

MINUTES:

DRAFT

When: Wednesday, November 6, 2019 11:00 – 12:00 PM (PDT)

Where: Web-conference

- I. There were 19 attendees to the WBPP regional web meeting. Attendees included:

Kyle Bartfay- Phoscrete Concretes
Andrew Blower - Oregon DOT
Rebecca Burrow - Oregon DOT
David Dobson - Oregon DOT
Earl Franks - New Mexico DOT
John Gillis - Caltrans
Chris Higgins - Oregon State University
Teresa Jones - City of Reno
Erol Kaslan - Caltrans
Travis Kinney - Oregon DOT
Darlene Lane - NCPP
Pat Martens - Hydro-Technologies, Inc.
Herb McDowell - Idaho DOT
Andrew Pack – Idaho DOT
Brent Schiller - Forsgren Associates, Inc
Sara Shideler - Arizona DOT
Benoit Cordoba – Wyoming DOT
Ed Liberati – Hydro-Technologies, Inc.
Remy Stern – EOPs

- II. Welcome/Introductions

Herb welcomes everyone, takes roll call, and moves to accept minutes from the previous month's phone meeting. There are no objections and minutes are accepted

- III. Working Group Updates

Local Agency Outreach

Travis – Did filming of LTAP in Indiana – Purdue send own videographers to document how it is formed, how it is implemented and how it is funded. The working group is looking to coordinate with FHWA for greater outreach. Gregg Freeman presented at it to show what the group has put together but hasn't circled back with Travis. Group really understands this topic so looking forward to good constructive feedback moving forward

There is a large list for slide based modules. The group is looking at the “voluntold” approach to help with generating content. Everyone who gets involved wants to get to 15 slide presentations for the modules but the group is really looking for a 3 slide of “what is it” for each module. Travis is looking to appoint due to lack of volunteers.

Chloride Testing

Travis – has gone through significant review periods. Getting close. Compiled a near 90 page document. Looking at developing an executive summary. The group wants to send out to the regional partnerships for review – would people see value to send it out before executive summary is done? Aimed at getting consistency on why they are testing and how they are testing but not so much on what they are doing with results. Herb said he would be willing to review prior to executive summary being completed.

IV. Technical Topic

Hydro-demolition rapid deck rehabilitation

Contact Info: Travis Kinney, Email: Travis.J.Kinney@ODOT.State.OR.US

Background:

The Yamhill Overflow Bridge was built in 1963 and consists of 10 – 30’-0” RCDG spans supported on timber pile trestle bents. The 300’ bridge carries two lanes of traffic on a 30’ roadway with an ADT of 23,000. Reinforcement in the deck was design to have only 1” of cover for top and bottom mat reinforcement in a 6” deck.

Due to significant deterioration maintenance is considering a deck rehabilitation that would be completed in concurrent weekend closures (8:00 PM Friday to 5:00 AM Monday). ODOT doesn’t have significant experience with projects of this type of is seeking assistance.

Structural Deck Rehabilitation Options:

Silica Fume Overlays:

- 1/2 to 3/8” nominal aggregate
- Significant shrinkage cracking
- 7 day wet cure

Material or Property	Specification or Test Method	Unit	Property Requirements
Fine aggregate	02690.30	% total aggregate (by Weight)	45 - 55 (SFC) 50 - 60 (LMC)
Dry Silica Fume	02330.20	% total cementitious material	4
Fly Ash	02330.10	% total cementitious material	30
Latex Emulsion Admixture	02030.30	gal./cu. yd.	24.5 (min.)
Water-Cementitious Ratio *	AASHTO T 121	lb. water/lb. cementitious material	0.40 (max.)
Air Content	AASHTO T 152	% plastic mix	6 ± 1 1/2
Concrete Temperature	WAQTC TM 10	° F at time of placement	50 (min.) 80 (max.)
Slump	AASHTO T 119	inch	6 ± 2
Compressive Strength (<i>f'</i> c) at 7 Calendar Days	AASHTO T 22	psi	3,000 (min.)

* Include free moisture in aggregate and for LMC, non-solids in latex

Latex Modified Concrete:

- Hasn't been used in Oregon for decades.
- No clear reason why it fell from favor.
- Need additional information on who is using LMC and why.

High Performance Concrete:

- Very similar to Silica Fume Specification but uses larger aggregate (3/4 or 1").
- May reduce shrinkage cracking
- Expected to have better durability.

Bridge Condition:

The reinforcement within the deck wasn't placed at the proper depth which has led to significant spalling (potholing). An in depth evaluation of the deck was performed which confirmed chloride contamination in the surface concrete. Approximately 50% of the deck is expected to require patching.





YAMHILL RIVER OVERFLOW - BR# 08492 - HWY 39 - MP: 45.76

SIDE ELEVATION

Rapid Deck Rehabilitation – Oregon has done some history with high early strength concrete overlays and some with hydro-demolition but most familiar with micro milling and a silica fume modified concrete overlay with a 7(+/-) day wet cure.

We are trying to accomplish this within a weekend closure does anyone have an idea on how to stage this?

Pat Martens – We see a lot of this in the midwest – go in Friday night, hydro-blast and lay a rapid setting latex mix and have it open Monday morning. High production; 1000 sq. yards in a weekend. Rapid setting latex with a 3 hour wet cure. Rebar height may be an issue for you.

Travis – Would you hit this with a mill first?

Pat – Generally, you would want to mill first to open up the surface and get down to rebar. What is your clear cover?

Travis – 1” of clearance at most, 0.5” typical.

Andrew – 1” planned at construction but there is no clearance in the ruts.

Pat – Are you intending to raise the profile?

Travis – yes – closer to 2” design clearance when done.

Pat – Good, this should be a good fit for minimum scarification “fast track hydro-demo” where you would want a minimum of 1” of latex. It’s doable in your time window with 60 gal/minute output to get production on a fast track cut as opposed to a total rebar cut.

Travis – I want more than a 3 hour cure – short cure times tend to crack really badly. There is a half day cure latex – are you familiar with this

Pat – VE is the very early strength and the type III latex is about a 24 hour wet cure.

Travis – We are looking to stage this half the deck at a time with 1” longitudinal lip as acceptable. It took a lot of salesmanship to sell it in weekend closures.

Pat – You could try the type III mix to get strength in the weekend closure with about 24 hour wet cure, pouring Saturday night – You may need to play with the mix to get strength in the timeframe.

Travis – The deck has a lot of patching and wide variety of patch materials – other DOTs require doing all of the patch work first – is assuming hydro-demo will remove all the patching out a good or bad assumption?

Pat – The good patches can stay in – hydro-demo will decide what will stay in and what will come out on its own. A good idea to do half the deck at a time because we would need to evaluate if any patches need to come out after “fast track” hydro-demolition. The overlay can be poured monolithic with patches. Only time they might be doing patches separate is if they are concerned with negative moment steel being exposed.

Travis – This bridge is considered simple for live load.

Herb – We pour back patches monolithically with overlay. You may want to get rid of non-cementitious patches.

Pat – Yes, non-cementitious patches don’t do well with the hydro.

Travis – Oregon hasn’t installed LMC in a long time. I haven’t gotten details as to why – seems to be industry preference – HPC/silica fume has been practice.

David Dobson- ODOT transitioned to silica fume overlays. Can find 4% SF requirement which matches our HPC mix – looking to shifting to standard HPC mix with larger aggregate to help with shrinking ½ to ¾” max aggregate size. See a lot of DOTs with smaller rock in overlays – are other states looking at larger rock to combat shrinkage?

Herb – We’ve been struggling with cracking with overlays. Problems with getting wet cure down quick enough and only running 4 day wet cure. Haven’t run LMC in 20 years – seems to be a regional thing.

Pat – SFC is going to be cheaper. Back in the late 90s transitioned because alternate bidding panned out in SFCs favor, but LMC has better service life so eastern states transitioned back. SFC can be ready mixed while LMC is site mixed.

Travis – Competing material costs don’t matter that much when you look at these type of projects. PM/overhead, Traffic control, etc. tend to dominate. Experience with the equipment will be an issue.

David – A couple companies have the mobile equipment necessary for a high early strength material we've used so latex shouldn't be an issue.

Herb – Was involved with a scan that looked at overlay decisions as to material usage.

Pat – I have a lot of specs that can be provided.

Herb – What's cure time on high early strength?

David – It's 3 hours as well. CTS rapid set. Our HESC mix design incorporates fibers to help with shrinking.

Herb – Interested to see one of us try it. WSDOT may have tried it so it may be worth reaching out to DeWayne as well.

Travis – This is a thin deck, possibility for a full depth repair. Is there benefit to try to identify prior to the work or work through these in the field.

Pat – Good idea to repair them up front if you can.

Andrew/Travis – Confirm 6" deck.

Travis – There is map cracking in the soffit so it is anticipated but it is hard to know exactly where removal would punch through. Andrew – did you look at bottom?

Andrew – no – just coring and chain drag at night so I didn't get a good look at the soffit.

Travis – Verify it hasn't been full depth in past and bank on not going full depth. Has anyone had to install full containment?

No one had to do that.

NEBPP Meeting Readout

Andrew discusses many interesting topics that were presented at the NEBPP meeting. Please click on the presentations in the linked agenda for more details:

<http://pavementvideo.s3.amazonaws.com/2019-NEBPP-Burlington-VT/2019-NEBPP-Burlington-VT-Agenda-TOC.pdf>

Please keep an eye on the TSP2 Bridge Preservation Video Library for future video uploads if you are interested:

https://www.pavementpreservation.org/video_library/bridge/Meetings.html#northeast

V. Administrative Items

2020 WBPP Annual Meeting – The next annual meeting is Tuesday May 12, 8am through Thursday May 14th noon at the Renaissance Glendale Hotel in Phoenix.

A call for presentations will be going out shortly with deadline end of November 29th so please submit if you are interested.

There are a couple vacancies for agency directors so look out for solicitations for those positions in the near future if you are interested.

Budget – Was shown on screen and budget is healthy.

NAIs?

Darlene - Shows the drawing of the WBPP meeting location in Phoenix, AZ. I will look at room capacities for breakout sessions. I will contact the hotel after our meeting. How many breakout sessions are we looking at?

Travis – Perhaps 10 breakout sessions? How many people do we want 8-10 or 25?

Herb and Andrew suggest somewhere around 15 or 20 people per breakout: 10 sessions would probably work well.

Herb solicits for additional participation in Agenda planning meeting which occurs in the hour before this monthly meeting.

Herb adjourns the meeting after confirming there are no other NAIs.