

Location:
Virtual

Time:
10:00 AM to 11:30 AM

Purpose of Meeting: First Quarter Meeting 2022

Invitees:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Loretta Girard Doughty, NHDOT | <input type="checkbox"/> Dan O'Connor, Collins |
| <input checked="" type="checkbox"/> Angela Hubbard, NHDOT (Co-Chair) | <input checked="" type="checkbox"/> Kim Smith, H&H (Co-Chair) |
| <input type="checkbox"/> David Scott, NHDOT | <input checked="" type="checkbox"/> Chris Cucco, AECOM |
| <input checked="" type="checkbox"/> Jennifer Reczek, NHDOT | <input checked="" type="checkbox"/> Daniel Taylor, Stantec |
| <input checked="" type="checkbox"/> Robert Juliano, NHDOT | <input checked="" type="checkbox"/> Jaime French, F&O |
| <input checked="" type="checkbox"/> Paul Lovely, NHDOT | <input checked="" type="checkbox"/> John Byatt, BETA |
| <input checked="" type="checkbox"/> Jason Tremblay, NHDOT | |
| <input checked="" type="checkbox"/> Steve Johnson, NHDOT | |

1. Department staff changes (promotions, new-hires, retirements, etc.)

- a. ACEC members
 - i. Kim will be rotating off the committee in September, a new co-chair will be needed.
 - ii. Kim has reached out to Alex regarding new consultant members.
 - iii. Jason Tremblay and Paul Lovely - new members from NHDOT this meeting.
- b. Staffing discussion
 - i. Jared Peterson started in Bridge Design (CE III)
 - ii. Adrian Husemoller started in the Existing Bridge Section (CE II)
 - iii. Renee Santos - A new administrative secretary will be starting March 28th
 - iv. New position postings – Temp positions to help with federal stimulus have been created in Bridge Design - a CE VI, V, & IV.
 1. Part of IIJA investment act – each bureau was given additional positions. CE VI – PM in bridge design + V & IV. Currently 5-year positions, not in budget, goal is to make them permanent in the future. CE VI is most likely to become permanent. Adding other positions to budget this year. Still needs to go through the approval process. Posted internally for 10 days.
 - v. Still 3 CE IVs vacant. Toughest level to hire. Only one is posted currently on the State's website. Reach out to anyone looking to work for the State.
 - vi. Jerry Zoller in Bridge Design is retiring June 30, 2022
 1. Jerry is a CE V, that position will be available after he retires.

2. Summary of In-House Design Section staff meetings

- a. January 2022
 - i. In-person Public Hearings are now required as we are no longer in a state of emergency.

3. NHDOT Information for Consultants

- a. OpenRoads & Bentley CONNECT CAD Update
 - i. Most details on the bridge end are converted over to CONNECT edition. May/June details should be updated on the website. Similar to highway's webpage, it's anticipated that a 3rd column for CONNECT edition files will

be next to previous V8i & PDF versions. Check with Project Manager at beginning of a new project for what version to use.

- b. NHDOT Bridge Manual Update
 - i. Revisions have been made to the details and manual and they will be coming out shortly, Angie expects to get back to it May/June. Updates go through the blast email to all consultants who have signed up on the website: [Subscribe to Consultant Notifications \(nh.gov\)](https://www.nh.gov/subscribe-to-consultant-notifications)
- c. Expansion joint detailing
 - i. Finger Joints locations are now being limited on projects. If proposing a finger joint on a non-interstate project, please coordinate with Bridge Design Project Manager if a different joint should be used. There have been some safety concerns with bicyclists where the narrow road bike tires get caught in the opening side gap between fingers. Some people use road bikes in the winter, so that needs to be accounted for, we can no longer design for non-winter temperature ranges. Openings greater than 1" will not be permitted. NHDOT is looking at redesigning the angles/geometry of the fingers. More guidance will be provided for use depending on skews, etc.
 - 1. RJ Watson makes a system where the edges of the fingers are parallel to the centerline of construction and your edge distance is minimized. Something like this may be a possibility when investigating different angles/finger geometry. [Finger Joints | RJ Watson, Inc. - Bridge & Structural Engineered Systems](#)
 - ii. Do other states have issues with bridge joints and bicyclists? Do other states use finger joints?
 - 1. The group's thought was that VT doesn't typically use finger joints. The "Vermont" joint uses a fabric trough.
 - 2. Maine does sometimes and has standard details for them. They have plates over the shoulder and are in high tourist/bike areas. See Richmond-Dresden WIN 12674.00 for example < [001 Title.dgn \(maine.gov\)](#) – starting on sheet 185>.
 - 3. CTDOT has used a plank joint/transflex joint. Since they come in pieces there have been maintenance problems with them, but improvements may have been made since last used.
 - 4. NHDOT notes that the bicyclist need protection beyond the shoulder because many occasions the bicyclist needs to go into the travel way because of debris and hazards in the shoulder such as catch basins, especially if the shoulder is narrow.
 - iii. Modular joints are a maintenance issue due to fatigue problems, as well as mechanical moving parts/springs that can fail. AASHTO now requires testing of the joints. Angie will be looking at the condition of NHDOT's in place modular joints and see if they were fabricated with the AASHTO's testing requirements for fatigue.

- d. Consultant access to iPD Web Estimate Database
 - i. An email was sent out to all consultants 3/22/22 with the username and password. Contact Angie if you did not receive it and she will forward the information.

- e. Issues of Common Concern
 - i. Work in water/cofferdams/temporary works
 - 1. If there are removal site conditions that will require more than the typical cofferdams, notes and additional items need to be put in the plans to notify the Contractor. Example – existing pier in water, needed to be removed. The cofferdam wasn't adequate to hold back the debris falling and the water being pumped out of the cofferdam needed to be treated, which those items weren't in the contract either.
 - 2. If pier is in water, make sure you have additional cofferdams to so the pumped water can be treated before putting back in river.
 - 3. Contact Environmental coordinator early in the design process to make sure the work can be constructed in the permit limits and if any additional items are needed for environmental reasons due to removal or constructability.
 - 4. Need to create a constructability plan (not to be included in contract) and present to Bureau of Construction – similar to creating a Traffic Control Plan and presenting to TCC. Need to make sure there is at least one method of constructability.
 - 5. Need to have enough permit area/construction area for cleaning water out of cofferdams (dewatering). Need to include Environmental Coordinator on what the method to use.
 - 6. Dewatering monitoring hours have been exceeding what has been put into the contract. Need to work with Environmental Coordinator and Construction on the number of hours needed to monitor.
 - 7. Proposed water diversions need to be coordinated with the Environmental Coordinator. Need to make sure de-watering is possible.
 - 8. Need more coordination with the Bureau of Construction and Environment.

 - ii. As-builts
 - 1. Contract Administrators would like the designers to add more whitespace in the rows/columns of the quantity boxes so the CA can hand write in the as-built quantities. Highway Bureau didn't want to add another column because the quantity tables are so large and already take up a full sheet, so the direction is just to provide more white space near quantity summaries.

 - iii. Need to get information from Bridge Maintenance if work was done on the bridge or take cores to determine how much pavement is on the bridge.
 - 1. Example – there was a bridge with ~10" of pavement, not known ahead of time. Curb reveal measured normal though. May need to take cores ahead of time.

2. Seems like an isolated/unusual instance, since the curb reveal was measuring normal, but if it's going to be a problem on other bridges maybe an option is to modify the way asphalt is removed – eg. split out from 502 and pay by volume/weight?
- iv. If you have a large project and will need more than 15 days for shop drawing review, need to specify this in the Contract proposal.
- v. Need to scope out additional work/hours for consultant construction review.
- vi. Folded 11x17 sheets in proposals shall be limited to 10 sheets. If have more than 10 sheets, create a plan set.
- f. Bridge Mounted Signs
 - i. If removing an existing bridge mounted sign that is an action sign (with an arrow or other action), you need to note on the plans or contract that the sign needs to be mounted temporarily along the side of the road until the new bridge mounted sign is replaced. Ask Bureau of Traffic for the temporary relocation item number.
- g. When bridge overpass vertical clearance is temporarily reduced by any amount, the Existing Bridge/Permitting section needs to know. Signing can be added for temporary construction conditions, but it's not legally required if the temporary clearance is still above legal limits. Typically, the action required will be done of by Bridge Bureau.

4. Technical Topics

- a. UHPC/PPC (Polyester Polymer Concrete) Overlays
 - i. PPC Overlay Performance in other states
 1. Wisconsin and Iowa did research projects on it.
 - a. Wisconsin 6-yr research project. Performing well but wears faster than a diamond grind treatment.
 - b. Iowa did a PPC, overall working well, a few localized issues, poor prep, improper mixing.
 2. Any problems with skid resistance?
 - a. PPC reports attached to notes.
 - ii. UHPC overlay
 1. NH has their first one in the City of Laconia – HEB prestress deck with 1" UHPC overlay on it.
 - a. NHDOT went out to see it during install. They had a crown and the material flowed some, difficult to maintain shape. Likely was diamond ground.
 - b. Steve has some photos he could share <See enclosure for DOT Bridge Design\Laconia UHPC overlay pictures>.
- b. Cost Estimating Guideline
 - i. Next meeting in 2 weeks

1. Tobey & Loretta will present construction estimating manual that they'll post online. Tobey has highway specific guidance; Loretta has guidance for bridge.
 2. Today there was an estimate review committee meeting - the LPA section is putting together guidance for their projects. Might add an appendix for LPA projects in the manual.
- c. Anodes
- i. Many states are using them in an experimental/case-by-case basis, but we haven't found any that have adopted as standard and have created standard details.
 - ii. Vector is having supply issues with the fabricating the Type F (flexible) distributed anodes, so they are substituting with the Type C which has a ceramic housing but the same amount of zinc as Type F.
- 5. MaineDOT Bridge Subcommittee Update**
- a. Meeting on 3/15, quiet meeting, a few members missing.
 - i. Stainless Steel prices due to the nickel shortage are coming in very high. Supply issues.
 - ii. Note that Aluminum is difficult to get now too with automotive industry buying a lot currently.
 - b. David Scott has reached out to MaineDOT regarding finger joints.
- 6. Business Topics**
- a. Update for online shared reviews
 - i. Mainly use Bluebeam in-house for construction submittals.
 - ii. It might be helpful to have the Bridge Bureau host a Bluebeam session for consultants to collaborate on standard details, particularly for expansion joints, and potentially draft design manual sections until they can get updated on the website.
 - b. NHDOT evaluating SharePoint implementation in the future. Internal only. It's going to be a while before it's going to be used externally, if ever. Security issues.
- 7. Potential NHDOT and Consultant bridge training opportunities**
- a. Bentley OpenRoads Training?
 - i. Not aware of anything coming up.
 - b. Other conferences
 - i. ACEC Spring Technical Exchange – April 21st
 - ii. NHI Strut & Tie: June 16-17th in Concord.
- 8. Bridge Bureau workload and anticipated consultant support needs**
- a. Possible Action Projects
 - i. David, Jennifer, Loretta have spent some time going through projects. List of projects they'll put on for solicitation. Need to go through consultant selection committee first – April 14th.
 - ii. New solicitation will include bridge on-call. Bridge is not sure if they'll follow suit on what highway did recently and increase contract amount. The thought is there is benefit in having more consultants to choose from.

- b. Updating Bridge Red List
 - i. Red list has been updated. Just needs commissioner's signature. Needs to be published by the 1st of April.
 - ii. Bridge management committee – April 1st. R&R ranking process should be completed and posted. May take 2 meetings. Last year it was not published, but added 5 projects to the 10-year plan. This cycle will go through ranking, but will also add recommendations for next year's 10-year plan.

9. Subcommittee membership rotation / new members

| | |
|--|--------------------------|
| Kim Smith, Dan O'Connor, Bob Juliano | Sept. 2019 to Sept. 2022 |
| Chris Cucco, Jaime French | Sept. 2020 to Sept. 2023 |
| John Byatt, Daniel Taylor, Jason Tremblay, Paul Lovely | Sept. 2021 to Sept. 2024 |

10. Upcoming meetings - scheduled Fridays from 10:00 to 11:30 AM

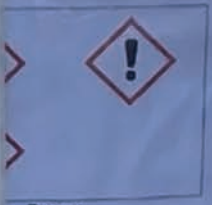
- a. 2022 meeting dates (calendar invites will be sent out):
 - i. June 10, 2022
 - ii. September 9, 2022
 - iii. December 9, 2022

UPHC Placement 11-13-2021
Laconia 113/036

Notes:

- Material cost \$4,000/cy - \$13,000 bid in-place – 5 cy per phase
- Overlay thickness – 1-1/4" to 1-1/2"
- Diamond grind after placement – 1/8"
- Mixers supplied by Ductal batch 2/3 CY at a time
- Initial start mixer to first placement took 45 minutes
- Overall placement time approximately 1 hour and 45 minutes
- Dual mixers could not keep up with the truss screed operating at it's lowest speed setting
- Overlay was placed on a 3% cross-slope, almost a flat grade
- A thicker mix was used nearer the middle of the bridge since it a slightly thicker overlay
- There was minor subsidence due to sloughing down the cross slope after the placement was troweled and finished.
- 16 crew were present in addition to a Ductal representative to batch, mix, and place
- It was stated that in the first phase, the overlay "skinned over" relatively quickly.
- Cylinder breakage on the small cylinders requires exact parallel cutting to get a true compressive strength, not something NHDOT has the capability to accomplish
- Cylinders cast by the Ductal representative were scooped full in one lift with no rodding and then the outside of the cylinder was struck to consolidate the mixture
- A specialty slump cone was used with a specialized platform that was hand cranked to thump the platform and spread was measured
- Admixures were placed in a bucket of water and additional weight of the admixture was weighed.
- The air temperature was approximately 40 degrees at the time of placement with no sun, rain overnight, and overnight low was close to freezing but no temperature was taken of the deck prior to placement
- Mix water was 130 degrees
- Material was sticky to itself, but when pushed with a boot, would not leave much of a paste on the deck surface (basically peeled back as a sticky mixture)

DUCT LAFARGE PREMIX 130
 4-PART 2,460
 LOT#: MXXI
 2,460 LB. BULK BAG
 BATCH#: J1611E 1
 CEMUFTECLA-S2460



Danger

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 W2 : Co
 W1 : Co



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PUNCTURE HAZARD
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NOTICE
KEEP DRY



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Do not add this bag to the concrete

WARNING: This product can expose you to chemicals including lead and lead, which are known to the State of California to cause cancer. For more information go to www.p65.ca.gov.

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| Ductal A technology of LafargeHolcim | Type I Steel Fibers ASTM A820 / A820M - 01 13mm / .20mm | Country of Origin U.S.A. |
| | 20KG (44LBS) |  100% Made in USA BUY AMERICA ACT |

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RATED OUTPUT **300** KVA

RATED VOLTAGE **240/480** V

RATED CURRENT **722/361** A

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