

New Hampshire Department of Transportation
BUREAU OF BRIDGE DESIGN
 Office Meeting Minutes – February 18, 2021

In Attendance (X):

	<u>Administration</u>			<u>Design Section</u>			<u>Design Section</u>	
X	Loretta Girard Doughty	LGD	X	Joe Adams	JCA	X	David Scott	DLS
X	Lynn Paquette	LP	X	Bob Juliano	RAJ	X	Bill Saffian	WPS
			X	Mike Mozer	MJM	X	Jason Tremblay	JAT
	<u>Existing Br Section</u>		X	Mike Licciardi	MGL		Kevin Daigle	KFD
X	Nick Goulas	NBG	X	Phil Brogan	PAB	X	Tony Weatherbee	ANW
X	John Poisson	JTP	X	Jackie Hozza	JEH	X	John Sargent	JAS
X	Aaron Janssen	ACJ	X	Angela Hubbard	ABH	X	Chelsea Noyes	CKN
X	Dzijeme Ntumi	DAN				X	Paul Lovely	PML
	Ken Morrison	KLM	X	Sue Guptill	SMG			
			X	Gary Clark	GMC			
	<u>Trainees</u>					X	Jerry Zoller	JSZ

Discussion:

MJM:

1) CPM Bridge Cost Estimating Project:

- **Problem Statement**
 - When a project is developed as part of the Department’s 10-Year Transportation Improvement Plan (10-Year Plan), an estimate of the total project cost at various stages of the project’s development is required. Estimates of project costs include Preliminary Engineering (design), Right-of-Way (impacts to property), Environmental considerations (environmental reviews and permitting), and Construction (construction activities, construction oversight, and construction inspection). These tasks comprise the total work effort involved in developing the contract plans and bid documents, and completing any type of bridge project through construction. The goal is for Initial Project Assessment cost estimates to be within 25% (±) of the PS&E estimate.
- **Breakdown of Sections**
 - Bridge
 - Consists of the standard slope intercept items currently used by Bridge Design.
 - Bridge Misc
 - Consists of bridge items that are unique to each project (r.g. cofferdams, access for bridge construction, repointing of stone masonry, etc.).
 - Roadway
 - Consists of the traditional roadway items along with any catch-all items.
 - Traffic Control
 - Consists of the traffic control items for the project.
 - CBI
 - Consists of inspection, mobilization and construction engineering.
- **Work Completed**

- Recently bid projects (last three to five years) have been broken down into these five categories.
- **Work to be Completed**
 - Use these five categories on future projects to develop a database allowing for better estimates as the scoping level through TS&L.

DLS:1) AASHTO Bridge Construction Specification Survey:

- David had asked staff to review the AASHTO Bridge Construction Survey that he received prior to the meeting so that he could get staff's input before replying to the survey.
- The AASHTO Bridge Construction Specification (BCS) is referenced in the NHODT specification and contains information that is not in the AASHTO Bridge Design Specification.
- Jerry Z mentioned that he uses it since some of the fabrication procedures reference the BCS.
- Most staff was aware of the BCS, although it is not used by a lot of them.
- David reminded everyone that an electronic copy exists on Bridge Design's S: drive under the Library subdirectory.

2) Ideas for Geotechnical Peer Exchange:

- Aaron Smart had sent David an e-mail asking about ideas for a geotechnical peer exchange review pertaining to drilled shaft concepts but also open to a wide range of subjects.
- Some ideas that were shared were depth to fixity, ground improvements using aggregate piers, and specifications from other states on what processes they use.
- Provide design examples from other states

3) Accessibility to Load Ratings:

- Currently electronic Form 4s are only accessible by the Existing Bridge Section.
- Because of the way these forms are printed, it would take some time to make them all available to the rest of Bridge Design, like how the Bridge Inspection Reports are available.
- For the time being, notify the Existing Bridge Section for any electronic Form 4s and if there is enough of a demand for electronic versions, making all the Form 4s available electronically can be revisited.

ABH:1) Aluminum Bridge Railing Adjustment Item Numbers:

- We currently have two items we use for projects:
 - Item 565.802, Adjusting Bridge Railing and
 - Item 565.81, Rehabilitation of Bridge Approach Rail.
- We were just using the first item but then I was told that you typically need to replace the backer plate and sometimes un-attach the rail and re-attach it to new holes in the posts. Because of this additional work, a new item was created. A plan was included so the new backer plate could be ordered.
- The approach rail adjustment is mostly included in Highway Design guardrail projects. They asked me to provide them with the item number, plan and any other notes to include in the contract. The note I put on the plans state: "Item 565.81 – Rehabilitation of Bridge Approach Rail will be used to disconnect existing aluminum approach rail, drill new holes in the existing

posts and reconnect the rail to the posts and to a new back-up plate as shown on the Aluminum Approach Rail Sheet. The existing splice bars may require bending to match the proposed slope of the aluminum approach rail.”

- CSW sent an email during the bid opening of Bartlett-Jackson stating this cannot be done because there isn't enough room on the posts and the splice bars need to be replaced – can't be bent.
- On previous projects, the Contractor just lifted the whole unit, including the posts.
- The question is how far can they lift the whole unit without un-attaching the rails and re-attaching them.
- ABH will contact CSW asking them this question, how they do the work, do they need a new splice bar, and how they would like the wording in the contract.

2) How to Restart Your Computer Remotely:

- You can restart your computer remotely like you would at work (Windows icon at the bottom left of task bar → Power → Restart), you just want to be careful that you don't accidentally hit the shutdown button because then someone in the office will need to turn your computer back on.

3) Hoop Bar Detail:

- Existing hoop bar should be using the bar designation “N1” and use 0 for “K” value. Don't use “S5” because this is a stirrup designation and has a smaller bar diameter bend (2.5”) than a 90-degree hook bend (3.75”) and a shorter tail.
- If precast panels are used and the overhang is shorter than 3.5', the 90-degree bend of the front leg may not fit.
 - A 180-degree hook for the front leg was originally detailed. The Contractors said the 180-degree hook makes it difficult to construct. They suggested a 135-degree hook.
 - If a 135-degree hook is used, then the bar is fabricated using a stirrup bar dimensions (smaller bar diameter for the bend (2.5”) and a shorter tail (3.75”).
 - A collision load will cause the front leg to be in tension and the back in compression.
 - It was decided to put the 90-degree hook in the front leg (using standard bar bending dimensions (3.75” diameter, 10” tail), turned inside, and the back leg can be a 135-degree hook (using stirrup bar bending dimensions).
 - A new NH Special bar bend designation will need to be added to the diagram on the rebar schedule.
 - With the front leg having a 90-degree bend, this matches the crash tested detail. The front leg will have tension and we want it fully developed. The front leg will also have 2 longitudinal bars tied to it. The back leg will be in compression, so the change to a 135-degree hook will not affect the detail.
 - Since a bottom mat of steel doesn't fit in the overhangs because of precast panels, an additional #5 bar needs to be added to the top mat to provide the same area of steel that was crash tested (Min. #5 at 6” top and bottom). This extra bar will be tied to the top mat main reinforcing and required on all decks that have precast panels.



Deck Curb
Overhang with pane

4) Item 502, Removal of Bridge Structure:

- A group from Bridge Design, Construction, and Specifications meet to discuss new items for Section 502 that will help more closely estimate the costs due to the different elements removed for a replacement bridge project compared to a preservation project, as directed by Pete Stannas.
- See enclosed meeting notes and list of proposed items. The Item numbers are still being decided.
- The proposed list will be given to Pete to review and comment.

Round the Table:

Chelsea:

- Town tubs are still being scanned. Phil is helping with this effort. A majority of all of the bridge plans have been scanned in all of the other tubs, approximately 99 percent.

Joe:

- Announce his retirement in May of 2021

Loretta:

- Working on the Red List ranking process
- Update on staffing positions
 - Releasing of priority positions (1 (most important) through 4)
 - In the process of interviewing for Bridge Inspector position
 - Interview for Loretta's PM position were held
 - Chief Project Manager was posted and closed. Interviews to be held soon.
 - Bridge Design's Tech V is a priority 5 but it is hoped that it will be posted soon.
- AASHTOWare
 - Loretta is looking into getting a 120-day free trial of AASHTOWare
 - It will help with Load Ratings for the Existing Bridge Section
 - It will help with design checks for In-House design work

Prepared by: JAT