

# PMPC Executive Committee/Concrete Task Group Meeting Minutes

**Date: September 16, 2021**

**Time: 8:30 am- 10:00 am**

**Location: Webex Meeting**

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**Facilitator:** Shaila Chowdhury

**Attendees:** Shaila Chowdhury, Doug Mason, Raymond Tritt, Christa Siegenthaler, Chu Wei, Brandon Milar, Charley Rea, Deepak Maskey, Keith Hoffman, Ken Solak, Mark Hill, George Butorovich

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## 1. Introductions/Review Agenda

- I. Group did a quick overview of the agenda.

## 2. Action Items from PMPC EC + CTG meeting held on 06/17/2021 (All):

- I. Samir and Ray to see if they have adequate representation on the working group. (Ken/Ray) Completed. Ken working with METS to add a Division of Construction representative on the Tracking Concrete Mix Designs in DIME working group.
  - a. Update: Ken worked with Joe Harline, Samir Ead from Construction has been added to working group.
- II. Tim and Kevin to validate if representation is adequate for their offices in the working group. (Tim/Kevin) Completed. Structures has been added to the group.
- III. Tim and Kevin to put together a survey for structure reps on crackless bridge decks. (Tim/Kevin) Ongoing, Steve Siefert from Bridge is working on it.
- IV. Keith to update 1-page GHG efforts for CTG products. (Keith) Ongoing, forgot about it but will provide update at next meeting.

## Action Items from PMPC EC + CTG meeting held on 03/18/2021 (All):

- I. Asphalt to share Asphalt smoothness metrics with the Concrete WG. (Brandon/Alan) Allen and Dulce have had conversations on smoothness specifications and Dulce felt the metrics for asphalt and concrete were different. Samir/Ken to follow up and share with committee.
  - a. Ken: Concrete will incorporate some of Asphalt's metrics for smoothness when they do their report.

## Action Items from PMPC EC + CTG meeting held on 9/17/2020:

- I. EC to look at bigger picture for Foundations, should it be a STG or its own TG. (EC) Ongoing.
  - a. Place on next EC meeting agenda to discuss.

## 3. Introductory Urgent Issues (All):

- I. No urgent issues.

## 4. CTG Work Products

- I. Evaluate the Revised Concrete Pavement Smoothness Specifications:
  - a. Working group is on track and working on the draft final report.
  - b. Some milestones are showing 90-95% complete and past due, the team is still waiting for additional data to come in for analysis while working on the final report. Final Recommendations report is still scheduled for 10/31/2021.
- II. Tracking Concrete Mix Designs in DIME:
  - a. The working group is in the process of modifying the scoping document, developing documentation of what has been decided and everything else except for the programming of DIME. METS is having issues with human resources over staff performing programming in DIME.
  - b. This is the 3<sup>rd</sup> time around and we want the team to identify all the variables before programming can begin.
- III. Impact of Portland Limestone Cement (PLC) on Concrete Performance

- a. Guideline for submittal of PLC samples is posted on the Authorized Material List (AML) website. Caltrans is now officially accepting PLC samples in the concrete labs. The study is completed, specification has been submitted for publishing and working group is working on final report due out in a month.
  - b. Mark H: May be slow roll out due to silo space at plants. Some plants may have a silo. Assume type 25 will eventually switch to PLC due to sustainability and GHG reduction.
- IV. Performance Based Alkali–Silica Reaction (ASR) Mitigation:
- a. Working group still working on their literature search of other agencies' specifications/guidelines and developing the summary report.
- V. Blended Supplementary Cementitious Materials (SCMs):
- a. This work group needs to work with the performance-based ASR mitigation working group since the specifications will need to work together. Caltrans has SCMS in the specs but not blended SCMs. Both groups to work together for ASR mitigation and SCMs.
  - b. Revised scoping document is being sent for EC approval, working group is switching milestones 2 and 3 and revising milestone dates for those milestones since the group felt they needed to create the validation/verification procedures before they could develop the specification.
- VI. Replacing the Compaction Method to Determine the Application Rate of Lime for Soil Stabilization:
- a. Milestones 1 and 2 are complete. Working group reviewed 50 states specification and adopted a specification close to Caltrans standards. Group is determining test method to use, expired ASTM D5102 or CT 375. Group is on-track.
- VII. Replacing the R-Value Testing for Unbound Materials with an Alternate Test Method:
- a. On track. Milestones 1 (Review ASTM and AASHTO test methods) and 2 (Literature review on other State DOTs specifications) are October 31, 2021.
- VIII. Review Closed/Tracking List
- a. No issues discussed.
5. Review of Bin List (Keith Hoffman):
- I. Concrete STG bin list:
    - a. No comments, haven't seen the top two priorities full scoping documents yet for approval, just the short scoping document for concept approval.
  - II. Foundations Bin list:
    - a. Shaila: With the scoping documents, it would be good to quantify the benefits (more efficient, less costly, test more accurately). Had trouble identifying the benefit for some of the foundation work products. Groups need to articulate the benefits for the work products so management can see efforts in sustainability and efficiency if not familiar with the process.
    - b. Charley: Sounds good. We received a memo from METS saying they were moving to National Standards versus California Test Methods.
    - c. Chu: It is a good idea to be in-line with national standards.
    - d. Keith: I think the working group tries to include the benefits but it might be hard to quantify something like that.
    - e. George: When we do the bin list, we could list benefits on it.
    - f. Keith: If there are examples, let us know which ones need to be identified.
  - III. MQA STG updated bin list was presented:
    - a. Keith reviewed the updated bin list. Item #2, neoprene caps is on the bin list may be Decision Document with an option to use neoprene caps in place of sulfur caps.
    - b. Chu asked about the Department's efforts with Performance Engineered Mixtures (PEM) and why it was so far done on the bin list.
      - i. Keith: It's not really used in Caltrans. We are having trouble keeping people ACL certified and if you look at the work for PEMs, more testing is needed and additional certifications for the added tests. FHWA thinks air entrainment can be used to calculate strength and Caltrans knows that method is not completely accurate due to use of fly ash. The PEM lab work is not practical for field labs and has a factor of uncertainty. With breaking concrete cylinders, we know what the

strength of the concrete is right there and it has been very reliable method and cost effective test

- c. George: We can have Charles Stuart look into this more.
- d. Keith: Chu, can you provide documentation for the rationale for a State to go to the PEMs from their existing standards that list the benefits since we see more resource needs for this testing versus our existing method.
- e. **Action Item: Chu to contact Charles Stuart to talk about PEM benefits.**
- f. Item #8, hot weather concrete is an issue district 8 has brought up and looking for a solution.

#### 6. Decision Document Candidates (Keith Hoffman):

- I. Keith and Mark were on the Decision Document working group for the Concrete Task Group and think the Decision Document process is a good idea. We see the Asphalt Task Group has done a couple items that are easy decisions without adding additional costs to the state.
- II. The CTG think they have two candidates for the process, item #2 Neoprene Caps on the MQA bin list and the Use of Lime Cement to dry the subgrade. With the use of the neoprene caps, the decision document would allow neoprene caps but not mandate them.
- III. Ken: With Decision Documents, you really need to look at how a simple change can impact others with increased costs, additional resources/testing, new equipment needed, etc. Also, need 100% percent agreement on a decision document.
- IV. Shaila: With the decision document process, I have just two things, agree on a format and having protocols on when a decision document can be used instead of a scoping document.
- V. **Action Item: Keith to follow up with Kelly on the decision document working group's status of the guidelines.**

#### 7. Reporting Sheet for Concrete (Keith Hoffman):

- I. Keith went over the Caltrans concrete related research and specification development being worked on outside the PMPC. Topics included:
  - a. UCPRC research work under the Division of Research, Innovation and System Information (DRISI).
  - b. Chico Pavement Preservation Center research work under the Pavement Program.
  - c. Division of Engineering Services (DES) Design and Technology is working on approach slab shrinkage, grade 80 reinforcement, ultra high-performance concrete, impact of time dependent properties on performance to name a few.
  - d. DES Bridge Preservation is developing potential MOUs for chain resistant polyester concrete, deck prep with asbestos, polyester concrete patch size limits, rapid set concrete patch material, epoxy concrete overlay evaluation, and MTD 8-5 "Overlays on Existing Bridges" update.
  - e. METS in-house efforts with the precast concrete committee is to update the precast concrete patching material AML to allow options suitable for contact with corrosive soils to the Concrete Materials Testing branch research proposal for alternative aggregate in pavements.
  - f. Pavement Program in-house efforts are working with DRISI to get funding approved to participate in a pooled fund project TPF-5(471) on the development and implementation of an advanced NDT technology for determining the properties of newly placed concrete in early ages and participating in other pooled fund efforts to share expertise.
  - g. District 6 is working with Dulce Rufino Feldman and Mohammed Shamola on concrete pavement real-time curing initiative using Dr. Zollinger's Approach and Section 40 nSSPs for upcoming I-10 Design Build, MIT scan.
- II. **Action Item: Keith said he will provide future updates on the concrete related work outside the PMPC.**

#### 8. Open Discussion:

- I. Keith: Task group is reviewing the charter for updating. It is a good time to do this. With some minor tweaks to the Charter and Standard Operating Procedure we can add structural concrete elements into the PMPC.
- II. **Action Item: Task groups to incorporate benefits and efficiency to the best they can for the work products on the bin lists and in scoping documents.**

9. Decisions made/Approvals given by EC:

- I. Task groups to incorporate benefits and efficiency to the best they can in the bin lists for the proposed work products and in scoping documents.

10. Action Items

- I. Chu to contact Charles Stuart to talk about PEM benefits. (Chu Wei)
- II. Keith to follow up with Kelly on the decision document working group's status of the guidelines. (Keith)
- III. : Keith said he will provide future updates on the concrete related work outside the PMPC. (Keith)
- IV. Task groups to incorporate benefits and efficiency to the best they can in the bin lists for the proposed work products and in scoping documents. (STGs)

**Next Meeting: December 16, 2021  
08:30 am – 10:00 am**