

New Hampshire Department of Transportation  
**BUREAU OF BRIDGE DESIGN**  
Office Meeting Minutes – Thursday, December 27, 2018

In Attendance ( X ):

<u>Administration</u>		<u>Existing Br Section</u>	<u>Design Section</u>				
X	Bob Landry	LRL	Nick Goulas	NBG	X	David Scott*	DLS
	Lynn Paquette	LP	John Poisson	JTP	X	Joe Adams	JCA
			Laith Qurreh	LOQ	X	Bill Saffian	WPS
			X Aaron Janssen	ACJ	X	Jason Tremblay	JAT
			X Jerry Zoller	JSZ		Bob Juliano	RAJ
			Ken Morrison	KLM	X	Mike Licciardi	MGL
					X	Tony Weatherbee	ANW
						Sue Guptill	SMG
					X	Pete Parenteau	PJP
					X	Angela Hubbard	ABH
					X	Chelsea Noyes	CKN
					X	Kevin Daigle	KFD
					X	Phil Brogan	PAB
					X	Mark Wagner	MGW
					X	John Sargent	JAS
					X	Jackie Hozza	JEH
					<b>17</b>	<b>Total</b>	

\* Moderator

**Items:**

1. **DLS** opened discussion on a deck cracking issue on Londonderry 149/106 NH Rte. 102 over I-93.
  - a) The structure is a curved two span IB-C with an exposed concrete deck. The deck is cracking in the negative moment region (over the piers). Partial depth deck panels were used and had up to a 1” gap between the panels due to the curvature of the bridge. The cast-in-place reinforcing (top mat) used stainless steel reinforcing. The deck cracks will be sealed by the contractor with an epoxy.
  - b) The amount of steel to use in the negative moment region was discussed. AASHTO requires that the total cross-sectional area of the longitudinal reinforcement shall not be less than 1% of the total cross-section area of the concrete deck and where feasible, approx. 2/3 of the required reinforcement should be placed in the top layer (*AASHTO LRFD 6.10.1.7*). This is difficult to meet when using partial-depth precast deck panels. Using different size bars in the top mat reinforcement to increase the amount of steel in this area was discussed and it was noted that contractors and construction do not like to do this as it creates problems with QC/QA, rebar chairs and cover. One option is to use the same size bar through the negative moment region to help alleviate some of the chair height issue. It was noted that if the deck is bare (no pavement), the sacrificial area of the deck for diamond grinding is not to be included in the deck area calculation for the longitudinal steel in the negative moment region.
    - a. Action Item: Angela will research multiple span bridges with partial-depth precast panels and a bare deck to see if there is cracking over the piers and if this is an issue with precast panels.
    - b. Design Option: Splice a #6 bar to a #5 longitudinal bar only over the piers and the additional reinforcing over the piers can be #6 bars to meet the AASHTO 1% requirement. This would require a different chair size so the clear cover can be met.

- c. Design Option: If there is no cracking over the piers on previous multi-span bridges with partial-depth precast panels, the Design Chief may waive the 1% AASHTO requirement since AASHTO does note that use where feasible (*AASHTO LRFD 6.10.1.7 commentary section*).
- c) **JAS** mentioned that a project where NEXT beams were used, cracks have developed where the beams are fit together.
2. **DLS** said surveys need to be requested early as Survey has been assigned to prioritize gathering AMPS data versus survey information for project delivery and therefore survey information will take longer in being delivered for projects than in the past.
3. **LRL** showed the draft of the bureau reorganization and opened a round table for discussion.
  - a) It is not anticipated that there will be any changes to the existing bridge section. Balancing consultant work with in-house design work was discussed. Currently the Bureau is averaging 75% Consultant designed projects and 25% in-house designed projects. It was mentioned that CE I-III's need design experience for the PE and they might not get that working on consultant projects. There was a general consensus that people do not want to do only consultant work and they would like to have at least some in-house design projects. There was an option put forth to use a team to design a bridge and a team to provide the review for that bridge. This would allow for two separate components of the design effort.
  - b) Having an Alternative Delivery Group team for different project types, for Design-Build and Public Private Partnership (P3) projects (could be expanded to CM/GC if approved by state law), was discussed. LRL mentioned that ideally there should be lots of advertising done in October through December and January to March to spread out the overall advertising schedule. This will make the end of the federal year crunch more manageable. One concern mentioned with January to March advertising is G&C approval occurs after the start of the Construction season in April. On average, each person in the office should complete about three consultant projects per year. There was some consensus that this was highly ambitious.
  - c) No final decisions were made on the re-organization and the reorganization is still a work in progress. LRL said that his door is always open for comments and he will assume we are OK with the changes if he doesn't hear otherwise. The overall goal of the re-org is to hopefully be more productive in getting bridge projects advertised thereby allowing for more in-house design projects / less reliance on consultants.
4. LRL encouraged everyone to read the Annual Bridge Report that Mark Richardson is writing that should be posted by mid-January as it provides the data that supports the overall goals of the Bridge Management Committee and the Bureau of Bridge Design.
5. For the sake of time, the Round Table that typically ends the meeting was skipped.