would be just as useful if not more useful to have the plant's QC manager, superintendent, foreman, or operator there. Maybe re-word to say plant operations representative?

Comment : (4/11/2013) CT says if this becomes a problem please bring it to Joe's attention. Whomever the RE is OK with would be OK with Joe. Industry would like it to say "Plant Representative."

Issue 44. (44)

Section 39-1.01D(4): the minimum sampling and testing frequency for agg moisture is 2 per day… if the day only consists of 200 tons this is extreme overkill. Revise to have specific tonnage as another option. This issue is also present in section 39-1.01D(6).

Comment :

Resolution: Spec Language changed to "1 per 1500 tons and any remaining part"

22Mar13

There is a conflict between the narrative in 39-1.01D(7) and (8) and the table shown in 39-1.01D(5) – Min QC Testing. In the table amend to "first 1500 tons."

(4/11/2013) Joe needs to amend the other section. Report in May.

Resolution:Language changed in 39-1.10D(7)

Issue 45. (45)

Section 39-1.02E: "Aggregate shaking time must not exceed 10 minutes for both course and fine aggregate portions" Determining how long to shake aggregate for in your mechanical shaker is part of the calibration process and AASHTO T27 requires you to continue sieving past 10minutes if the appropriate mass is not passing a sieve in a given time period in order to achieve adequate sieving. This requirement should be removed from section 39.

Comment : (4/11/2013) stopping in ten minutes falls in line with CTM202. CT moving to AASHTO and ASTM to the extent possible. CT expectation is that the IA people know this limitation.

Issue 46. (46)

Section 39-1.02J(1): "must have 25 ± 3 percent RAP", section 39-1.02F specifies that you must have 25 ±1 percent RAP. These should match.

Comment : This is only for the pilot projects.

Issue 47. (47)

Section 39-1.02J(4): "LAS must be from 0.5 to 1.0%" The last line of Section 39-1.01C(2)(b) specifies that you must use 0.5% LAS on RHMA-SP-G. Can we change one or the other to match each other?

Comment : Joe will make this change and report in May. Will change it to ".5 to 1%".

Resolution: Changed

Issue 48. (48)

If a contractor is lime treating aggregates they are required to perform AASHTO T 335, T 96, T 304 and ASTM D4791 will these tests be waived under 39-1.01D(4) Quality Control Testing during HMA production? Seems very redundant.

Comment : (5/15/2013) Lime-treatment will not change things – you always check your materials prior to lime treatment. This is covered in 39-1.02J(10.)

Issue 49. (49)

For the gauge bias it will be as per 375, 10 locations, 20 cores? I know that some testing firms only doing 5 to 10 cores. Will the density paperwork need to be submitted to Caltrans (CEM-3502 or equivalent)

Comment : (JFP) This is a QC test. Paperwork will only be submitted on CEM-3502 if requested by the engineer

Issue 50. (51)

Majority of producers/labs that have been polled that are looking at purchasing Superpave equipment that Caltrans has purchased to eliminate any future testing issues. This will lead us to the same position that we are in now – a single manufacturer that does not have the ability to upgrade and supply equipment.

Comment : (JFP)We do not specify equipment. CT has three types of wheel trackers, for example. Gyratory falls into a national standard. CT will only buy off-the-shelf equipment with all standard parts, etc.

Issue 51. (52)

A round robin would help us understand both equipment and testing issues.

Comment : (5/15/2013) This is a good thing to do. This year's program is already established. CT is planning a round robin for 324 and 316 next year. In 2014 look for the Caltrans RSP to send materials out. Caltrans will work on this next year.

Issue 52. (53)

Superpave designed mixes end up with different asphalt contents. Does this mean that the millions of tons produced with the Hveem method were no designed properly. Are we really getting a better product.

Comment : (5/15/2013) We really hope so….

Issue 53. (54)

For RHMA the minimum AC% has been increased by 1%. Do we really want RHMA mixes with so much binder that there may be a stability, bleeding and rutting issue?

Comment : (5/15/2013) CT is collecting data to verify the mixes. High binder jobs have not shown this to be a problem. The data are limited.

Issue 54. (55)

Can one Caltrans person really drive the Superpave program and come up with the best program for the State?

Comment : Joe is the focal point, and it is a collective effort between Caltrans and Industry.

Issue 55. (56)

My primary concern is still with increasing the VMA from AI SP-2 requirements by half a percent and then requiring this to be met during production with a -1% +3 % requirement. We have difficulty

meeting the VMA requirement today, when it is increased and then incorporated into production requirements, this will be a problem. The VFA for Caltrans Super Pave is identical to AI SP-2, why not follow the VMA guidelines, these two volumetric properties are very much related.

Comment : (5/15/2013) VMA is resolved. See the last comment for the VFA.

Issue 56. (57)

During the JMF verification the HMA Plant binder set point should not have to be at the OBC target. The Binder target during verification can remain the JMF OBC but allow the supplier to set the Plant as he sees fit to achieve the Binder target.

Comment : (5/15/2013) For Superpave this is done.

Issue 57. (58)

RHMA-SP-G: When the minimum target is raised from 7% of DWA to the new minimum of 7.5% of TWM this is a net increase of .9% binder. What positive goal is achieved by increasing the cost of the mix this dramatically? Volumetrics could be difficult to achieve at the higher binder content for ¾" mixes.

Comment : (5/15/2013) CT is aware of the increased cost associated with higher binder. Benefits and performance are expected to outweigh the cost.

Issue 58. (61)

Caltrans believes that the Hamburg inflection point and the TSR are not redundant tests. But he is wrong and the TSR should be eliminated with the adoption of the Hamburg inflection point testing.

Comment : (5/15/2013) CT considers each one of the tests unique and gives a measurement of different qualities. Industry comment: TSR results lack validity.

Issue 59. (62)

4.9 *Authorized lime ratio for each aggregate size being treated.* Why have we changed to "Authorized" from Approved? It's still the contractor that is determining the exact lime proportions correct? Authorized makes it sound like we are being directed by Caltrans on what proportions to use

Comment : (5/15/2013) **CT will look at this – Spec 101 C(2)D should be the same language as in. Section 39. This may be a plain language issue (2010 spec) and report back.**

Issue 60. (63)

Under Hamburg Wheel-Track testing what is the benefit of measuring for impression every 100 passes as opposed to the 400 passes as per AASHTO T324?

Comment :

Issue 61. (64)

Why is there a requirement to notify the Engineer at least 2 business days in advance of sampling materials for QC testing?

Comment :

Issue 62. (65)

I know this has nothing to do with Superpave but this was my Christmas wish out of the Sears Christmas catalog this year…Caltrans needs to start specifying WMA in RHMA for some of their Districts, not contractor's option. As most of the RHMA in District 4 is placed at night it would be in everyone's best interest to use a WMA technology in this cool, moist environment.

Comment :

Issue 63. (67)

STOP SPECIFYING 1/2-INCH AGGREGATE WHEN PAVING 0.10 FT THICKNESS!!!!

Comment :

Issue 64. (68)

Is the Thickness Range table an Industry proposal? If not I guess Caltrans is in agreement that 1/2" should not be placed at a 0.10'.

Issue 65. (69)

Why is the premix of asphalt binder and modifier now needed to be mixed for 20 minutes?

Comment :

Issue 66. (70)

The tack coat on the vertical surface of a construction joint should be allowed to be omitted if new HMA is placed during the same shift (as allowed between HMA layers, bullet #2). If 2.1 and 2.2 are met.

Comment :

Issue 67. (71)

Variability of the Hamburg test

Comment :

Issue 68. (73)

Gyratory Compaction Temp – PM binders and Higher RAP mixes.

Comment :

Issue 69. (84)

The draft Superpave spec shows a gradation for 1" mixes but there are no design requirements listed for this mix.

Comment :

Resolution: Spec Language changed, Type C mix has design requirements.

22Mar13

Comment – Is the min VMA requirement (13.5%) for 1-inch Type A mix a typo? Should the min VMA requirement for a 1-inch Type C be dependent upon the NMAS - ¾-inch or 1-inch…13.5% or 14.5%?

Issue 70. (85)

I thought we were going to be looking at a SuperPave specification, but it appears as though we are just changing from kneading compactor to gyratory. Using only one gyration level (125) and not looking at traffic levels to determine # of gyrations. We're also not evaluating volumetrics of 3 different blends and selecting the blend with the most favorable properties. I'm glad they've included Ninit & Nmax. As you all know, lower gyration levels on less heavily traveled roadways would produce higher VMA & correspondingly higher OBCs, and therefore a more durable pavement. With lower traffic & lighter loads, permanent deformation is less of a concern. Perhaps this specification (with some revisions) will be easier to implement and IS a place to start.

Issue 71. (86)

It will be interesting to see how VMA @ 125 gyrations compares to that at 150 kneading compaction tamps. Are the shear stresses exerted on HMA in the gyratory >, <, or = to the kneading compactor? Will VMA be more difficult to achieve?

Comment :

Issue 72. (87)

Mandatory 25 +/- 1%? Perhaps ok for the few pilot projects, but I believe it should be contractor option and allow "up to" 25%, with guidelines on how to deal with the asphalt binder at the different RAP contents.

Comment :

Issue 73. (88)

In Section 39.1.01C Submittals (page 2 of document): "Submit proportions for LAS as part of the JMF submittal. If you change the brand or type of LAS, submit a new JMF". **NO!! Shouldn't be.** Since JMF is created without the LAS, a new JMF should not be necessary. Should only need to submit new AASHTO T283 & Hamburg test results using the new LAS.

Comment :

Issue 74. (89)

AASHTO T283 every 10,000 tons during production. GOOD

Comment :

Issue 75. (90)

AASHTO T324, Hamburg results within 48 hours of sampling, is not realistic, and perhaps not necessary.

Comment :

Issue 76. (91)

References to the SE test in Sections 39-1.01D(10)(h) Aggregate Lime Treat table & 39-1.01D(1)(i) QC Testing-Minimum QC table shown as AASHTO T166, should be T176. Check elsewhere.

Comment :

Resolution: Spec language changed to reflect T 176 (92)

Lower LA Abrasion loss requirement - GOOD. Will there be aggregate sources excluded?

Comment :

22Mar13

Comment – This has been changed in section 39-1.01D(10)(h) and in the QC testing table…but was not highlighted in the QC table.

Issue 77. (93)

Semantics: Should be Theoretical Max Density, and not Maximum Theoretical Density. Is that too picky?

Comment :

Issue 78. (94)

Tighter Va tolerance of +/-1.5%?

Comment :

Issue 79. (95)

VMA requirement @ mix design, 0.5% higher, and during production 0.5% lower than previous. Are we saying that we will be allowed a 1% drop in VMA from mix design to production?

Comment :

Issue 80. (96)

% of Theoretical Max Density shown as 92%-97% for QC, and 91%-97% for acceptance. Why? Either way, pay factor is determined based on Eng'r's cores. Shouldn't they be the same anyway?

Comment :

Issue 81. (97)

Is the minimum dry Indirect Tensile Strength requirement of 125psi for AASHTO T283 appropriate? I've seen numerous HMA mixes perform well at lower dry strengths, as long as the ratio is achieved. I believe a minimum strength is appropriate, but is 125psi the right value? Perhaps 100psi?

Comment :

Issue 82. (98)

Section 39-1.01D(2)(a) Engineer Acceptance - General: Does the Eng'r sample at the same location as the contractor (truck, behind paver)? Should they? i.e. if contractor takes his random QC samples from a truck at the plant, and the Eng'r behind the paver, is that acceptable? It appears to read that sampling from different locations could be done.

Comment :

Issue 83. (99)

Both the contractor & the Eng'r "prepare 3 briquettes for air voids & VMA determination". Are new G_{sbs} performed? If not, which should be used to calculate VMA? And If so, we need to be mindful of the lack of precision in the determination of G_{sb}, especially for the fine portion of the test.

Comment :

Issue 84. (100)

Must HMA comply with **BOTH** AASHTO T283 **AND** Hamburg?

Comment :

Issue 85. (101)

Section 39-1.02M(4)(d) JMF Verification: The air voids tolerance of +/-1.5% is perhaps ok, but needs to be discussed.

Comment :

Issue 86. (102)

~~Section 39-1.02M(4)(d) JMF Verification: The VFA of Design value +/-1%, **NO WAY**. It should be sufficient for the VFA to be within the design range of 65-75%! We only need to consider a very simple example: assume mix design VMA of 14%, V_a of 4.0% with resulting VFA of 71.4%. Now assume that during production VMA drops by a mere 0.5% to 13.5% & V_a to 3.5%. The corresponding VFA would be 74.1%. An increase of **2.7%** and out of the +/-1% tolerance. A second example: assume VMA increases slightly to 14.5% with V_a staying right at 4% during production (perhaps an ideal mix). VFA would increase to 72.4% and be on the verge of being out of the +/- 1% tolerance!~~

Comment :

22Mar13 (Frank Rancadore, Hongbin Xie & Rita Leahy will try to concisely articulate the issue. Will send to Tony Limas and Pascal Mascarenhas to share with Joe Peterson.)

Revised issue shown below:

VFA still appears everywhere in the spec as 65-75% for all mix types. As we've discussed on a couple of occasions, if VFA is going to be a requirement, i.e. NOT report only, the 65-75% limits are not appropriate for all mix types, especially the finer mix types. Since VMA, V_a, & VFA are interrelated, if the required VMA & V_a are achieved, VFA "is what it is".

As we know, VFA=100x(VMA-V_a)/VMA, so for an HMA mix designed at the MINIMUM VMA allowed for each mix type & at 4% voids, the corresponding VFA for 3/4", 1/2",

3/8", & 1/4" mixes would be 70.4, 72.4, **75.0**, & **77.8**% respectively. Since HMA mixes will most likely be designed with a higher-than-the-minimum VMA, e.g. 1% above the minimum (or whatever), VFA will be higher yet. For example, if a 3/4" HMA is designed at 14.5% (13.5+1) VMA, a 1/2" at 15.5% (14.5+1), a 3/8" at 17% (16+1), & a 1/4" at 19% (18+1), VFA would then be 72.4, **74.4**, **76.5**, & **78.9** respectively. Though 3/8" & 1/4" mixes are not often used, on the occasions when they are, it would be impossible to meet the 65-75 VFA requirement. Since the lowest VMA for any mix will be 13.5% (@ design) for 3/4" HMA, the lowest VFA we'll see is ~70%. Production will be more complicated.

I believe Caltrans has said that this range comes right out of SP-2, but SP-2 gives ranges for VFA based on anticipated traffic levels (ESALs) and not mix types. At the higher traffic levels (>3 million ESALs), the 65-75% limits allowed agencies to select mixes with nominal maximum aggregate sizes up to 25mm (1") & 37.5mm (1 1/2") with minimum VMA requirements of 12 & 11 respectively, which at 4% voids yield VFAs on the lower side of the range (near 65%). And at the lower trafic levels, where finer mixes will most likely be selected, SP-2 allows VFA up to 78 (65-78) and 80 (70-80). All of these with VMA of 13, 14, & 15 for 3/4", 1/2", & 3/8" mixes.

Issue 87. (104)

Why are we using a 0.8 factor when considering binder replacement for RAP?

Comment :