



Building Better Roads Working Group

General Meeting No. 6

Meeting Minutes

LOCATION: County Operations Center / Kearny Mesa - 5500 Overland Avenue - Training Room No. 120 - San Diego, CA 92123

DATE OF MEETING: February 10, 2020 (1:30 PM – 3:00 PM)

ATTENDEES: See attached sign-in sheets

AGENDA:

- 1) Welcome / Opening Statement
- 2) Introductions / Sign-in
- 3) Public Comments
- 4) Working Group's Updates
- 5) Industry / Organization Updates
- 6) Keynote Speaker, In-place Recycling Technologies
- 7) New Topics / Open Discussion
- 8) Next Work Group Meeting / Close

1) WELCOME

Bill Morgan, County of San Diego - DPW

Bill Morgan introduced himself and thanked everyone for attending the meeting. Goal of this group is to bring agencies, industry, and organizations together to figure out what we can do to make a difference in the region. Bill reminded everyone to sign in and stated we are looking for feedback from agencies through the agency survey that has been prepared by this group. Agencies to fill out the survey to collect more data to better understand what we are doing regionally to find solutions.

2) INTRODUCTIONS/SIGN-IN

Rich Fitterer, Kleinfelder Construction Services

- Rich Fitterer introduced himself and his role as the Building Better Roads (BBR) Facilitator
- Reviewed housekeeping, facility orientation and emergency protocols
- Reminded everyone to sign-in; conducted self-introductions around the room for all attendees
- Requested local agencies present to complete the BBR Agency Survey (hard copies provided at meeting)

3) PUBLIC COMMENT

Rich Fitterer, Kleinfelder Construction Services

- The meeting was opened for any interested parties to make a public comment
- No public comments provided

4) WORKING GROUP UPDATES

Mark Perrett, County of San Diego – DPW

- Recent achievement – Last working group on October 15, 2019, and 4-hour Tack Coat workshop prior to the working meeting. Well done and well attended with 26 people attending the workshop.
- At the working group meeting, we had a representative from the California Department of Conservation present on aggregate sustainability. Meeting went well with great information.
- From the County of San Diego viewpoint, we have pilot tested delayed start language for four asphalt concrete (AC) overlay contracts in 2019. They are being worked on now and all had different starting dates with staggered times to see which works best. They are ongoing and scheduled to complete this spring. As part of the four AC overlay contracts, we also revised our special provisions to allow up to 25% RAP (previous contracts allowed up to 15% RAP). As previously mentioned, the contracts are ongoing, so we are still waiting to see how they work out.
- Our four sub-committee groups consist of RAP, Alternate Pavements, Mix Types, and Contracts. Within those groups, there are 20 guidance documents that have been identified, 12 of those 20 documents have been drafted and are in various stages of development. One guidance document on reclaimed concrete and asphalt concrete storage limits has gone through a peer review process, has been reviewed by the Working Group and is near completion.
- Regarding the regional survey, it helps the group as a whole to see what kind of programs each individual city, port or agency has. It is a yes/no answer format. If you are unable to complete a hard-copy of the survey at the meeting today, you can also complete the survey online using SurveyMonkey at <https://www.surveymonkey.com/r/J9ZBL7W>. The survey will help to understand each agency's program, large and small, so we can chart a path forward that benefits the region.

Questions

Q1) What is the goal date for those guidance documents?

A1) As soon as possible. It takes one to three members of the subcommittee to write up the document and the rest of the members to review them and bring it to the working group. We have had difficulty obtaining the level of subcommittee reviews that we need for these guidance documents.

5) ORGANIZATION UPDATES

Brandon Milar, CalAPA

Caltrans Updates

- Caltrans is coming out with new revised standard special provisions (RSS) within the next month or so for the 2018 Standard Specifications.
- Caltrans will have new specifications on statistical pay factors to accept material on paving projects. We will see pilot projects coming out later this year.
- Related to pilot projects, Caltrans is developing a robust pilot project program. We will see five or six projects this year related to reclaimed asphalt pavement (RAP) and reclaimed asphalt slurry (RAS). One of them will be dealing with 40% RAP and the other one will be using a combination of RAP and RAS. It will include several test evaluations, as well as evaluating the mix performance. They will also be evaluating new tests for materials acceptance. Once they have time to get those projects constructed and then evaluated, they will determine next steps for the high RAP mix from a Caltrans perspective.

CalAPA Updates

- The California Asphalt Pavement Association (CalAPA) is conducting their annual spring conference in Anaheim this year. They have great speakers lined up. Please refer to our newsletter for registration. The agenda will be available next week.

Greenbook Updates

- Greenbook utilizes up to 20% RAP which has been the standard for Greenbook for a while
- In reference to the Greenbook update, they are looking to revise the asphalt paving section. For those of you who use the Greenbook, you will notice in the construction section some outdated specification language and requirements being cleaned up and some other items are being removed. They are also looking at incorporating recycled slurry specifications and that is going through the asphalt task force right now with the intent of finalizing it in time for next year's standards.

Questions

Q1) Is there any feedback from Caltrans since they began using 25% RAP? Are they using it statewide and are the contracts out?

A1) Brandon confirmed that the 25% RAP specification and binder grade adjustments are being utilized statewide and that these contracts are out.

Q2) It would be nice to have data on that info because folks in this room are interested and we have been talking about it. We have implemented it on projects, but they are not complete yet. It would be nice to pull any data we have to show the success of the application.

A2) Brandon does not have data yet or a list of all the projects where they are utilizing the new specification. It would not be difficult to find quarry folks within a region to see who is supplying that mix.

Q3) In which Districts will the new pilot projects be conducted? Will it be in southern California?

A3) Yes. There will likely be five or six RAP/RAS pilot projects. The location of the pilot projects may be determined by which producers can produce the RAP/RAS mix. Right now, it is in the industry's hands to request the pilot projects from Caltrans. They do want to spread the pilot projects throughout the State including the Southern California region (Districts 7 and 8) but not sure if they will make it all the way down to San Diego (District 11).

Mike Wonsidler, County of San Diego

Construction and Demolition (C&D) Permit Update

- Mike stated that his group gave a presentation to the BBR Working Group about a year ago to talk about their C&D ordinance including proposed changes. A little background: Mike and his staff are responsible to meet the State's waste diversion requirements. In 2007, they adopted a C&D ordinance to provide oversight on projects that are $\geq 40,000$ SF. Because of changes to Cal Green, the State's Green Building Code, as well as analysis that they have performed when going through their strategic plan to reduce waste and waste diversion goals within that strategic plan and within their climate action plan, they proposed revisions to that ordinance.
- The new ordinance will lower the project size threshold from $\geq 40,000$ SF to $\geq 1,000$ SF. With the ordinance as it exists currently ($\geq 40,000$ SF), they divert about 4,000 tons/year. With the proposed changes to $\geq 1,000$ SF, the diversion is estimated to be 44,000 tons/year which will really help them meet their diversion goals. C&D material represents about one-third of what is disposed at the landfill, so this is a key area to target.
- This ordinance is really similar to other agencies in the region. The City of San Diego has a similar ordinance. The Board of Supervisors heard the first reading of the ordinance on January 29, 2020, and it was passed on consent.

6) KEY SPEAKER – IN-PLACE RECYCLING TECHNOLOGIES

Rich Fitterer introduced Marco Estrada. Marco is the Director of Business Development for Pavement Recycling Systems of California and a graduate of the University of Texas at Austin, School of Engineering. He is the Industry Co-Chair for the Caltrans Pavement & Materials Partnering Committee (PMPC) Recycling Group, as well as of the Green Book Stabilized Base Task Force. Over the last 30 years, he has been involved in both the engineering and construction industries in the implementation of soil stabilization and asphalt recycling engineering strategies.

Marco presented on various in-place recycling technologies including full-depth reclamation, cold-in-place recycling, and cold central plant recycling. The following are some key take-aways from his presentation. For details please refer to his slideshow presentation.

- In-place pavement recycling technologies are sustainable technologies that allow agencies to recapitalize on their initial investments, result in reduced impacts to communities, and reduced

environmental impacts, and help preserve raw materials. Existing roadways including asphalt, aggregate and subgrade are used as “urban quarries”.

- Asphalt is the number two recycled product in the world after water
- Specifications already existing (Greenbook and Caltrans) so no need to reinvent the wheel
- Not intended to serve as the asphalt concrete wearing course
- Project selection for in-place recycling technologies requires thorough pavement investigation and sound engineering strategies to ensure projects are a good fit for recycling
- Detailed explanation, design and construction considerations, and examples were provided for the following processes:
 - Cold Central Plant Recycling
 - Cold-in-Place Recycling
 - Full Depth Reclamation
- Pavement Preservation & Recycling Alliance (PPRA) website (<https://roadresource.org/>) is a very good resource that provides additional information on all of these strategies.

QUESTIONS:

Q1) Are Cold central plant recycling and cold-in-place recycling basically the same thing but one goes to an offsite area to be rejuvenated?

A1) That is correct. From a mix design standpoint, they are the same product but different delivery systems.

Q2) For both applications when you are milling it, you only get so much gradation that is useable. Say that a ¾” mix is needed, is that where you have to add virgin or new material into that mix design?

A2) If you must meet a certain gradation band to meet the mix design requirements, you absolutely can. In most cases, it is not the gradation that is being achieved out in the grade. It is more of a sizing requirement. Generally, a 1” minus sizing requirement. It is not a full band gradation but if you need to for mix design reasons, you can always add new material.

Q3) When milling it, do you usually get back those recycled materials for 1” minus?

A3) When you mill the material and go through the cold central plant or the train as it is traveling down road, it is a 100% recycled product. Material that does not go through the screen gets recirculated through the crusher until it passes through the screen as a 1” nominal material so it is 100% recycled.

Q4) On the CIR, is there a minimum radius of curvature where the train can operate?

A4) Because the train itself is 150 linear feet in length, you cannot do steep turns with it. At the end of the day, it can make a U-turn and turn around, but that is not part of the daily production. It would be able to turn around within an intersection of a 60 ft wide arterial roadway for example. It does have its limitation with regards to the radius that it can do. Marco does not have all the information on hand but can get the exact numbers.

Q5) What is the percentage of air voids of the recycled material? 4%?

A5) No, it is actually somewhere between 12% to 15% after it has been compacted. For the emulsion, there is a requirement to come back and re-roll the material after a short period of time, say 48 hours to further compact the material to densify it further as the moisture in

the emulsion dissipates so you get further compaction. In the end, you end up with about 12% air voids in the recycled product.

Q6) What is the maximum depth you can do in full depth reclamation?

A6) For full depth reclamation in place, 18" in one lift, with mixing and compacting.

Q7) To follow up on the previous question regarding in place air voids at 12% to 15%. For asphalt folks, it sounds like a disaster. We were told anything over 8% to 9% and you have a bad pavement. Based from all the experiences of these agencies, what type of performance are they seeing with their in-place recycling efforts with these higher air voids?

A7) Marco responded that there are very good performance results out there. Caltrans has completed 80 projects. They are going back as part of our recycling committee and revisiting those projects. There is established history beyond California, in other states that have used these strategies, and some have used it to a greater extent.

Q8) One of the slides mentioned CSPB. Does that stand for Cement Stabilized Pulverized Base?

A8) Yes. That is the Greenbook acronym for FDR. It is one in the same. Full depth reclamation with cement.

Q9) How does Petromat impact CIR?

A9) In the CIR, we have done projects where there are as many as two layers of fabric, Petromat, in the system and it can be recycled. It is important to let the Contractor know. Provide the pavement investigation that we talked about earlier. Identify what resources you have and if it identifies the pavement fabric, let the Contractor know the material is there because it can be done in the recycling train as the material is captured on the screen and is fed off through a conveyor on the side where the material is bagged and disposed of but the Contractor needs to know that because it does impact production. In the FDR process, the road reclamation machine will chew up that material and incorporate it into the FDR section.

Q10) Do you have any experience with using polymer modified warm mix asphalt for CIR?

A10) Not that he can think of. Many times, when they do the CIR, there is a pre-grind and that pre-grind removes whatever the thickness the pavement will be. A lot of those materials, especially the polymer modified or the rubber product, ends up in that layer. He suspects in doing a cold central plant that sometimes will require an import of RAP to supplement the onsite materials and we have unknowingly encountered some of those materials.

7) NEW TOPIC / OPEN DISCUSSION

Rich Fitterer, Kleinfelder Construction Services

- If you are new to the group, make sure you fill in the sign-in sheet, and we will add you to the contact list so you will receive the updates.
- A national recycling conference is scheduled in San Diego the week of March 23, 2020. Experts from around the country will be presenting on different aspects of recycled pavement. Brandon Milar has offered to organize a workshop with experts from the conference for the BBR Working Group on March 26, 2020. If you have input on specific topics to be covered feel free to let me know. We appreciate Brandon's offer to organize this workshop.
- If you have any suggestions now, we will take note and consider it. If you have any topics of interest, whether it is another speaker like what Marco did today, or the tack coat workshop, feel free to speak up now or contact me after the meeting.

- Alex Kotrotsios of Pacific Geosource offered to present on asphalt reinforcing fiber
- Rich reiterated that we value the input and feedback of our BBR Working Group Members. We continue to solicit new ideas and suggestions to further the mission statement and address areas of interest and concern to local agencies, industry, and organizations.

QUESTIONS

Q1) Has there been any discussion on increasing the amount of Cal Recycle grants for rubberized AC? They have been offering \$20/ton premium and prices that run \$40/ton or \$50/ton.

A1) Keith Kezer answered: For each agency, they give you a certain allotment. If you are a newcomer to the program you get more offset. As time goes on, that number decreases each year. They are down to a few dollars per share which makes it a challenge to offset the increases. It is skewed toward newcomers.

Q2) Interested to know about when rubberized asphalt will be available again in the San Diego area and any County update on their use of modified polymer substitute product.

A2) Keith Kezer answered: In reference to the rubberized part of the question, he has heard unofficially that we might get a rubberized product again as early as this spring or summer.

Q3) Caltrans conducted pilot projects years ago regarding the use of recycled asphalt shingles. Does anyone have information on those projects?

A3) No knowledge of these pilot projects from this group.

8) NEXT WORKING GROUP MEETING / CLOSING

Rich Fitterer, Kleinfelder Construction Services

- Next working group meeting will be in early June. Rich will be sending out a save the date invitation for the first or second week of June.
- Confirmed that local agencies present today filled out the Local Agency survey.

Bill Morgan, County of San Diego – DPW

We have about 20 white papers that we are diligently working on with subcommittees; however, it is hard to move those forward unless we have participation. We are not getting the reviews or feedback that we need. We are not going to rush into something. We want to put forth tools and information that are useful for the group. We are soliciting participation from this group, especially local agencies. We want to create something that will work for your program. Recognizing that each agency program is different, we want something that fits all of us to some degree and is usable. If you are interested in participating, please let us know. When Rich gives you those surveys, put those questions you had today on the surveys. Those were good questions. This group is a great way to get educated. A great way to meet other people in the industry. We all have big programs and new money coming into our programs. We see the connection between C&D, recycling, resources, sustainability, and carbon caps. Invest a little bit of time and money and energy now to make our program grow. Please think about getting involved. Think about getting engaged in the program as there is a benefit. Thank you all!

<Meeting Adjourned>