Concrete Products Task Group Meeting Minutes

July 14, 2011, 10:00 a.m.-12:00 p.m., Translab, Structural Materials Annex

1. Welcome

Mr. Speer welcomed all the members of concrete products task group that are present and thanked everyone for taking time to participate in the meeting. The membership attendance is shown in the running log attached. Mr. Anderson and Mr. Reis were pre-designated delegates (proxy attendees) for Mr. Lacalle and Mr. Hoffman respectively. It was discussed that operating principles should be refined further to address proxy attendance appropriately.

2. Review Last Meeting Minutes and Action Items

The meeting minutes and action items were reviewed from April 2011 meeting. Action items listed at the end of these minutes have been updated to reflect information exchanged at the meeting as well as decisions made. Everyone was asked, if they had anything else to add to the agenda.

Mr. Carter wanted to clarify the process of getting final products of each issue vetted through the task group. It was discussed that all the concurrences should be received at sub task group level and TG should be informed of draft final products/decisions. It may be of some benefit to have milestones identified in the scoping document where the TG is informed of progress and has advance opportunity to look over draft products. It was agreed that this would be further discussed and final disposition would be added to the operating principles.

As a part of the discussion, it was also brought up that there was a need to clarify what would be considered editorial change v/s substantial (technical) change. Operating principle should also address how concurrences to these changes outside of project team should be handled.

3. Housekeeping- FTP site access, binders, calendar

Attendees were informed that they should update their binders with latest and greatest information from ftp site. It was confirmed that some of the new scoping documents now should be on the ftp site as well.

4. New Item: Recycled Concrete

Mr. Rea then talked about some of the latest activities on recycled concrete and some of the industry goals relating to re-use plastic concrete as well as crushed concrete in new concrete. He presented a draft scoping document. It was agreed that this topic will be handled under Materials and QA sub task group where the scoping document will be further refined and presented to the

task group. Mr. Carter also stated that industry would like to view possibilities of using crushed concrete in other applications outside of base material.

It was discussed that, as part of the project scope, Industry should review and synthesize available literature on the use of recycled material, its impacts on overall properties of concrete, methods for managing quality, and appropriate limitations on its use. It was agreed that industry will identify a lead person for this issue. It was suggested that the group might consider changes providing incentives for recycling of materials.

5. Review of Membership on Subtask Groups

Memberships were briefly discussed for each sub task group. Mr. Rea pointed out that for some of the industry members their affiliations to the larger group were not reflected. He provided additional input to that matter at the end and updated membership roster is attached.

6. Updates from Sub Task Group co-chairs

a. Precast Subtask Group

Mr. Ohlwiler (industry co-chair) gave a status update.Project progress pages were distributed giving status update on each issue. As a follow up to an action item, it was discussed that three main issues were identified and scoping documents for each were approved by STG. A concurrence was received from TG in regards to those three projects and their scoping documents. These issues are as follows:

- "Mock up requirement for SCC" as the first priority as it only requires a quick change to the specification. He mentioned that a draft change has been proposed and is being looked at by the spec writers.

- Merging the twoprevious issues of QC/QA of precast and creation of a separate section for precast. Mr. Ohlwiler referred the TG to an updated scoping document. It was pointed out by Mr. Suszko that if the changes are made by early 2013 as amendment to the specification then it may get incorporated in to revisions to standard specifications which are due to come out in 2014.

- "Precast pavement". Mr. Parvini, the lead on this issue, briefed the TG on the updated scoping document. Mr. Parvini reported that they have finalized draft precast prestressed concrete pavement spec as part of their deliverable. They have now started working on draft plan details for precast pavement.

b. Concrete Materials/QA Subtask Group

Mr. Reis (Caltrans co-chair) gave status update on materials/QA subtask group.Project progress pages were given out to the group for each of the issue discussed below.

- The top priority of the group is "QC/QA specifications for structural concrete". He talked about two reports produced by STG. It was discussed that the QC outline report is complete pending one last review be all involved and should be sent out as final report instead of draft-final soon. If there are any changes that come out of specification development, they should be captured in a separate report. He also briefly talked aboutthe preliminary list of pilot projects that are identified and the thought that these should start next spring.

- Mr. Reis then briefly talked about cementitious materials prequalification program. He indicated that updates were made based on final comments from industry. The program is now posted on the Caltrans site.The link to the program is:
  http://www.dot.ca.gov/hq/esc/approved_products_list/pdf/Cementitious_Materials_Prequal_Program_Final.pdf

- Mr. Reis then talked about next issue "statewide aggregate source data". He pointed out that based on further discussion with industry members (Mr. Carter and Mr. Chapman) and TG members that the scope was further refined.It was agreed that right now we are committing to sharing test data internally within Caltrans. This was made clear in the issue title and scope, the revision of which was approved by the TG.

- Mr. Reis then talked about the "high strength concrete" issue. He pointed out that we have received results of Cal-CIMA's survey as well as some additional information, which will help further refine the scope. It was pointed out that equation two, which is the root cause all the concerns from industry and is in place to reduce carbon emission, may be listed as incentive instead of requirement. Mr. Carter expressed additional concerns regarding minimum cement content and the specification being still too prescriptive.It was also discussed that minimum cement content concerns of section 40 should also be looked under scope of this issue. It was agreed that the STG will review the additional information and will finalize the scoping document within a month.

c. CIP Pavement Subtask Group

Mr. Parvini (Caltrans co-chair) gave astatus update on CIP pavement subtask group. He briefly walked the members through the issues list provided to the group.

He pointed out that as part of Section 40 technical change issue; they went through about 50% of the comments and they will go through remaining comments during the next meeting at the end of July. Once they go through all the comments, they will create scoping documents for the issues that require additional work.

Mr. Parvini then talked about several other issues including safety edge. He mentioned that Safety Edge is an important issue for Department and it is given priority, however industry has expressed concerns with the current proposals. They are looking toward FHWA for further direction.He then pointed out that they have draft proposals forCOTE and CRCP specifications. They will compile all these changes in update to section 40 scheduled for September of this year. It was discussed that they should send out available proposed changes to the TG now instead of waiting to have all of them together.

For RSC issue he mentioned that they are working on making edits to provide further clarification to the plain language spec. He mentioned that for smoothness issue draft proposal is being discussed by STG. For issues of Pervious concrete, he stated that the scope is significantly revised from original discussion and now reflects that they are only working on specification. It was discussed that he should send out updated scoping document for TG's review.

7. Review of Meeting Calendar for Next Year

The proposed calendar for TG meeting for 2012 was given to all attendees. No conflicts were noted from anyone. The proposed dates for 2012 for TG meeting with industry are January 12th, April 12th, July 12th and October 11th of 2012 as shown in the attached Calendar. It was discussed that this will updated once the dates from RPC meetings are available. It was recommended that STG should update their proposed dates for next year as well.

8. Relevant issues/questions and action items

Below are the updates to the pending action items from April 2011 meetings.

Action Items from April 14, 2011	Due Date	Resp.Person	Status
Finalize the scope and create a detailed workplan after unifying industry's expectations related to the statewide aggregate data sharing	Fri May 13	Rob Reis	Complete, changes were discussed and concurrence received by TG.
Provide clear list of priorities and scoping documents for CIP sub task group [Mr. Parvini requested to not require a scoping document for each issue and to remove this action item.]	Carried over from 1/12/11 meeting, originally due on 4/1/11.	Mehdi Parvini	Existing scoping documents defined, new scoping docs (if any) to come out of Section 40 issues
Update scoping document by addressing some strategic questions, create revised workplan and reprioritize (if need to) the issue of precast pavement as a recommendation to the TG	Fri May 13	Keith Hoffman with Mehdi Parvini's help	Complete, concurrence received on revised scoping document of precast pavement.
Create updated scoping document and detailed workplan for precast issues 3 & 4	Fri May 13	Keith Hoffman	Complete, concurrence received on revised scoping document.

Below is the summary of decisions made or concurrences received during July 14th meeting.

General

- Future scoping documents need to identify milestones and deliverables at which the TG will be provided draft final work product prior to completion

Precast STG

- Precast STG will work on three identified issues.
- Scopes of these three issues are approved by TG.

Materials and QA STG

- Recycled concrete will be an issue for Materials & QA and led by Industry
- Scope of "Aggregate source database" issue has been finalized

CIP Pavement STG

- Re-scope to shrink this issue to only a materials spec for "Pervious pavement"

Below is the brief summary of action items from the July 14th meeting:

Action Items from 7/14/11 meeting	Due Date	Responsible Person	Status
Update operating principles with following information: • Proxy attendance • Review/approval of TG to STG issues • Editorial v/s technical changes vetted back to the committee	10/01/11	TG Co-chairs	Pending
Identify the project lead for "Recycled Concrete" issue	10/01/11	Bruce Carter Charley Rea	Pending
Finalize the QC outline report and send to STG and TG.	07/22/11	Rob Reis	Complete
For "High Strength Concrete" issue submit updated scoping document for review	08/15/11	Rob Reis	Pending
Distribute draft-final COTE and CRCP specification to TG and STG	07/15/11	Mehdi Parvini	Complete
Submit revised scoping document for pervious pavement	08/15/11	Mehdi Parvini	Pending
STG co-chairs to provide dates for proposed meetings for 2012	10/01/11	STG co-chairs	Pending

Concrete Products TG Quarterly Meeting Attendance Log 7/14/11

Member	Role	TG Meeting (CT and Industry)							
		1/12/2011	4/14/2011	7/14/2011	10/13/2011	1/12/2012	4/12/2012	7/12/2012	10/11/2012
Dan Speer	Caltrans Co-Chair	✓	✓	✓					
Chuck Suszko	Caltrans Construction	×	×	✓					
Bill Farnbach	Caltrans Pavement Program	✓	×	×					
Roberto Lacalle	Caltrans Struct. Specs & Estmt.	✓	✓	p					
Marcelo Peinado	Caltrans District -11 Engineering	✓	✓	×					
Dennis Agar	Caltrans District -10 Engineering	×	✓	✓					
Keith Hoffman	Co-Chair, Precast Concrete STG	✓	✓	p					
Rob Reis	Co-Chair, Concrete Materials & QA STG	✓	✓	✓					
Mehdi Parvini	Co-Chair, Cast In Place Concrete Pavement STG	✓	✓	✓					
Jinesh Mehta	Caltrans, Structural Materials Rep. (note taker)	✓	✓	✓					
Charley Rea	Industry Co-Chair-CALCIMA	✓	×	✓					
Bruce Carter	Industry Co-Chair	✓	✓	✓					
Cliff Ohlwiler	Industry, Co-Chair, Precast Concrete STG	✓	✓	✓					
Tom Tietz	Industry, CNCA	n/a	×	×					
Craig Hennings	Industry, ACPA-SW	×	×	×					

Legend:

- ✓ **Present**
- × **Absent**
- p **Pre-designated proxy**

Concrete Products TG Quarterly Meeting Attendance Log (Last update: 7/14/11).

(ADA Compliant Version)

On the January 12th, 2011 Concrete Products Task Group Meeting:

Dan Speer, Caltrans Co-Chair, was present.

Chuck Suszko, Caltrans Construction, was not present.

Bill Farnbach, Caltrans Pavement Program, was present.

Roberto Lacalle, Caltrans Structures, Specs & Estimates, was present.

Marcelo Peinado, Caltrans District 11 Engineering, was present.

Dennis Agar, Caltrans District 10 Engineering, was not present.

Keith Hoffman, Co-Chair, Precast Concrete STG, was present.

Rob Reis Co-Chair, Concrete Materials & QA STG, was present.

Mehdi Parvini Co-Chair, Cast In Place Concrete Pavement STG, was present.

Jinesh Mehta, Caltrans, Structural Materials Rep. (note taker), was present .

Charley Rea, Industry Co-Chair, CALCIMA, was present.

Bruce Carter, Industry Co-Chair, was present.

Cliff Ohlwiler, Industry, Co-Chair, Precast Concrete STG, was present.

Craig Hennings, Industry, ACPA-SW, was present.

On the April 14th, 2011 Concrete Products Task Group Meeting:

Dan Speer, Caltrans Co-Chair, was present.

Chuck Suszko, Caltrans Construction, was not present.

Bill Farnbach, Caltrans Pavement Program, was not present.

Roberto Lacalle, Caltrans Structures, Specs & Estimates, was present.

Marcelo Peinado, Caltrans District 11 Engineering, was present.

Dennis Agar, Caltrans District 10 Engineering, was present.

Keith Hoffman, Co-Chair, Precast Concrete STG, was present.

Rob Reis Co-Chair, Concrete Materials & QA STG, was present.

Mehdi Parvini Co-Chair, Cast In Place Concrete Pavement STG, was present.

Jinesh Mehta, Caltrans, Structural Materials Rep. (note taker), was present .

Charley Rea, Industry Co-Chair-CALCIMA, was present.

Bruce Carter, Industry Co-Chair, was present.

Cliff Ohlwiler, Industry, Co-Chair, Precast Concrete STG, was present.

Tom Tietz, Industry, CNCA, was not present.

Craig Hennings, Industry, ACPA-SW, was present.

On the July 14th, 2011 Concrete Products Task Group Meeting:

Dan Speer, Caltrans Co-Chair, was present.

Chuck Suszko, Caltrans Construction, was present.

Bill Farnbach, Caltrans Pavement Program, was not present.

Roberto Lacalle, Caltrans Structures, Specs & Estimates, had pre-designated a proxy.

Marcelo Peinado, Caltrans District 11 Engineering, was not present.

Dennis Agar, Caltrans District 10 Engineering, was present.

Keith Hoffman, Co-Chair, Precast Concrete STG, had pre-designated a proxy.

Rob Reis Co-Chair, Concrete Materials & QA STG, was present.

Mehdi Parvini Co-Chair, Cast In Place Concrete Pavement STG, was present.

Jinesh Mehta, Caltrans, Structural Materials Rep. (note taker), was present .

Charley Rea, Industry Co-Chair-CALCIMA, was present.

Bruce Carter, Industry Co-Chair, was present.

Cliff Ohlwiler, Industry, Co-Chair, Precast Concrete STG, was present.

Tom Tietz, Industry, CNCA, was not present.

Craig Hennings, Industry, ACPA-SW, was not present.

STATE OF CALIFORNIA
PAVEMENT PROGRAM STATUS CALENDAR

DEPARTMENT OF TRANSPORTATION

2012

JAN

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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NOV

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DEC

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30	31					

Status Calendar Legend

- Monthly Pavement Management Council (PMC) Status Meeting
- Quarterly PMC Status Meeting with Asst. Division Chiefs
- Last Day for Monthly Status Document Update
- Status Document Prep, Repro and Distribution
- State Holidays
- Quarterly Rock Products Committee (RPC) Meeting
- Precast Concrete Subtask Group Meeting (9:00 – 11:30 am) - CT only
  Concrete Materials & QA Subtask Meeting (1:00 – 4:30 pm) - CT only
- Precast Subtask Group Meeting (9:00 – 11:30 am) - All
  Concrete Materials & QA Subtask Meeting (1:00 – 4:30 pm) - All
- Concrete Products Task Group Meeting Meeting (10:00-12:00)- All
- Concrete Task Group CT Only Meeting Meeting (1:00-3:00 pm)-CT only
- Cast In Place Pavement Subtask Group Meeting (time)-All
- Cast In Place Pavement Subtask Group Meeting (Time)-CT Only

2012 Proposed Calendar
(ADA Compliant Version)

State of California

Pavement Program Status Calendar

Department of Transportation

The Concrete Task Group Meeting for all, industry and Caltrans, is scheduled from 10:00 am to 12:00 pm on the following dates: January 12th, April 12th, July 12th, and October 11th of 2012.

The Concrete Task Group Meeting, for Caltrans only, is scheduled from 1:00 pm to 3:00 pm on the following dates: March 22nd, June 21st, September 20th, and December 20th of 2012.

Precast Concrete Task Group: Issue Status Summary, Updated 7/14/11					
Project Priority	**Project**	**Purpose**	**Overall Progress**	**Target Completion Date**	**% Complete**
	2010 Plain Language Update	Existing specifications are being converted to "Plain Language" format to streamline project development, eliminate redundant specification language, and to provide clear and concise language for projects.	Project Comlete	7/1/2010	100%
1	Removal of Mock-Up Requirement for Precast SCC Members	For projects that possess the option to use SCC for Precast Concrete, eliminate the requirement to construct a Mock-Up prior to the placement of SCC.	The Scoping Document and Work Plan for this activity were created on May 19 and approved by STG on 6/17/11 meeting. Based on the importance of this activity and the level of effort, this project has been listed as 2nd highest priority in the STG	1/30/2012	22%
2	Separate Precast from PCC Provisions and Create Levels of Precast QC QA	Separate specifications for precast products/materials from those for concrete materials and develop various levels of Precast.	Industry requested to combine this issue with Precast QC QA Provisions. A new scoping document was created on 4/12/11 and approved by STG in 6/17/11 meeting.	1/30/2013	20%
3	Precast Pavement Specification Development	Develop comprehensive departmental guidance or standard approach on the use of precast concrete pavement.	Final version of scoping document was document will be sent submitted on June 21, 2011. The document was sent to Precast STG for review and no comments were received.	12/31/2013	5%

Removal of Mock-Up Requirement for Precast SCC Members

Sub Task Group (STG): Precast

Priority: 2

STG Co-Chair: Keith Hoffman

Project Team Lead: Ruth Fernandes

Project Team Members: Tracy Vacura

Project Team Advisors: Cliff Ohlwiler

DEADLINE: 1/30/2012

PERCENT COMPLETE: ~20 %

OBJECTIVES:
The current SCC Standard Special Provision (SSP) requires the Contractor to construct a Mock-Up before placing SCC for precast elements that have complex geometric configurations and or dense reinforcement. This Mock-Up can be unnecessarily costly and may not be fully representative of the member to be constructed for the actual work.

There is currently no Mock-Up requirement for Precast Concrete members consisting of normal portland cement concrete. Since the use of SCC for precast members is optional, there would be very little incentive to select SCC over normal concrete when the former requires a Mock-Up and the latter does not.

Furthermore, the current SSP already contains a robust prequalification process that requires the SCC to meet various ASTM requirements for slump flow, flow rate, column segregation, bleeding, visual stability, and compressive strength. This prequalification of SCC encompasses the same materials, mix proportions, mixing equipment, procedures, and size of batch to be used in the production.

The Mock up requirement, however, may be added if the project Designer uses a member design that is only suitable for SCC.

The goal of this activity is to eliminate this Mock-Up requirement entirely, so as to make the use of SCC more desirable for the Contractor.

RECENT ACTIVITIES:

- The revised scoping document and work plan for this issue was completed on May 19, 2011.
- Over the past few months, several meetings were held at Sub Task Group level and Project Lead level to receive concurrence as well as input from members of the Sub Task Group.
- Review of the existing specifications have been completed.

UPCOMING ACTIVITIES:

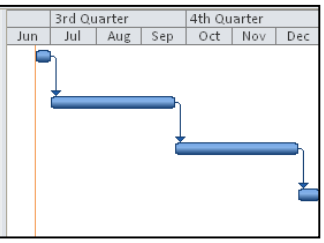
<u>For the next month:</u>

- Work to develop early draft stages of the 2010 Plain Language Spec changes that will take place

<u>For the next two months:</u>

- Compose a draft program and draft language
- Review our existing practices
- Gauge the affect this change will have on future projects

Task Mode	Task Name	Duration	Start	Finish	Predecesso
	Review Existing Specifications	8 days	Tue 6/21/11	Thu 6/30/11	
	Compose Draft Specification	60 days	Fri 7/1/11	Thu 9/22/11	1
	Gather and compile feedback	60 days	Fri 9/23/11	Thu 12/15/11	2
	Finalize Specification and Publish	11 days	Fri 12/16/11	Fri 12/30/11	3



Precast Concrete Sub Task Group Scoping Document

Date: 6/17/11

Issue Statement

For projects that posses the option to use self-consolidating concrete (SCC) for precast concrete in the Special Provisions, eliminate the requirement to construct a Mock-Up prior to the placement of SCC.

Proposal

The current SCC Standard Special Provision (SSP) requires the Contractor to construct a Mock-Up before placing SCC for precast elements that have complex geometric configurations and or dense reinforcement. This Mock-Up can be unnecessarily costly and may not be fully representative of the member to be constructed for the actual work.

There is currently no Mock-Up requirement for Precast Concrete members consisting of normal portland cement concrete. Since the use of SCC for precast members is optional, there would be very little incentive to select SCC over normal concrete when the former requires a Mock-Up and the latter does not.

Furthermore, the current SSP already contains a robust prequalification process that requires the SCC to meet various ASTM requirements for slump flow, flow rate, column segregation, bleeding, visual stability, and compressive strength. This prequalification of SCC encompasses the same materials, mix proportions, mixing equipment, procedures, and size of batch to be used in the production.

The Mock up requirement, however, may be added if the project Designer uses a member design that is only suitable for SCC.

The goal of this activity is to eliminate this Mock-Up requirement entirely, so as to make the use of SCC more desirable for the Contractor.

Objective and Deliverables

The objective is to make the use of SCC more desirable for the Contractor.

The deliverables for this activity are as follows:

- Review existing specifications and determine how the change might affect current SCC requirements

- Review industry practices and evaluate lessons learned from previous project experiences.
- Compose a Draft Specification
- Gather and compile feedback from all necessary parties
- Finalize the specifications and publish

Timeline

The specification production process is proposed to start in June 2011, after the 2010 Plain Language specifications are published. The proposed completion date will be January 2012.

The completion of this activity can occur in a short period of time, and will have widespread benefits.

Benefits

The benefits include the creation of standards to be used for the execution of all projects utilizing SCC for precast, and to avoid problems during construction and bidding of projects due to technical requirements unique to SCC and/or the SCC precast mock-up. Definitions/requirements for complex geometric configurations and dense reinforcements will create a standard program that ensures appropriate resources are allocated.

Impacts and Stakeholders

This proposal will reduce impacts to policy, specifications, and practices. This will benefit all stakeholders, including Industry, by avoiding costly problems during construction.

Stakeholders:
Division of Construction
DES – METS
DES – Structure Office Engineer
Maintenance
Industry
FHWA (High-profile project change orders with altered language or that require time extensions will need FHWA approval)

Risks

There are no obvious risks to the Department or Industry involved with this proposal.

Separate Precast from PCC Provisions and Create Levels of Precast QCQA

Sub Task Group (STG): Precast

Priority: 3

STG Co-Chair: Keith Hoffman

Project Team Lead: Ruth Fernandes

Project Team Members: Doug Mooradian, Tracy Vacura

Project Team Advisors: Cliff Ohlwiler

DEADLINE: 1/30/2013

PERCENT COMPLETE: ~10 %

OBJECTIVES:
Decision document establishes direction for Department to develop clear guidance regarding levels of QC/QA as it pertains to structural concrete. Committee would like to update specifications and add new levels of QC/QA for minor (non-structural) and possibly other concrete. The Committee would also like to separate all precast concrete materials - QC/QA from Sections 11/90. Place all precast related specifications into a new *"Section XX: Precast Concrete".*

RECENT ACTIVITIES:

- The revised scoping document and work plan for this issue was completed on April 12, 2011.
- Over the past few months, several meetings were held at Sub Task Group level and Project Lead level to receive concurrence as well as input from members of the Sub Task Group.
- The vast majority of the work will be completed once the Plain Language specifications are finalized.

UPCOMING ACTIVITIES:

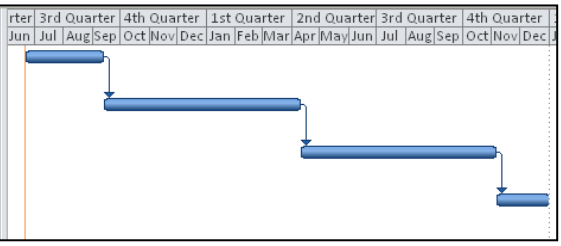
<u>For the next month:</u>

- Work to develop early draft stages of the 2010 Plain Language Spec changes that will take place

<u>For the next two months:</u>

- Compose a draft program and draft language
- Review our existing practices
- Gauge the affect this change will have on future projects

Task Mode	Task Name	Duration	Start	Finish	Predecesso
	Review Existing Specifications	60 days	Tue 6/21/11	Mon 9/12/11	
	Compose Draft Specification	150 days	Tue 9/13/11	Mon 4/9/12	1
	Gather and compile feedback	150 days	Tue 4/10/12	Mon 11/5/12	2
	Finalize Specification and Publish	40 days	Tue 11/6/12	Mon 12/31/12	3



Precast Concrete Sub Task Group Scoping Document

Date: 6/17/11

Issue Statement

Separate all precast concrete materials, QC/QA from Sections 11 and 90. Place all precast related specifications into a new Section XX: Precast Concrete.

Proposal

Separate specifications for plant cast precast concrete products/materials from those for CIP concrete materials. Additional guidelines are needed for QC/QA requirements for various levels of precast. This will minimize the current confusion regarding the application of structural QC/QA to non-structural / minor concrete

Three different levels of QC/QA would include:

1. Major Structural Components
2. Mid-Level Structural Components
3. Minor Concrete Components

Objective and Deliverables

The objective is to provide clear and concise guidance to Caltrans and Industry stakeholders for the production and use of plant cast precast concrete vs. CIP concrete.

The end result of this activity will adjust the current QC/QA procedures for Mid-Level and Minor Precast Concrete components, so as to adequately allocate resources towards areas of greater structural significance. This activity will not significantly alter the current QC/QA procedures for Major Structural Precast Concrete members.

The deliverables for this activity are as follows:

- Review existing specifications and determine how the change might affect each section
- Compose a Draft Specification
- Gather and compile feedback from all necessary parties
- Finalize the specifications and publish

Timeline

The specification production process is proposed to start in June 2011, after the 2010 Plain Language specifications are published. The proposed completion date will be January 2013.

Benefits

Creation of Standards to be used for the execution of all projects utilizing precast concrete technology and to avoid problems during construction and bidding of projects due to technical requirements unique to precast concrete. Additional levels of QC/QA will create a standard program that ensures appropriate QC and QA resources are allocated to the various levels of precast concrete products.

Impacts and Stakeholders

This proposal will reduce impacts to policy, specifications, and practices. This will benefit all stakeholders including Industry by avoiding costly problems during construction.

Stakeholders:
Division of Construction
Division of Design
DES – METS
DES – Structure Design
DES – Structure Policy and Innovation
Office Engineer
Maintenance/ Pavement Program
Industry
FHWA (High-profile project change orders with altered language or that require time extensions will need FHWA approval)

Risks

There are no obvious risks to the Department or Industry involved with this proposal.

Precast Pavement Specification Development

Sub Task Group (STG): Precast

Priority: 4

STG Co-Chair: Keith Hoffman

Project Team Lead: Mehdi Parvini

Project Team Members: Doug Mooradian, Ruth Fernandes, Jim Ma, Jim Cotey, Tinu Mishra, Kirsten Stahl, Debbie Wong, Jonathan den Hartog, Shiraz Tayabaji, Tracy Vacura, Dave Merritt, John Grafton, Ziad Sakkal, Bobby Petska

Project Team Advisors: N/A

DEADLINE: 11/30/2012

PERCENT COMPLETE: ~5 %

OBJECTIVES:
Precast concrete pavement systems were developed as an alternative for fast-setting cements or asphalt pavement systems in cases where a highway closure for longer than six hours is not a viable option. These systems are also beneficial in cases where high concrete durability and long pavement life are desired.

Today, particularly in urban areas where traffic congestion and heavy highway loading have become facts of life, new alternative pavement materials and/or systems are required to meet the current pavement replacement needs while matching the existing pavement profile.

Although a few precast concrete pavement projects have already been built throughout the state, there is no comprehensive departmental guidance or standard approach on the use of precast concrete pavement.

RECENT ACTIVITIES:

- A group meeting was conducted on June 13, 2011. This meeting centered on the finalizing of the Scoping Document for the activity and a discussion of the PPCP nSSP.
- A final draft of the PPCP nSSP was completed on June 30, 2011.
- The project specification for the I-710 Precast Pavement project will be used as a template for the PPCP nSSP.

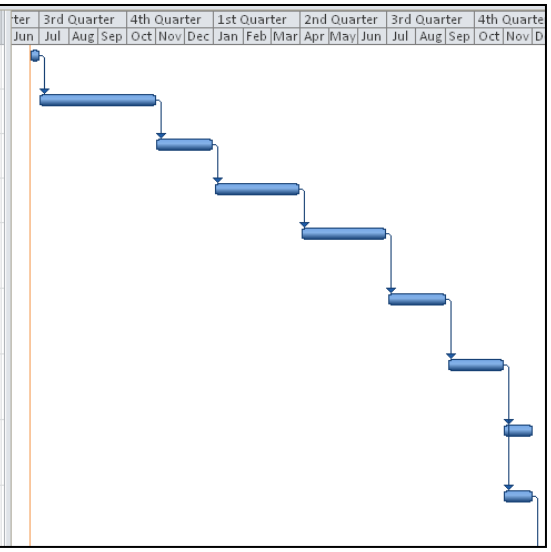
UPCOMING ACTIVITIES:
<u>For the next month:</u>

- Project team will meet for another meeting in July 2011, date TBD
- The project team has a final version of the Precast-Prestressed Concrete Pavement nSSP. This version will go to the Sub-Task Group for final approval.

<u>For the next two months:</u>

- The project team will continue to hold monthly meetings as necessary.
- Completion of the PPCP Standard Plans will be the next deliverable, and has a deadline date of October 31, 2011.
- The team will also aim to create a system for project Resident Engineers that allows for Proprietary Systems to be compared to Standard Plan systems.

Task Mode	Task Name	Duration	Start	Finish
	Develop prestressed PCP nSSP	8 days	Tue 6/21/11	Thu 6/30/11
	Develop prestressed PCP Std. Plan Details	87 days	Fri 7/1/11	Mon 10/31/11
	Establish Design Criteria (All PCP)	44 days	Tue 11/1/11	Fri 12/30/11
	Prestressed PCP Design Guide	65 days	Mon 1/2/12	Fri 3/30/12
	Develop generic non-prestressed PCP nSSP	65 days	Mon 4/2/12	Fri 6/29/12
	Develop generic non-prestressed PCP Std. Plan Details	45 days	Mon 7/2/12	Fri 8/31/12
	Performance Evaluation Guidelines (for Proprietary Systems)	43 days	Mon 9/3/12	Wed 10/31/12
	Update prestressed PCP SSP (after I-710 first construction season)	22 days	Thu 11/1/12	Fri 11/30/12
	Update prestressed PCP Std. Plan (after I-710 first construction	22 days	Thu 11/1/12	Fri 11/30/12



ISSUES TO BE RESOLVED:

As it stands, the project team remains committed to completing the specifications for the I-710 project. Numerous questions remain, however, regarding how this I-710 specification completion will tie into the completion of the Standard Plan/SSP within the timeline shown above. These questions include:

- How will project Resident Engineers be able to compare Standard Plan systems with Proprietary Systems (if the latter is proposed)?
- Do we have the necessary design calculations that will support the proposed depth/length of a standard Precast Pavement member? If not, do we have the resources available to produce these calculations?
- What design assumptions are being made if design calculations are not available?
- Will the Standard Plan/SSP allow require pre-tensioning? Is this pre-tensioning allowed in the longitudinal or transverse directions, or both? Will post-tensioning be allowed for the Standard Plan?
- How will lessons learned from other precast pavement projects (i.e. I-5, I-680) be incorporated into this Standard Plan/SSP?
- Should the SSP require the Contractor to use the system that is in the plans, or should the Contractor be given the option to use a proprietary system (similar to the provisions for MSE Panels)? If the Contractor has the option to use a proprietary system, should we create an “AML” of options that they may choose from?
- What is the specific design life that we want to use for this SSP/Standard Plan?
- For the purpose of ensuring that the pavement maintains the necessary design-life, should we restrict the Contractor from using certain materials (i.e. Rapid-Set Concrete)?
- Will this SSP cover both new pavement and pavement rehabilitation, or should two different SSPs be created for each?
- How will the use of prestressing in pavement rehabilitation be addressed?
- When the SSP/Plans are completed, what agency will own and maintain the specification to ensure that feedback is received from industry?

Precast Concrete Sub Task Group Scoping Document

Date: 6/17/11

Issue Statement

The Department would like to develop standard plans, standard specifications and a design/usage guide for precast concrete pavement (PCP). The standards need to be compatible with existing practices of the Department and cover various options available for precast concrete pavement systems including, but not limited to, prestressed versus non-prestressed.

Background/ Need and Proposal

Restrictions on lane closures and limited construction windows on most state highways necessitate new technologies for maintenance and repair of existing facilities. Precast concrete technology is a very promising method to be used for rapid construction and rehabilitation of existing rigid pavements. Precast concrete pavement systems were developed as an alternative for fast-setting concrete or asphalt pavement systems in cases where a highway closure for long periods is not a viable option.

Today, particularly in urban areas where traffic congestion and heavy highway loading have become facts of life, new alternative pavement materials and/or systems are required to meet the current pavement replacement needs while matching the existing pavement profile. These precast systems are also beneficial in cases where in-kind thickness does not provide the required design life (often 10 years) and excavating the sub base is not an option.

The main application of the proposed precast concrete pavement would be in rapid replacement of existing pavement during rehabilitation (accelerated slab replacement). However, with better performance and cost data, PCP could be identified as a cost-effective alternative for cast-in-place concrete based on life cycle cost analysis.

Although a few precast concrete pavement projects have already been built throughout the state, there is no comprehensive departmental guidance or standard approach on the use of precast concrete pavement.

Also, application of PCP in individual slab replacement is not fully experimented yet. Based on information from I-15 report (for reinforced non-prestressed panels) and evaluation of slab replacement of I-680 (for two-way pretensioned panels), a better evaluation could be made available.

Objective and Deliverables

The following material will be prepared for precast concrete pavement:

1. Establish Design Criteria
2. Usage guidance
3. Specifications/SSP
4. Standard Plans

The expected outcome of this work will be the following deliverables:

Different applications, such as slab-versus-lane replacement, available closure time, geometry of road (curves) may necessitate using prestressed-versus-non-prestressed PCP. Before there is indication that one system could handle all cases, the goal is to develop both systems to be used as available rehabilitation tools.

The group will first finish an nSSP and plans for prestressed PCP, then work on a generic (no specific system) non-prestressed nSSP and plan. The non-prestressed PCP SSP and standard are planned as separate work projects after the first goal is reached. In the long run, the next step would be to come up with a performance based spec for a global PCP (prestressed or non-prestressed). The latter is outside of the scope of this project.

Pavement program would own the spec after development.

Industry members will identify and respond back in writing any issues that they see within the Draft Specification and Plan. These responses will be used for the production of the Final Specification and Plan.

Timeline

The proposed work plan is as follows:

Item	Completion Date
Develop prestressed PCP nSSP	06/30/11
Develop prestressed PCP Std. Plan Details	10/30/11
Establish Design Criteria (All PCP)	12/30/11
Prestressed PCP Design Guide	03/30/12
Develop generic non-prestressed PCP nSSP	06/30/12
Develop generic non-prestressed PCP Std. Plan Details	08/30/12
Performance Evaluation Guidelines (for Proprietary Systems)	10/30/12
Update prestressed PCP SSP (after I-710 first construction season)	11/30/12
Update prestressed PCP Std. Plan (after I-710 first construction season)	11/30/12
Pilot project using both prestressed and non-prestressed PCP specs and plans	TBD
Update generic non-prestressed PCP SSP (pending on feedback from more pilot projects)	TBD
Update generic non-prestressed PCP Std. Plans (pending on feedback from more pilot projects)	TBD

Benefits

The creation of an SSP and standard plan will help regulate and restructure the execution of projects utilizing this newer technology. Also, it will help avoid problems during the construction and bidding of projects due to the myriad of technical requirements.

Impacts and Stakeholders

The impact would be a statewide policy and standard for application of precast concrete pavement in projects. Please reference the below list.

Stakeholders:
Districts
Pavement Program
Division of Construction

Division of Maintenance
Traffic Operations
DES, METS
OE/SOE
Industry
Local Agencies
Travelling Public
FHWA (High-profile project change orders with altered language or that require time extensions will need FHWA approval)

Impediments to Completion of Deliverables

Precast concrete could be more expensive than cast-in-place concrete, have potential sole source problem, and need more training for proper production.

The following are factors that could impede/jeopardize the effective completion of the precast concrete pavement development project:

1- Lack of a feasible work plan
2- Lack of coordination and contribution of task group members
3- Unavailability of required resources
4- Lack of support by top managers, functional units and district staff
5- Proprietary/Patent issues
6- Compensation for design changes during the project delivery phase

Precast Concrete Pavement Team:

Kirsten Stahl
Debbie Wong
Tracy L Vacura or Ruth Fernandes
Tinu Mishra
Jonathan C den Hartog
Jim Ma
Jim Cotey
Bobby Petska
Doug Mooradian
Shiraz Tayabji
Peter Smith
David Merritt
Jon Grafton
Ziad Sakkal
Mehdi Parvini

It is assumed that FHWA (Steve Healow) is involved in a higher level at CTG.

Concrete Materials & QA Task Group: Issue Status Summary, Updated 7/14/11					
Project Priority	**Project**	**Purpose**	**Overall Progress**	**Target Completion Date**	**% Complete**
	Add Water at Job-Site	Spec Change to add water (within mix design parameters) to batched concrete at the job-site	Project Complete	6/24/2010	100%
	2010 Specification (Plain Language)	Revise 2006 Standard specification and SSP to plan language	Project Complete	7/1/2011	100%
	Evaluate the need for CT 515 and Comp. Strength	Evaluate the need for CT 515 and eliminate if no longer necessary. Provide changes to specifications where appropriate	Project Complete.	10/27/2010	100%
1	Structural Concrete QC/QA Specification Development	Implement performance-based specifications for materials management of structural concrete.	Draft reports on (1) review of FHWA/DOT practices, (2) outline of QC tests, and (3) QA guidelines were discussed in subtask group mtg on 6/17/11. Preliminary project list has been selected.	6/30/2012	40%
2	Revise QPL/AML Process for Cement and SCM Development	Our sampling and testing program for Cement and SCMs needs to be updated to ensure evaluation in a timely manner.	Rob Reis is finalizing Industry comments. Discussed with subtask group on 6/17/11. All issues resolved. Program will be posted on web by 6/30/11.	6/30/2011	100%
3	Statewide Aggregate Source Database	Statewide consistency in aggregate source testing and develop a centralized list (database) of aggregate testing that can be used by all districts/projects is needed.	Project team is established. List of aggregate tests is developed. Pilot Dist 2, 3, 5, 7, 8, & HQ	7/1/2012	15%
4	Provisions for Moderate to Higher Strength Concrete	With the recent revision of Section 90, a cap has been placed on the amount of PC used in concrete; Industry has expressed concerns that Section 90 needs changes.	Industry needs to rework scoping document. Target date for rework is July 14, 2011.	6/1/2012	15%
5	Update Construction Manual	Update Construction Manual to conform to changes made to Sections 6, 9, 11, 40, 49, 51, 53, 72, 73, 83, and 90 of the 2010 Standard Specifications.	Subject matter experts creating workplans and drafts for section 4 subsections.	7/1/2012	8%

Structural Concrete QC/QA Specification Development

Sub Task Group (STG): Materials & QA

Priority: 1

STG Co-Chair: Rob Reis

Project Team Lead: John Lammers

Project Team Members: Cathrina Barros, Ruth Fernandes, Austin Perez, Craig Knapp, Mike Cook, Rosme Aguilar, The' Pham, Deepak Maskey, Al Ochoa Ken Beede, Rick Navarro, (CCTIA), Rob Reis, John Lammers

Project Team Advisors: Rita Leahy, Keith Hoffman, Jinesh Mehta

DEADLINE: 6/30/2012

PERCENT COMPLETE: ~40%

OBJECTIVES:
Implement quality control sampling and testing for structural concrete as directed in the decision document signed by the Chief Engineer and Deputy Director of Maintenance and Operations in December 2010. Determine appropriate QC sampling and testing standards as well as acceptance (QA) sampling and testing guidance consistent with federal regulations. These requirements and guidance should be implementable for any project regardless of procurement methods.

RECENT ACTIVITIES:
Project leaders and team members were identified and a detailed workplan was produced to act as a roadmap for next year. The following documents were created by the project team and are being reviewed for acceptance by the sub-task group members.

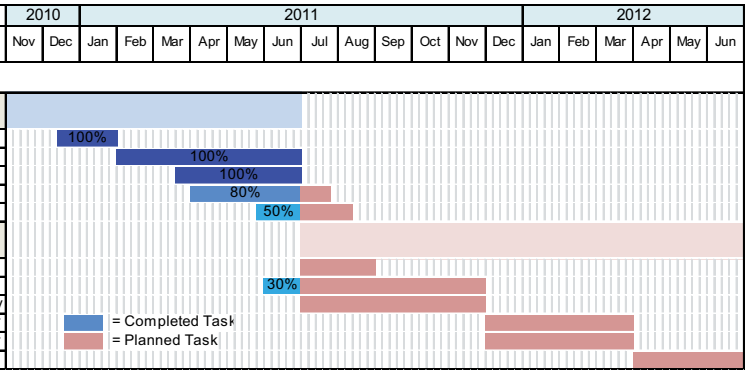
- Report documenting FHWA guidelines and expectations and other DOT practices
- QC outline and reference documents that were used to create the outline

Input from industry on these reports and specifically on frequency of QC testing as well as various required certification has been received. It was decided to focus efforts on finalizing the QC outline so that it can be given out to spec writers to incorporate into an NSSP for pilot projects. All sub components of QC outline are finalized including a dispute resolution process (see Q. 2). A report on the QA guidance has been initiated to outline minimum anticipated frequencies for identified tests. Efforts have begun on identifying pilot projects as well (see Q. 3).

UPCOMING ACTIVITIES:

- Draft and circulate QA outline report based on discussions that have taken place at the project team level.
- Develop IA process for training, certification and accreditation
- Discuss project lists. Discuss communications with Districts and Contractors (Outreach)

	Last Update:	6/30/2011	
	Tasks	**Plan Start**	**Plan Finish**
	QC/QA Specification Development		
	2010 - 2011 Fiscal Year	Start	End
1	Establish Project Teams	15-Dec	31-Jan
2	Review Existing FHWA and Other State DOT Practices	1-Feb	30-Jun
3	Develop Outline for QC Program	15-Mar	30-Jun
4	Develop Outline for QA Program and IQA Guidelines	1-Apr	30-Jun
5	Define IA Roles and Responsiblities	15-Jun	15-Aug
	2011 - 2012 Fiscal Year		
1	Draft QC/QA Reference Specification	1-Jul	31-Aug
2	Pilot Project Identification and PS&E Approval	1-Jun	31-Aug
3	Internal & External Outreach and Guidance Docs	1-Jul	30-Nov
4	Advertise and Award Pilot Projects	1-Dec	31-Mar
5	Process/Review Feedback on Pilot Projects	1-Dec	31-Mar
6	Establish Full Implementation on All Projects	1-Apr	30-Jun



Key Questions and Approach

1. Data collection efforts
   - Separate project team was established to develop schema to capture test data/results from contractor and Department labs.
   - NSSP will reference web link for instructions regarding data submission requirements.

2. What is the dispute resolutions process and how the lot being identified for dispute with different QC/QA frequencies?
   - Approach will be similar to that currently used regarding compliance range and operating range for acceptance of materials. The only real difference is that now the Contractor's provided QC will be used as part of the materials acceptance process.
   - Contractor provides QC test results at a listed frequency.
   - QA guidance for the Department provides for a minimum of 10% test frequency on end product concrete tests and selected aggregate tests for monitoring parameters related to concrete shrinkage.
   - Multi-laboratory variance measure listed in applicable ASTM standards will be considered when comparing QC and QA results.
   - Non-compliance material will be cause for generation of an NCR and corresponding material as determined by SR/RE may be subject to rejection.

3. Pilot projects – , how to identify those, do we have sufficient time for it, can we just use the project with 2010 plain language spec?
   - List of potential projects by District has been obtained.
   - Need to determine timeline constraints given time required for development of NSSP ad PS&E dates of potential projects.
   - Need to consider cost allowance of including QC in contracts
   - Support from management may be needed to narrow down and assure that projects coming up in near future will be able to incorporate the NSSP.
   - Goal in pilot project selection: Projects with a variety of size and complexity as well as an attempt to select at least one for each district. Goal: approximately 20 projects.
   - Start with structures projects, training limited to OSC staff is simpler.
   - Pavement (Deepak) and Spec (Ruth) agreed to start with only structures projects

4. Updates to Construction and IA Manuals
   - Several members from district and headquarter construction are actively involved in the project team.
   - NSSP for pilot projects – thus updates (if any) would be initially handled through bulletins for the pilot projects with actual updates performed if program rolled out for all projects.
   - With experience from pilot projects, OSC and METS staff will be able to help in training Construction staff.

5. How to assure that industry is ready?
   - All the documents are being vetted through RPC.
   - Demonstrate how it empowers the contractor to control their schedule.
   - Outreach through AGC and other industry groups.
   - Mandatory pre-bid meetings for all the pilot projects.
   - Workshops through CalCIMA and other industry partners.

6. How to make sure we don't create double the effort (with Caltrans repeating a test for every QC test)?
   - Mandatory pre-job meeting for each pilot project to discuss the requirements of the NSSP.
   - Reports clearly documenting FHWA requirements and other DOT practices.
   - Presentations through FHWA representatives.

- Clear outline for acceptance (QA) requirements, QA sampling and testing only on a small percentage of QC sampling and testing.
- Bulletins to be issued for pilot projects. Construction Manual, BCRAP manual, OSMPP etc updated with final implementations.

7. How Caltrans staff will evaluate labs and tests under national standards?
   - Recognized standards like ASTM, AASHTO, ACI, NRMCA etc are being used.
   - Participation from CCTIA to clearly understand industry's capability for testing and inspection.
   - Certifications through those agencies for Caltrans staff is easily achievable.
   - Phase out CT test methods.

Revise QPL/AML Process for Cement and SCM Development

Sub Task Group (STG): Materials & QA

Priority: 2

STG Co-Chair: Rob Reis

Project Team Lead: Rob Reis

Project Team Members: Vijay Jain, Ben Lenz, Tom Tietz
Rob Reis, Rosme Aguilar

Project Team Advisors: Jinesh Mehta
Keith Hoffman

DEADLINE: 6/30/2011

PERCENT COMPLETE: 100 %

OBJECTIVES:
The Department's sampling and testing program for Cement and SCMs requires an update to ensure evaluation of these materials in a timely manner. This program should be consistent with the intent of FHWA guidelines (i.e. inclusion of certified test data). This activity aims to revise the existing Authorized Materials List to include specific requirements for submission of Certficates of Compliance of materials and test samples. This program should be developed to verify, compare, and cross-reference manufacturer QC test data with independent QA test data.

RECENT ACTIVITIES:
The draft language for the program was sent out to the Sub-task group members for review. Feedback from various members was received and incorporated, and the final draft was reviewed at the joint subtask group meeting held on June 17, 2011. One of the main concerns from Industry was regarding requiring AASHTO accreditation in addition to CCRL proficiency sample reference program participation. A 12-month grace period will be provided for AASHTO accreditation. Justification for AASHTO accreditation was lobbied for by the Department since it assures accountability of Labs performing tests. Labs must maintain a Quality Procedures Program for testing and perform corrective actions (if any) identified in the CCRL proficiency sample reference program. The final document will be posted on the Caltrans website by June 30, 2011 pending drafting of industry list notification letter and standardization of Excel spreadsheet format (Kirk MacDonald to provide) for transmittal of test data.

UPCOMING ACTIVITIES:
For the week:
The program is finalized and will be posted on the next go around of website updating.

Management of Statewide Aggregate Source Data

Sub Task Group (STG): Materials & QA

Priority: 3

STG Co-Chair: Rob Reis

Project Team Lead: Keith Hoffman

Project Team Members: Byron Berger, Frank Chavez, Ed Perez, Rob Reis, Bruce Carter, Dan Chapman, Deepak Maskey, Lilibeth Purta, Al Ochoa, Office Geotech Design (TBD)

Project Team Advisors: Brett Soldano, Jinesh Mehta

DEADLINE: 6/30/2012

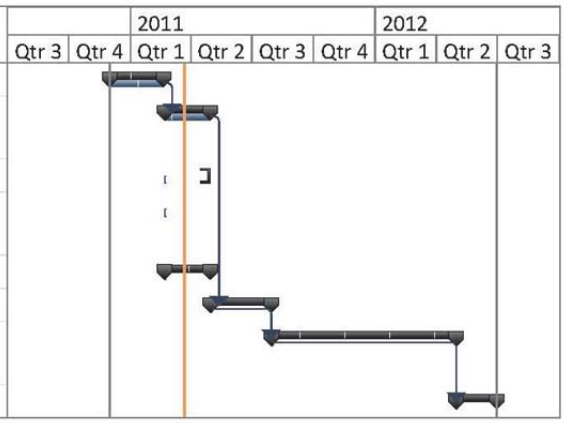
PERCENT COMPLETE: ~15 %

OBJECTIVES:
Develop a central database for statewide consistency in aggregate sources and QA testing information to assure aggregate quality, avoid repetitive testing, appropriately identify innocuous aggregates along with other properties, and to minimize risk for aggregate producers. Database must be flexible and expandable for both future tests, existing test modifications and capable of incorporating materials and tests currently done by other laboratories i.e. concrete, cement, chemistry. Database will be for internal Caltrans use (sharing of data between districts and Translab).

RECENT ACTIVITIES:
Project leaders and team members were identified and a detailed work plan was produced to act as a roadmap for the completion of this project. In the last few weeks meetings were held with Translab staff as well as different branches of I.T. to review existing procedures and software used for collecting and reporting of aggregate test data. Meetings with industry partners were held to better understand their concerns and more clearly define the scope. With QC-QA activity working on Schema (format capture protocol for test data/results of applicable test standards), the background work for this project will be complete. The project team has decided to update the business practice where source specific properties will be evaluated during mix designed and will be maintained by METS in prequalified products list. This project consists of multiple phases. Phase I establishes the database. Phase II populates the database. Once a database is established and business practices are updated through QC/QA program for Structural Concrete, data will be evaluated to identify further need to update business practices in relation to all aggregate uses.

UPCOMING ACTIVITIES:
- Based on progress on overall Schema activities, a specific task group will be assigned to aggregate source specific tests.
- This task group will develop the data collection to comply with change in business practice initiated by QC-QA project team.

ID	Task Name
1	Establish project teams and project/sub-project scopes
3	Review existing databases and evaluate the feasibility of a new interface/database
4	Option A: Use existing STATS
5	Review structure of existing STATS with applicable parties
10	Option B: Develop a new database system
14	Roll out pilot program to receptive districts for beta test
20	Review and finalize the interface/database setup and incorporate other labs
22	Provide documentation and training



Management of Statewide Aggregate Source Data

Date: June 2011

Issue Statement

Develop a central database for aggregate sources and QA testing information. This will assure aggregate quality, avoid repetitive testing, appropriately identify innocuous aggregates along with other properties, and to minimize risk for aggregate producers. Database must be flexible and expandable for both future tests, existing test modifications and capable of incorporating materials and tests currently done by other laboratories i.e. concrete, cement, chemistry. Database will be for internal Caltrans use (sharing of data between districts and Translab). Some of the business practices will be revised through QC/QA of Structural concrete issue; data will be evaluated to identify further need to update business practices in relation to all aggregate uses.

Proposal

It is proposed that a single database of aggregate producers and QA testing information, managed on a Statewide-level. The first phase of this activity will be completed through QC/QA of Structural Concrete issue, where Schema (format capture protocol for test data/results of applicable test standards), is created to capture the QC and QA results for all different testing. This will provide background work for this project, which will be then expanded to other aggregate uses outside of Structural Concrete. Once a database is established and business practices are updated through QC/QA program for Structural Concrete, data will be evaluated to identify further need to update business practices in relation to all aggregate uses.

Objective and Deliverables

Compiles list of all aggregate testing performed and therefore helps create consistency; across various districts. Data will be utilized to identify need to update any business practices surrounding it.

Timeline

The scope was updated based on input from Industry and TG and finalized in June 2011 and activity will be completed by 6/30/12.

Benefits

Allows data to be shared across multiple districts
Avoids repetitive tests thus reducing cost
Provides a framework for the QCQA Program
Provides data to identify need to update business practices

Impacts and Stakeholders

This should benefit all stakeholders including Industry by avoiding costing problems during construction.

Stakeholders:
Division of Construction
DES, METS
DES, SOE
Industry
FHWA

Risks
None

Provisions for Moderate to Higher Strength Concrete

Sub Task Group (STG): Materials & QA **Priority: 4**

STG Co-Chair: Rob Reis **Project Team Lead: Tom Tietz**

Project Team Members: Bruce Carter, Kirk McDonald, David Resweber, Rob Reis, Keith Hoffman

Project Team Advisors: Jinesh Mehta

DEADLINE: 6/1/2012 **PERCENT COMPLETE: ~15 %**

OBJECTIVES:
Review original Caltrans cost-benefit analysis to determine the material and fiscal impacts on the State of California resulting from the provisions in Section 90-2.01 (SCM's) as they relate to moderate (4000 psi) and high (6000 psi) strength concrete mixtures.

Review of compliance of the provisions in Section 90-2.01 with the tenants and requirements of AB 32 and SB 375.

If necessary, develop and recommend revisions to Section 90-2.01 to accommodate the findings of these reviews if it is found original studies were lacking. Such revisions may include separate requirements for ASR mitigation, CO2 impacts and sustainable construction utilizing rock products available in California.

RECENT ACTIVITIES:
The project team discussed the goal to review CIP concrete mix designs in the 5000psi-5500psi range at the June 17 STG meeting.

The team discussed recent evaluations of concrete using the new Section 90. Topics such as Equation 2 limitations, cost benefit analysis, additional pollution that maybe ensuing, safety concerns with adding SCMs to concrete trucks as well as the proper weighing and measuring SCMs were discussed.

The team also discussed possible resolutions to some of the issues presented such as allowing additional cement content for moderate to high strength concrete, or changing Equation 1 to the "TC" value instead of "MC" value.

Currently strength benchmark is being discussed. Industry is requested to provide example mix designs to determine if the specification revision is needed over 4000, 5000 or 6000 psi concrete.

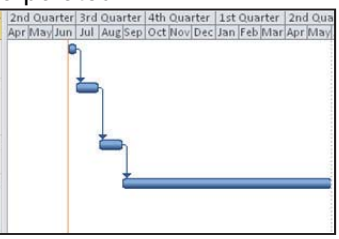
UPCOMING ACTIVITIES:
<u>For the next month:</u>

- Submit specific examples of 5000psi-5500psi concrete mix designs that do not conform to the Section 90 equations
- Clearly define scope for this activity and priority from industries perspective.

<u>For the next two months:</u>

- Continue to review any examples received
- Begin draft specification for changes that need to be incorporated

Task Mode	Task Name	Duration	Start	Finish	Pr
	Review Existing Specifications	8 days	Tue 6/21/11	Thu 6/30/11	
	Identify Need for Changes in the Specification	21 days	Fri 7/1/11	Fri 7/29/11	1
	Create Draft Outline of the Specification	22 days	Mon 8/1/11	Tue 8/30/11	2
	Implement any recommendations into a CPD	197 days	Wed 8/31/11	Thu 5/31/12	3



Concrete Materials Task Group Scoping Document

Date: June 2011

Issue Statement

With the recent revision of Section 90 Portland Cement (PC) Concrete adopted as of June 2009 a cap has been placed on the amount of PC used in concrete; Industry has provided evidence that Section 90 needs changes to accommodate moderate and high strength structural concrete.

Proposal

It has been shown that Section 90-2.01 (SCM requirements) results in mixes that are not appropriate for the intended use, and rely on materials not available and thereby significantly increase the cost to the State of California. A review of Caltrans original cost benefit analysis should be performed to evaluate assumptions made and degree of impacts to State of California. .

Objective and Deliverables

Review original Caltrans cost-benefit analysis to determine the material and fiscal impacts on the State of California resulting from the provisions in Section 90-2.01 (SCM's) as they relate to moderate (5000 psi) and high (6000 psi) strength concrete mixtures.

Review of compliance of the provisions in Section 90-2.01 with the tenets and requirements of AB 32 and SB 375.

Develop and recommend revisions to Section 90-2.01 to accommodate the findings of these reviews if it is found original studies were lacking. Such revisions may include separate requirements for ASR mitigation, CO2 impacts and sustainable construction utilizing rock products available in California.

Timeline

Complete review and commentary on existing cost-benefit analysis by March 1, 2011.

Identify the need for change in the specification by July 1, 2011

Create a draft outline for specification by September 1, 2011

Implement recommendations/revisions to specifications as a CPD by June 1, 2012.

Benefits

1. Concrete mixtures designed to provide desired engineering properties while promoting a reduction in greenhouse gas emissions.
2. Take advantage of local materials in consideration of CO2 impacts.
3. Provide economic value to the State of California

Risks

None

CIP Concrete Pavement Task Group: Issue Status Summary, Updated 6/30/11					
Project Priority	**Project**	**Purpose**	**Overall Progress**	**Target Completion Date**	**% Complete**
	2010 Plain Language Update	Existing specifications are being converted to "Plain Language" format to streamline project development, eliminate redundant specification language, and to provide clear and concise language for projects.	Project Comlete	7/1/2010	
2	Section 40 Technical Changes	To address comments from Industry, Construction, and other units made on Section 40 during the 2010 PLV exercise.	All the proposed changes to Sec. 40 (from Caltrans units and Industry) were incorporated in the draft working spec and was sent to CIP STG for review. Would start to address changes in 6/9/11 meeting.	12/30/2011	26%
3	Safety Edge (concrete)	Develop statewide policy for the use of the "safety edge" on edge drop offs for rigid pavement.	Draft concrete safety edge spec was reviewed by Caltrans. Comments were included and the new draft was sent to Industry for discussion in 6/9/11 meeting. Request was sent to RE on 5/13/11 to include SE in E-Gap project.	10/31/2011	28%
4	Coefficient of Thermal Expansion (CoTE)	To CoTE as a criteria for design and construction of concrete pavements.	The proposed spec change was discussed in 5/12/11 meeting. Caltrans comments were incorporated in the draft. The new draft was sent to Industry for review and discussion on 6/9/11 meeting.	6/30/2012	18%
5	Smoothness	Develop internal profiler smoothness specifications and calibration test procedures for acceptance on concrete pavement. Develop Caltrans protocols for equipment and operator certification.	The draft was discussed in 5/12/11 meeting. Comments by Caltrans were addressed. Another draft is sent to Industry for comments and discussion on 6/9/11 meeting.	7/1/2013	25%
6	Rapid Strength Concrete for JPCP	Prepare specification for use of rapid strength concrete (RSC) for new construction of jointed plain concrete pavement (JPCP)	A draft spec for JPCP using RSC is prepared. The spec would be sent in May for subtask group review.	10/3/2011	26%

7	CRCP Design Details	To assure that state funds are utilized in the most cost effective manner possible over the life of the pavement and that the product will meet its intended design life.	The work on construction joint design detail has been completed. Meeting was held on Apr 8 to discuss end treatment guidance. Drafted new transverse steel detail for standard plan.	7/1/2012	87%
9	Fully Pervious Concrete Pavement	Develop guidance, specifications and plans for a fully pervious concrete pavement for low-risk applications (e.g. parking lots, bike paths) that allows storm water and snowmelt to pass through the pavement and infiltrate into the surrounding materials.	Schedule delayed in order to redirect resources to address technical changes to Section 40. The most recent draft spec (the working document) was sent out for info on 4/1/11. Plan to have a meeting in June to resume the work.	7/1/2012	35%
10	Bond Breaker	Investigate different alternatives available not to bond concrete pavement and LCB.	Experimental tests were performed in the week of May 16 in Fresno. Waiting to analyze test results.	9/1/2011	4%