

NATIONAL STEEL BRIDGE ALLIANCE

AASHTO/NSBA Steel Bridge Collaboration

Spring Meeting Minutes - Combined

Salt Lake City, UT

March 10 – 12, 2020



The AASHTO/NSBA Steel Bridge Collaboration is a joint effort between the American Association of State Highway and Transportation Officials (AASHTO) and the National Steel Bridge Alliance (NSBA) with representatives from state departments of transportation, the Federal Highway Administration, academia, and various industry groups related to steel bridge design, fabrication and inspection. The mission of the Collaboration is to provide a forum where professionals can work together to improve and achieve the quality and value of steel bridges through standardization of design, fabrication and erection.

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Task Group List

Group Name	Chair	Chair Company	Vice Chair	Vice Chair Company
TG 1 Detailing	Brad Dillman	High Steel Structures	Gary Wisch	DeLong's, Inc.
TG 2 Fabrication and Repair	Heather Gilmer	HRV Conformance Verification Associates, Inc.	Duncan Paterson	HDR
TG 4 QC/QA	Jamie Hilton	KTA-Tator, Inc.	Tim McCullough	Florida Department of Transportation
TG 8 Coatings	Paul Vinik	GPI	Jamie Hilton	KTA-Tator, Inc.
TG 9 Bearings	Michael Culmo	CME Associates, Inc.	Ron Watson	RJ Watson, Inc.
TG 10 Erection	Brian Witte	Parsons	Jason Stith	Michael Baker International
TG 11 Design	Brandon Chavel	NSBA	Domenic Coletti	HDR
TG 12 Design for Constructability and Fabrication	Alan Berry	RS&H	Christina Freeman	Florida Department of Transportation
TG 13 Analysis of Steel Bridges	Deanna Nevling	Michael Baker International	Francesco Russo	Michael Baker International
TG 14 Field Repairs and Retrofits	Kyle Smith	GPI	Jonathan Stratton	Eastern Iron Works
TG 15 Data Modeling for Interoperability	Sammy Elsayed	Skanska USA Civil	Aaron Costin	University of Florida
TG 16 Orthotropic Deck Panels	Duncan Paterson	HDR	Sougata Roy	Rutgers University
Main Committee	Ronnie Medlock	High Steel Structures	Open	Open

TG 1 – Detailing

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for the creation of clear concise design and fabrication drawings.

Task Group Chair: Brad Dillman - High Steel Structures

Task Group Vice Chair: Gary Wisch - DeLong's, Inc.

1. Status of AASHTO Approval of G1.1 Update

Texas Comments: Gregory Turco (greg.turco@txdot.gov)

Ballot Subject	Article/Section	Comment	Resolution
AASHTO/NSBA Steel Bridge Collaboration Guide G1.1-2020-"Shop Detail Drawing Review/Approval Guidelines"	2.2.3	Regarding the last line in the paragraph, should rejection be allowed based on a significant amount of uncertainty/unable to replicate?	agrees that a discussion between fab, detailer and reviewer is appropriate
AASHTO/NSBA Steel Bridge Collaboration Guide G12.1-2020-"Guidelines to Design for Constructability"		no comments	

Maryland Comments: Daniel Beck (dbeck@mdot.maryland.gov)

Ballot Subject	Article/Section	Comment	Resolution
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	N/A	The title should be revised to be "Shop Detail Drawing Review/Approval Guidelines for Fabricated Structural Steel" since the guidelines only cover steel structures	
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 1.5 Owner	The second sentence should read "The Owner's representatives could encompass ..."	Agree to make changes noted

Ballot Subject	Article/Section	Comment	Resolution
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 1.6 Contractor	The last part of the third sentence should read ", but subcontractors must inform the Contractor of any proposed modifications to Contract requirements prior to changes being presented to the Owner."	Agree to make changes to reflect proper "chain of command", Add "suppliers"
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 1.7 Acceptance	Add the following to the last sentence "for each deviation for each Contract."	Agree to make changes noted for clarity
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 2.1.2	The last part of the last sentence should read ", or through a contract design deviation request, submitted to the owner prior to the submission of shop drawings." What is a "contract design deviation notification" ?	Consider rewording to respond to all comments
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 2.2.2	The word "approval" needs to be replaced by the word "acceptance" in both cases it appears in this section. Approval is not a defined term, acceptance is a defined term.	Agree to make changes noted
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 2.2.3	Delete the word "significantly" from the phrase "deviate significantly from Contract requirements".	Agree to make changes noted
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 2.2.5	Revise the last phrase to read "the Fabricator and Shop Drawing Reviewers must be notified as expeditiously as possible."	Replace "expeditiously" with "timely". Discussion on "timely" with TG. Leave out a time frame and make sure fabricator/detailer/reviewer are notified.
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Commentary C2.3	Delete or revise the "(Error! Reference source not found.)" notes.	Review with Brad
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.1.1	In the second sentence, change the word "should" to the word "may".	No changes to be made

Ballot Subject	Article/Section	Comment	Resolution
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.1.2	In the first and third sentences, change the word "should" to the word "may".	No changes to be made
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.2.1	In the first sentence, change the word "should" to "must". In the last sentence, change the word "should" to "may"	Agree to change "should" to "must" in first sentence.
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.3	Delete the last sentence. Add the following:"Shop drawings and calculations must meet the requirements of the contract about size and content. All shop drawing sheets should provide the following information:Fabricator's Company name and mailing address, Contractor's name, Fabricator's Point of contact Name, Phone Number, and Email address, Contract number, Sheet title, and Sheet number."	comments may refer to size of sheet, font size, etc. Could add to the first sentence the word "Submittal"
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.4	The second sentence should read "The Fabricator and Contractor should work with the Owner and other related parties to establish the most effective procedures."	Revise sentence to "The Owner, Contractor, Fabricator and other related parties should work together to establish the most effective procedure
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 3.7	Change first sentence to read " Steel fabrication details are normally shown to the nearest 1/16" (1 mm). Small variations from plan dimensions may be accepted unless a significant cumulative error results."	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 4.11	In the second bulleted item, change the word "Approved" to "accepted".	Agree to make changes

Ballot Subject	Article/Section	Comment	Resolution
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 4.11	In the third bulleted item, these Fabricator deviations from the contract documents must be based upon a Request For Information (RFI) submitted by the Contractor and approved by the Owner, or by a Red Line Revision.	No changes to be made to section
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 4.12	Not sure who this section applies to, are these Fabricator questions on the shop drawings or Reviewer questions that the Fabricator is to answer?	Add the word "Reviewer" to the first sentence
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 4.14	Add information to be provided for prefabricated bridges and their components.	
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 5.1.1	Change the word "Approved" to "Accepted".	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 5.1.2	Change the words "Approved" to "Accepted". Change the words "approval" to "acceptance". Change the words "Approver" to "Reviewer".	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 5.1.3	Change the word "Approved" to "Accepted".	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Commentary C5.1	Change the words "Approved" to "Accepted". Change the words "Approver" to "Reviewer".	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 5.2	Change the name of the section from "Approval Stamp" to "Acceptance Stamp"	Agree to make changes
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Section 5.2.2	Change the words "Approved" to "Accepted". Change the words "Approver" to "Reviewer".	Agree to make changes

Ballot Subject	Article/Section	Comment	Resolution
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	Appendix A	Change the name of the appendix to "Checklist for Shop Drawing Review Items"	
G1.1-2020 Shop Detail Drawing Review/Approval Guidelines	General - Throughout the entire document	Remove all references to the "Approval" of shop drawings. Contractors and Fabricators (and inspectors and courts) constantly interpret this phase to mean that the shop drawings are approved as changes to the contract documents and are then used as an excuse for why they are not complying with the contract requirements. Avoid this phrase like the plague.	Will change Approval to Acceptance throughout document. Please Note: AISC Code of Standard Practice uses Approval

Vermont Comments: Ryan Foster (ryan.foster@vermont.gov)

Ballot Subject	Article/Section	Comment	Resolution
AASHTO/NSBA Steel Bridge Collaboration Guide: G1.1-2020 - "Shop Detail Drawing Review/Approval Guidelines"	3.4	Vtrans believes that it is not appropriate to bypass the Contractor for drawing submittal. The Owner has a Contract with the Contractor and not the Fabricator, as such all submittals that are for Owner's approval should come through the Contractor. This way the Owner knows that the Contractor has blessed the submittal	No change. Contractor and Owner need to agree on submittal process. All process to be aware of process

Ballot Subject	Article/Section	Comment	Resolution
AASHTO/NSBA Steel Bridge Collaboration Guide: G1.1-2020 - "Shop Detail Drawing Review/Approval Guidelines"	5.1.2	This section seems to encourage "approved as noted" type approvals. VTrans has had issues in the past with fabricators not transferring approved as noted comments to the shop floor. Given how far we have come with electronic submittals, reduced level of effort to make changes, and faster drawing turn around time, VTrans believes that "approved as noted" should only be used when there are very few and very minor comments on the drawings.	No change, Approved as Noted allows fabrication to start as soon as possible
AASHTO/NSBA Steel Bridge Collaboration Guide: G1.1-2020 - "Shop Detail Drawing Review/Approval Guidelines"	5.1.3	VTrans does not pick agree with picking apart submittals and approving certain sheets and reject others. Other than rare, unusual circumstances, the entire package of drawings and WPSs gets approved or rejected. This ensures that fabrication is not starting until there are approved drawings and approved procedures. This also ensures the entire approved package transfers all together, and not relying on someone to piecemeal a final approved package.	No change. Partial submittals/approval allow fabrication to commence in phases.

2. G1.2 (Design Drawings Presentation Guidelines) and G1.4 (Guidelines for Design Details) **Update -**

Open Discussion **Not discussed, tabled for next meeting**

- a. Determine direction of the updates (keep as separate or combine)
- b. Determine scope of the updates (consider impact of data transfer initiatives, consider joint TG1/TG11/TG12 work)
- c. Determine the tasks and timeframe for updates to the documents

3. AISC Need for Speed Item - Guide to Executing an Effective Bridge Project

- a. Brandon Chavel- discussed AISC Need for Speed initiative and how this TG will be involved.

Include but are not limited to the following;

- i. Address repetitive RFI and how to approach process proactively
- ii. Streamline the entire process to reduce time
- iii. Overall process and improvements to

4. Action Items

Not discussed, tabled for next meeting

TG 2 – Fabrication and Repair

Task Group Mission: This Task Group aims to achieve quality and value in the fabrication of steel bridges through standardization of steel bridge fabrication across the nation. Historically, State Departments of Transportation (DOTs) have written their specifications based on AASHTO standards and their own individual experiences.

Task Group Chair: Heather Gilmer - HRV

Task Group Vice Chair: Duncan Paterson - HDR, Inc.

General intro: The G2.2 and S2.1 documents currently available. AASHTO is developing a Fabrication specification that will be an AASHTO document which will hopefully be adopted by the states in whole unlike the Collaboration documents which may or may not be adopted in part or whole. T-17 co-locates with the group each fall, and this group acts as advisors to that group. This new document will have a limited scope. Once the new document is available, the S2.1 will be archived and later retired to provide time for anyone that had specified it recently.

1. What goes in intro, foreword, etc?

Probably T-17 question

2. C1.2.6: Is this the right place for referencing the appendix for additional items to be addressed in contract documents?

The group agreed and no further action was necessary.

3. 1.2.9: Is this the latest SRM definition?

Coordinate with BDS once definition is made public. SRM definition needs to be reviewed to make sure that it matches the current definition. IRM has not been defined in the AASHTO specification at this time. The group discussed the reasons behind including these definitions themselves rather than simply referring to the qualifications that fabricators need to meet to fabricate an SRM/IRM item. However, do these definitions need to be part of the fabrication specification other than the fabricator is still held to the same level of fabrication as they are already with SRM? IRM is defined by system analysis rather than engineering judgment. It should be noted that the engineer is responsible for designating what is SRM/IRM or system redundant.

Is there need for a distinction in who specifically issues need to be raised to in fabrication? For example, differentiating between the owner, inspector and engineer. If so, there needs to be a clear definition of each and a review of the use. In the case of the term engineer, there likely are going to be different types of engineer which will need further refinement.

TO DO: Remind chair if a specific need to convene a task group to discuss this topic in more detail. Jon Stratton has volunteered to be a part of this group. Likely this can be resolved via conference call. Include Heather, Eric Rau, Jon Stratton, Ronnie Medlock, Eric. The burden of writing will be that of Heather and Mike Grubb.

4. C1.2.9: Is this commentary on SRMs correct?
5. 2.2 penultimate paragraph: Is this a good way to put it?

Section C2.2. The language “owners may have additional requirements”. To replace the section using the word various. The intent is to capture that owners themselves do not have varying requirements themselves, but rather owners across the country will have varying requirements.

6. C2.3: review photography bullet. Is “circumstances under which photography is permitted” better?

The definitions and references were moved to the discussion topics for a prefabrication meeting. Inevitably the owner will win the argument for photos however with restriction. This should include some reference to liability for publishing photos. Florida is starting to take a different approach by supplying cameras that are maintained at the fabrication shop and not permitting camera phones. Given the issues in defining the rules of when and when not photos cannot be taken makes sense to occur at the prefab. The fabricator can at that time state what can be photographed and limitations (avoiding photos of jobs or work that is unrelated to the project at hand such as top secret or proprietary work). Every project and fabrication shop is going to have its own specific situation and limitations.

7. C4.1 2nd paragraph: How should we address this?

Shop drawing approval. Reference and synchronize with the definitions within the G1.1. However, language should remain that refers to the negative effect on project schedule. In this document it should refer to the G1.1 which will have greater detail and this document should only be limited to a simple statement that encourages a speedy resolution of questions/issues to avoid schedule delays.

8. C8.2 needs editing. Is 8.2 still right? KHF: need to talk to mills. Also, CVN testing is longitudinal.

Rolling direction. The fabricator should keep track of rolling direction. No further changes were necessary.

9. Section 9.3 (repair of rolled surfaces): Is this what we want? hat about runoff tab removal? Or should that be in D1.5? Or should D1.5 just refer here to any section loss questions?

Section 9.2.1 (cut edges): Any point in keeping reference to A6? Depth limitations are not what we want but area limitations could be. Bring over area limitations from A6? Come up with something like “A6 except as modified by 9.3”?

Repair of Laminar Discontinuities in Base Metal Cut Edges. This section was generally copied from D1.5 without being reorganized or modified. This section would benefit from being reviewed in greater detail and the classifications of damage need to be consolidated in some instance; for example, combining language for notched and gouges. Should A6 be brought over in its entirety rather than only select portions? Some of these repairs only relate to what may have occurred at the mill rather than during fabrication. Some instances could occur where repair of material is performed at the mill, however, use of this area may pose an issue with the fabrication.

10. 10.2, 1st paragraph: Where did 0.75" limit come from? 2nd paragraph: Is this a good way to handle it?

Minimum Plate Bending Radius. Ensure that that roll direction is remembered/tracked through the fabrication process so that bending is transverse to the rolling direction. The topic requires greater detail and input from Karl Frank. Include reference to the ASTM A6 table X4.2 and adopt the C and D groups for A36. Grade 50 and Grade 70.

11. C11, last paragraph: Is this enough?

- Prior discussion:
 - KHF: local buckling at end—maybe even heat not ok. Can get small cracks at weld toe.
 - Curved rolled beam cover-plated bridge not very likely.
 - KHF/RDM: put it all in commentary?
 - Ison: will still need to be able to correct the curve afterward
 - JJE: citing what code used to be might give it too much credit. Basis not known.
 - Delete whole cover plate paragraph, discuss what used to be in code (but that there’s not a lot of real-life experience with it) and what we know and don’t know and what might be a reasonable approach. Demonstrations on individual basis, etc.

Curving Beams and Girders. New commentary was added to the end of C11 which was intended to capture what was discussed at the previous meeting. Welding of cover plates prior to heat curing was a concern where the cover plate would buckle. Cover plates in general are not a common practice in the shop. Occasionally there will be an instance where there is a retrofit in the field. The goal is not to suggest that this should be a normal practice such that an engineer would be likely to start using these.

12. 14.3.2.2: Is there any pathway to getting these moved back to BDS (AASHTO Bridge Design Specifications)? Karl Frank last time suggested NSBA putting out a spreadsheet or utility to calculate these. Feasible?

Heat curving calculation. The NSBA will complete the spreadsheet that performs these calculations which will be posted. There is question regarding the origins of this change and whether someone from Modjeski and Masters would be available to provide some insight.

13. 16.9.1: What does “square” mean if stiffener is skewed? We don’t have a tolerance on angular orientation.

Bearing Stiffeners. Maybe include a percentage contact rather than what might be unenforceable language like “square”. This language is likely from the D1.5 text that was brought over. Deleted “flush and square” language.

14. 17.5.1: this builds in inherent need for field reaming, which we don’t want. Enough problem with bolt dimensional tolerances even if holes are perfect.

- AREMA proposal: “The holes in all plies shall align such that it would be possible to insert a bolt intended for use in the connection through each hole in all plies. Where approved by the Engineer, holes may be overreamed to meet these requirements, and larger fasteners installed.”
- Allowance for field reaming without Engineer approval? # holes, amount of oversize or slotting? (E.g., 10% to oversize as defined in RCSC; more holes or larger would need approval)
- Hole group location tolerance? New business?

Drilling in Assembly. Reaming in the field versus in the shop arise from different situation. The reaming that is related to erection concerns should remain in the erection document. AREMA covers both fabrication and erection in the same document. There is also instance where individual plates are not necessarily drilled in assembly; this is a common practice with CNC. Reaming should really be left as an available option to the contractor to account for field conditions. There needs to be assurances that once it leaves the shop that the connection is not left with 15% misaligned holes. Thickness of the entire connection is a concern also; a connection that is 3 plies and 11 in thick versus a 11 plies connection that 11 in thick. **TO DO:** It was recommended that a separate task group be formed to discuss this topic in more detail. This task group should include designer input. The task group will include Heather Gilmer, Ronnie Medlock, Dale Ison, Mike Grubb, and Eric Rau. The plan is to have a proposal to T17 for their

review at their June meeting. Larry Kruth made available a presentation that relates to bolts not fitting; it will be included with the final notes.

15. 17.6.1, 2nd paragraph: What about skewed bridges? Should something be said about not specifying an assembly when a TDLF has been called for a straight skewed bridge?

Shop Preassembly. Although this was intended to be new business for a future edition, language was drafted and commented on. If the owner wants to have shop assembly, the owner needs to understand it will be put together in a no-load condition. Shop assembly is not representative of how the bridge will be erected in the field. This brings into question the value of a shop assembly in the first place. However, it should be clear that you cannot have shop assembly for a bridge that has been fabricated to a TDLF. Pier boxes may have some benefit. Consider including language referencing check assembly, the use of CNC and exemptions. Coordination is probably necessary amongst the different AASHTO specifications regarding this topic. Language certainly needs to be added to the design specification that a fabricator can directly reference that explains the impossibilities of a TDLF shop assembly. Much of the shop assemblies include inherent danger to the fabricator; adding weight to simulate TDLF and “catching” mechanisms for SDF. **TO DO:** Revisit the comments that Mike Grubb made and the discussions at this meeting. Form a task group Ronnie Medlock, Caroline Bennett, Rob Barthelemy, Duncan Paterson, and Gergis Williams (Gergis.William@aecom.com).

16. 17.7.3.2: Calibration of Skidmore is not mentioned here but is addressed in RCSC section 7. Do we need to call out the calibration in our sections on RC test & DTI PIV, which don’t reference that RCSC section? Or is that generally covered by AISC quality manual?

Should avoid discrete pieces of equipment references in this document and rely on the material referenced within AISC and RCSC.

17. 17.7.4.3.1: can we delete those words? They don’t seem to be contributing anything.

Surface Conditions. Shop versus final bolt-up should be separated and held to different standards. The words “free of scale, except tight mill scale, and shall be” will be deleted.

18. 17.7.4.3.2b last bullet: do we get into aspects of galvanized coating quality that could affect proper bolting?

Coated Joints. ASTM A123 section on finishing and intended use of product and commentary has been included to refer to it. More detail is unnecessary. In some instances, items that are galvanized never return to the fabricator for remedial rework.

19. 20.1: Information about boring a hole down the center seems like it should go to the design code.

T17 was going to talk to T14. We have commentary for why you don't drill the hole for normalized & tempered but not why you do drill the hole for annealed. Do we need to add? Talk to Bob Sweeney (AREMA) about pins. Should holes be included in all pins, for ease of handling? No max hole size is given. We should delete this and send it to design ("If annealed..."). Can Duncan talk to Sweeney? What's our pathway to put in BDS?

- Other notes—anyone know what I meant?
 - a. Flatness of flanges—A6 not ok because thickness different
 - b. 3.2 "responsibility"
 - c. Commentary about shop drawings

Suggested moving this item to design documents and promote with AASHTO T14 and T17. Duncan Paterson will talk with Bob Sweeney (sp?). Ronnie will promote to T14 once he receives more detailed information from Heather.

20. New business for a later edition (in addition to expansion of scope):

- 16.9.1: Should we have these tolerances apply to any "finish to bear" surface whether it's a stiffener or not?
- 16.9.2: Should we have these tolerances apply to any "tight fit" situation, whether it's a stiffener or not?

Tight fit is not necessarily in all instances with stiffeners (e.g. beyond intermediate). Also, fabricator may specify tight fit for their own purposes to control flange tilt, however in these instances the thresholds may not necessarily apply.

Larry Kruth reviewed his Bolt Fit presentation with the group which will be attached to the notes. The changes referenced on bolt hole size is being adopted by RCSC. However, this fabrication document would reference something that is different than the 8th edition design specification.

Meeting adjourned at 11:40 AM.

TG 4 - QA/QC

Task Group Mission: This task Group primarily focuses on the requirements for a Fabricator's quality control program, with emphasis on the development and implementation of a quality control plan and minimum requirements for an Owner's quality assurance program.

Task Group Chair: Jamie Hilton - KTA-Tator, Inc.

Task Group Vice Chair: Tim McCullough - Florida DOT

1. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors
 - a. G4.2 Section 5.2, 5.3 and 5.4 revisions: Subcommittee of Heather Gilmer, Karl Frank and Jaime Hilton will address this
 - Subcommittee of Heather Gilmer, Karl Frank and Jaime Hilton will address this and distribute to task group for approval
 - Action – Jamie to finalize edits and send out to TG for review and balloting
 - Editorial updates and incorporated references in the document
2. S4.1 Steel Bridge Fabrication QC/QA Guide Specification
 - a. Future of the document
 - i. Part C, Quality Assurance, potentially updated or standalone document - Phil Dzikowski
 - ii. S4.1: Archive on the NSBA website and provide guidance to users – “buyer beware”- Subcommittee of Phil Dzikowski, Ray Monson, Teresa Michalk will address guidance for archiving S4.1 document
 - Heather Gilmer mentioned to archive this specification as owners still reference this and needs to be updated. Provide guidance to owners who still reference this doc
 - Larry Kruth believes we can archive this document on website and add “disclaimers” as this spec won’t be further updated.
 - Included cover sheet to provide guidance to inform public for S4.1
 - Action Item- Phil Dzikowski, Ray Monson to write guidance for achieving S4.1 document with Teresa Michalk (TXDOT) to help Phil as well
3. G4.4 Sample Owners QA Manual
 - a. To be rolled in/incorporated with Part C
 - b. Query DOTs by survey to see if they have an Owners QA Manual
 - c. (i.e. Michigan, Florida potentially have this)

- d. Status of survey
 - To be rolled in/incorporated with Part C
 - Research States and if they have an Owners QA Manual
 - i.e. Michigan, Florida potentially have this
 - Action Item- Chris Garrell to create a survey to be distributed to States to see who has QA Manual, Jaime to provide survey questions, Ronnie Medlock and Jason Lloyd to contact T-14 Committee about sending out survey to States.
- 4. Potential revisions to recently published G4.1 document
 - a. Review and update definitions and replace with the terminology that is referenced in AISC documents. This is will be done after the AISC Certification Standards document is revised and published. Current timeline is for completion late 2020 and publication mid 2021.
 - b. Section 10.1 PO & Subcontracts
 - i. Functions referenced by AISC for PO& Subcontracts
 - ii. Remove 10.1 title, keep paragraph from 10.1 and renumber sections accordingly
- 5. New Business?
- 6. Adjourn

TG 8 – Coatings

Task Group Mission: This Task Group primarily focuses on the functions, operations, requirements and activities needed to achieve consistent quality in steel bridge coatings. At the same time the group acknowledges the need for a cooperative approach to quality, where the Owner's and Contractor's representatives work together to meet their responsibilities, resulting in efficient steel bridges coatings that meeting all contractual requirements.

Task Group Chair: Paul Vinik - GPI

Task Group Vice Chair: Jamie Hilton - KTA-Tator, Inc.

1. Chairperson's Welcome

Notes: S8.3 document – Anna has resigned from chairing the group. We got the document very close. Ronnie is going to finish it out and manage any final comments. He will organize the comments and send back out for group for final comments. And then send out for a collaboration vote. Then hopefully get it sent to T14 in August.

2. Website Update (3:10 PM – 3:40 PM) - Quick overview and introduction of task champion's 2 paragraph summaries – distribute for full review and commentary. – Topics and task leaders:

- a. Galvanizing - Tom Langill
- b. Metalizing - Kevin Irving, I Paul Wagar
- c. Duplex coating systems (HDG + wet applied) - Bill Corbett
- d. Washing and cleaning programs – Geoff Swett.
- e. Weathering Steel – Weathering Steel
- f. Cathodic Protection – Paul Vinik, Pete Ault.

3. Status Updates: (3:40 PM – 4:00 PM)

- g. Detailing for Coatings – Jeff Carlson
- h. Refresh S8.1 and look at AREMA changes – Bill Corbett

Notes: Jamie said that he reached out to Doug Reardon and there are no changes to AREMA that can be incorporated into S8.1.

- i. Accelerated Testing Protocols – NCHRP studies: Jennifer.
- j. Master Painters color and gloss testing requirements – Paul Vinik

Notes: Paul said that he wasn't happy about the protocols for the high-end coating systems.

4. Tabled Action Items from previous meeting

- k. Developing sample specs for DOTs for coating materials. Make it easier for states to spec various coating systems.

Note: Keep this item tabled, and if Caleb Gunter wants to discuss further then we can continue to keep it on the list.

- I. Better Coatings through better testing: longer duration testing – testing to failure and understanding UV, freeze-thaw, and diffusion related failure mechanisms.

5. New Business

- m. IOZ one coat systems
- n. Fluorourethane systems

Notes: Bill Corbet was going to propose research on the accuracy of measurements of galvanized thickness over a blasted steel surface.

TG 8 Action Item Summary

Item #	Action Item	Assigned to	Due Date	Status
3.11.20.01	Ronnie will continue S8.3. Compile, organize, and ballot final comments for S8.3. Ronnie will send out to task group, then to the collaboration, then hopefully to T14 in August	Ronnie Medlock	4/17/20 to task group	New
3.11.2.02	Talk to Geoff Swett to include washing and cleaning program for website	Jeff Carlson	3/17/20	New
3.11.2.03	Related to Detailing for Coatings document S8.4, Jeff to send out outline and WS to WS group. Each task group to have zoom meeting (coordinate with Jeff for zoom meeting). Jeff to set up doodle poll for first meeting for all task groups to kick things off, then individual zoom meetings after that.	Task group, Paul Vinik, and Jeff Carlson	3/31/20	New
3.11.20.04	Goal to get refresh of S8.1 to T14 in summer of 2021 (published by summer 2022). Internal review first, then pass to SSPC. Reach out to SSPC (Aimee) to see if this works for them.	Jamie to reach out to Aimee.	3/17/20	New
3.11.20.05	Upload proposed revisions to Committee Center for S8.1 to gather comments (not ballot)	Paul, Jeff, Chris	4/15/20	New
3.11.20.06	Paul Vinik will investigate accelerated testing protocols. What has been done and where. Rutgers?	Paul Vinik	3/31/20	New

TG 9 – Bearings

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for steel bridge bearings.

Task Group Chair: Michael Culmo - CME Engineering

Task Group Vice Chair: Ron Watson - RJ Watson, Inc.

1. Chairperson's Welcome (1:00 PM – 1:10 PM)

Notes: Mike went over the mission of the collaboration and the mission of the task group. Reminded everyone why we are here and the document that we are working on to revise.

2. Review of comments received to date and resolve – Mike Culmo

- a. We left off part way through the comment resolution form at the last meeting. We will pick up from there.

Notes: The group went through comments on the comment resolution form that Mike maintains.

- b. Review of revised details

3. Review/Set Action Items

Notes: Goal is to have version ready for July 1, 2020. So Mike would like all draft versions of section to him by May 1, 2020.

4. Next steps (what is needed)

5. Schedule

- c. Overall schedule
- d. Next meeting

TG 9 Action Item Summary

Item #	Action Item	Assigned to	Due Date	Status
4.19.01	Review AISI (Red book) and recommend items to incorporate into G9.1	Frank Russo	8/22/19	On going Initial info is in
4.19.02	Review Steel Bridge Design Handbook – Bearing Design and recommend items to incorporate into G9.1.	Domenic Coletti	8/22/19	Submitted to Mike
4.19.03	Review FHWA Training document and determine if we can borrow any language/information to include in G9.1	Frank Russo	8/22/19	On-going Initial info is in
4.19.04	Bearing manufacturers will go through section on high load bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	8/22/19	On-going DSB to submit around 9/1

Item #	Action Item	Assigned to	Due Date	Status
4.19.05	Bearing manufacturers will go through section elastomeric bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	8/22/19	On going
4.19.06	Mike Culmo will go through current AASHTO Specification on bearing design and develop recommendations to take to T-2 for revision. And he will coordinate with T-2	Mike Culmo, Sougata Roy	6/20/19	Complete
4.19.07	Jeff will reach out to Carl Puzey to ask if Mike Culmo can have ~5 minutes in AASHTO T-2 Montgomery meeting to update them on our initiative and goals.	Jeff Carlson	5/1/19	Complete (MPC)
4.19.08	Entire committee/group to review current G9.1 and make recommended revisions.	Committee	8/22/19	Complete
6.20.01	Review the AASHTO LRFD BDS Section 14 and get any comments to suggested revisions to Mike Culmo and/or Sougata Roy. He will forward these suggestions to T-2.	Committee	8/22/19	Complete
6.20.02	Forward photos of bearing (production, construction, etc.) to Mike Culmo for incorporation into the guide.	Committee	Spring 2020	On-going RW has sent some
6.20.03	Review old NSBA table regarding bearing applicability. Mike to send out.	Committee	Spring 2020	Mike to do
6.20.04	Review HLMR bearing tables and make recommendations on increments and any other recommendations.	HLMR Bearing manufacturers	8/22/19	Complete
8.29.01	Mike Culmo to meet with Frank Russo to discuss integration of his information	Mike Culmo Frank Russo	10/22/19	On-going
3.10.01	Jeff will reach out to Carl Puzey to get on T2 agenda to give an update on activities.	Jeff Carlson	3/17/20	New
3.10.02	Mike to send the revised HLMR bearing table to manufacturers for review.	Mike Culmo	3/17/20	New
3.10.03	Talk to Frank Russo about writing new section 1, bearing selection criteria. Ron Watson and Mike Culmo will add section 1.3 (durability and maintenance)	Mike to ask Frank	5/1/20	New
3.10.04	Write old section 1.4.1.2, bearing sizes and shapes	Mike Culmo	5/1/20	New
3.10.05	DS Brown to write the old 1.5, 1.6, 1.7, and 1.9	DS Brown – Phil Gase	5/1/20	New
3.10.06	Ron Watson to write the old 2.5, 2.6, 2.7, and 2.9	Ron Watson	5/1/20	New
3.10.07	Mike will write old 2.4.1.1	Mike Culmo	5/1/20	New

Item #	Action Item	Assigned to	Due Date	Status
3.10.08	Mike needs to send Chris Garrell high resolution versions of graphics. Send test version ASAP	Mike Culmo	3/17/20	New
3.10.09	Ron is going to take information on isolation and create section 5. Commentary only.	Ron Watson	5/1/20	New

TG 10 – Erection

Task Group Mission: This Task Group develops guidelines and specifications that establish and define the basic, minimum requirements for the transportation, handling and erection of steel bridge components to ensure safe steel erection as well as quality and value in the completed bridge structure.

Task Group Chair: Brian Witte - Parsons

Task Group Vice Chair: Jason Stith - Michael Baker International

1. Attendee Introductions and Sign-in: 33 attendees plus 3 via phone

2. Review Minutes and Action Items from Previous Meeting

S10 document is now published and available for use/comment on NSBA website.

ACTION: Brian will send link to all attendees of this TG 10 so they are aware of it.

3. Mission Statement Review

The word “guidelines” was changed to “guidelines and specifications”, and “and accurate” was deleted. Further discussion then took place regarding potentially keeping the words “and accurate” but group determined the phrase to be redundant.

4. Review draft language for Section 5: Bearings and Anchorages

Section 5.2 discussion:

- Clarification language is needed regarding temporary blocking needs for steel superstructure.
- Bearing seat elevations (absolute and relative to other bearing seat elevations) needs to be defined and discussed in more detail. Acceptable tolerances for acceptable deviation in absolute elevations, relative elevation, and slope of bearing seat should be considered.
- Oregon DOT mentioned that we may want to include discussion about incorrectly installed bearings have led to sheared anchor bolts.
ACTION: Alex Lim (Oregon DOT) will provide details of sheared anchor bolts.
- Most important item tolerances with regard to bearing seats is relative elevation difference between bearings and flatness of the bearing seat.
- Bearing seat flatness should be specified as rotational or vertical deviation per longitudinal beam seat length.
 - Several states address bearing seat tolerances in Standard Specifications including ILDOT, TxDOT, NCDOT, and MNDOT. Some tolerances mentioned include:
 - Smooth surface with less than 1/8” deviation
 - Flatness within 0.005 radians (1/16” min)
 - 1/16” flatness and +/-1/8” elevation difference globally and to adjacent girders
 - Flat with no discernible gap
- After extensive further discussion, it was determined that Section 5 may warrant a complete re-write to expand and clarify the needs and importance of this section.

ACTION: A committee of several people will work on this re-write (Dominic Colletti, Josh Orton, Doug Crampton, Jason Stith, Brian Witte, Michael Marks, John Yadlosky). Brian will contact them to coordinate the effort (NSBA to assist Brian with setting-up a doodle poll invite).

5. Review revised draft language for Section 3: Transportation

Table 3.1: These requirements vary from DOT-to-DOT and State laws, so difficult to show in the specification. Perhaps moving to commentary.

Discussion took place regarding what is proper/prudent to include in this section. It was agreed that State laws always need to be followed. However, in addition to stating this, it may be prudent to give general guidance.

Discussion with TG12 needs to take place to ensure delineation between documents.

Brian stated that further discussion on this topic is tabled until the next collaboration meeting.

ACTION: Brian will distribute draft language to TG10 members for comments. Comments will be discussed at Fall meeting.

6. Appendix D checklist modifications?

ACTION: Brian to follow-up with Danny's Erection on this. No discussion took place. Danny's was not present at this meeting.

7. Wind Load on Girders during Erection update

Florida DOT representative noted that they are performing a study to compare three wind loads (FDOT Temporary Wind, AASHTO Temp Wind and AASHTO Permanent Wind). They are specifically checking the flange lateral bending stresses and foundation loads. They are also concerned that this load case could possibly affect the final design of the structure.

ACTION: Christina Freeman to draft email requesting volunteers provide lateral flange bending and column moments for STR III using AASHTO LRFD (final wind load on completed structure), AASHTO Construction Wind Load on girders only (no deck), and FDOT Construction Wind Load on girder only.

ACTION: Brian to forward Christina's email to attendees of this TG10.

Discussion continued regarding the increased wind loads during construction that are currently specified in the current AASHTO, and that they are very conservative. This is causing unintended consequences such as increasing girder flange widths or adding lateral bracing in order to accommodate these higher wind loads. Also, many bridge designers are likely not evaluating these temporary wind loads during construction, thinking it is a Contractor issue. Florida DOT feels the AASHTO increased wind loads are too conservative and should be reduced.

Brian voiced the concern regarding the bridge substructure, and if the substructure is properly designed to resist these increased wind loads during erection, as it is possible that they could control when piers are tall.

8. Additional items

a. Beam clamp load amplification follow-up?

Further discussion took place regarding if the girder top flange bending and web/flange weld need to be checked for structural adequacy before lifting with clamps. Forces imparted on the girder depend on the type of lift/clamp device used, spacing and weight of girder. There have been cases of bent top flanges due to these clamps during lifting. Failure could be catastrophic if it happens.

Comment was made that this top flange bending and flange/web weld strength are typically not an issue, unless the top flange is very wide and thin. However, there are no guidelines given on when it could be an issue. Currently, structural checks of this adequacy are not likely being done by the erection engineer.

A definite conclusion regarding if this check should be included in the specification or not was not reached. Several people voiced the opinion that it is not likely critical, but had no back-up of why not, except that no past failures have happened. Several of the TG10 members think this is an important item that should be checked.

ACTION: Brian is going to draft-up language for the specification regarding this, send it around to members for review, and then determine if it is going to be included in the main specification or commentary.

b. Geometric Tolerances?

Not discussed.

c. Others?

Question was asked if there is any overlap or conflicting information between S10.1 and OSHA standard for steel erection.

ACTION: Brian to compare documents and report back to TG10.

Discussion on requirement to have steel superstructure erection plans stamped by a PE. It was agreed that this needs to be determined by each individual State DOT and specified in the contract documents, which is reflected in the current S10 document.

9. Call for comments on S10.1-2019

10. Summary and adjourn

TG 11 – Design

Task Group Mission: This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components.

Task Group Chair: Brandon Chavel - NSBA

Task Group Vice Chair: Domenic Coletti – HDR

1. Introductions

There were about 48 people in attendance. Shane Beabes, Gregg Turco, Don White and Kyle Smith were on the phone. Introductions were made and the sign-in sheet was circulated.

2. Announcements and Administrative Items

a. The Task Group Mission

The current mission statement is “This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components.” Note that the handbook is no longer a part of this committee. There was no opposition to keeping the mission the same.

3. Project Presentation

a. Dennis Golabek – Line Girder Analysis Study

Dennis provided an overview of the work that FDOT had Don White and Georgia Tech perform a study of the extents to which line girder analysis can accurately produce results for various degrees of skew. Skew angle has been the basis of when a designer had to use grid or 3D analysis. However, there was not 100% certainty that this was the only or best measure of when or when not more advanced analysis was needed. Skew index was introduced as the new definition of when or when not to use advanced analysis. FDOT choose looked at 231 Bridges were set a threshold skew index of 0.2 for this study. Currently this study is in a draft state and FDOT has not made any decision what they intend to add to their specification. Of the 6 tasks, they have completed 5. This study looked at Stage 2 “Bridge Inventory Matrix”, and Task 3 “Design of Parametric Study”. CSIBridge and LRFD Simon were used in this study. Task 4 “Recommended Guidelines” where made for 3 cases: Parallel skew with skew less than or equal to 20, parallel skew with skew less than 50 degrees skew index of 0.3 and parallel cross-frames, and the final case which included two ranges of skew index and skew angle.

4. Guidelines for the Design of Cross Frames & Diaphragms

a. Review of significant comments on current draft

The document is missing only one section (bent plate connection) and is now in need of reviewers. Brandon spent a few minutes reviewing the major sections of the guide. Ronnie Medlock mentioned a discussion from the TG2 meeting that recommended that total dead load fit not be recommended especially when it relates to the shop assembly and the near impossibility of performing this. The question was raised as to the cost benefit of galvanizing

cross-frames versus painting. This should receive some consideration given the level of coverage a cross-frame receives when hot dip galvanized versus painted.

Brandon would like to assign 2-reviewers per section and have comments back by May 2020; there are 24 sections that need to be reviewed. A comment was made that the calculations provided are not necessarily well presented or organized in a manner that “tells a story” or can be logically followed and understood. The calculation sheets should be reviewed to make sure they have value in explaining the process. The group still intends to release this as an NSBA guide and not an AASHTO document. The goal is to have this release around the same time as the steel bridge handbook later this year.

Work assignments were made, and reviewers were selected.

- b. Checking of Example calculations
- c. Any missing sections?
- d. Timeline Discussion

5. General Open Discussion

- a. Joint work with TG 1 and TG12 for Steel Straddle Bent Caps.

Take advantage of internal redundancy (IRM), and how to detail the girder for fabrication. Could be a stand-alone document or the development of chapters that will become a part of other documents.

- b. Design issue discussions

The question of Texas cross-frame details and if they were economical/acceptable was posed. These are welded and attached by 4-bolts (one at each corner). Norm McDonald mentioned that locating certified welders has become challenging and Iowa had chosen to use bolts for this reason.

Dennis Golabek recalled there being a discussion as to the concern of short A325 bolts only provided in fully threaded lengths and not being able to provide for a connection excluding threads. Dennis inquired about the status of NCHRP report on fatigue in cross-frames, project being done by Todd Helwig. The work is still in-progress.

- c. Other potential items for the next design TG task.

6. Adjourn

TG 12 Design for Constructability and Fabrication

Task Group Mission: This Task Group primarily focuses on addressing the questions that have been and are continually asked concerning the constructability of steel bridges according to the latest practice for steel mills, fabrication, detailing, erection, and design.

Task Group Chair: Allan Berry - RS&H

Task Group Vice Chair: Christina Freeman - Florida DOT

1. Introductions

Attendees introduced themselves, both in person and on the phone. The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

2. Updated G12.1 Guidelines for Design for Constructability and Fabrication (1:10 PM to 2:30 PM)

a. Status of the Document

Comments have been received by AASHTO CBS. The document passed T-14 but received comments from the overall AASHTO CBS. Comments need to be resolved and the document complete by April 16.

b. Discussion of CBS balloting comments and issues

Reviewed and voted on revisions based on the comments from New York State DOT, Alaska DOT, and Minnesota DOT. These are summaries below.

NYSDOT Comment – approved and will be revised.

Alaska DOT Comments – Will remove the figure in the Article and adjust the wording in the commentary to refer to the NSBA Span to Weight Curves.

Minnesota DOT Comments

- TG agreed with comment and the revisions.
- Related to Table 1.5.4.A. Comment desires to move the table to the commentary. TG decided to keep table in the guideline side and add “Estimated” to the beginning of the Table title. The TG felt that this was the best data out there and should be kept in the guideline side. Remove shaded 3.5 row, it is repeated.
- Section 1.8. TG agreed to add camber tolerances within the 1st paragraph.
- Section 1.9. TG generally agreed with the comment. Include curvature in the load effects. Remove the “in relation to L/85.”
- Section 2.1.2.2. TG disagreed move the “avoid language”. These should be avoided from both a behavior and cost perspective. Additional cost language was added to the commentary.

- Section 2.1.2.4. The details are in the AASHTO LRFD. The TG agreed to add a reference to the AASHTO LRFD Article/Table that has these figures. In a future edition of G12.1, the TG can add the figures that represent this.
- Section 2.2.6.3. TG agreed that no change is needed. This is addressed in G1.4 – let commenter know this. In a future edition, consider adjusting Figure 2.2.6.3A to be better in line with G1.4.
- Section 2.2.6.4. TG agreed to move figures to the Commentary, since referenced in the commentary.
- Section 3. TG agreed on no change at this time. Table for next revision. In G1.4, we say 18x36 is the preferred minimum for access thru a diaphragm. Steel boxes bottom flange access may be 2.5'x4'.
- Section 3.7. TG agreed to table to the next revision of this document.
- Section 3.7. TG agreed to add a statement to the commentary regarding providing welding access. Table actual dimension to the next revision of this document. Ronnie will take the lead on this.
- Section 3.8. There is a specification for this Per Randy Harrison and Greg Hasbrouck. TG agreed to add a statement regarding this to potential walking surfaces, in the commentary. It is a grit for non-skid. "Owner should consider a slip resistance coating."
- Section 3.9. TG agreed to table to the next revision of this document. More details are needed as to what the commenter is looking for. Ronnie may be able to craft some language, given he is doing something similar for TG 111.
- Section 4. TG agreed. Reference to AISC Steel Construction Manual Table for Bolting Entering and Tightening Clearances. Add to send paragraph of the C4.1.
- Section 4.1. TG agreed to not add. We are just listing bolts that are part of F3125. Point commenter to S10.1 document for DTI discussion.
- Section 5.1. TG agreed to not add three-coat. This is a guideline document and does not need to be adopted in its entirety. Added "non-weathering steel" to the paint discussion.
- New business - Painted weathering steel is not a duplex system. Add this to a commentary section.
- Section 5. Add a reference to the SBDH Volume 19.
- Section 5. TG agreed to add language the commentary.
- Section 6.1.3. TG agreed to add language the commentary.

3. Other Items

- Substituting Welded Plate Girders for Rolled Beams, vice versa
- Bill McEleney requested that the TG review draft language for when one can substitute rolled beams for plate girders, and vice versa. Christina will send this out to the TG for review, and the TG can provide comments on it.
- Improved Tub Girder Details
- Christina shared a few items that have been produced by Todd Helwig's research for improved tub girder details. These details have not yet been adopted by AASHTO, but the TG can consider including them in future iterations of the G12.1 guideline

4. Adjourn

Meeting ended at 3:00 PM.

TG 13 - Analysis of Steel Bridges

Task Group Mission: This Task Group focus has been the development of guidance on the issues related to steel girder bridge analysis and to educate Engineers so that they can better make decisions for their own projects.

Task Group Chair: Deanna Nevling - Michael Baker International

Task Group Vice Chair: Francesco Russo - Michael Baker International

1. Introductions

Attendees introduced themselves, both in person and on the phone. The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

2. General Announcements

NSBA Update – Noted the Steel Conference and the Steel Bridge Workshop to be held the day before. Noted the Need for Speed Initiatives, Steel Bridge Forums, and that FHWA has handed over the maintenance of the Steel Bridge Design Handbook to NSBA.

TRB Update – Domenic noted that this is the last few months of him being chair of AFF20. Jamie Farris (TxDOT) will be taking over as chair.

AASHTO T-14 meeting – Tony noted the presentations and discussion given at the Bridge Task Force and T-14 meetings.

3. G13.1 Guidelines for Steel Girder Bridge Analysis

The latest revision was published earlier this year. Deanna thanked Domenic and Chris for their efforts, along with the entire task group. Deanna noted the TG will let this document sit for the next year before any updates will be made. If anyone sees something that needs updated or needs to be added, then please notify Deanna and Domenic.

4. Presentation

Using a 3D Space Frame Model to Predict Riveted Steel Truss Behavior – Challenges and Solutions; presentation by Ahmed Rageh, University Nebraska @ Lincoln. General notes from the presentation are as follows:

- Developed full 3D model on an in-service railroad bridge. In the model, initially assumed all connections were rigid – stringers floorbeams, out of plane truss connections
- Field Instrumentation with 42 sensors on various elements in the truss.
- Weigh in motion data was used to get the actual train axle loads.
- Initial model results for bottom flange truss stringer showed to be higher than field results.
- Field results and comparison to model results led to model calibrations – Changed stringers end fixity ratios. Also included the rails and included geometric offsets.
- In the calibrated model noted axial forces in the stringers (in tension)

- From the model, it noted that the floor beams are subjected to lateral bending

5. G13.2 Guidelines for Steel Truss Bridge Analysis

Deanna discussed the Current Document and where it stands. She is not sending the document out for review again until it gets in better shape with more sections complete.

General discussion centered on the more significant comments received to date. This discussion has been summarized below.

a. Laced Members

There are several equations and methods shown right now. Should we just refer to AASHTO and the referenced paper? It was decided to approach this section as not necessarily needed. If the reader needs to sharpen the pencil, go see the paper that is referenced.

b. Load Ratings

It should be noted that for load ratings, pinned connections should suffice initially. Use a 3D model with fixed moment connections if it does not rate.

c. Software discussion

Do not recommend or endorse a software. Keep the text generic. In figures, the document can mention what software was used.

d. Section 2.1.3. "post of a truss is generally a zero-force member."

Natalie has some discussion and figures for this that will provide a better explanation.

Do we need to have a section on "end post"? Yes, should be its own section after 2.1.3. Need to find if it has an established definition in another AASHTO spec/document. Domenic volunteered to look and write the section.

May need a few figures, in 3D, that illustrate zero force members. Deanna would help with CAD. Doug volunteered to write the section on zero force member, as a subsection to 2.1.3

e. Structural Redundancy and Load Path Redundancy. Section 3.1.2.

Brandon Chavel and Jason Lloyd will handle this section. Point out the references that exist for the analysis side for SRMs and IRMs. No need to go full depth. This is an analysis document, and redundancy is a design issue.

f. Built-up and laced members

Define built-up and laced members more clearly. Add some figures that has sketches of these to better explain. Mike Garlich volunteered to do this.

g. Photo permissions

Try to use personal photos, but as a courtesy get approval from the DOT/owner of the bridge.

h. Vierndell truss section

Jordan from H&H volunteered to take on this section.

i. Historical truss figure

Deanna will contact the figure originator to see if we can use the figure. She will get original figure if possible.

j. Rolled Shapes

Add a citation to the AISC website that has the historic shapes. Put the link in the reference section. Link: <https://www.aisc.org/publications/historic-shape-references/#28363>

6. Adjourn

Meeting ended at 12:00 PM.

TG 14 - Field Repairs and Retrofits

Task Group Mission: This Task Group primarily focuses on providing practical solutions for design and implementation of field repairs and retrofits of existing steel bridges.

Task Group Chair: Kyle Smith - GPI

Task Group Vice Chair: Jonathan Stratton – Eastern Steel Works

1. Survey Responses

- a. Results - Raw
- b. Results – Spreadsheet

Notes: Add statement to survey stating that details and plans will be scrubbed to remove bridge and agency identifications of any kind.

2. Detail Identification

- a. ID assignment
- b. Detail log - field by field

3. Appendix/Proposed Repair Report Form

- Logging the detail involves gaining the ease/difficulty of the repair from the perspective of the submitter. This form is filled out by the TG liaison and named with the repair index ID included in the file name.
- Should the form not include the submitter's information? Yes. This will be the first step in scrubbing affiliation from persons and agencies on the submitted details. The form will be updated to remove these fields. The repair detail index will continue to connect it back to the submitter, should that be needed.
- Form will be updated to include a field for the date the detail was designed/implemented so that we know when in reference to AASHTO codes the detail was implemented as well as how many years of service that detail has had.
- What about the contract information? The form includes this information. We are looking for how the repair/retrofit was executed. E.g. in-house maintenance crews, contract type, etc. It might be helpful to understand from the submitter's perspective if the execution of the repairs were effective or ineffective as a result of how the execution was performed; meaning, was the success of the repair a product of how it was designed as much as how it was executed.
- "Estimated quantity of past applications": Responses here are more along the lines of "rare, frequent, etc." Not so much the number of times.
- "Durability": Is there overlap here with "future maintenance"? There are differences, but usually only with repairs intended to last a short time with intent to replace the bridge, for example. So "durability" will be removed from the form to simplify.
- Scale of 1-10: Should the numbers be replaced with descriptive words? E.g. standard detail, hand calculations, refined analysis (FEA)
- Add "detailing" as a new line in scales of 1 to 10
- Add a new line to define field survey for repair: Sometimes this is done by design engineers, sometimes fabricators will do that survey, and then contractors will do it for installation process.

Getting a feel for how much field survey work was required for the detail might help with understanding the complexity of the detail during design and implementation.

4. G14.1 discussion – Kyle
 - a. Outline
 - b. Writing assignments
 - Doug Crampton said he is still interested in helping write some sections listed at the bottom of the outline. The sections he's interested in will be clarified with Kyle Smith after the meeting.
 - Everyone should write their sections in separate word docs that will be compiled later into a master document.
5. Open discussion – All
6. Adjourn

TG 15 - Data Modeling for Interoperability

Task Group Mission: This Task Group's primary focus is on facilitating the development of bridge industry consensus standards for data description, modeling, and interoperability for integrated design, construction, and lifecycle management of bridges (i.e. BIM).

Task Group Chair: Sammy Elsayed – Skanska

Task Group Vice Chair: Aaron Costin – University of Florida

1. Welcome and introduction
2. Approved previous meeting minutes
3. General Discussion

UDOT gave an overview of their program HDR talked about their first program with UDOT. The model was the information that was transferred to the contractor.

UDOT website for digital delivery discusses what they have done. <https://digitaldelivery.udot.utah.gov/>

Larry discussed the need for speed and how this play into data modeling for interoperability. AISC is funding is the guide to the executing an efficient bridge project. Year one is \$75,000 and a total of \$225,000 over 3 years. Volunteers should contact Chris Garrell.

Aaron shared information on Information Delivery Manual (IDM) for Cast-in-Place Concrete.

Discussed BIM & VDC guide. It is a free download.

<https://www.aisc.org/globalassets/aisc/publications/references/f201-19.pdf>

Aaron discussed a paper that he and Ronnie wrote and will be presented at the WSBS in Atlanta.

ACI has a guide for using IFC.

The pool fund study is on track. The IFC got pushed back. The draft data requirements and IDM are complete.

Next meeting is about wrapping up the IDM.

Next time is to talk about storage of documents. Work with Chris Garrell to handle this.

Review TG10/TG15 document for comments and formatting. The information needs to organize so it looks correct.

4. Work out action items for future meetings.
 - Set up standard zoom meetings.
 - Talk to AISC (Luke) to see if there is a standard formation for data.
 - Aaron, Eric, Sean Wichman volunteered to work on formatting.

TG 16 - Orthotropic Deck Panels

Task Group Mission: This Task Group aims to establish an Orthotropic Steel Deck (OSD) panel design that can be cost effectively produced in the United States for the bridge market.

Task Group Chair: Duncan Paterson - HDR

Task Group Vice Chair: Sougata Roy - Rutgers

1. Introductions

Attendees introduced themselves, both in person and on the phone. The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

2. General Announcements

FHWA has an upcoming Orthotropic Deck project thru the ID/IQ agreement. RFP close date is tomorrow, 3/11. So FHWA cannot provide an update at this time. The project may be awarded in 2 to 3 weeks.

SSSBA and NSBA have a meeting with Wyoming DOT to discuss possible usage of OSD for a host of short span steel bridge replacements.

3. Presentations

No presentations were given. If interested in giving a presentation at the Fall meeting, please let Duncan know.

4. Task Group Updates

a. State of Practice Synthesis Document

- Reviewed the current document and author assignments.
- Sections 1 and 2. Roy has sections 1 and 2 written, but needs to be added to the document.
- Section on Performance History: Paterson – Performance History is to discuss the good and bad with OSD. This may be part of the FHWA project mentioned at the beginning of the meeting. Roy noted the section should be focused on bridges in United States. There are several structures that have been in place, without any reported evidence of issues. Dayi noted there may be some reported issues with the wearing surface that should be noted in this section. The system is redundant with regard to fatigue cracking.
- Medlock stated we should talk about Bronx-Whitestone cracks, use published paper by Fisher and Barsom, in the ASCE JBE.
- Sections 2.2.2 and 2.2.3 Roy volunteered to author.
- Section 2.3 – Fabrication. Medlock had asked Eric Levesque to take the lead, but Eric has not been able to work on this. Medlock will now take the lead on 2.3. Ronnie has committed to having 2.3.1 done for monthly meeting (next meeting). Haberle and Rosamilia will review.
- Section 2.4 – Critical Design and Detailing Reqt's. Should rethink the title, isn't everything critical? Roy discussed that this should present the top 3 or 4 design/detailing items that

could result in major issues if not addressed appropriately. Include the Golden Gate example, to try to avoid rib splices. Generally, do not want the ribs to be sealed, or watertight.

- Roy has taken leadership of this section.
 - Section 3 – Guidelines for Design Details - Current author has not been available to work on the section. Paterson will take leadership of this section. Can look at 2012 FHWA manual and use and make appropriate adjustments for this document. Pass this section on to Paul T., Greggor for review.
 - Section 4 – Guidelines for Fabrication Section 4.1.1 – Effect of rib shape, round or trapezoidal (straw poll of room was trapezoidal). Coil steel could also be used, with the proper testing. Coil steel – check on issues with rib length tolerances and heat input. There could be topics related to fabrication length that need to be discussed.
 - A substantial amount has been written for section 4.1.4.
 - Haberle, Medlock, Stoddard will help author remainder of Section 4.1.1
 - Section 4.2 – keep with Terry Logan
 - Section 4.4 – Splices. Duncan to work on this section. Need to discuss backing bars and welding with splices. Transverse does not need to be removed. Longitudinal is a design issue.
 - Haberle noted the need to be careful with should/shall about the backing. This can be a cost issue.
 - Should also consider including CANAM bolted splice options.
 - Section 4.4.3 – possibly include Golden Gate example with no rib splices.
 - Section 4.5 – leave with Terry Logan.
 - Section 5 – TG noted that this section must include discussion on recommendations.
 - Section 6 – eliminate since the Task Group in general sets the future trends and research needs.
 - Additional sections - Address barriers and owner considerations and cost benefit analysis. Terry Logan wanted to take the lead on this.
 - Paterson to resend access to the Google Document to the entire task group.
- b. Short Span Orthotropic Update

Discussed the possibility of standardizing OSD for use in Short Spans. Medlock presented a problem statement at the SSSBA, but there are no funding resources.

What is the common span length and width? Wang noted that PennDOT (Tom Macioce) was trying to find a small local project and could try use FHWA Accelerated Innovation Deployment program (implement new technologies). There is a \$1M direct cost limit for these projects. More info can be found here: <https://www.fhwa.dot.gov/innovation/grants/>.

c. Rib Standardization

The FHWA project discussed at the beginning of the meeting may help with development of standard rib options, building off the 2012 FHWA manual. Task Group agreed to see where FHWA research goes with this, and then have TG decide if they need to revisit.

d. General Updates

Standards – We should be trying to use one panel for 1,000 decks, as opposed to focusing on the signature bridges.

Floorbeam and Diaphragm Details - FHWA project discussed at the beginning of the meeting may help with this as well, building off the 2012 FHWA manual. Task Group agreed to see where FHWA research goes with this, and then have TG decide if need to revisit.

Next Meeting will be held as a Webinar - Duncan to look at second week of April. Duncan will send out Doodle Poll.

5. Adjourn

Meeting ended at 4:00 PM.

Joint Task Group Meeting (TG1 & TG15)

Task Group Mission: This Joint Task Group's focus is to produce the data requirements needed for the development of Model View Definitions (MVDs) related to steel bridge detailing and fabrication that will be used in the Industry Foundation Classes (IFC).

Task Group Chair: Aaron Costin - University of Florida

Task Group Vice Chair: Brad Dillman - High Steel Structures

Previous meeting minutes from Savannah were approved.

All data requirements should be in Industry Foundation Classes (IFC)

This is year two of this group. They have developed a process model.

A link was provided in chat. https://uf florida-my.sharepoint.com/:f:/g/personal/aaron_costin_ufl_edu/Er xZN7HfALJvwbvbmNKLyIBYkpxSpEXWp3r0Ua3AOtETQ?e=wsGT8M

Goal is to share information and focusing on detailing and fabrication.

The first focus is on the detailing to fabrication model.

Discussed Detailing model overview.

Bridge data dictionary currently has over 2000 terms.

Process Map balloting. Should go in parallel AASHTO T14 & T19. Give T14 an advance look in August.

Georgia Tech is working with the building side. Aaron worked on this while there.

Submit information for internal collaboration balloting on May 1, 2020. The ballot items will be broken up. It will look like IDM for cast in place. Aaron will send Chris a document to start balloting process. This will let Chris test the system. It will be a single item to vote on.

Pooled fund map you can click on and expand.

Finished up bolt assembly.

Worked on weld mapping. We went through attributes and determined if they are necessary.

Created an attribute set for WPS

Joint Task Group Meeting (TG1, TG11 & TG12)

Task Group Mission: TBD

Task Group Chair: Allan Berry - RS&H

Task Group Vice Chair: Brad Dillman - High Steel Structures

1. Constructability, detailing and design guide is being considered for steel straddle bents and pier caps.
 - a. What do we want in this document?
 - Guidelines for cost effective details
 - Stability (no structural deck)
 - Longitudinal forces
 - Types of bearings
 - Accommodate both steel and concrete beams both on top and framing into side and corbel design
 - Guidance on redundancy
 - Appropriate levels/methods of analysis
 - Discussion on providing camber details for interaction between girder and box girder camber
 - How does box girder stiffness affect girder camber
 - Cap to column connections, temp blocking devices, 4 supports vs 2 supports to stabilize cap during erection, simply supported
 - Designing for future inspections, portals, access size
 - Standard detail for picking since they are heaviest pick on project
 - Address both box (for internal redundancy) and multiple I sections (for system redundancy)
 - Discussion should cover all options
 - Details should cover our preferred option
 - Special drainage details
 - Selection criteria – which is a steel straddle bent the right answer
 - Thermal gradient considerations
 - Fatigue details
 - Splice designs
 - Splice designs for cap and splicing girders into straddle bent
 - Torsional rigidity and fit- does box rotate during different load cases, would be worse for skew or uneven loading
 - skew
 - How does load transfer through box
 - Internal diaphragms – details for plated diaphragms with hole, design forces from the girder
 - Shop assembly
 - Tolerances that are different or not specified

- Example drawings and details
 - Document bad fatigue details
 - Repair and rehab details
- b. What information is already available?
- Details from Bill Lally and Bob Cisneros
 - Brad Dillman, Gerry to review
 - NCHRP 527 study – Integral Steel Box Beam Pier caps, 2004
 - Tony Ream, Tom Eberhardt
 - G13.1 analysis, section 3.14.3
 - Domenic, Duncan
 - G12.1 Sections on Boxes
 - Christina, Brian
 - FDOT Structures Manual
 - Christina
 - TxDOT Preferred Practices for Steel Bridge Design and Erection, section 2.5 - Details
 - Greg Turco
 - Alaska DOT Guidance for Seismic consideration for column to cap connections, particularly steel pipe
 - Alex, Eric
 - FHWA Document on Proposed LRFD Specifications for Non-composite Steel Box Members
 - Tony, Brian
 - MnDOT Report on Avoiding Fracture Critical Designation
 - Jihshya, Nick Cervo
 - NSBA Survey to State DOTs and Fabricators
 - Brandon, Vin , John, Brad
 - WSBS Papers
 - Brandon, Vin
- c. Timeline – go to meeting in late June TBD
- d. Scope: This document will present the state of the art with respect to detailing, fabrication, design, construction of simply supported straddle bents.
- e. Mission Statement
3. Adjourn

Joint Task Group Meeting (TG2, TG4 & TG10)

Task Group Mission: Assist in the development of training material for proper bolting of bridge connections.

Task Group Chair: Jason Stith - Michael Baker International

1. Chairperson's Welcome
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
2. Review of RCSC Video Outline
3. Overview of outline and history

RCSC has committed funding to produce this instructional video for structural steel bolting. Bob Shaw, Ronnie Medlock, and Karl Frank have coordinated this effort with RCSC.

4. Review the topics to be included in video

The group discussed the initial outline developed by Bob Shaw for the components of the bolting video. Specific topics discussed include:

- a. Bolted Materials:
 - F3148 covers the installation procedure of combined torque (snugging) and angle (final tensioning).
 - Address bolt markings/tags imprinted.
 - Address bolt shank/thread length parameters regarding what is available compared to what is assumed in the design (threads included or not in the shear plane).
 - Note that nuts are not symmetrical, and does it matter what orientation they are installed?
- b. Bolted Joints: There is no need to have bolt threads extend beyond the face of the nut (no stick-through required). Ronnie noted several State DOT's currently have a requirement for 0.25" minimum stick-through.
- c. Bolt Holes: Add topic for sub-punch and reaming in the shop as different from field reaming. Clarify that "misalignment, reaming" pertains to misfits in the field. Action Item - Ronnie Medlock to send email to Bob Shaw regarding this issue.
- d. Torque/Tension Relationship: No comment.
- e. Shop and Jobsite Storage: Include lot control item and rocap.
- f. Pre-installation Verification Testing Principles: Address bolts too short to fit in Skidmore testing machine.
- g. Snug-Tight Condition/Firm Contact/Installation: Note that all bolts at a connection need to be installed before any snugging/tensioning begins. Note what percentage of bolts or drift pins need to be in-place at a given connection before crane support is released. MnDOT commented that they are having difficulties achieving/verifying snug tight condition in the field. MnDOT requires tensioning procedure at a given connection to have two passes during snugging (similar to tightening lug nuts on spare tire).

- h. Turn-of-Nut Pre-tensioning: MnDOT commented that they are having issues with this method, bolts breaking due to over tensioning, may be related to snugging being too tight.
- i. Calibrated Wrench Pre-tensioning: No comment.
- j. Twist-Off Tension Control Bolt Pre-tensioning: It was noted that these are used on bridge projects from time-to-time, but not common.
- k. Direct Tension Indicator Pre-tensioning: No comment.
- l. Combined Method Pre-tensioning: No comment.
- m. Arbitration of Disputes: Give examples of typical disputes that happen and how they are resolved, such as loss of lubrication.
- n. Rotational/Capacity (RoCap) Testing: Manufacturer or field/shop testing and any differences.
- o. Frequently Asked Questions:
 - Address dis-similar materials in a bolted joint (stainless, galvanized, aluminum) requiring neoprene or rubber washer that could be compressible.
 - Address installation orientation of bolt head (such as for aesthetic reasons or installation clearances).

5. Review schedule for RCSC video production (15 min)

Rigid RCSC schedule must be adhered to and met or will be delayed one year. March through May 2020 working on video, with review occurring in early June. Final approval of video script planned for July 2020. Video will be recorded at High Steel Structures in August 2020. Video production will take approximately two months. A detailed schedule was handed-out to all attendees of this joint TG meeting.

For review of script and storyboard, Ronnie Medlock and Karl Frank will be doing. It was suggested that Brian Witte and John Gast be included in this review panel to give a field installation viewpoint. Action Item: Vin Bartucca and Bill McEleney to email ironworker contacts to Ronnie, in order to get the on the review panel in order to get the installer viewpoint.

- 6. Key dates
- 7. Need for feedback
- 8. Discuss items needing to be included specific to bridge bolting

Action Item: Jason Stith to confirm Anna Petroski's commitment to lead the qualification requirement subcommittee.

- 9. Timeline for feedback
- 10. Next steps and subcommittee direction discussion

Heather noted that the AASHTO bolting specifications for erection and fabrication are currently being separate, and possibly differences may exist in the future. Should these two be combined into one or deleted from one and cross-referenced to the other? Action Item: Heather to send bolting procedures from TG2 to Jason and Brian Witte.

Collaboration Main Committee

Task Group Mission: The Collaboration Main Committee provides oversight and guidance for all Task Groups. A meeting of the Main Committee will take place at the end of each Collaboration meeting.

Task Group Chair: Ronnie Medlock - High Steel Structures

Welcome and Introductions

Ronnie Medlock lifetime achievement award was acknowledged. There were about 35 people in the room.

Task Group Reports

Each TG Chair was asked to provide a brief summary of their meetings.

TG 1 - Brad Dillman (High Steel Structures)

Gary Wisch filled in for Brad both at the TG1 meeting and at the MC meeting. Discussed comments back from AASHTO CBS regarding G1.1. Of note, Minnesota had recommended that the term “accepted” be used for shop drawings instead of “approved”. “Approval” is used in the title, but both “accept” and “approve” are used throughout G1.1. The document does not define approved and the group agreed to make the change to accepted. However, the AISC code of standard practice uses the term approve. This choice would be a difference in wording between the two documents. Kruth recommended making a reference to code of standard practice and the similarity/difference between the two uses of the two words. Kruth recommended that G1.1 state language to the effect of, “Where the COSP uses ‘approve’, G1.1 uses “accept”. It was mentioned that AASHTO construction specification has reference to approval and there needs to be some harmonizing of the terms within AASHTO itself. One state represented at the meeting mentioned that they viewed the term approved as a liability. The committee will follow-up with Tom Macioce and T14 recommending that T-14 consider use of “accept” instead of “approve” in the AASHTO standards. It was later noted that the code of standards practice does not define the term so there would not be a conflict.

Ronnie asked if there were any concerns or disagreements from the main committee about the changes made to G1.1 in response to the CBS comments, and there were none.

TG 2 - Heather Gilmer (HRV Conformance Verification Associates, Inc.)

TG2 is advising AASHTO on the new fabrication specification and working through the backlog of S2.1 items. About 2 outstanding items from last meeting were discussed. Sub task groups were formed to look at the distinctions between design engineer and construction engineer. Another was formed to look at bolting related topics that included reaming both in the shop and field (corrective). Is there a set number of holes that can be reamed without requiring an NCR. Another topic included excluding/including cross frames as part of shop assembly and the difficulty or TDLF. The TG plans to have a draft available to the T17 committee at the AASHTO CBS meeting in June. This new document is intended to target a 2021 CBS ballot. The group will look towards focusing back on the repair document.

TG 4 - Jamie Hilton (KTA-Tator, Inc.)

Short meeting given that the group recently released G4.1. They have made final edits to bolting inspection document and looking to send for ballot this year. The group wants to archive the S4.1 document on the NSBA website in the event someone wants to reference it.

TG 8 - Paul Vinik (GPI Construction Engineering)

About 20 attendees which was less than last time. Medlock will pick-up the S8.3 with a 2021 release date. The group is updating the zinc primer document for 2022. The group is making use of Zoom to keep momentum. They are also assisting NSBA with a new webpage showing various corrosion strategies for steel. The S8.3 will be reformatted and receive another Collaboration wide ballot.

TG 9 - Michael Culmo (CME Associates, Inc.)

TG-9 met on Tuesday afternoon. Approximately 25 in attendance. We completed our resolution of all comments received to date. We reviewed past action items. The outline of the proposed revised document was discussed and agreed upon. Mike Culmo gave out writing assignments for certain sections, Mike will serve as the editor.

Schedule:

- Draft written sections to be forwarded to Mike Culmo by May 1, 2020
- Mike will compile the sections and forward them to the committee for review by May 15, 2020
- Committee comments in by approximately June 15, 2020
- Resolution of comments in web meeting by approximately July 15, 2020
- Forward final document to Chris Garrell soon after
- Ballot to collaboration (summer/fall 2020)
- Document to AASHTO T-2 (and T14...earlier) by December 15, 2020
- This is an aggressive schedule. We will strive to meet this.

TG 10 - Brian Witte (Parsons)

There were 33 in attendance and 3 on the phone. S10.1 was published in December. The group is now working toward the next version and soliciting new ideas. This includes comments from AASHTO CBS that were tabled from the last version. Subcommittee to rewrite bearing portion of the document. Christina Freeman brought up the FDOT study on the effect of wind on erection. The AASHTO is more conservative than what FDOT has recommended. A study was recommended to evaluate whether the AASHTO specification was overly conservative (up to 4 times the load). Christina would draft an email help collect data related to this. Bob Cisneros has contributed work that the group is currently evaluating.

TG 11 - Brandon Chavel (NSBA)

Dennis Golabek presented the current status of the FDOT line girder analysis study. Once finalized the document will be made public. The group is wrapping up the cross-frame guide and Chavel has assigned reading/review tasking. The document will not be an AASHTO

document and eventually a part of the steel bridge handbook. The release of this new document is targeting the release of the handbook update. The meeting concluded with an open question/answer period that included straddle bents. Medlock suggested a back to basics review of the why cross frames exist and the purpose they serve.

TG 12 - Alan Berry (RS&H)

Christina Freeman filled in for Allan Berry. Christina spent the time reviewing the comments received from AASHTO CBS; Minnesota had 19 comments. There is still wordsmithing needed on a few of the items which was tabled for a discussion outside the meeting followed by a consensus vote. Future work would include substituting welding plate girders for rolled beams and improved tub girder details. T14 needs to upload revised ballots by April 24 and is expecting that the Collaboration have each of the documents updated and sent back by April 16-17.

Ronnie asked if there were any concerns or disagreements from the main committee about the changes made to G12.1 in response to the CBS comments, and there were none.

TG 13 - Deanna Nevling (Michael Baker International)

Large attendance. The group started with updates from the various committees. The group is going to focus on G13.2 Truss Analysis guide; this document originally included arches which has been removed. The G13.1 was posted in December. While the group is not going to revisit G13.1 this year, they are still looking to collect suggestions for changes. So, people are encouraged to send notes to Deanna and Domenic.

TG 14 - Kyle Smith (GPI Construction Engineering)

Jon Stratton filled in for Kyle. There were about 22 attendees plus call ins. The group reviewed their recent owner survey which was distributed in January. At this point they are looking at how to summarize responses. Members of the task group will be directly engaging the survey respondents. They expect to have some of the document written for review in the fall.

TG 15 - Sammy Elsayed (Skanska USA Civil)

Aaron Costin filled in for Sammy who was not able to attend. There were about 15 attendees which also include some new members. Utah provided an overview of their BIM initiative. The group spent time discussing how to present the ballot item that makes it easier for reviewers to evaluate ballots. Aaron showed an example of how a similar document was structured which would make sense to follow with the TG 15 work. The group discussed the weld data definition in detail. This group is having conference calls every 2-weeks.

TG 16 - Duncan Paterson (HDR)

Good attendance including people calling in. In a previous meeting a standard panel was discussed which was subsequently picked up by FHWA who is soliciting proposals. The SSSBA is also interested in a short span solution that may take the form of an orthotropic deck. The TG16 proposal was presented at a recent SSSBA meeting. Wyoming DOT has needs for replacing several slab bridges that might be suitable for an orthotropic deck solution. The group reviewed

the progress of the G16.1 and will institute monthly calls. They hope to have a substantial document to review by the fall meeting.

Joint TG 2 Fabrication, TG 4 QC/QA, TG 10 Erection – Jason Stith (Michael Baker International)

The group discussed the recent approval by RCSC to create bolting training videos. They focused on what may be different with bridge applications so that it could be included as part of the video series.

Joint TG 1 Detailing, TG 11 Design, TG 12 Constructability – Allan Berry (RS&H)

Christina Freeman filled in for Allan Berry. First meeting of this group. The aim is to develop information for steel straddle bents including design, and detailing. Identify existing information and what the documents goals are. The group will have a conference call in 3-months.

Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability – Aaron Costin (University of Florida)

The discussions of TG15 meeting continued into this joint meeting.

Main Committee Operations Discussion

Publications schedule

See Appendix B – Document Release Schedule and Status for future publication dates and new documents.

Latest on membership

Committee appointment letters were sent out the week before to the people that each TG Chair named as “members” last year.

Upcoming meetings

The fall meeting is scheduled for October 9 – 11 in a location that has yet to have been determined. Requests for meeting agendas will be sent out near the end of August. A Doodle poll will be sent out to chairs and vice chairs to identify dates for the 2021 meetings.

Appendix A – Attendee Registration List

Last Name	First Name	Company
Abdou	Hossam	Alfred Benesch & Company
Alexander	Dylan	ArcelorMittal
Angeloff	Carl	Con-Serv Inc.
Artmont	Frank	Modjeski and Masters
Atkinson	Brian	HNTB
Barthelemy	Rob	Florida Structural Steel
Bartucca	Vin	NSBA
Beabes	Shane	AECOM
Bennett	Caroline	University of Kansas
Berry	Allan	RS&H
Butz	Travis	Burgess and Niple, Inc.
Carlson	Jeff	NSBA
Cervo	Nick	HDR Engineering Inc.
Chavel	Brandon	NSBA
Christensen	Colby	HDR
Clark	Nicholas	UDOT
Coletti	Domenic	HDR
Collins	Rich	Voigt & Schweitzer
Collins	William	University of Kansas
Cook	Ray	Utah DOT
Corney	James	UDOT
Costin	Aaron	University of Florida
Crampton	Douglas	Wiss, Janney, Elstner Associates, Inc.
Culmo	Michael	CME Associates, Inc.
Daniels	Mark	Utah DOT
Dillman	Brad	High Steel Structures
Duncan	Cynthia	AISC
Dunlap	Robin	High Steel Structures, LLC
Eberhardt, Jr.	Thomas	HDR Engineering, Inc.
Filcek	Matthew	Michigan DOT
Freeman	Christina	FDOT Structures Research Center
Garlich	Michael	Collins Engineers, Inc.
Garrell	Chris	NSBA
Gilmer	Heather	HRV
Golabek	Dennis	WSP
Gramlick	Jason	CA DOT (Caltrans)
Haberle	Christian	Haberle Steel
Haberle	Craig	Haberle Steel
Harrison	Randy	W&W AFCO Steel
Hasbrouck	Greg	Parsons
Hastings	John	NSBA
Hickman	Tom	Vigor

Last Name	First Name	Company
Hilton	Jamie	KTA-Tator, Inc.
Hollandsworth	Brad	Utah DOT
Ison	Dale	Tampa Tank / Florida Structural Steel
Johnston	William	UDOT
Keniston	Zane	Structural Steel Parts, Inc.
Kotha	Srinivasa	PHG Wong Engineering, Inc.
Kovak	Kade	Project Quality Solutions
Kruth	Larry	AISC
Landry	Robert	New Hampshire DOT
Langill	Tom	American Galvanizers Association
Lim	Kheng Chye Alex	Oregon Department of Transportation
Lin	Jihshya	MnDOT
Lindell	Nate	Project + Quality Solutions
Lloyd	Jason	NSBA
Loftus	Pat	Industrial Steel Construction
McCombs	Natalie	HNTB
McDonald	Norman	Iowa DOT (Retired)
McEleney	William	NSBA (Retired)
Medlock	Ronnie	High Steel Structures
Nevling	Deanna	Michael Baker International
Niemann	Todd	Fickett Structural Solutions
Olds	Dusten	HDR
Orton	Joshua	Brasfield & Gorrie, LLC
Parker	Cody	UDOT
Paterson	Duncan	HDR
Peterson	Anthony	NSBA
Rageh	Ahmed Elssa	University of Nebraska Lincoln
Rau	Eric	HDR
Ream	Anthony	HDR
Rink	Matt	UDOT
Rolwes	Larry	Jacobs
Rosamilia	Gene	Rosewich Engineering
Roy	Sougata	Rutgers University
Russo	Francesco	Michael Baker International
Shaw	Bob	Steel Structures Technology Center, Inc.
Sherman	Ryan	Georgia Institute of Technology
Simmons	Cheryl	Utah Department of Transportation
Sletten	Josh	WSP
Smith	Kade	Kimley-Horn
Smith	Kyle	GPI
Snyder	Dan	American Iron and Steel Institute
Sova	Gerard	Consultant
Stith	Jason	Michael Baker International

Last Name	First Name	Company
Stoddard	David	SSAB North American Division
Stone	Eric	HNTB
Stratton	Jonathan	Eastern Steel Works, Inc.
Sullivan	Michael	CME Associates, Inc.
Swanwick	Carmen	UDOT
Szvoren	John	BVR Construction
Tayarani	Maury	Pennoni
Taylor	Zac	Kimley-Horn
Turco	Gregory	TX DOT
Vinik	Paul	GPI
Wang	Dayi	FHWA
Warncke	Jordan	Hardesty & Hanover, LLC
Watson	Brian	HDR
Watson	Ron	R, J. Watson, Inc.
Wisch	Gary	DeLong's, Inc.
Witte	Brian	Parsons
Wolfe	Brian	MDTA

Appendix B – Document Release Schedule and Status

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G1.1.2000	Released	2000	1	Detailing	Shop Drawings Approval Review/Approval Guide
G1.3.2002	Released	2002	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.2.2003	Released	2003	1	Detailing	Design Drawing Presentation Guidelines
G1.4.2006	Released	2006	1	Detailing	Guidelines for Design Details
G1.1.2020	Passed T14 Ballot	2020	1	Detailing	Shop Drawings Approval Review/Approval Guide
G1.3	Update - In-Progress	2021	1	Detailing	Shop Detail Drawing Presentation Guidelines
G1.4	Update - In-Progress	2021	1	Detailing	Guidelines for Design Details
G2.2-2016	Released	2016	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
S2.1-2018	Released	2018	2	Fabrication and Repair	Steel Bridge Fabrication Guide Specification
G2.2.2020	Update - In-Progress	2021	2	Fabrication and Repair	Guidelines for Resolution of Steel Bridge Fabrication Errors
G4.2.2006	Released	2006	4	QC/QA	Recommendations for the Qualification of Structural Bolting Inspectors
G4.4.2006	Released	2006	4	QC/QA	Sample Owners Quality Assurance Manual
G4.1-2019	Released	2019	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines
G4.2	Update - In-Progress	2021	4	QC/QA	Recommendations for the Qualification of Structural Bolting Inspectors

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G4.1	Update - Not Started	2022	4	QC/QA	Steel Bridge Fabrication QC/QA Guidelines
S8.1-2014	Released	2014	8	Coatings	Guide Specification for Application of Coating Systems
S8.1	Update - In-Progress	2022	8	Coatings	Guide Specification for Application of Coating Systems
S8.2-2017	Released	2017	8	Coatings	Thermal Spray Coating Guide
S8.3	Failed Collaboration Ballot	2021	8	Coatings	Galvanizing Guide Specification
G8.4	New - In-Progress	2022	8	Coatings	Detailing for Coatings and Weathering Steel
G9.1.2004	Released	2004	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
G9.1	Update - In-Progress	2021	9	Bearings	Steel Bridge Bearing Design and Detailing Guidelines
S10.1-2019	Released	2019	10	Erection	Steel Bridge Erection Guide Specification
G11.1	New - In-Progress	2021	11	Design	Guidelines for the Design of Cross-frame Members
G11.2	New - Not Started	2022	11	Design	Guide for Straddle Bents
G12.1-2016	Released	2016	12	Design for Constructability and Fabrication	Guidelines for Design for Constructability
G12.1.2020	Passed T14 Ballot	2020	12	Design for Constructability and Fabrication	Guidelines to Design for Constructability and Fabrication
G13.1.2019	Released	2019	13	Analysis of Steel Bridges	Guidelines for Steel Girder Bridge Analysis
G13.2	New - In-Progress	2022	13	Analysis of Steel Bridges	Guidelines for the Analysis of Trusses

Document	Status	Year Completed/Targeted	Task Group	Task Group Name	Document Title
G14.1	New - In-Progress	2022	14	Field Repairs and Retrofits	Guidelines for Field Repairs and Retrofits of Steel Bridges
G15.10	New - In-Progress	2021	15	Data Modeling for Interoperability	BrIM Process Model Definition for Steel Bridge Erection
G15.1	New - Not Started	2021	15	Data Modeling for Interoperability	Designer / Fabricator Exchange
G16.1	New - In-Progress	2021	16	Orthotropic Deck Panels	Guidelines for the Manufacture of Orthotropic Decks and State of Practice
G16.2	New - Not Started	Unknown	16	Orthotropic Deck Panels	Cost Effective Orthotropic Decks

Appendix C – Meeting Schedule and Agendas

Steel Bridge Collaboration Meeting

Spring 2020 Meeting
March 10 – 12, 2020 – Salt Lake City, UT

The Spring AASHTO/NSBA Steel Bridge Collaboration meeting has been scheduled for Tuesday, March 10 from 8:00 AM - 4:00 PM, Wednesday, March 11 from 8:00 AM - 5:00 PM and Thursday, March 12 from 8:00 AM - 3:00 PM at the Sheraton Salt Lake City Hotel.

Meeting Schedule

The following Task Groups are scheduled for this up-coming meeting. Note that in addition to their respective individual meetings, there will be a combined TG1 and TG15 meeting on Wednesday, a combined TG1, TG11, and TG12 meeting on Thursday, and a combined TG2, TG4, and TG10 meeting on Thursday. All times are approximate and subject to change.

Tuesday, March 10 (7:00 am – 5:00 pm)

Time	Meeting	Room Name
7:00am – 8:00am	Breakfast (Provided)	TBD
8:00am – 10:00am	TG 10 Erection	Capitol Reef A
8:00am – 12:00pm	TG 2 Fabrication and Repair	Capitol Reef B
10:00am – 12:00pm	TG 1 Detailing	Capitol Reef A
12:00pm – 1:00pm	Lunch (Provided)	TBD
1:00pm – 4:00pm	TG 9 Bearings	Capitol Reef A
1:00pm – 4:00pm	TG 16 Orthotropic Deck Panels	Capitol Reef B
4:00pm – 6:00pm	Chair & Vice Chair Briefing	Capitol Reef A

Wednesday, March 11 (7:00 am – 5:00 pm)

Time	Meeting	Room Name
7:00am – 8:00 am	Breakfast (Provided)	TBD
8:00am – 10:00am	TG 15 Data Modeling for Interoperability	Capitol Reef A
8:00am – 10:00am	TG 11 Design	Capitol Reef B
10:00am – 12:00pm	Joint Task Group Meeting (TG 1 & TG 15)	Capitol Reef A
10:00am – 12:00pm	TG 13 Analysis of Steel Bridges	Capitol Reef B
12:00pm – 1:00pm	Lunch (Provided)	TBD
1:00pm – 3:00pm	TG 12 Design for Constructability and Fabrication	Capitol Reef A
1:00pm – 3:00pm	TG 4 QC/QA	Capitol Reef B
3:00pm – 5:00pm	Joint Task Group Meeting (TG 1, TG 11 & TG 12)	Capitol Reef A
3:00pm – 5:00pm	TG 8 Coatings	Capitol Reef B
6:00pm – 9:00pm	Off-site Dinner (Registration Required)	Location TBD

Meeting Schedule (con't)

Thursday, March 12 (7:00 am – 3:00 pm)

Time	Meeting	Room Name
7:00am – 8:00am	Breakfast (Provided)	TBD
8:00am – 10:00am	Joint Task Group Meeting (TG 2, TG 4, & TG 10)*	Capitol Reef A
10:00am – 12:00pm	TG 14 Field Repairs and Retrofits	Capitol Reef B
10:30am – 12:30pm	Collaboration Main Committee (<i>Lunch will be provided</i>)	Capitol Reef A

* Meeting is tentative.

**All times shown are local MST

Meeting Registration

All collaboration meetings are free and open to anyone interested in attending. So that we can better facilitate scheduling of the event, **you must register using the link below before February 17th**. *Please note that you will be asked to log-in to or create a free account on AISC.org prior to registering for the collaboration.*

[Click here to register for the meetings you plan to attend](#)

Hotel Information

The meeting will take place at the Sheraton Salt Lake City Hotel. *Please note: A limited selection of rooms will be available at the Hilton Garden Inn Salt Lake City Downtown for any DOT attendees needing the government per diem rate of \$125 per night (plus applicable taxes and fees). Please email Philip McConnell at mcconnell@aisc.org if you need a room at the government rate.*

Address: [150 West 500 South](#)
[Salt Lake City, UT 84101](#)

Rate: \$149 per night plus applicable taxes and fees

Reservations: [Click here to book your room at The Sheraton Salt Lake City Hotel](#)

Cutoff Date: Monday, February 21th, 2020

Contact Information

For questions regarding meeting times, attendance plans, or hotel information, please contact mcconnell@aisc.org. All other questions can be directed to nsbacollaboration@steelbridges.org

About the Collaboration

The mission of the Collaboration is to achieve quality and value in steel bridges by standardization of design, fabrication, and erection and by the sharing of resources. Through the Collaboration, steel bridge professionals work together in a spirit of cooperation and mutual respect to develop details, specifications and practices and to exchange knowledge, technology and expertise.

More Information

Visit: www.steelbridges.org/CollaborationStandards



NSBA Collaboration – Spring 2020

TG 2 Fabrication and Repair
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef B

Task Group Mission: This Task Group aims to achieve quality and value in the fabrication of steel bridges through standardization of steel bridge fabrication across the nation. Historically, State Departments of Transportation (DOTs) have written their specifications based on AASHTO standards and their own individual experiences.

Task Group Chair: Heather Gilmer - HRV (hgsteelfab@gmail.com)

Task Group Vice Chair: Duncan Paterson - HDR, Inc. (Duncan.Paterson@hdrinc.com)

Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/400678767>

Meeting Agenda: Tuesday, March 10 (8:00 AM - 12:00 PM)

1. What goes in intro, foreword, etc? (Probably T-17 question)
2. C1.2.6: Is this the right place?
3. 1.2.9: Is this the latest SRM definition?
4. C1.2.9: Is this commentary correct?
5. 2.2 penultimate paragraph: Is this a good way to put it?
6. C2.3: review photography bullet. Is “circumstances under which photography is permitted” better?
7. C4.1 2nd paragraph: How should we address this?
8. C8.4 needs editing. Is 8.4 still right? KHF: need to talk to mills. Also, CVN testing is longitudinal.
9. Section 9.3: Is this what we want? what about runoff tab removal? Or should that be in D1.5? Or should D1.5 just refer here to any section loss questions?
10. Section 9.2.1: Any point in keeping reference to A6? Depth limitations are not what we want but area limitations could be. Bring over area limitations from A6? Come up with something like “A6 except as modified by 9.3”?
11. 10.2, 1st paragraph: Where did 0.75" limit come from? 2nd paragraph: Is this a good way to handle it?
12. C11, last paragraph: Is this enough?
 - Prior discussion:

- KHF: local buckling at end—maybe even heat not ok. Can get small cracks at weld toe.
 - Curved rolled beam cover-plated bridge not very likely.
 - KHF/RDM: put it all in commentary?
 - Ison: will still need to be able to correct the curve afterward
 - JJE: citing what code used to be might give it too much credit. Basis not known.
 - Delete whole cover plate paragraph, discuss what used to be in code (but that there's not a lot of real-life experience with it) and what we know and don't know and what might be a reasonable approach. Demonstrations on individual basis, etc.
13. 14.3.2.2: Is there any pathway to getting these moved back to BDS? KHF last time suggested NSBA putting out a spreadsheet or utility to calculate these. Feasible?
14. 16.9.1: What does "square" mean if stiffener is skewed? We don't have a tolerance on angular orientation.
15. 17.5.1: this builds in inherent need for field reaming, which we don't want. Enough problem with bolt dimensional tolerances even if holes are perfect.
- AREMA proposal: "The holes in all plies shall align such that it would be possible to insert a bolt intended for use in the connection through each hole in all plies. Where approved by the Engineer, holes may be overreamed to meet these requirements, and larger fasteners installed."
 - Allowance for field reaming without Engineer approval? # holes, amount of oversize or slotting? (E.g., 10% to oversize as defined in RCSC; more holes or larger would need approval)
 - Hole group location tolerance? New business?
16. 17.6.1, 2nd paragraph: What about skewed bridges? Should something be said about not specifying an assembly when a TDLF has been called for a straight skewed bridge?
17. 17.7.3.2: Calibration of Skidmore is not mentioned here but is addressed in RCSC section 7. Do we need to call out the calibration in our sections on RC test & DTI PIV, which don't reference that RCSC section? Or is that generally covered by AISC quality manual?
18. 17.7.4.3.1: can we delete those words? They don't seem to be contributing anything.
19. 17.7.4.3.2b last bullet: do we get into aspects of galvanized coating quality that could affect proper bolting?

20. 20.1: Information about boring a hole down the center seems like it should go to the design code. T17 was going to talk to T14. We have commentary for why you don't drill the hole for normalized & tempered but not why you do drill the hole for annealed. Do we need to add? Talk to Bob Sweeney (AREMA) about pins. Should holes be included in all pins, for ease of handling? No max hole size is given. We should delete this and send it to design ("If annealed..."). Can Duncan talk to Sweeney? What's our pathway to put in BDS?

- Other notes—anyone know what I meant?
 - a. Flatness of flanges—A6 not ok because thickness different
 - b. 3.2 "responsibility"
 - c. Commentary about shop drawings

21. New business for a later edition (in addition to expansion of scope):

- 16.9.1: Should we have these tolerances apply to any "finish to bear" surface whether it's a stiffener or not?

16.9.2: Should we have these tolerances apply to any "tight fit" situation, whether it's a stiffener or not?



NSBA Collaboration – Spring 2020

TG 10 Erection
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: This Task Group develops guidelines that establish and define the basic, minimum requirements for the transportation, handling and erection of steel bridge components to ensure safe and accurate steel erection as well as quality and value in the completed bridge structure.

Task Group Chair: Brian Witte - Parsons (brian.witte@parsons.com)

Task Group Vice Chair: Jason Stith - Michael Baker International (Jason.Stith@mbakerintl.com)

Task Group Secretary: Tony Peterson - NSBA (peterson@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/247574877>

Meeting Agenda: Tuesday, March 10 (8:00 AM - 10:00 AM)

1. Chairperson's Welcome (8:00 AM – 8:20 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
 - d. Review Action Items from Previous Meeting.
2. Mission Statement Review (8:20 – 8:30)
3. Review draft language for Section 5: Bearings and Anchorages (8:30 – 8:45)
4. Review revised draft language for Section 3: Transportation (8:45 – 9:00)
5. Appendix D checklist modifications? (9:10 – 9:20)
6. Wind Load on Girders during Erection update (9:20 – 9:30)
7. Additional items (9:30 – 9:40)
 - a. Beam clamp load amplification follow-up?
 - b. Geometric Tolerances?
 - c. Others?
8. Call for comments on S10.1-2019 (9:40 – 9:50)
9. Summary and adjourn (9:50 – 10:00)



NSBA Collaboration – Spring 2020

TG 1 Detailing
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for the creation of clear concise design and fabrication drawings.

Task Group Chair: Brad Dillman - High Steel Structures (bdillman@high.net)

Task Group Vice Chair: Gary Wisch - DeLong's, Inc. (GaryW@delongsinc.com)

Task Group Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/581717622>

Meeting Agenda: Tuesday, March 10 (10:00 AM - 12:00 PM)

1. Chairperson's Welcome (10:00 AM – 10:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Status of AASHTO Approval of G1.1 Update (10:10 AM – 10:20 AM)
3. G1.2 (Design Drawings Presentation Guidelines) and G1.4 (Guidelines for Design Details) Update - Open Discussion (10:20 AM - 11:40 AM)
 - a. Determine direction of the updates (keep as separate or combine)
 - b. Determine scope of the updates (consider impact of data transfer initiatives, consider joint TG1/TG11/TG12 work)
 - c. Determine the tasks and timeframe for updates to the documents
4. AISC Need for Speed Item - Guide to Executing an Effective Bridge Project (11:40 AM - 11:50 AM)
5. Action Items (11:50 AM - 12:00 PM)



NSBA Collaboration – Spring 2020

TG 9 Bearings
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: This Task Group is specifically responsible for the creation and maintenance of guidelines and best practices for steel bridge bearings.

Task Group Chair: Michael Culmo - CME Engineering (culmo@cmeengineering.com)

Task Group Vice Chair: Ron Watson - RJ Watson, Inc. (rwatson@rjwatson.com)

Task Group Secretary: Jeff Carlson - NSBA (carlson@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/370166704>

Meeting Agenda: Tuesday, March 10 (1:00 PM - 4:00 PM)

1. Chairperson's Welcome (1:00 PM – 1:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Review of comments received to date and resolve – Mike Culmo
 - a. We left off part way through the comment resolution form at the last meeting. We will pick up from there.
 - b. Review of revised details
3. Review/Set Action Items
4. Next steps (what is needed)
5. Schedule
 - a. Overall schedule
 - b. Next meeting
6. Adjourn

TG 9 Action Item Summary

Item #	Action Item	Assigned to	Due Date	Status
4.19.01	Review AISI (Red book) and recommend items to incorporate into G9.1	Frank Russo	8/22/19	On going Initial info is in
4.19.02	Review Steel Bridge Design Handbook – Bearing Design and recommend items to incorporate into G9.1	Domenic Coletti	8/22/19	On going Initial info is in
4.19.03	Review FHWA Training document and determine if we can borrow any language/information to include in G9.1	Frank Russo	8/22/19	On-going Initial info is in
4.19.04	Bearing manufacturers will go through section on high load bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	8/22/19	On-going DSB to submit around 9/1
4.19.05	Bearing manufacturers will go through section elastomeric bearings and make recommendations on how to make language/details more efficient.	Brad Streeter, Ryan Schade, Phil Gase	8/22/19	On going
4.19.06	Mike Culmo will go through current AASHTO Specification on bearing design and develop recommendations to take to T-2 for revision. And he will coordinate with T-2	Mike Culmo, Sougata Roy	6/20/19	Complete
4.19.07	Jeff will reach out to Carl Puzey to ask if Mike Culmo can have ~5 minutes in AASHTO T-2 Montgomery meeting to update them on our initiative and goals.	Jeff Carlson	5/1/19	Complete (MPC)
4.19.08	Entire committee/group to review current G9.1 and make recommended revisions.	Committee	8/22/19	On-going
6.20.01	Review the AASHTO LRFD BDS Section 14 and get any comments to suggested revisions to Mike Culmo and/or Sougata Roy. He will forward these suggestions to T-2.	Committee	8/22/19	On-going
6.20.02	Forward photos of bearing (production, construction, etc.) to Mike Culmo for incorporation into the guide.	Committee	Spring 2020	On-going RW has sent some
6.20.03	Review old NSBA table regarding bearing applicability. Mike to send out.	Committee	Spring 2020	On-going
6.20.04	Review HLMR bearing tables and make recommendations on increments and any other recommendations.	HLMR Bearing manufacturers	8/22/19	On-going
8.29.01	Mike Culmo to meet with Frank Russo to discuss integration of his information	Mike Culmo Frank Russo	10/22/19	New



NSBA Collaboration – Spring 2020

TG 16 Orthotropic Deck Panels

Sheraton Salt Lake City Hotel

Salt Lake City, UT

Room Name: Capitol Reef B

Task Group Mission: This Task Group aims to establish an Orthotropic Steel Deck (OSD) panel design that can be cost effectively produced in the United States for the bridge market.

Task Group Chair: Duncan Paterson - HDR (Duncan.Paterson@hdrinc.com)

Task Group Vice Chair: Sougata Roy - Rutgers (sougata.roy@rutgers.edu)

Task Group Secretary: Jason Lloyd - NSBA (lloyd@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/369007246>

Meeting Agenda: Tuesday, March 10 (1:00 PM - 4:00 PM)

1. Chairperson's Welcome (1:00 PM – 1:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Presentations – *tentative*:
 - a. Paul Tsakopoulos
 - b. TBD
3. Short Break, if necessary
4. Task Group updates
 - a. State of Practice Synthesis Document
 - b. Short Span Orthotropic Update
 - c. Rib Standardization
5. Review Committee Goals
6. Old business and additional discussion
 - a. Floorbeam and diaphragm details
 - b. Other
7. Adjourn



NSBA Collaboration – Spring 2020 Task Group TG 15: Data Modeling for Interoperability

Task Group Mission: This Task Group's primary focus is on facilitating the development of bridge industry consensus standards for data description, modeling, and interoperability for integrated design, construction, and lifecycle management of bridges (i.e. BIM).

Task Group Chair: Sammy Elsayed – Skanska (sae44@msn.com)

Task Group Vice Chair: Aaron Costin – University of Florida (aaron.costin@ufl.edu)

Zoom Meeting: <https://zoom.us/j/142421216>

Meeting Agenda - Wednesday, March 11 (8:00 AM to 10:00 AM)

1. Chairperson's Welcome (8:00 AM – 8:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of Previous Meeting Minutes.
2. Design to Fabrication Model View Definition (MVD) project overview (8:10AM – 8:30 AM)
3. Data Requirements- BrIM Data Dictionary (8:30 AM – 9:45 AM)
 - a. Overview of current version
 - b. Potential integrations
 - c. Modifications and maintenance
 - d. Governance and storage
4. Closing Discussion (9:45 AM – 10:00 AM)
5. Adjourn



NSBA Collaboration – Spring 2020

TG 11 Design
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef B

Task Group Mission: This Task Group aims to develop and maintain consensus guidelines to assist with the design of steel bridges and their components.

Task Group Chair: Brandon Chavel - NSBA (chavel@aisc.org)

Task Group Vice Chair: Domenic Coletti - HDR (Domenic.Coletti@hdrinc.com)

Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/690262056>

Meeting Agenda: Wednesday, March 11 (8:00 AM - 10:00 AM)

1. Chairperson's Welcome (8:00 AM – 8:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Announcements and Administrative Items (8:10 AM to 8:15 AM)
 - a. The Task Group Mission
3. Project Presentation (8:15 AM to 8:45 AM)
 - a. TBD
4. Guidelines for the Design of Cross Frames & Diaphragms (8:45 AM to 9:45 AM)
 - a. Review of significant comments on current draft
 - b. Checking of Example calculations
 - c. Any missing sections?
 - d. Timeline Discussion
5. General Open Discussion (9:45 AM to 10:00 AM)
 - a. Joint work with TG 1 and TG12 for Steel Straddle Bent Caps.
 - b. Design issue discussions
 - c. Other potential items for the next design TG task.
6. Adjourn



NSBA Collaboration – Spring 2020
Joint TG 1 Detailing, TG 15 Data Modeling for
Interoperability
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: This Joint Task Group's focus is to produce the data requirements needed for the development of Model View Definitions (MVDs) related to steel bridge detailing and fabrication that will be used in the Industry Foundation Classes (IFC).

Task Group Chair: Aaron Costin - University of Florida (aaron.costin@ufl.edu)

Task Group Vice Chair: Brad Dillman - High Steel Structures (bdillman@high.net)

Task Group Secretary: John Hastings - NSBA (hastings@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/129891799>

Meeting Agenda: Wednesday, March 11 (10:00 AM - 12:00 PM)

1. Chairperson's Welcome (10:00 AM – 10:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Overview- Design to Fabrication/Detailing Model View Definition (MVD) (10:10AM – 10:30 AM)
 - a. Quick overview of project and status
 - b. Questions and discussion
3. Final Review of the Design to Fabrication/Detailing IDM and Process Map (10:30AM – 11:00 AM)
 - a. Discuss Balloting
4. Working Group- Assign Data Requirements to the Detailing Model (11:00AM – 12:00 PM)
 - a. Detailing Model overview and scope
 - b. BrIM Data Dictionary
 - c. Next Steps
 - d. Discussion
5. Adjourn (12:00 PM)



NSBA Collaboration – Spring 2020

TG 13 Analysis of Steel Bridges

Sheraton Salt Lake City Hotel

Salt Lake City, UT

Room Name: Capitol Reef B

Task Group Mission: This Task Group focus has been the development of guidance on the issues related to steel girder bridge analysis and to educate Engineers so that they can better make decisions for their own projects.

Task Group Chair: Deanna Nevling - Michael Baker International (DNevling@mbakerintl.com)

Task Group Vice Chair: Francesco Russo - Michael Baker International (FRusso@mbakerintl.com)

Task Group Secretary: Brandon Chavel - NSBA (chavel@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/179241188>

Meeting Agenda: Wednesday, March 11 (10:00 AM - 12:00 PM)

1. Chairperson's Welcome (10:00 AM – 10:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. General Announcements (10:10 AM – 10:25 AM)
 - a. Conferences/Research/Publications
 - b. NSBA Update
 - c. FHWA Update – Dayi Wang, FHWA Steel Specialist
 - d. TRB AFF20 (Steel Bridges Committee) Update – Domenic Coletti, Chair
 - e. AASHTO Bridge Update (T-14 Structural Steel Design) – Frank Russo
3. G13.1 Guidelines for Steel Girder Bridge Analysis – Published!
4. Presentation (10:30 AM – 11:00 AM)
5. G13.2 *Guidelines for Steel Truss Bridge Analysis* (11:00 AM – 12:00 PM)
 - a. Review Current Document and Comments
 - b. Volunteer Authors
6. Adjourn (12:00 PM)



NSBA Collaboration – Spring 2020

TG 4 QC/QA

Sheraton Salt Lake City Hotel

Salt Lake City, UT

Room Name: Capitol Reef B

Task Group Mission: This task Group primarily focuses on the requirements for a Fabricator's quality control program, with emphasis on the development and implementation of a quality control plan and minimum requirements for an Owner's quality assurance program.

Task Group Chair: Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com)

Task Group Vice Chair: Tim McCullough - Florida DOT (timothy.mccullough@dot.state.fl.us)

Task Group Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/330001635>

Meeting Agenda: Wednesday, March 11 (1:00 PM - 3:00 PM)

1. Chairperson's Welcome (1:00 PM – 1:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors
 - a. G4.2 Section 5.2, 5.3 and 5.4 revisions: Subcommittee of Heather Gilmer, Karl Frank and Jaime Hilton will address this
3. S4.1 Steel Bridge Fabrication QC/QA Guide Specification
 - a. Future of the document
 - i. Part C, Quality Assurance, potentially updated or standalone document - Phil Dzikowski
 - ii. S4.1: Archive on the NSBA website and provide guidance to users – “buyer beware”- Subcommittee of Phil Dzikowski, Ray Monson, Teresa Michalk will address guidance for archiving S4.1 document
4. G4.4 Sample Owners QA Manual
 - a. To be rolled in/incorporated with Part C
 - b. Query DOTs by survey to see if they have an Owners QA Manual
 - c. (i.e. Michigan, Florida potentially have this)
 - d. Status of survey
5. Potential revisions to recently published G4.1 document

- a. Review and update definitions and replace with the terminology that is referenced in AISC documents. This is will be done after the AISC Certification Standards document is revised and published. Current timeline is for completion late 2020 and publication mid 2021.
 - b. Section 10.1 PO & Subcontracts
 - i. Functions referenced by AISC for PO& Subcontracts
 - ii. Remove 10.1 title, keep paragraph from 10.1 and renumber sections accordingly
6. New Business?
7. Adjourn



NSBA Collaboration – Spring 2020
TG 12 Design for Constructability and Fabrication
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: This Task Group primarily focuses on addressing the questions that have been and are continually asked concerning the constructability of steel bridges according to the latest practice for steel mills, fabrication, detailing, erection, and design.

Task Group Chair: Allan Berry - RS&H (allan.berry@rsandh.com)

Task Group Vice Chair: Christina Freeman - Florida DOT (Christina.Freeman@dot.state.fl.us)

Task Group Secretary: Brandon Chavel - NSBA (chavel@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/721448699>

Meeting Agenda: Wednesday, March 11 (1:00 PM - 3:00 PM)

1. Chairperson's Welcome (1:00 PM – 1:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Updated G12.1 Guidelines to Design for Constructability and Fabrication – Allan Berry, RS&H and Christina Freeman - FDOT (1:10 PM – 2:30 PM)
 - a. Status of document.
 - b. Process and timetable for document review and approval by AASHTO T-14, CBS, and AASHTO publishing.
 - i. Comments from the Collaboration ballot were incorporated.
 - ii. The finalized document was sent to T-14 by the NSBA in December 2020.
 - iii. T-14 provided no comments and has been approved.
 - iv. The document was then reviewed by CBS where all states voted.
 - v. Upon final approval by CBS after incorporating their comments, it will then be sent to AASHTO for publishing. We will review the document for correctness prior to posting.
 - c. Discussion of CBS balloting comments and issues.
3. Discussion of substituting welded plate girders for rolled beams - Christina Freeman - FDOT (2:30 PM – 3:00 PM):
4. Adjourn



NSBA Collaboration – Spring 2020

TG 8 Coatings
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef B

Task Group Mission: This Task Group primarily focuses on the functions, operations, requirements and activities needed to achieve consistent quality in steel bridge coatings. At the same time the group acknowledges the need for a cooperative approach to quality, where the Owner's and Contractor's representatives work together to meet their responsibilities, resulting in efficient steel bridges coatings that meeting all contractual requirements.

Task Group Chair: Paul Vinik - GPI (Pvinik@gpinet.com)

Task Group Vice Chair: Jamie Hilton - KTA-Tator, Inc. (jhilton@kta.com)

Task Group Secretary: Jeff Carlson - NSBA (carlson@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/357699258>

Meeting Agenda: Wednesday, March 11 (3:00 PM - 5:00 PM)

1. Chairperson's Welcome (3:00 PM – 3:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Website Update (3:10 PM – 3:40 PM) - Quick overview and introduction of task champion's 2 paragraph summaries – distribute for full review and commentary. – Topics and task leaders:
 - a. Galvanizing - Tom Langill
 - b. Metalizing - Kevin Irving, I Paul Wagar
 - c. Duplex coating systems (HDG + wet applied) - Bill Corbett
 - d. Washing and cleaning programs – Geoff Swett.
 - e. Weathering Steel – Weathering Steel
 - f. Cathodic Protection – Paul Vinik, Pete Ault.
3. Status Updates: (3:40 PM – 4:00 PM)
 - a. Detailing for Coatings – Jeff Carlson
 - b. Refresh S8.1 and look at AREMA changes – Bill Corbett
 - c. Accelerated Testing Protocols – NCHRP studies: Jennifer.
 - d. Master Builders color and gloss testing requirements – Paul Vinik
4. Tabled Action Items from previous meeting: (4:00 PM – 4:30PM)

- a. Developing sample specs for DOTs for coating materials. Make it easier for states to spec various coating systems.
 - b. Better Coatings through better testing: longer duration testing – testing to failure and understanding UV, freeze-thaw, and diffusion related failure mechanisms.
 - c. Master Builders color and gloss testing requirements.
- 5. New Business: (4:30 PM – 5:00PM)
 - a. IOZ one coat systems
 - b. Fluorourethane systems
- 6. Adjourn



NSBA Collaboration – Spring 2020
Joint TG 1 Detailing, TG 11 Design, TG 12
Constructability
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission:

Task Group Chair: Allan Berry - RS&H (allan.berry@rsandh.com)

Task Group Vice Chair: Brad Dillman - High Steel Structures (bdillman@high.net)

Task Group Secretary: Vin Bartucca - NSBA (bartucca@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/862499750>

Meeting Agenda: Wednesday, March 1 (3:00 AM - 5:00 PM)

1. Chairperson's Welcome (3:00 PM – 3:10 PM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
2. Constructability, detailing and design guide is being considered for steel straddle bents and pier caps. – Open discussion – All (3:10 PM – 5:00 PM)
 - a. Develop direction and mission of the joint task group.
 - b. Develop the scope and type of document to be developed.
 - c. Determine where the document should be included.
 - d. Determine the expected timetable for the completion of the document
3. Adjourn



NSBA Collaboration – Spring 2020
Joint TG 2 Fabrication and Repair, TG 4 QC/QA,
TG 10 Erection
Sheraton Salt Lake City Hotel
Salt Lake City, UT
Room Name: Capitol Reef A

Task Group Mission: Assist in the development of training material for proper bolting of bridge connections.

Task Group Chair: Jason Stith - Michael Baker International (Jason.Stith@mbakerintl.com)

Task Group Secretary: Tony Peterson - NSBA (peterson@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/295630969>

Meeting Agenda: Thursday, March 12 (8:00 AM - 10:00 PM)

1. Introductions (15 min)
2. Review of RCSC Video Outline (45 min)
 - a. Overview of outline and history
 - b. Review the topics to be included in video
3. Review schedule for RCSC video production (15 min)
 - a. Key dates
 - b. Need for feedback
4. Discuss items needing to be included specific to bridge bolting (30 min)
 - a. Timeline for feedback
5. Next steps and subcommittee direction discussion (10 min)
6. Wrap up (5 min)



NSBA Collaboration – Spring 2020

TG 14 Field Repairs and Retrofits

Sheraton Salt Lake City Hotel

Salt Lake City, UT

Room Name: Capitol Reef B

Task Group Mission: This Task Group primarily focuses on providing practical solutions for design and implementation of field repairs and retrofits of existing steel bridges.

Task Group Chair: Kyle Smith - GPI (ksmith@gpinet.com)

Task Group Vice Chair: Jonathan Stratton – Eastern Steel Works (strattonEIW@gmail.com)

Task Group Secretary: Jason Lloyd - NSBA (lloyd@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/578564368>

Meeting Agenda: Thursday, March 12 (8:00 AM - 10:00 AM)

1. Chairperson's Welcome (8:00 AM – 8:10 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Survey discussion – Jon (8:10 AM – 8:45 AM)
 - a. Content
 - b. Distribution
 - c. Results
3. G14.1 discussion – Kyle (8:45 AM-9:15 AM)
 - a. Outline
 - b. Writing assignments
4. Appendix discussion – Kyle (9:15 AM – 9:45 AM)
 - a. Proposed Repair Report Form
5. Open discussion – All (9:45 AM – 10:00 AM)
6. Adjourn



NSBA Collaboration – Spring 2020

Collaboration Main Committee

Sheraton Salt Lake City Hotel

Salt Lake City, UT

Room Name: Capitol Reef A

Task Group Mission: The Collaboration Main Committee provides oversight and guidance for all Task Groups. A meeting of the Main Committee will take place at the end of each Collaboration meeting.

Task Group Chair: Ronnie Medlock - High Steel Structures (RMedlock@high.net)

Task Group Secretary: Christopher Garrell - NSBA (garrell@aisc.org)

Zoom Meeting Link: <https://zoom.us/j/450509776>

Meeting Agenda: Thursday, March 12 (10:30 AM - 12:30PM)

1. Chairperson's Welcome (10:30 PM – 10:40 AM)
 - a. Introduce Existing and Welcome New Members.
 - b. AISC Antitrust Policy and Meeting Code of Conduct.
 - c. Approval of [Previous Meeting Minutes](#).
2. Task Group Reports - Approximately five minutes each (10:40 AM – 12:00 PM)
 - a. TG 1 - Brad Dillman (High Steel Structures)
 - b. TG 2 - Heather Gilmer (HRV Conformance Verification Associates, Inc.)
 - c. TG 4 - Jamie Hilton (KTA-Tator, Inc.)
 - d. TG 8 - Paul Vinik (GPI Construction Engineering)
 - e. TG 9 - Michael Culmo (CME Associates, Inc.)
 - f. TG 10 - Brian Witte (Parsons)
 - g. TG 11 - Brandon Chavel (NSBA)
 - h. TG 12 - Alan Berry (RS&H)
 - i. TG 13 - Deanna Nevling (Michael Baker International)
 - j. TG 14 - Kyle Smith (GPI Construction Engineering)
 - k. TG 15 - Sammy Elsayed (Skanska USA Civil)
 - l. TG 16 - Duncan Paterson (HDR)
 - m. Joint TG 2 Fabrication, TG 4 QC/QA, TG 10 Erection – Jason Stith (Michael Baker International)
 - n. Joint TG 1 Detailing, TG 11 Design, TG 12 Constructability – Allan Berry (RS&H)

- o. Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability – Aaron Costin (University of Florida)
- 3. Main Committee Operations Discussions – (12:00 PM – 12:30 PM)
 - a. Publications schedule
 - b. Upcoming meetings
- 4. Adjourn