Pavement & Materials Partnering Committee
Work Product Scoping Document
Develop CCPR Specifications
April 1, 2021

Task Group

Recycling STG

Problem Process

☐ Annual
☐ Expedited
☒ Emerging Initiative

Title

Develop Cold Central Plant Recycling Specifications

Statement of Effort/Improvement

Caltrans will develop a non-Standard Special Provisions (nSSP) for a bituminous Cold Central-Plant Recycling (CCPR) process including the development of a procedure for mix design and testing. Although CCPR is not a new technology, it has not been used in Caltrans pavements. The final product will be a new nSSP, MPQP manual revisions, and CTM.

Purpose – The purpose of the Working Group is to develop a specification that specifies construction material and construction equipment requirements, establishes Quality Control/Quality Assurance Plans and construction procedures. Establish a standard Material Plant Quality Program (MPQP) calibration procedure for CCPR equipment to be added to the MPQP manual.

Background – Recycling is an increasingly important initiative for Caltrans. Recycling of existing asphalt on pavement rehabilitation and reconstruction projects can be facilitated on projects that are located outside of a viable distance from asphalt plants in efforts to reduce costs, greenhouse gas (GHG) emissions, and construction-related trucking of materials. CCPR is an alternative recycling method that can be utilized when PDR and other sustainable rehabilitation methods may not be feasible or cost effective. Industry and Caltrans agree that pilot projects will be placed on the Recycling STG bin list – to be implemented by a future working group.

Approach – A working group will be assembled by the Recycling STG and they will develop the specifications based on current technical knowledge.

1. Street Ready Assurance
   The CCPR specifications will be developed based on the merged foamed asphalt and emulsified asphalt partial depth recycling (PDR) specifications and modifications will be made to reflect the variations in construction methodology, application, and end-product capabilities of CCPR.

2. Performance Tracking/Management
   The Recycling STG will monitor feedback from the districts when the specification is approved for use as nSSP on a project.
   - Those from the working group will stay in communication with the district project team to inquire and receive feedback from construction personnel.

3. Consistently Implemented
   The working group will perform outreach to District Materials Engineers, District Maintenance Engineers, and Designers with the goal to provide them with current information.

Team Members (Indicate CT Chair and Industry Lead)

CT/Industry	Division/Firm Name	Member Name
CT – Chair (Working Group)	Office of Asphalt Pavements	Steve Lee
Industry Lead (Working Group)	Pavement Recycling Systems	Michael Concannon
Caltrans	Office of Asphalt Pavements	Saeed Pourtahmasb
Caltrans	METS	Sarah Hartz
Caltrans	Construction	Pete Spector
Industry	Western Emulsions	Kevin Donnelly
Industry	Graniterock	Anthony Silva
Industry	Pavement Engineering, Inc.	Brandon Rodebaugh

Objectives/Deliverables/Due Dates

Description:

1. Literature review to determine the state of the practice of CCPR & develop CCPR specifications. UCPRC will be consulted.
2. Draft Procedure for CCPR Equipment section in the MPQP Manual.
3. Develop CCPR mix design procedure and testing requirements.
4. Send updated nSSPs, MPQP manual section, and CTM to districts for review and comment.
5. Review final comments by districts and adjust nSSPs, CTM, and MPQP section if necessary.
6. Final nSSP, CTM, and MPQP manual section completed and approved by the working group.
7. Send nSSP, MPQP manual section, and CTM to the ATG for approval.
8. Final report and recommendations.

Details:

Milestones	Name - Responsible Party	Due Date (Start/Complete)
1. Literature Review & Develop Specifications	CT Chair and Industry Lead	April 1, 2021 to June 30, 2021
2. Draft MPQP manual section specific to CCPR Equipment	CT Construction and Industry Construction	April 1, 2021 to June 30, 2021
3. Develop Provisional CTM	CT METS and Aragon	April 1, 2021 to June 30, 2021
4. Circulate nSSPs, CTM, and MPQP manual section for review	CT Chair and Industry Lead	July 1, 2021 to July 31, 2021
5. Respond to comments and incorporate into nSSPs/CTM/MPQP procedure	CT Chair and Industry Lead	August 1, 2021 to August 31, 2021
6. Review and approve final nSSP/CTM/MPQP procedure.	CT Chair and Industry Lead	September 1, 2021 to September 30, 2021
7. Send nSSP/MPQP Procedure/CTM to ATG for approval.	CT Chair	October 1, 2021 to October 31, 2021

*Some milestones listed above may not be necessary

Resources To Develop and Implement

	Caltrans Hours	Industry Hours
Specification Writing/Review/Pilot Projects	OAP: 1.0 PY OCS: 0.6 PY METS: 0.6 PY	1.0 PY

Benefits

The benefits:

- Develop CCPR nSSP to make CCPR selection and construction easier for the engineer.
- Costs will become more competitive for Caltrans as competition opens.
- Promote more recycling strategies as directed by SB-1.
- Standardize and maintain quality standards for CCPR specification

Estimated Impact to Caltrans and Contractor

- District/HQ resources would remain the same or would be streamlined.
- No additional risks for Caltrans were identified.
- No additional risks for Contractors were identified.

Impediments to Completion of Deliverables

No foreseen impediments to completion.

Recommendation and Approval

This scoping document for "Develop Cold Central Plant Recycling Specifications" was prepared by the Recycling Subtask Group to address a priority issue with statewide significance and is within the Pavement & Materials Partnering Committee mission as described in the Pavement & Materials Partnering Committee Charter. The Subtask Group members have determined the scope, resources required and timeline for delivery of this project so that the deliverables are achievable. A signature here indicates that each Asphalt Task Group member and PMPC Executive Committee member is committed to providing the resources to support this effort within the prescribed timeframes. Furthermore, it is everyone's responsibility to ensure that the final effort/improvement will be:

1) Street-Ready,
2) Monitored and reported for performance,
3) Successfully implemented statewide as appropriate.

Scoping Document Recommendation and Industry Concurrence by PMPC ATG:

Caltrans Name (Recommendation)	Date	Industry Name (Concurrence)	Date
Tom Pyle	4/6/21	Pat Imhoff	4/6/21
Tom Pyle, Caltrans Task Group Chair		Pat Imhoff, Industry Task Group Lead	
Ken Solak	4/6/21	Phil Reader	4/6/21
Ken Solak, Caltrans Task Group Member		Phil Reader, Industry Task Group Member	
Jeremy Peterson-Self	4/8/21	Dennis McElroy	4/6/21
Jeremy Peterson-Self, Caltrans Task Group Member		Dennis McElroy, Industry Task Group Member	
		Scott Dmytrow	4/6/21
		Scott Dmytrow, Industry Task Group Member	

Scoping Document Approval and Industry Concurrence by PMPC EC:

Caltrans Name (Approval)	Date	Industry Name (Concurrence)	Date
Shaila Chowdhury	4/23/21	Brandon Milar	4/23/21
Shaila Chowdhury – acting Chair Pavement Program		Brandon Milar, Industry PMPC Executive Committee	
Raymond A Tritt	4/22/21	Charles J. Rea	4/21/21
Raymond Tritt, acting Headquarters Construction		Charley Rea, Industry PMPC Executive Committee	
Kevin O'Keady	4/22/21	Tim Greutert	4/28/21
Kevin Keady, acting Structures Policy and Innovation		Tim Greutert, Materials Engineering and Testing Services	

Approval Date: 4/28/21