

NATIONAL STEEL BRIDGE ALLIANCE

AASHTO/NSBA Steel Bridge Collaboration

Fall Meeting Minutes - Combined

Virtual Zoom Meetings

October 27 - 29



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. | Robin Dunlap | High Steel Structures |
| 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 | Christina Freeman | Florida Department of Transportation | Russell Jeck | Tutor Perini Corp. |
| 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 | Christina Freeman | Florida Department of Transportation |

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. Chairperson's Welcome (3:00 PM – 3:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of Previous Meeting Minutes.
 - i. Approved
 - ii. 35 Meeting participants
2. Status of AASHTO Approval of G1.1 Update (3:10 PM – 3:15 PM)
 - a. In publishing process with AASHTO, (Thank you all)
 - b. End of year target for printing and to be released next year
3. G1.2 (Design Drawings Presentation Guidelines) and G1.4 (Guidelines for Design Details) Update - Open Discussion (3:15 PM – 4:45 PM)
 - a. Determine direction of the updates (keep as separate or combine)
 - i. Next steps for documents
 1. Priority to update G1.4, beneficial for designers
 2. Formulate the index of drawings
 - ii. Discussion on FHWA Bridge Geometry
 1. HDR Developing with FHWA
 2. TG 1 Members apart of document review
 - b. Determine scope of the updates (consider impact of data transfer initiatives, consider joint TG1/TG11/TG12 work)
 - i. Discussion on data/information can be exchanged efficiently between fabricators and detailers
 - ii. In scope of joint TG1/TG11/TG12 work
 - c. Determine the tasks and timeframe for updates to the documents
 - i. November 20TH G1.4 Review and comment, items (list) to Brad
4. Action Items (4:45 PM - 5:00 PM)
 - a. Location of Native files for drawings?
 - b. Provide index items (list) to Brad by November 20th for G1.4

TG 2 – Fabrication and Repair

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: Heather Gilmer - TUV Rheinland Industrial Solutions

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

Meeting began at 2:02 PM ET and there were 56 people in attendance (at peak). Introductions were limited to chair and vice chair. Attendees were asked to let NSBA or TG leadership know if they didn't receive "official member" mailings and thought they should have. Anti-trust, code of conduct and meeting conduct rules were then read. The meeting agenda was run out of order and the notes reflect this and are in order of discussion.

Agenda item 1a, Reminder of documents currently under the task group's scope

AASHTO is developing a new fabrication specification to replace S2.1 and the steel fabrication portions of Chapter 11 of the AASHTO Bridge Construction Specifications (BCS). TG2 has been given significant input to this specification and will maintain a strong advisory/developmental role for future revisions. AASHTO T-17 (Steel Fabrication) will own the new specification and AASHTO T-4 (Construction) will continue to own what remains in Chapter 11 after the shop-related provisions are deleted once the new document is published. S2.1 will be archived after the new document is published.

G2.2 will continue to be maintained by TG2. G2.2 is overdue for revision and was sidetracked by the new AASHTO fabrication specification work. See agenda item 3a for a reminder of work in progress on G2.2 and 3b for what had been S2.1 new business item 006D and now will be AASHTO new business items.

Agenda item 2, AASHTO fabrication spec draft

Item 1a.i, logistics of bolting provisions (fabrication and erection)

AASHTO T-17 is looking for specific input related to the bolting provisions. Both fabricators and erectors need access to bolting provisions. This may mean developing separate provisions in separate documents (the new fabrication document and BCS Chapter 11), which would be likely to diverge, or keeping them in one document and cross-referencing from the other. However, with a single document there would be an issue for who has ownership. T-17 is all steel and shop focused and has an existing relationship with the Collaboration. T-4 is largely material-independent and focused on field work. Medlock thought it was valuable for T-17/TG2 to maintain primary authorship; based on the history of Chapter 11, he expects these groups to be better stewards for the provisions. Ocel mentioned that the 2020 RCSC is about to release a new version and it will be very different from the 2014 edition. He stated that there are cases in the AASHTO specification where the bolting provisions are duplicates or outdated with respect to RCSC. Gilmer noted that the current fabrication draft does include references to RCSC wherever practical and consistent with TG intent, and that if the provisions do go in two places, the current draft would be proposed as a starting point for Chapter 11 as well.

Agenda item 2b, items deferred to new business, and 2c, Questions deferred to AASHTO

Gilmer asked the group if there were any comments or concerns with the deferred business. Kingston questioned when tight fit and finish to bear (item 2b.ii) was not for a stiffener or connection plate. Medlock mentioned orthotropic decks and Ison brought up bearing surface cases. Golabek noted in the meeting chat feature that finish to bear is used at the end of a main girder compression flange when the stress is carried through a straddle cap by means of an interior stiffener or diaphragm. The group should think of examples and cases and send them to Gilmer for consideration for a later edition.

Agenda item 2a.ii, commentary on SRMs

The TG reviewed language had been added to the fabrication specification commentary on SRMs (C1.2.9) as a result of discussion at the previous meeting. Ocel had questions about "...which contribute to their designation as redundant". The statement was intended to drive home the point that SRM are subject to the fracture control plan despite being considered redundant. *TG2 consensus was to remove the added language. Clarifying change also made to following sentence.*

Agenda item 2a.iii, "accept" vs "approve" shop drawings

The use of "acceptance" versus "approval" was discussed at the previous meeting and the TG had decided to bring this up with TG1. TG1 at the previous meeting voted to change the terms "Approval" to "Acceptance" and "Approver" to "Reviewer". Dillman stated that this change was as a result of an AASHTO T-14 comment (T-14 is for steel bridge design but also partners with the Collaboration for review of most of its documents). Lin noted that Minnesota DOT had received pushback from their legal team with "approval" type terms and so they are not used in reference to shop drawings. Stratton mentioned that the TG1 change is different from the terminology used in the AISC Code of Standard Practice; however, Medlock mentioned that Kruth was comfortable with the modified TG1 language. Grieco said that we should take our lead from AASHTO. Edwards noted that most consultants refuse to use the term "approval" when reviewing shop drawings. Kruth stated that regardless of the term, if there is an issue, a professional reviewing the drawings would still be held accountable and the Code of Standard Practice would likely be cited. Niemann noted that shop drawings are created and owned by the fabricator. Minnesota legal counsel did not want to take that ownership and was concerned the term "approve" could be considered a transfer of liability to the state or engineer. *Gilmer will ask AASHTO T-17 to resolve the issue since there was no consensus being reached in this meeting and the document is theirs in the end.* Medlock also offered to bring the issue to AASHTO T-14 for their consideration. *Medlock suggested commentary about varying terminology; Gilmer will propose this to T-17 as well.*

Agenda item 2a.iv, removal of A6 from 9.2.1, and 2a.vi, commentary for why we don't use A6 for base metal repair

The discussion led to draft section 9.3 and the repair of base metals. Base metal repair items were adopted into this draft from AASHTO/AWS D1.5 and will refer to D1.5 for welding. (Ultimately, non-welding provisions taken from D1.5 into the new document will be deleted from D1.5.) D1.5 base metal

provisions address edges; for rolled surfaces they refer to ASTM A6, but A6 tolerances for repair by grinding are only practical for material ordered by weight, while ASTM A709 plate is ordered by thickness. Medlock mentioned that A6 was more related to defects from the mill and not necessarily those that may have occurred during fabrication. Medlock is also going to bring this up with the D1.5 committee; he is currently working on a proposal for addressing base metal surface repairs in D1.5. TG2 reviewed and concurred with proposed new commentary (C9.3) about why A6 is not referenced, and deletion of A6 reference from 9.2.1.

Agenda item 2a.vii, tolerance figures

The tolerance figures have been copied from D1.5. D1.5 is not entirely consistent about which figures are in code and which are in commentary. Niemann cautioned that if the image is portraying how to do something (replacement for words) it should be in the code; “assistance” in interpreting the code should be commentary. Other DOT attendees concurred. *The flange tilt illustrations will be moved to commentary* (in D1.5 one is in commentary and one is in code, for no apparent reason); others will remain either code or commentary based on how they are used in D1.5: the definition of terms for web flatness will remain in code and the other illustrations will remain in commentary.

Agenda item 2a.viii, D1.5 commentary on web flatness

Very little of the D1.5 commentary on flatness of webs was brought over into the new draft. Much of it appeared to be related to welding distortion. The TG was asked to review C-5.5.6(2) of D1.5 to determine if there was anything welding-independent that should be moved to the fabrication specification. The existing draft commentary does address that flatness is often an aesthetic concern and not one of structural capacity. TG reviewed and accepted proposed changes made to existing commentary based on discussion at previous meeting. The group noted that flatness is also a concern with fit-up or bolted connections. Niemann stated that a better strategy would be to bring all the D1.5 commentary over and then determine whether any should be left out. Hilton reminded the group that flatness caused by welding is not necessarily fixed by welding. *All or most of the commentary will be brought over.*

Agenda item 2a.ix, web flatness and camber tabulations

Gilmer asked whether anyone uses the flatness tables or if everyone just calculates tolerances from the formulas. Dunlap said that they use the tables at High. Gilmer asked if the tables should be extended to increase the thicknesses since there still are some fabricators using them. TG agreed that least panel dimension was fine as-is and recommended increasing the thickness to at least 1 in. *Rows will be added to the tables.*

Agenda item 2a.x, other parts of D1.5 that should come over?

Items discussed that ultimately were considered new business:

1. Camber:
 - a. Medlock proposed that camber tolerances should be +/- rather than all +. (D1.5 only allows +/- in the rare case of a concrete deck without a haunch.) Edwards mentioned that ILDOT uses +/- 3/4" instead of -0, +1.5" that requires more haunch. Niemann pointed out that potential issues for negative or low camber are perception (visual issue during inspection) and clearances. The preference would be to not make a girder more negative. Sova asked for members without concrete decks like straddle bents also to be considered. (These are currently + only.)
 - b. Medlock noted that having the tolerances expressed in terms of the overall span rather than for the individual piece makes inspection and fabrication complicated.

Medlock invites TG members to email him with thoughts about either of the above issues.

2. Edwards requested that tolerances for girder lengths be considered as new business. (This has been discussed before and was considered too difficult to specify because of variable conditions but is worth another look.)
3. A revision to web flatness requirements was proposed to D1.5 and then abandoned. This could be revived in D1.5 or just made to the next edition of the new specification.

Agenda item 2a.xi, Appendix A, suggested items for Owner to put in contract documents

- Stratton: steel fit at time of erection. *Will be added.*
- Kingston: CVN for cross-frames. Further discussion: cross-frames don't fall under "primary members in tension" (which triggers A709 CVN requirements) and are explicitly exempted from CVN requirements in AASHTO Bridge Design Specifications (BDS). This would be covered by "additional tests". However, the primary/secondary distinction for NDT is still applicable, so the list should include how curved a girder has to be for the cross-frames to be considered primary members. *"How curved is curved" notion will be added.*
- *Combined the "special tolerances" and "additional testing" bullets.*
- Special assembly requirements. *Will be added with reference to assembly section.*
- Lin brought up shoring for construction, but it was determined that this is more related to erection. Check Chapter 11. (Afterthought: or S10.1.)

Agenda item 2a.xii, Adding fill plates not shown on the drawings to address tolerances in girder depth

Kingston stated that this is a case-by case basis typically associated with tub girders and something that is handled by RFI. Gilmer mentioned that TxDOT added specific language to their standards specifications to allow additional or thicker fill plates because the requests were so frequent and were routinely approved. BDS states 1/4" in maximum additional filler thickness is allowed. This is new business, but the main question for now is whether this is a D1.5 issue or new business for TG2 (or AASHTO T-14/BDS). Harrison mentioned that having this always be an RFI requires time to resolve. TG determined this is not a D1.5 issue; will address as new business. Gilmer also noted that BDS may need clarification

for designers as to whether fill plates always need to be shown on design drawings if the design involves depth differential, and whether the components or surfaces that need to align in such cases need to be specified.

Agenda item 2a.xii, assembly commentary

Based on discussion at the previous meeting, clarification (caution) was added on recommendations for no load fit (NLF) assembly in the shop, noting that although the commentary states that only NLF is appropriate for unit assembly, it still does not replicate the true erection. The longer NSBA Fit document includes some information regarding this issue but never makes recommendation in support of NLF. Reference to this document may be worthwhile (<https://www.aisc.org/globalassets/nsba/technical-documents/skewed-and-curved-i-girder-bridge-fit-full-2016-revision.pdf>). Dillman brought up that the disconnect between erected fit and assembly fit requirements could be a point of confusion and should be mentioned. However, the main discussion related to expectations of shop assembly replicating field erection. More suggestions included “erection schemes may have need additional consideration to achieve fit”, “may require corrective measures in field erection...” and “Note that adjacent girders with significant differential deflections will impose severe loads on cross frames fit in the no-load condition.” A task group was assigned to craft the fit language since it was not able to be resolved in this meeting. Medlock, Niemann, Lin, and Elsayed volunteered. The TG’s immediate assignment is to come up with something satisfactory for a first edition, but the issue warrants deeper exploration for future editions of this specification or perhaps BDS. Gilmer stated that the new fabrication specification is targeting 2021 AASHTO CBS meeting. *Gilmer will send out a reminder by end of week giving the group 3 weeks to resolve. Secretary/VC to remind Gilmer.*

Pins and rollers (not explicitly listed on agenda)

Gilmer noted that Robert Sweeney (railroad bridge expert) had advised having a hole in any large pin regardless of heat-treating method for the purpose of handling. The word “annealed” will be deleted from the sentence in question. Ultimately part of this provision should be moved to the BDS and this will be taken up with T-14.

Agenda items 2b and 3 revisited

With time remaining in the meeting, chair Gilmer reviewed deferred new business items.

Agenda item 3a, S2.1 new business items

Agenda item 3a.i, slip coefficients

Slip coefficient for metalizing and combinations of coatings is ongoing as part of RCSC research. Not requiring slip on cross-frames has been recommended for the BDS and the fabrication specification would have to reflect this. Metalizing to be bolted to galvanized cross-frames is the main concern. Medlock mentioned that there has been some discussion elsewhere of allowing cross-frame connections to be designed as non-slip-critical so that masking of metalizing would not be required.

Agenda item 3a.ii, Scribing/etching of layout marks

FDOT had done some work on this, last discussed at the Spring 2019 TG2 meeting. At the time, we were not ready to add anything to our specification; the FDOT recommendations were very specific. Chair will request a status update from involved parties for the next meeting.

Agenda item 3a.iii, Allowable gap at girder bolted splices

Still on Gilmer's back burner. Issue has to do with distance between innermost pair of bolts vs. gap between adjacent girders.

Agenda item 2b revisited

Agenda item 2b.i, Unifying requirements for repair by grinding

The current draft has three sections addressing repair by grinding, which are similar but not identical. Combining them had been suggested at the last meeting. Requirements would need to be reconciled.

Agenda item 2b.iii, RCSC burr allowance

It was decided that this was adequately addressed in the current draft and *this will be removed from new business*.

Agenda item 2b.iv, Reaming allowances & bolt hole tolerances

This has been discussed at both AASHTO and AREMA. Straightness tolerances on long bolts may necessitate larger holes for thicker connections. Allowances of certain amounts of reaming beyond full size hole how much of that can be used for field vs. shop reaming should be considered.

Agenda item 2b.v, 1.5t case for bending

This should be taken to T-14 because it is first a design consideration. No origin is known for the $\frac{3}{4}$ " thickness limitation on reducing the radius for bent connection plates. Per Karl Frank at the previous meeting, it may be appropriate to reintroduce the old radii (still found in A6 Table X4.2) for this application.

Agenda item 2b.vi, Transverse bracing included in assembly

The question of including transverse bracing in assembly for curved or skewed bridges should be taken to T-14 because it is first a designer/specifier consideration. Medlock mentioned that some designers are over-prescribing shop assembly because they think the bridge is complex (non-traditional).

Agenda item 3b, G2.2

Agenda item 3b.i, Change in title

This was resolved and will appear in the next edition.

Agenda item 3b.ii, Improper preheat, and 3b.iii, Framing members too short

Draft proposals exist and had been under TG2 review prior to work starting on the AASHTO document.

Agenda item 3b.iv, Orthotropic deck repairs

The TG determined that orthotropic deck repairs do not need to be addressed in G2.2 as they are covered in the FHWA manual on the subject. Edwards also mentioned that orthotropic deck repairs are also being covered by Collaboration TG14 and AWS D1.7. *G2.2 can reference those documents.*

General comment:

Fabrication of pedestrian bridges will be included in future versions of the fabrication specification. Issues over their FC designation is a larger question/concern. Other planned additions for “phase 2” include non-bridge structures and tubulars.

Agenda item 1c, Previous Meeting Minutes

There were no objections to the previous meeting’s minutes as published. Attendees were reminded of how to find the minutes.

Meeting adjourned at 4:52 PM ET.

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: Robin Dunlap – High Steel Structures

1. Chairperson’s Welcome (10:30 AM – 10:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
 - i. Approved
 - ii. 19 meeting participants
2. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors
 - a. Ballot update
 - i. Ballot passed and moves to T14 AASHTO
 - ii. Awatiing review
 - iii. Target publish date 2021
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
 - iii. Part B, Quality Control, review for applicability - Robin Dunlap
 - iv. S4.1 Parts A B C Comments Reviewed
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 - (i.e. Michigan, Florida potentially have this)
 - c. Status of survey
5. What is the future of QC/QA?
 - a. New technologies in contract documents

- b. New inspection techniques
 - i. Unmanned Aerial Vehicles (UAV – Drones)
 - ii. Virtual remote visual inspection
 - iii. Lasers, infrared, the world of PAUT
- 6. 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. This is on schedule.
 - 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
- 7. New Business?
 - a. Jaime Hition shared article “A Thought Provokers Mindset” with group for open discussion on innovation in our industry
- 8. Adjorn

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 (8:30 AM – 8:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).

The minutes were approved

2. Website Check in (8:40 AM – 8:50 AM) - Topics and task leaders:

The group discussed that the purpose of the NSBA website is to provide references for various corrosion protection systems, and the following individuals indicated that they would send Jeff information for consideration to be put on the website.

- a. Galvanizing - Tom Langill
- b. Metalizing - Kevin Irving, I Paul Wagar
- c. Duplex coating systems (HDG + + TSC + wet applied) - Bill Corbett

Bill already sent his writeup in February and will resend.

- d. Washing and cleaning programs

Paul/Jamie/Jeff will continue to research more information on common procedures for superstructure washing and cleaning programs. As we all think it’s a good idea to develop something to include on the website.

- e. Cathodic Protection – Paul Vinik, Pete Ault.

It was agreed to delete this from consideration.

3. Detailing for Coatings - S8.4 - Updates and discussion from each task group: (8:50 AM – 9:30 AM)
 - a. Weathering Steel/A709-50CR - Jason Lloyd

Jason gave an update on the task group and an AISC initiative to develop a specific document for UWS. AISC has issued the RFP and have received bids, and he hopes that work will start in early 2021 and hope to finish in 2022. It will only focus on UWS and not on 50CR. This task group should eventually consider how tie 50CR in, but that can be added in towards the end of the process. Paul asked whether this WS document would cover blast cleaning of the WS in the field for in field painting. Jason wasn't sure, but thought that it would.

b. Paint/liquid applied coatings - Derrick Castle

Derrick is the new chair of this task group. The group is reviewing the list of items that was shared in SLC. They are working on it and hope to have some information in the proper format soon.

c. Galvanizing - Tom Langill

After SLC, the group has prepared a document and will share it with the group.

d. TSC - Kade Kovar

Jeff will follow up with Kade on this task group as Kade wasn't in attendance and we think he is no longer with Vigor.

4. Revision of S8.1 - Zinc Rich Primer: (9:30 AM – 10:00 AM)

e. Overall process for revising S8.1

Once we have consensus from TG8 on S8.1, then we can send to Chris to Collaboration ballot. Chris wants us to send a clean version and the "track changes" version. We need to go through the comments and proposed changes within the TG8 and obtain consensus. We went through the process for sending out the proposed revisions to TG8 and we are going to use a spreadsheet to gather comments. Paul also discussed that Justin Ocel sent him an email about some possible additions/revisions. Warranties were brought up and whether we should have those in this document. We didn't think it should be included in this document. But maybe we can include something in the commentary section about warranties. Heather discussed some history about this document and asked if we should consider expanding on the scope of this document to include other Non-zinc rich primer systems? Maybe a second document is the best way to go. Heather also said that this

document is light on the mid and topcoats and maybe we want to have more info on that subject? Heather said that AREMA has recently rewritten their maintenance document (especially for mid and topcoats) that may be of use.

5. Update from NSBA (Garrell or Carlson) on Coating Research (10:00 AM - 10:10 AM)

Paul shared some information about some Rutgers research on acceptance criteria for new testing protocols. He asked the question to the group if we want to give them some time to present this research? There was consensus to give them some time to present their material and for discussion. About 30 mins.

Chris gave an update on the University of Delaware research for life cycle cost of steel durability solutions. Maybe we can ask Jennifer to give a 5 min update next time.

Johnnie Miller gave an update on the IOZ and TSC research that is ongoing at TxDOT and he is going to share some pictures of the panels at 5000 hours. 1 coat IOZ are performing well.

6. New Business: (10:10 AM – 10:30 AM)

f. Washing and Cleaning Program - WSDOT and interaction with AASHTO T14

g. IOZ one coat systems

One problem with these systems is touch up. How do we fix dings/scratches in the field? Is this being researched how these touch ups perform?

Tom said that the galvanizing group is going to work on a proposed document for S8.3. He will share with us to send out to the group.

Next meeting will be March 30 to April 1.

Fall 2021 meeting will be October 26 to October 28

During the main collaboration meeting Mike Culmo informed the group that the ConnDOT is getting ready to perform an in service evaluation of their UWS bridges and they hope to have it completed by March 2021. One key component of the research is that they are going to distinguish between deterioration caused by leaking expansion joints, tunnel effect salt spray, and bridges overway waterways. Mike has agreed to give an update at the March TG8 meeting so we need to be sure to invite him and include him on the agenda.

Target late January or early February for an interim time period to discuss S8.1 comments/revisions. Jeff will send out a doodle poll.

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 – from 5/1 – Jamie to follow up with Ronnie |
| 3.11.20.02 | Talk to Geoff Swett to include washing and cleaning program for website | Jeff Carlson | 3/17/20 | Complete |
| 3.11.20.02B | Investigate/discuss the idea of developing a document on best washing and cleaning practices. Does this belong in TG8 or somewhere else – i.e. bridge preservation? | Group – Jamie will ask Ronnie about inquiring with T14. Paul is going to do some work on this item. | 5/15/20 | On-going |
| 3.11.20.03 | 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. Call on 5/20/20. Instruction Email sent on 5/27/20. Complete |
| 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 | In progress |
| 3.11.20.05 | Upload proposed revisions to Committee Center for S8.1 to gather comments (not ballot) | Paul, Jeff, Chris | 4/15/20 | Not going to use Committee Center, rather use spreadsheet to collect comments |
| 3.11.20.06 | Paul Vinik will investigate accelerated testing protocols. What has been done and where. Rutgers? | Paul Vinik | 3/31/20 | Complete, Rutgers to present next time |
| 10.27.20.01 | Paul will follow up on washing and cleaning- program. See action item #3.11.20.02B | Paul Vinik | | New, see above |
| 10.27.20.02 | Anyone interested in sending information | Committee | | New, On- |

| | | | | |
|-------------|--|-----------------------------|--|-------|
| | for the NSBA website can send it to Jeff and he will propose it to the NSBA MD committee. | | | going |
| 10.27.20.03 | Jamie Hilton will share AREMA maintenance painting spec, in relation to S8.1. | Jamie Hilton/Heather Gilmer | | New |
| 10.27.20.04 | Jeff will follow up with Kade Kovar about TSC task group for detailing for corrosion protection systems. | Jeff Carlson | | 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 - CHA Consulting, Inc.

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

1. Chairperson’s Welcome (10:30 AM – 10:50 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
 - i. Notes were approved
2. Review of section re-writes to date

Mike went through the rewrites. He sent these out a couple of weeks ago as well as the revised CAD details. The details of the rewrites reside in his master document.

Mike went through the comment resolution form. He noted the comments that have already been addressed, the ones that still need to be addressed, and the one that are applicable to the AASHTO T-2 Committee. The responses to the unaddressed comments were assigned to applicable task group members to resolve.
3. Review/Set Action Items

See below.
4. Schedule
 - a. Overall schedule – It is preferable to get the document to T14 by July in order to get it balloted in 2022. We want to get the 1st draft wrapped up in the 1st quarter of 2021, followed by balloting within the collaboration in the spring. It does not necessarily need to be approved by the collaboration before it goes to AASHTO, as they may have their own comments that will need to be resolved. It should be close.
 - b. Next meeting (Dec 1, 11am to 1pm (ET)) On-line.

Jeff will set up Zoom meeting and send out invites to members of the task group.
5. 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 | Complete |
| 4.19.02 | Review Steel Bridge Design Handbook – Bearing Design and recommend items to incorporate into G9.1. | Domenic Coletti | 8/22/19 | Complete |
| 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 |
| 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 | Complete |
| 3.10.02 | Mike to send the revised HLMR bearing | Mike Culmo | 3/17/20 | New |

| | | | | |
|----------|--|-----------------------|----------|---------------|
| | table to manufacturers for review. | | | |
| 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 |
| 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 |
| 10.27.01 | The committee is asked to review section 1 since this is a new section. | Committee | 11/30/20 | New |
| 10.27.02 | Frank Russo will write section on Method A and Method B. | Frank Russo | 11/30/20 | New |
| 10.27.03 | Philip Gase will write section for elastomeric bearings, including inspection and testing. | Philip Gase | 11/30/20 | New |
| 10.27.04 | Jihshya Lin will send details from MinnDOT related to walking bearings, anchor rods, and also some text for highly curved bridges. | Jihshya Lin | 11/15/20 | New |
| 10.27.05 | Domenic Coletti will write paragraph or two on design of HLMR bearings for bridges large thermal movement.? | Domenic Coletti | 11/30/20 | New |
| 10.27.06 | Ron Watson will write section about HLMR installation practice. | Ron Watson | 11/30/20 | New |
| 10.27.07 | Ron Watson will talk to Bob Landry about what a designer needs to specify for seismic isolation bearings. | Ron Watson | 11/30/20 | New |
| 10.27.08 | Dennis Golabek will share bearing data table. bearing manufacturers to provide input on what they actually need to design bearings. | Dennis Golabek | 11/30/20 | New, Complete |
| 10.27.09 | Bearing manufacturers will review AASHTO bearing data table and make recommendations for what information is needed for TYPICAL bridges/bearings. | Bearing Manufacturers | 11/30/20 | 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. Chairperson’s Welcome
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of Previous Meeting Minutes.
2. Bearing discussion
 - a. Small group met on June 15 to discuss possible revisions
 - b. Bearings tolerances not specifically an erection issue but certainly influence erection. Does this topic belong in G9, G12 with brief mention in S10?
 - c. Review state DOT bearing tolerance study

Doug Crampton completed a review of DOT specifications for several states. There was quite a variability from state-to-state, with some appearing to have no tolerance which indicates the bearing seat elevations need to be exact.

Nick Haltvick indicated MnDOT is now linking the bearing seat elevation/locations in accordance with the steel fabrication tolerance specification. In general, MnDOT uses standard size holes, but allows oversize holes in cross frame connections at supports if they think there could be an issue with bearing seat elevation seating for all girders.
 - d. Review proposed language for inclusion in TG9 document.

Brian shared the TG9 Bearing guide document with clauses that Mike Culmo and Dominic Coletti drafted. The clauses include potential remediation options if the bearings are not seating the girders properly. Brian asked if any of these clauses need to be incorporated into the S10.1 specification document. Domenic suggested that it is a good idea to include potential fix options in S10.1 in case the bearing seat elevations are out of tolerance.

There was discussion if S10.1 could reference G9.1 without repeating the information. Heather Gilmer suggested it would be more appropriate to include information in S10 it is a specification and G9 is only a guideline.

Our S10.1 is a specification, so needs to include specific limits/tolerances. However, it can highlight things to check to help avoid erection problems, such as bearing locations and elevations.

Bob Cisneros mentioned that NYDOT has tolerances of 1/8” in all directions at concrete bearing seats.

Overall, most all on the call agreed that concrete can be placed to within 1/8” at the tightest, and most contractors are lucky if they get it within ¼”.

Dominic mentioned that we can make tolerance requirements in our erection specification, and state that it controls over all other less restrictive specifications for a

given bridge project.

Brian suggested to include a tolerance of plus/minus 0.125" at each bearing seat elevation, and then include potential remediation options in the commentary.

Frank Russo suggested including our recommended tolerances in the commentary.

Brian suggested including specific tolerances in the specification and state they govern unless superseded by the state specific specification.

John Gast suggested that the bearing seats can be placed exact by pouring slightly high and then diamond grinding down as needed.

Brian concluded all this with saying he will take all the above into account and decide how to incorporate in the S10.1 document. He will arrange an interim meeting to discuss.

ACTION ITEM: BRIAN TO DRAFT REVISED LANGUAGE FOR CHAPTER 5: BEARINGS AND SEND FOR COMMENTS.

ACTION ITEM: BRIAN TO SCHEDULE AND HOLD INTERIM MEETING TO DISCUSS BEARING REVISIONS.

3. Draft language for Section 3: Transportation

- a. Sent to TG10 members for comment. Review comments received.

Section 3 was brought up on the screen and reviewed, along with comments received. Discussion focused on stresses, deflections, and stability during transportation.

Josh Orton and others commented that stresses should not be required to be checked. They think deformations/buckling should be the only things checked.

Jason suggested stating that including a requirement that in addition to stability of the girder during transportation, it should not exceed yield stress. However, it was then discussed on what the safety factor is or load factor.

The 125 foot limit on member length in Section 3 needs to be in the Design Specification, not this Construction Specification. This 125' limit is recommended to get the most competition from fabricators.

ACTION ITEM: BRIAN IS GOING TO WORK WITH BOB CISNEROS TO RESOLVE COMMENTS AND SEND EDITED DRAFT TO ENTIRE GROUP FOR ADDITIONAL REVIEW.

4. Wind Load on Girders during Erection – Christina Freeman update

Christina gave a short presentation on the Florida DOT wind study on steel plate girder superstructures.

In general, the Florida DOT wind study shows wind pressures on girders during erection are lower than specified in AASHTO. Depending on the girder height, spacing, and number of girders, the FDOT wind pressure is approximately 15% - 90% less than AASHTO.

Based on a few bridge project examples, Christina has found that wind during construction on the fully framed bridge is not controlling for the superstructure or substructure. The final in service situation usually controls. Some of these examples used AASHTO wind loads while others used FDOT wind loads.

Lateral deflections of girders need to be checked during erection to avoid bearing damage.

Most critical situation for wind on girders during erection is likely when you have the first two girders up alone. As more girders are erected and connected, the total wind load on the system increases but wind load applied to each girder is lower than the 2-girder system.

5. Bolting for Bolters Update – Jason Stith

No update on this topic.

POST MEETING NOTE: During the Main Committee Meeting, Ronnie Medlock advised that this project has been fully funded but filming has been postponed due to COVID. Storyboarding of the filming is in process.

6. Beam Clamp Loading

No discussion on this topic, but Brian has some draft language he will send out to group members for review/comment.

ACTION ITEM: BRIAN TO SEND DRAFT LANGUAGE ABOUT BEAM CLAMPS TO TG10 FOR CONSIDERATION.

7. S10.1 and OSHA comparison

- a. Appendix A to Subpart R of OSHA Part 1926 provides non-mandatory guidelines for Site Specific Erection Plan – perhaps worth mentioning reference in Commentary?

No discussion on this topic, but Brian has some information he will send out to group members for review/comment.

ACTION ITEM: BRIAN TO SEND OSHA / S10 COMPARISON TO TG10 FOR POSSIBLE INCLUSION IN APPENDIX.

8. Summary and adjourn

Ended call at 2:58 PM CST.

POST MEETING NOTE: During the Main Committee Meeting, Ronnie Medlock asked TG10 to consider including language about field reaming.

- ACTION ITEM: BRIAN TO INCLUDE AGENDA ITEM TO DISCUSS FIELD REAMING AT SPRING MEETING.

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

Meeting began at 9:33 AM ET.

There were 64 people in attendance at the start of the meeting. Introductions were left to just chair, vice chair and secretary. The attendees were reminded of the AISC antitrust, conflict of interest and meeting conduct requirements.

Chavel reviewed the mission statement and the group’s current focus is on cross-frame design and the joint efforts on straddle bents with TG12 and TG1. He also reminded the group of the AISC webinar next week online girder analysis which will be given by Don White and Dennis Golabek. This webinar is an extension of the presentation that Dennis gave at the last TG11 meeting.

Technical Presentation:

Medlock and Culmo gave a presentation on a recent straddle bent project. Key items and take away from the presentation include:

- The ramp included weathering steel tub girders and straddle bent cap.
- The use of tub girders allowed a narrower substructure (hammerhead/T-type cap) at other locations. The width of the cap was reduced by nearly 8 ft.
- Redundancy of the straddle bent cap was a consideration. The bent cap was designed using three I-girders side by side to achieve internal member redundancy. The use of three smaller elements also provided better options for erection and shipping. Design included a redundancy analysis in which one of the individual I-girder bottom flanges was modeled as fractured. The design was completed prior to the release of the AASHTO SRM and IRM Guide Specifications.
- Medlock compared this design to other types of steel box girder straddle bents including a box girder with CJP welded corners and a box girder with bolted corners as compared. The three I-girder design proposed for this project was about half the cost of the other types.
 - Medlock discussed the complexity of a welded box and the importance of tolerances; tight tolerances are required to achieve the fit-up of the box girder internal components necessary to ensure good welds.
 - Box girders also often require pre-blasting and painting of interior surfaces, followed by further welding.
 - A box girder with CJP welds connecting the flanges to the webs require beveling of the web plates and the use of a continuous backing bar attached prior to assembling the webs and flanges, or the use of backside fillet welds. The resulting details can involve as many as a dozen individual weld passes.
 - Safety is also a concern with closed boxes, since attachment of the fourth side necessarily involves welding inside a closed section.

- Medlock estimated fabrication of the three I-girder bent cap took about a week per straddle bent girder from start to finish. Plates were cut and drilled via CNC to tolerances within a thousandth of an inch. Sweep and camber tolerances tighter than those typically used on plate girders were required for this three I-girder straddle bent cap to facilitate proper fit-up of the interior diaphragms. The cap was fabricated using only typical fillet welds. In the end the straddle bent proved to be easy to fabricate and took much less time than a traditional box girder cap (thus tying up less shop space).
- When the straddle bent was shipped, 2 of the 3 girders were shipped as an assembly and the 3rd was shipped separately. Even though non-typical shop assembly was required for this type of straddle bent it was still more economical than box type bents.
- The straddle bent was assembled on site and lifted into place.
- Access between the straddle bent girders was addressed in the design. The I-girders are 8ft deep and were spaced 3ft -6in on center, which allows for passage of bridge inspectors during routine inspections.
- Steel grating was placed on top of the girder bottom flanges between the webs to provide a safe inspection walkway.
- Justin Ocel asked about birds, debris, and snow getting inside the straddle bent cap (between the I-girders) and Mike Culmo mentioned that stitch plates were provided across the gaps between the adjacent I-girder top flanges to prevent this.
- Bearings were fixed at one end and transversely guided (i.e., guided along the length of the cap) at the other end.
- There is a single bearing per tub girder. Each bearing rests on a base plate spanning across all three straddle bent cap I-girders.

Cross-Frame Design Guide Discussion:

Over 250 comments were received after the previous meeting, due in part to the “divide and conquer” approach to review sections of the guide. Although some reviews were not received, there is still time to submit over the next week or two.

Many of the comments were editorial. The guide also needs to be synchronized with the AASHTO LRFD BDS 9th Edition, which was released after work had started on this guide. The Chair and/or Vice Chair will address the editorial comments and update the guide for conformance with the AASHTO LRFD BDS 9th Edition offline.

Several comments on the design example calculations are related to their presentation and not the actual calculations themselves. These comments will be addressed with the individual calculation authors offline.

Chavel then reviewed some of the key comments that warranted group discussion.

Beabes Comments 2 and 10: Some of what Beabes was requesting is covered, however could be done in more detail. Some of the sections could benefit from a “bigger picture” introduction and more general discussion beginning with simple and ending with more complex concepts. White recommended that there always be an offset from bearings be shown in skewed framing plan drawings (Figure C). Chavel

mentioned that for each cross-frame case that their purpose be mentioned even in cases of square bridge with no skew or skew ≤ 20 degrees. Orton voiced concern that the guide was expanding beyond its original goal of how to approach detailed design of cross-frames and starting to address topics related to overall bridge design, such as efficient framing plans. Chavel did not feel that what was included in the guide was duplicating any content from other documents. However, a suggestion was made to include a decision tree or flow chart to describe the process to the reader.

Coletti Comment 230: The comment related to the need to address unbalanced welds in cross-frame member connection designs. The group was asked whether people still investigate this. The opinion is that people are not regularly doing this, but that the need to do so should be emphasized. Grubb mentioned that the BDS states to check eccentricities and that he is considering that commentary be added to specifically mention unbalanced welds. Coletti emphasized that you did not have to provide balanced welds, only that the loads associated with unbalanced weld eccentricity be considered when checking weld stresses. He stressed that designers should avoid oversizing gusset plates just to achieve balanced weld geometry; in many cases the welded connection is already oversized in terms of required weld length due to connections being lengthened to improve the shear lag reduction factor, U , to achieve better fatigue performance. Golabek asked for opinions on caulking and painting in cases where a weld length did not extend to the end of the connection plate. Dillman stated that when length is not within the hold back distance, they would weld longer than is required (i.e., weld to near the edge of gusset plate). Wisch stated that he would also extend the weld rather than cut it short and then be required to caulk and paint.

Ream Comment 25: Some states are requiring weld on all 4-sides for sealing. Most in the group felt this added unnecessary fabrication cost. Chavel mentioned that more information should be provided on the specific cross-frames shown in figures, their details and appropriate application to help designers choose. Include some consideration for fabrication preference (e.g. k-frames having 1-sided welds). Enough guidance should be provided such that designers do not attempt to solve one problem (backside welds) and inadvertently cause others. Consider adding reference to Section 2.2.6.1 of the G12.1.

Atkinson Comment 48: It might be better to reference just the online AISC shape availability page rather than referencing the individual mills.

Smith Comment 78: Consider adding to and/or clarifying the discussion of out-of-plane bending in the design of bent gusset plate. It seems that many people do not check this. Golabek mentioned that FDOT requires designers consider this effect in the design of bent gusset plates, but does not prescribe a specific method for addressing the out-of-plane bending. Consultation with Craig Quadratto regarding possible design approaches was suggested, based on his PhD research at UT Austin. It was mentioned that the UT Austin split pipe stiffener detail offered an alternative to the use of bent gusset plates for skewed cross-frame connections.

Remaining comments will be address/discussed off-line by Chavel and Coletti. Chavel will schedule a Task Group meeting in 2-months to review changes.

Meeting adjourned at 11:30 AM ET.

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: Christina Freeman - Florida DOT

Task Group Vice Chair: Russell Jeck - Tutor Perini Corp.

Introductions (10 minutes)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

Christina noted that Allan Berry has stepped down as chair, and Christina has taken over as chair. Russell Jeck has accepted the role as Vice Chair.

Update on publication of G12.1-2020 (5 minutes)

Christina note G12.1 was recently accepted and published.

Presentation (30 minutes)

Presentation by Todd Helwig on Improved Details for Tub Girder Bridges. TxDOT Research Study 0-6862. Todd presentation focused on:

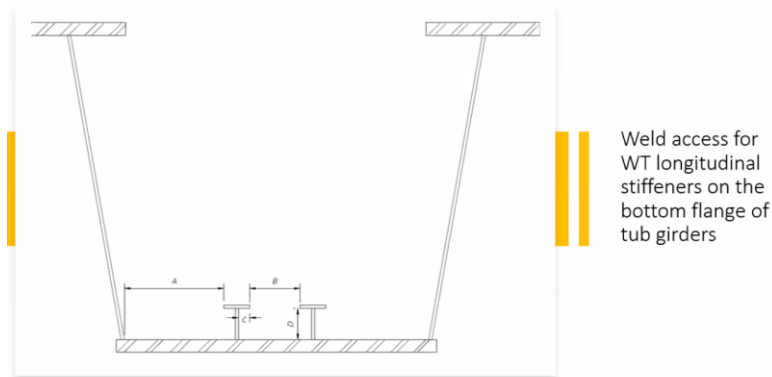
- Some current details are relatively inefficient
- Primary role of bracing in tubs is during bridge erection/construction
- Changes in the details can provide improved efficiency and economy.
- Shallow tubs used in Waco were cost competitive as compared to concrete
- Objective and Scope:
 - Lower web slope 1:2.5 instead of 1:4
 - Top flange offset, shift flanges inward to give more room for lateral bracing
 - Top lateral truss layout – can we use a partial layout along the length for straight girders.
 - Internal K frame layout – spread them out more? Straight and curved.
- Experimental and Analytical Studies
- Experimental study was on a straight 84' span single tub girder. To simulate curvature, used a loading offset to induce torsion.
- If using a partial lateral truss, there needs to be an internal K-frame where the top lateral bracing ends.
- Internal K-frames did not affect the torsional stiffness. Placing K frames at every 2, 4, or 6 locations has the same results.
 - Fabricators count on k-frames to fab the girders.
- Also looked at offsetting work points of the TFLB, near where it frames into the struts/k-frames.
- Report published last year, Nov 2019.
 - Full Report - <https://library.ctr.utexas.edu/ctr-publications/0-6862-1.pdf>

- Project Summary - <https://library.ctr.utexas.edu/ctr-publications/psr/0-6862-s.pdf>
- Summary:
 - Partial TFLB is viable for straight and mildly curved bridges ($R > 2500'$)
 - Use internal K-frames every 2 panel points. Need K-frame at the end of the TFLB (transition zone).
 - Improved economy (ease of connections) are possible with offset flanges. Need to check b/t limits to avoid local buckling.
 - Provide truss panels only in regions of high shear deformation



B) Provide Truss Panels Only in Regions of High Shear Deformations

Weld access for WT longitudinal stiffeners on the bottom flange of tub girders (15 minutes)



Weld access for WT longitudinal stiffeners on the bottom flange of tub girders

This weld access for WT longitudinal stiffeners on the bottom flange of tub girders comment came up at the time of G12.1. Dimensions A, B, C, and D could use some values. Ronnie noted that he could develop numbers based on fabrication needs and welding the WT's. Would want a minimum of A and B to be able to get the equipment in to make the weld. Min dimensions for C and D would be dependent on A and B. Randy Harrison noted he will check as well regarding the dimensions for their fab shops.

Don White noted that AASHTO LRFD 9th Edition recommends that the designer consider thickening the bottom flange before using A or $B < 60$ inches. Also, regarding the C and D dimensions, it best to set these dimensions in a new design such that the stiffeners do not exhibit a tripping failure mode (torsional buckling about the connection to the flange). This is also addressed in the new AASHTO LRFD 9th edition box provisions.

Bolted Field Splices Comment from Domenic (15 minutes)

Should a section be added to G12 document for how to design/detail bolted field splices for constructability? Looking for guidelines on

grouping field splices within a project. Is it better to group plate thicknesses, number of bolts, etc. How much grouping becomes cost-effective for fabrication?

Ronnie Medlock – allowance for fill plate adjustments at the splices would be helpful. Also, putting bolt holes at the minimum spacing, does not allow for any adjustments should a hole be mis-drilled. Also, uniform plates and splices would be beneficial.

Mike Grubb noted that on fill plates, AASHTO allows up to ¼” additional beyond what is shown in the contract plans, Article 6.13.

Chris Garrell noted that we don’t necessarily want to have designers pick the biggest splices and use more bolts just for grouping purposes.

Brian Witte mentioned a splice configuration that could be a benefit for erection. He will sketch up a detail and share with the group.

Allan Berry – should we include field splices within these G12 guidelines?

Is there a fabrication preference for square box girders versus tub (sloped sides) girder? (15 minutes)

This question came up in the review of G12.1. Survey completed of state design guidance.

- Design guidance found for 2 states
- 40 states do not have a preference
- 6 states specifically call out sloped sides
- 2 states do not specify the preference but include trapezoidal box girder section diagrams.

No other discussion occurred regarding these preferences.

Comments for Next Version of G12.1 (30 minutes)

Comments on the Next Version of G12.1 were not discussed as we ran out of time.

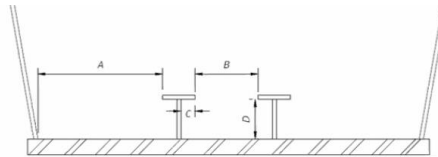
Adjourn

Meeting ended at 10:30 AM (CDT).

Action Items after the Fall 2020 TG12 Meeting

1. Improved Tub Girder Details
 - a. Web slope change
 - i. this must be changed by AASHTO T-14, suggest the change - CF
 - b. Top Flange Offset - no action needed because this must be changed by AASHTO
 - i. this must be changed by AASHTO T-14, suggest the change - CF
 - c. Top Lateral Truss Layout (Partial Top Lateral Bracing)

- i. Research issue further and ensure proposal doesn't conflict with AASHTO LRFD Bridge Design Specifications
 - ii. Look at issues of constructability (need for falsework towers, lateral torsional buckling), wind load - RJ
 - d. Internal Cross Frame Layout (Locate at every other panel point) - CF
 - i. Research issue further and ensure proposal doesn't conflict with AASHTO LRFD BDS
 - ii. Develop language for inclusion in next version of G12.1; clarify what a panel point is
 - iii. Start vetting process to achieve consensus on language to be included in G12.1
- 2. Weld Access for WT stiffeners - RJ
 - a. Collect more information:
 - i. Poll Ronnie Medlock, Randy Harrison and Todd Nieman to get their recommended dimensions (A, B, C, D). Per comments in meeting, C and D will depend on A and B, so may end up with ratio between A or B and C/D.



- ii. Per Dr. White, AASHTO LRFD 9th Edition recommends that the designer consider thickening the bottom flange before using A or B < 60 inches. Also, regarding the C and D dimensions, it best to set these dimensions in a new design such that the stiffeners do not exhibit a tripping failure mode (torsional buckling about the connection to the flange)
 - b. Develop draft language for inclusion in next version of G12.1
 - c. Start vetting process to achieve consensus on language to be included in G12.1
- 3. Bolted Field Splices
 - a. Research issue further
 - i. Rules of thumb needed for level of standardization which should be done for splice plates on a project
 1. Need to collect price information for benefit of standardization (in shop) and cost of adding bolts (in field) and/or plate thickness (in shop) - CF
 2. At what point does it become prohibitive to standardize by minimizing thickness and increasing bolts, consider price of work? - RJ
 3. Should splice plates be grouped by all plate characteristics, thickness, number of bolts? - RJ
 - ii. Consider addressing allowed filler thickness information, although this is already in AASHTO LRFD and Construction Specifications – already contacted T-14 about adding to construction specs, no further action needed
 - iii. Brian Witte has a recommended detail for shipping the splice plate with the girder he can send us – CF to follow up
 1. Requires drilling additional hole in girder, so designer needs to plan for this and address in G12.1

2. Develop draft language for inclusion in next version of G12.1
 3. Start vetting process to achieve consensus on language to be included in G12.1
- iv. Consider adding a section on optional field splices
1. Optional field splice can be placed to meet the recommended field length limits in 2.2.5. Also consider weight limits recommended by Bill McEleney (35 tons for the most competition and 80 tons to ship by road, which varies per state)
 2. Transportation consideration, may vary based on location
 3. Develop language for inclusion in next version of G12.1 – CF to start, RJ to look for location specific field length requirements for NE
 4. Start vetting process to achieve consensus on language to be included in G12.1

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

Introductions (3:00 PM to 3:10 PM)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

General Announcements (3:10 PM to 3:25 PM)

Deanna reviewed the meeting minutes from the Spring 2020 meeting held in SLC. There were no outstanding items for discussion from the SLC meeting, and meeting minutes were approved by the task group.

NSBA Update – Brandon noted that Devin Altman has been hired by NSBA and is the Steel Solutions Center representative for bridges. He will be completing conceptual solutions, responding to technical questions, and developing MSC articles regarding steel bridge design. NSBA has made significant updates to the website: Design & Estimating; Steel Bridge Design Workshop from WSBS; Century of American Steel Bridges. There are also several on-going initiatives: Streamlined Design Guide; Coatings Performance Study; New Construction Market Pricing Study; Steel Bridge Design Handbook Update; Steel Bridge Design Class; Guide to Executing and Effective Bridge Project; Reference Manual for the Design, Detailing, and Maintenance of Uncoated Weathering Steel in Bridges; Standardization of Steel Bridge Design.

TRB Update – Jamie Farris (TxDOT) is the new committee chair. A mid-year meeting was held June 22, 2020. Always looking for Research Needs Statements (due December) as well as looking for Synthesis Statements (accepted any time). RNS and Synthesis Statements should align with AASHTO CBS needs. January 2021 TRB Meeting is Virtual, the Committee Meetings will be held January 5–8 and 11–15, and the Sessions & Exhibits on January 21–22 and 25–29. There is and AKB20 Sponsored Workshop on Structural Adhesives.

FHWA Update – Dayi Wang noted Brian Kozy has left FHWA. Dayi mentioned the NSBA webinar that he, TxDOT, and WisDOT participated in regarding System Redundant Members.

AASHTO T-14 meeting – Frank Russo reviewed the items that Mike Grubb presented at the recent AASHTO T-14 meeting regarding revisions to the AASHTO LRFD, and upcoming possible revisions.

Presentation (3:30 PM to 4:00 PM)

“PennDOT SR6 over French Creek Emergency Response and Repair,” Frank Artmont – Modjeski and Masters, Inc. Frank discussed the emergency repair due to a truck strike on the portal frame and sway frames of a through truss. Several members were completely severed. Frank presented on:

- How the damage was documented and measured
- How the structure was analyzed to assess the current state of structure
 - Started with hand calculations.
 - Used a 2D planar LUSAS model for initial evaluation
 - Also used a 3D model to examine 3D effects, transfer of load between truss lines, and effect on lateral members.
- Best options for repair and the development of the repair plans.
 - Reviewed the replacement strategy for the damaged vertical members, portal frame, and sway frame damaged members.
- Final inspection of the repaired structure.

G13.2 Guidelines for Steel Truss Bridge Analysis (4:00 PM to 5:00 PM)

Review of 2D and 3D Analysis Examples

- Do we want to name the software used for each example model?
 - TG decided on not naming the software used.
 - Include a cross section and elevation view of each example bridge.
 - It would be good to add in a benchmark example or two. Could answer the question of someone’s software, and/or analysis, is being used correctly. Frank Artmont will see if there is something from the FHWA Refined Analysis Manual that could be used. Helwig, Connor, and Cakebread noted the benchmark should not include live load generation but point loads and distributed loads.
- There are various approaches for accounting of the deck stiffness. Do we need a section on this on the text portion of the document?
 - TG agreed it would be good to include this.
- Should there be a discussion on boundary conditions? – Yes
- Reconfigure Section 4.6 to:
 - Truss panel members - Volunteer Author: Frank Artmont
 - Portal bracing members - Volunteer Author: Frank Artmont
 - Lateral bracing members - Volunteer Author: Frank Artmont
 - Floorbeams – Volunteer Author: Daniel Baxter
 - Stringers – Volunteer Author: Daniel Baxter
 - Vierendell truss members – Deanna to follow up with Jordan (H&H)
 - Deck modeling section – Volunteered Author: Dan Linzell
 - This configuration will allow for the nuance discussion associated with each.
 - TG agreed with making this change.
- Gusset Plate analysis - Hussam Mahmoud volunteered to help with this section

When is 3D modeling necessary?

- Frank Artmont – typically model with fixed end connections and ignore the secondary moments for strength analysis. Sometimes will use a model with pinned end connections and see if there are any changes from the model with fixed ends.
- Orton – document states that 2D analysis is appropriate for strength, but a 3D may be needed for fatigue and service.
- Deanna – will schedule a meeting in the future to discuss this topic as we were running out of time. A small group discussion is warranted.

Deanna – noted that if you have colleagues that have worked on trusses, encourage them to contribute to this group!

These items were not discussed

- Discuss Document Recommendations for 2D vs. 3D Analysis
- Start with the basics
- Connection Modeling – Level of Detail
- Practical Considerations vs. Research Level Models
- Volunteer Authors

Adjourn

Meeting ended at 5:00 PM (CDT).

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. Chairperson’s Welcome (10:30 AM – 10:40 AM)**
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of Previous Meeting Minutes
 - i. No objections to approval.
- 2. Progress of the Task Group – (10:40 AM – 11:15 AM)**
 - a. What’s been accomplished – Accomplishments reviewed by Kyle Smith (objectives, survey, detail compilation, and initiation of writing 14.1)
 - b. G14.1 (active objective) and G14.2
 - c. Survey – detail database
 - d. Curator’s Index
- 3. Presentations (11:15 AM – 12:00 PM): MARTA CS310N Span 36 Evaluation – Josh Orton & Distortion Induced Fatigue Alternatives (NCHRP 20-07 Task 387) – Jason Lloyd**
 - a. Justin Ocel – Why not take the NCHRP manual and bring in these other topics and make it an AASHTO manual? Justin recommended to talk to Tom Macioce about it.
 - b. Ronnie Medlock – maybe a call with Tom and Wasseem to express what we want and ask how we can get there. Justin agreed to join the call.
- 4. G14.1 Organization and Progress – (12:00 PM – 12:30 PM)**
 - a. Outline
 - b. Opinion on organization, topics, etc?
 - i. Should the truss section remain a separated section? Jon and Josh agree that it should due to some unique characteristics of these structures.
 - ii. Nick Haltvick agreed to provide some input/support or a contact for Hannah on writing the section loss subsection related to deck removal damage.
- 5. 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: Aaron Costin – University of Florida

Task Group Vice Chair: Sammy Elsayed – Skanska

1. Chairperson's Welcome (8:30 AM – 8:40 AM)

- a. AISC Antitrust Policy and Meeting Code of Conduct.
- b. Approval of Previous Meeting Minutes.

Aaron gave an overview of the committee. Everyone introduced themselves (12 attendees). Aaron Costin, John Hastings, Jon Stratton, Randy Harrison, Brad Dillman, Eric Stone, Frank Artmont, Jasmine Davis, Jason Stith, Mike Grubb, Vin Bartucca, Alex Lim

John read the Antitrust/Conflict of Interest and Previous Meeting Minutes were approved.

2. Design to Fabrication Model View Definition (MVD) project overview (8:40 AM – 9:00 AM)

Aaron discussed MVD and pooled fund. Year 2 of pooled fund and looking at definitions.

3. Data Requirements- BrIM Data Dictionary (9:00 AM – 10:15 AM)

Jasmine Davis gave an update on her research on BrIM.

Discussed haunch, deck types (cast in place, precast, orthotropic, etc.), deck joints, deck forms, bearings, pier caps, & field splices.

4. Update on Potential integrations

5. Overview of current version

6. Working Session

7. Closing Discussion (10:15 AM – 10:30 AM)

8. Adjourn

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. Chairperson's Welcome (1:00 PM – 1:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of Previous Meeting Minutes.

No objections to approval.

2. General updates and announcements, review of previous meeting minutes
 - a. FHWA Orthotropic Standard Panel project update
 - b. Spin-off discussion: pushing for the best set of panel details

Item 2 Not discussed

3. Presentations – tentative: N/A
 - a. Terry Logan – “Tolerance for Tolerance”
 - i. Discussion that Terry is seeing improving trends for OSD fabrication. He has 4 main points to present.
 - ii. (1) Designers are learning to use concepts that fit their bridge rather than just rubber stamping from other bridges on OSD. Terry reported that he's seeing more and more where designers are modifying industry specifications/guidelines for their specific designs to allow for higher tolerances in certain circumstances.

Examples:

- Application of rib the deck of penetration percentage values (modified vs copying other bridges)
 - How Phased Array is being specified and used (from 100% to 20%)
 - Unique designs where panels have a combo of closed ribs and open ribs
- iii. (2) Addressing Nonconformance Reports (NCR's):
 - More emphasis on fabricator NCR's vs project NCR's
 - NCR's that now encompass process not just product efficiency
 - iv. (3) Are there alternate solutions that are more acceptable to owners now? Yes!
 - Addressing technical issues such as melt through; Melt through is defined by the percentage amount of weld vs present/not present
 - Openness to fix melt through rather than just rejecting the panel or the rib (rejecting the panel or the rib all together within the rib the deck weld)
 - What have you have seen in the recent past regarding quality on current projects?

- Allowing more tolerance (forgiveness) on tolerance requirements
 - Modifying specifications that fit the bridge rather than fit general industry practices
- v. (4) Addressing issues through trend analysis rather than panel by panel or weld by weld (i.e. melt through). Industry is starting to use statistical analysis to determine issues...they are having predictability for reliability and prevention.
 - b. Quality in projects: If a designer is actively involved, there can be more tolerance for discontinuity in some details - so long as the designer is kept in the loop and made aware. In other words, the designer is actively involved with the fabricator for repairs, etc., and may allow higher tolerance for nonconformances depending on specific situations.
 - c. All these things are starting a trend toward a tolerance for tolerances, which is a good thing for the industry.
 - d. Anna Petroski– should TG16 take on this concept of moving toward a tolerance for tolerance?
 - e. Duncan Paterson– We have options to bring this to the OSD community. Is this something we can quantify and take to T14, or integrate into our Guidance Document? Terry – there seems to be a fear (emotional response) in some cases, and we need to get past this fear in the bidding of these types of projects.
 - f. Carl Redmond – TBTA put out a project trying to make the fabrication as feasible as possible, and the fabrication went to a company in Europe. They had concerns but moved forward on contractor’s word. A mockup was performed and by working with the designer, concerns were considered, and agreements were made to make improvements as the project moved forward. The project had a lot of flexibility in this way. In the end, the fabricator is not using robotics, but the through-put is good, and the product is excellent quality. These things are possible when QA/QC teams work together.
 - g. Terry Logan – communication is the key
 - h. Anna Petroski – If we can’t quantify, can we educate/inform instead? Owners have expressed concerns/fears of the orthotropic deck systems. Helping owners understand the potential flexibility for tolerances will help. Duncan – this seems like exactly what the State of Practice Synthesis Document is intended to do, and a white paper published through NSBA could lead this effort.
 - i. Ronnie Medlock – High Steel does not have a fear to bid. Are fabricators showing fears in bidding on these projects? Terry Logan – maybe “fear” isn’t the right word. “Concern” or “confusion” might be a better word. Questions come from fabricators on the meaning of specifications/terms/requirements on orthotropic deck projects.
 - j. Anna Petroski – Designers are cautious to use the design because of what they have heard are difficulties around an OSD design. Owners also know this concern, as well.
 - k. Ronnie Medlock – this committee could better help inform on best practices and details to use address these concerns.
 - l. Terry Logan – some projects are too prescriptive, and fabricators aren’t understanding that there can be flexibility in processes and requirements.

- m. Sougata Roy – Carl’s comments are important...it’s not the equipment or even the process, it’s the knowledge of fabrication that is fundamental to producing orthotropic deck. Secondly, wanted to re-emphasize that design “flexibility” is important to these projects.
- n. Anna Petroski – Carl’s comments shows that there is a tolerance for tolerance and flexibility and that a fabricator doesn’t necessarily need robotics to make these projects successful.
- o. Keith Griesing - Designers have the initial challenge of convincing the owner the solution has value in terms of initial cost and fabrication is a big part, but also the life cycle. Some owners only hear the OSD crack issues.
- p. Carl Redmond – I would encourage an owner to call TBTA if they have questions about orthotropic deck for small, medium, or large projects. Serious fabrication problems are the thing of the past. Many, maybe all, of these issues have been figured out and are no longer a problem. Also mentioned that edge tolerances are very important for fit up and that fit up tolerances need to be met or there will be issues.
- q. Terry Logan – fit up is another one that needs to allow for some flexibility, such as the example where laser scanning isn’t possible and the team being flexible in allowing larger gaps in fit up to be filled via a CJP when otherwise the weld is specified as a PJP. This type of flexibility makes the projects more feasible for fabricators who don’t have the equipment that Vigor has (for example), or in cases where there are hundreds of panels to fabricate.
- r. Sougata Roy – was there ever a situation on rib to floorbeam fit up where there was not sufficient gap and they had to grind? Terry Logan – yes this has happened. Sougata made several examples with the main point being that fabricators don’t necessarily need highly sophisticated equipment to compete and be successful in these projects.
- s. Keith Griesing – Are designers more resistant to changes on the fly with OSD designs than they are with more traditional designs? Terry Logan – they appear to be more analytical than typical. So they are open to it, but they seem to be more analytical about it.
- t. Terry Logan – Re-emphasized Keith’s comment about owners only hearing about the fatigue cracking issues with orthotropic decks. This Task Group may want to take this on and provide more facts about the abundant success of OSD projects. Carl Redmond piggy-backed on this comment pointing out that even with significant cracking the capacity, safety, and service life of these systems are not affected, and they are repairable.
- u. Dayi Wang – it appears to me that there is a fear in the industry, but it isn’t just from fabricators, but also from owners, designers, and researchers, and it’s rooted in fatigue. But in Japan they recognize that these systems are extremely redundant and so they don’t worry about fatigue, nor do they necessarily repair fatigue cracks because there is no threat to the structure. And the details seem to be overly complex and designers are afraid to allow tolerances due to fear of fatigue occurring. No matter how benign, owners don’t want fatigue cracks because of perception of the cracking and its effect on the structure. We need to break down some of these barriers and dispel the “myth”.
- v. Carl Redmond – let’s put “crack” back in the box. We’ve implemented a combination of things that got us away from cracks...(1) A pre-production panel that is destructively tested, (2) very tight fit up tolerances, and (3) Periodic, random panel tested similarly to the pre-

production panel. And hot crack issues are worked out in the pre-production panel testing phase.

w. Ronnie Medlock – Agree; much better to design the welding procedure such that you don't get hot cracks

4. Task Group updates

a. State of Practice Synthesis Document: If you don't have access to the TG16 google folder, email Duncan.

i. Review sections

- Terry Logan – should we produce a white paper that addresses high-level concepts to begin to debunk the myth, so to speak? This was mentioned earlier. Something that we can get out in front of people while we're developing this longer SoP Synthesis.
- Terry Logan, Ronnie Medlock, Duncan Paterson, Paul Tsakopoulos, Sougata Roy, Jordan Warncke, and Keith Griesing volunteered for the white paper task. Ronnie asked Terry to send him his notes and Ronnie would make the first draft of the paper.

ii. Review author assignments: Assignments were briefly reviewed. Paterson will invite people to participate in a follow-up email regarding the monthly meetings.

----- Time concluded -----

(27 participants)

iii. Monthly webinar meetings.

b. Short Span Orthotropic Update (SSSBA) collaboration

i. AISI and NSBA/AISC take the initiative to generate/expedite/find funds for the Task Group 16 project

c. Rib Standardization

i. Is there a one size fits all for new design?

ii. Is there one fab procedure to eliminate the RD weld issues

5. Review Committee Goals

6. Old business and additional discussion

a. Floorbeam and diaphragm details

b. Other

7. Adjourn

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

1. Chairperson's Welcome (10:30 AM – 10:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of Previous Meeting Minutes.

Aaron gave an overview of the committee. Everyone introduced themselves (12 attendees). Aaron Costin, John Hastings, Frank Artmont, Dayi Wang, Frank Kingston, Jasmine Davis, Randy Harrison, Jon Stratton, Brad Dillman, Keith Griesing, Vin Bartucca, & Jason Stith.

Previous Meeting Minutes were approved and John read the Antitrust/Conflict of Interest.

2. Overview- Design to Fabrication/Detailing Model View Definition (MVD) (10:40 AM – 11:00 AM)
 - a. Quick overview of project and status
 - b. Questions and discussion

Chris discussed balloting process. NSBA will have first review and comment prior to T14. T14 will send to appropriate committees to review. It should be an AASHTO document. IDM, process map, and first model. Reviewed in January and sent to T19 hopefully by summer. Publication is currently slated for 2022.

3. Design to Fabrication/Detailing IDM and Process Map (11:00 AM – 11:30 AM)
 - a. Items to be balloted

Aaron reviewed the topics discussed in TG 15 which primarily focused on connections. We picked up with bearings. Set up a general pier and will multiple pier types under that category. Bearing will connect to pier, pier cap, column pier, abutment, integral pier/bent cap, wall pier, straddle bent, or pedestal. We listed bearing types. Next, the group discussed cross frames and their connections to the girder. Sub stringers were added. Added plate and steel rolled shapes to connections plate as two types. We changed connection plate to connection component. Changed Gusset plate to just gusset then added types (plate (bent or flat) & rolled shapes). Added types to diaphragms (rolled shape or plate). Inspection walkway was added to entity.

4. Working Group (11:30 AM – 12:15 PM)
 - a. Assign Data Requirements to the Detailing Model
 - b. Next Steps
5. Closing Discussion (12:15 PM – 12:30 PM)
6. Adjourn (12:00 PM)

Joint Task Group Meeting (TG1, TG11 & TG12)

Task Group Chair: Christina Freeman - Florida DOT

Task Group Vice Chair: Brad Dillman - High Steel Structures

Introductions (10 minutes)

The AISC Antitrust Policy and Meeting Code of Conduct were read. Meeting minutes from the previous meeting were approved.

Presentation by Jerry Sova on Steel Straddle Bent Cap Designs (15 minutes)

Steel Straddle bents – design & detailing

- Photos and details and from NJ and Pulaski skyway projects
- Discussed different configurations of straddle bent caps.
- Presented several different details used in various straddle bent caps.

Report Back on Information Findings (30 minutes)

- a) NCHRP 527 study – Integral Steel Box Beam Pier Caps, presented by Tony Ream and Jordan Warncke

The document provides much discussion on integral caps with a single column.

- b) G13.1 analysis, section 3.14.3 and subsection, presented by Domenic Coletti and Duncan Paterson

Domenic noted a few items that are applicable. Section 3.13.3, when to include the substructure stiffness in the model. Section 3.14.3.1 notes the stiffness of a straddle bent cap, and how that can affect the stiffness of the support for the girders on top of the straddle cap, and how that should be compensated for in the analysis model.

- c) G12.1 section on Boxes, presented by Brian Atkinson

Brian marked up the G12 document for where items regarding boxes are discussed, and where there are things we may want to carry over to this document. Figure 3.1-1 is a preferred detail. Need to consider access during fabrication. Should find out what fabricator preferences are:

- Randy Harrison – any time you must get inside a box and weld, it is an added expense because it is at least double the labor due to confined space requirements. CJPs are more expensive than fillets of course but may outweigh the cost on inside welds. Backing bars for CJPs should be left in place.
- Brad Dillman – Fillet weld the bottom flange plate, and PJP the top plate (no weld inside). Agrees with not removing a backup bar for CJP welds.
- Brad Dillman - we should further discuss fabrication preferences regarding weld joints in the box corners, which plate to prep for CJP or PJP welds in the corners, the need (or lack thereof) to remove back-up bars, etc.

Section 3.3 has info regarding interior diaphragms. Determine whether we should recommend welded diaphragms or bolted. Figure C3.3-1 is recommended. If the diaphragm must be connected to the tension flange, consider bolting it and not welding.

Brad noted that at support locations, just need mill to bear at the bottom flange intersection of the diaphragm. Top of diaphragm can be tight fit.

Brian - Section 3.8 – coatings of the interior. Noted that NJ requires coating of the interior. Randy Harrison noted a one or two coat system has been seen with white paint.

Brian - NJTA requires a 3-coat system even for weathering steel boxes "to promote visibility of nascent cracks and defects within the member" as per their design manual.

Jihshya Lin - MnDOT repainted the interior of the integral steel pier cap due to corrosion problems.

d) FHWA Document on Proposed LRFD Specifications for Non-composite Steel Box Members, presented by Tony Ream and Brian Wolfe

Tony reviewed this research work, and the how the new provisions can apply to straddle bent steel caps. Relevance to the guidelines include:

- Plate slenderness limits
- When does it make sense to longitudinally stiffen a plate?
- Ratings for old slender straddle bents
- Design of cross-section, this guide can just point to AASHTO for design. We do not need the design equations in this Joint TG guide.

e) MnDOT Report on Avoiding Fracture Critical Designation, fatigue cracks in box girders, retrofit details – Nick Cervo and Jihshya Lin

Nick – MnDOT reports are specific to the existing structures that have been repaired. Analytical models used to look for alternative load paths. The modeling aspects may be applicable to new models and analysis. These reports can be used as examples as a way to evaluate existing structures.

Nick also noted the FHWA memo (2012), and the NCHRP Report 406 from 1997. MnDOT used the NCHRP Report 406 method.

Internal Redundancy – AASHTO Guide Spec and the IRM Evaluator from NSBA.

We need to ask ourselves - How in depth do we want to go on the evaluation of existing structures? How should we reference existing documents and use them in this document? Level of guidance we should give with regard to internal redundancy?

Jihshya noted a current project that is looking at MnDOT's straddle bent caps and trying to remove the FC designation for inspection when possible.

Todd Helwig – current TxDOT study looking at FC in straddle bent caps. Project is one-year in.

f) WSBS Papers, presented by Vin Bartucca

Brandon Chavel presented details from 4 different MSC and WSBS papers.

g) TxDOT Preferred Practices for Steel Bridge Design and Erection, section 2.5 – Details, presented by Greg Turco

Greg shared some photos of the various straddle bent caps. Greg reviewed some details in the TxDOT preferred practices for steel straddle caps. https://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/steel_bridge.pdf

Avoid details that are more critical than C' in the web. Give a depth of web of L/12. 1'-6" x 2'-6" mins for access through internal diaphragms.

h) General State Design Requirements (including Florida), by Christina Freeman and Dennis Golabek

Review states that have some guidance on straddle bents, and when they may be used. Often require special approval or review. Many states do not permit or require avoidance of non-redundant and/or fractur critical structures.

Shared Folder (5 minutes)

If you have information that can be shared, please send it to Christina and she will include in the shared folder.

Discussion and Poll on Document Outline (minutes)

Christina will send out an updated outline of the document for review by the joint TG.

Adjourn

Meeting ended at 12:30 PM (CDT).

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

Task Group Vice Chair: Christina Freeman - Florida DOT

Welcome and Introductions

There were about 44 people in attendance.

Task Group Reports

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

TG 1 - Brad Dillman (High Steel Structures)

Update on guidelines document updates G1.1 is in AASHTO publishing expected later this year. Dayi discussed the FHWA bridge geometry document they are developing for concrete and steel. A few TG1 members have been participating in the review. Bulk of meeting was next steps and updates of G1.2 and G1.4. Priority was given to G1.4 to get design details updated and in the hands of designers. Currently reviewing the document and looking at gaps; will develop a TOC and create smaller groups to work on specific areas. Locating the original files for these documents has been a challenge however we have received DXFs of drawings; exploring options for who will do the drawing. Straddle bent details in the TG1 documents will be moved to the document being developed by the Joint 1, 11, 12 group.

TG 2 - Heather Gilmer (TUV Rheinland Industrial Solutions)

Meeting was mostly dedicated to new AASHTO Fabrication specification which will replace S2.1 and the AASHTO construction specification fabrication material. A larger discussion was the use of the word “approve” and the legal implications for shop drawings; this issue came up earlier this year when the G1.1 comments were being resolved, and at the time the consensus was to use “accepted”. Also discussed were how the fit stated on the design can be incompatible with shop assembly. Coordinating the release of the new AASHTO Fabrication Specification also needs to coordinate with D1.5 since material is being removed from it and moved to the new AASHTO Specification. Ronnie will set a goal within the D1.5 committee to have the reconciliation done for the 2025 edition of D1.5. The group will now shift back to G2.2 and new business for the next edition. Medlock suggested that Gilmer prepare a ballot item for T17 to push the new AASHTO Fabrication Specification to the next AASHTO CBS.

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

Update on G4.2 was balloted earlier this year and has been passed to T14 for review. The goal is to have this published in 2021 and therefore a COBS ballot for the spring. This was Robin Dunlap’s first meeting as the new TG4 vice chair.

TG 8 - Paul Vinik (GPI Construction Engineering)

The group is considering the development of guidelines for washing bridges. The question is where of where this document belongs if not with TG8. Ronnie's feeling is that it does belong in TG8, particularly since we do not have a task group focused on bridge maintenance. The group is going to survey the states to determine which have standards or guidelines for bridge washing. Permitting seems to be a limiting factor to states cleaning bridges. The NSBA has a new webpage on corrosion protection systems which is still developing. S8.4 detailing for coatings is a new document that is being considered. Working groups have been formed to work on specific sections of the guide. S8.1 is being reviewed and updated. Comments from SSPC have been received and are being considered. A broader review will happen next and comments incorporated. TXDOT reported on some ongoing corrosion studies where single coat IOZ is performing well in. The group is also reviewing a new AREMA coatings guide for consideration in an expanded commentary in S8.1. This guide also included some language on coatings warranties. TG8 should keep up with the AISI CAG for mutual awareness. Consider having Dan Snyder provide a CAG agenda item for a TG8 update at each meeting. Mike Culmo offered to give an update in the future on some corrosion studies going on in Connecticut that are looking more at the causes (e.g. leaking bridge joints). Will have a presentation from Sougata Roy at the next meeting.

TG 9 - Michael Culmo (CHA Consulting, Inc.)

G9.1 has not been updated since 2004 and have been working on an update over the past couple of years. The group spent the meeting reviewing comments on the G9.1 update. Some of the material referenced by the older version is no longer available and have been addressed. May remove pot bearings since they are not really used these days. A new chapter on corrosion protection of bearings and seismic isolation has been added. There will be new sections on

- tolerances for such items as beam seat elevations, out-of-center, and anchor rod location;
- isolation bearings;
- corrosion protection strategies for bearings;
- installation practices; and
- maintenance.

Expect a draft early 2021, ballot in the collaboration in 2021 with goal of publishing in 2022. Need to provide this update to AASHTO T2 Bearings Committee (Carl Puzey, Illinois, chair) also to make sure they approve.

TG 10 - Brian Witte (Parsons)

There was a lengthy discussion on bearings and the importance of accurate elevations and tolerances; may use $\pm 1/8''$. The group discussed whether this belongs in the next update of S10.1. However, it was mentioned that designers need to be aware of bearing tolerances and it may be better to have this information in G9.1. In response, TG9 has added this to their list of updates. Transportation was also discussed, and the comments received are being reviewed.

Lastly, wind on bridges was discussed and the work performed by FDOT was discussed. The bolting training videos are currently on hold. Bob Shaw is currently storyboarding the bolting videos. Ronnie asked the TG to consider providing an allowance reaming in the field.

TG 11 - Brandon Chavel (NSBA)

Group had a presentation by Medlock and Culmo on a unique steel straddle bent that was composed of three I-girders as opposed to a box. Although it does not apply to the cross-frame guide it has application to the joint TG 1, 11, 12; a .pdf of the presentation is attached. The cross-frame document was reviewed after the March meeting and the more critical comments were discussed. Brandon and Domenic are triaging the comments and are on a good path. The group will likely have a follow-up meeting in the next 2-months to discuss the comments that were not reviewed during this meeting. The question is whether this is a chapter of the steel bridge handbook or a new AASHTO Collaboration document.

TG 12 - Christina Freeman (Florida DOT)

The group had a full agenda part of which will get rolled to the next meeting. Helwig gave a presentation on improved details for tub girders; some of these will likely find their way into the next G12.1. Some of what Helwig is proposing needs to be adopted by AASHTO first. The group then discussed possibly adding information on bolted splices to the G12.1. Lastly the question was asked if states prefer sloped or vertical webs on their tubs. This will likely be a point of clarification in the next G12.1. No one prefers vertical webs although why this one is preferred over the other is not entirely clear. Fabricators are fine with either.

TG 13 - Deanna Nevling (Michael Baker International)

Industry updates started the meeting; FHWA, AASHTO T14, NSBA and TRB. Frank Artmont gave a presentation on an emergency repair of a truss in PA. The group's focus currently is the steel truss analysis document. They are going to rework the connection portion. A group call will be setup soon to discuss the application of refined analysis. Between now and March there will likely be a few smaller meetings. The group is looking for designers that have current experience with trusses. Paterson mentioned that there will be a geometry section in the new FHWA document.

TG 14 - Kyle Smith (GPI Construction Engineering)

Overview of task group and objectives and the documents being developed. Stratton gave an overview of recent DOT survey G14.2 document. Orton gave a presentation on fatigue cracks seen on a MARTA bridge in Atlanta. Jason Lloyd gave a presentation about the NCRHP 20-07 project.

TG 15 - Aaron Costin (University of Florida)

The group is looking to ballot the IDM, process map, and first model. Whether this is an AASHTO Collaboration document or just an NSBA document is still a question. A follow-up call with Medlock and Garrell is needed.

TG 16 - Duncan Paterson (HDR)

Terry Logan gave a presentation on tolerances in orthotropic decks. He is seeing a change in the fabrication and panels today. Seeing less hold-over details and that people are thinking more about the deck rather than taking an old set of plans and applying them to a new design. He also mentioned greater collaboration between the designer and fabricator to address RFIs resulting in corrective measures rather than simply rejection of the entire panel. An ortho-positive speaking tour was discussed to clarify misconceptions and the lessons learned to a broader public. The group will restart monthly meetings going forward.

Main Committee Operations Discussion

Publications schedule

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

Upcoming meetings

The spring 2021 meeting will take place on March 30 – April 1 and the fall 2021 meeting will be October 26 – 28. It is likely that the March meeting will be virtual.

Appendix A – Attendee Registration List

| Last Name | First Name | Company |
|------------|------------|--|
| Altman | Devin | AISC |
| Angloff | Carl | Con Serv Inc. |
| Artmont | Frank | Modjeski & Masters, Inc. |
| Atkinson | Brian | HNTB Corporation |
| Ault | Peter | Elzly Technology Corporation |
| Bapat | Amey | Walter P Moore |
| Bartucca | Vin | AISC |
| Baxter | Daniel | |
| Beabes | Shane | AECOM |
| Beggs | Aimee | SSPC |
| Bennett | Caroline | University Of Kansas |
| Berry | Allan | RS&H |
| Bora | Sam | |
| Bustos | Art | American Institute of Steel Construction |
| Butz | Travis | Burgess & Niple, Inc. |
| Cakebread | Terry | LUSAS |
| Carlson | Jeff | AISC |
| Castle | Derrick | Sherwin-Williams |
| Cervo | Nicholas | HDR Engineering |
| Chavel | Brandon | American Institute of Steel Construction |
| Cheng | Xiaohua | NJDOT |
| Chronister | James | Stupp Bros., Inc. |
| Cisneros | Bob | High Steel Structures LLC |
| Coletti | Domenic | HDR Engineering |
| Collins | William | Kansas University |
| Connor | Robert | Purdue University |
| Conso | Matthew | MassDOT |
| Corbett | William | KTA-Tator, Inc. |
| Costin | Aaron | University Of Florida |
| Crain | Josh | Genesis Structures |
| Crampton | Douglas | Wiss, Janney, Elstner Associates, Inc. |
| Culmo | Mike | CHA Consulting, Inc. |
| Davis | Jasmine | University of Florida |
| Dillman | Brad | High Steel Structures LLC |
| Dunlap | Robin | High Steel Structures LLC |
| Eberhardt | Tom | HDR Engineering |
| Edwards | Jon | DOT Quality Services |
| Elayed | Samy | Skanska USA Civil |
| Farris | Jamie | Texas Department of Transportation |
| Fish | David | University of Texas at Austin |
| Freeman | Christina | FDOT Structures Research Center |
| Garlich | Michael | Collins Engineers, Inc. |

| Last Name | First Name | Company |
|------------|-------------|--|
| Garrell | Christopher | National Steel Bridge Alliance |
| Gase | Philip | DS Brown |
| Gast | John | CONWELD |
| Gilmer | Heather | TUV Rheinland Industrial Solutions |
| Golabek | Dennis | WSP USA, INC. |
| Grieco | Mary | MassDOT |
| Griesing | Keith | Hardesty & Hanover, LLC |
| Grubb | Michael | M.A. Grubb & Associates, LLC |
| Hagos | Michael | Manitoba Infrastructure and Transportation |
| Haltvick | Nick | MN DOT - Bridge Office |
| Harrison | Randy | W&W AFCO Steel |
| Hastings | John | American Institute of Steel Construction |
| Hebdon | Matt | Virginia Tech |
| Helwig | Todd | University of Texas At Austin |
| Hicks | Nathan | HDR Engineering |
| Hilton | Jamie | KTA-Tator, Inc. |
| Hudson | Mark | Sherwin-Williams |
| Huff | Tim | Tennessee Technological University |
| Hurt | Mark | Kansas DOT |
| Ison | Dale | Florida Structural Steel |
| Jeck | Russell | Tutor Perini Corp. |
| Keniston | Zane | |
| Kingston | Frank | ABS Structural Corporation |
| Knoblauch | Adam | Contech Engineered Solutions LLC |
| Kotha | Sri | |
| Kruth | Larry | American Institute of Steel Construction |
| Kurtenbach | Tom | IDOT |
| Langill | Tom | American Galvanizers Association |
| Liang | Chen | |
| Lim | Alex | Oregon Department of Transportation |
| Lin | Jihshya | MN DOT - Bridge Office |
| Lindell | Nate | Project + Quality Solutions, LLC |
| Linzell | Daniel | University Of Nebraska-Lincoln |
| Liu | Xuejian | |
| Lloyd | Jason | National Steel Bridge Alliance |
| Loftus | Pat | Industrial Steel Construction |
| Logan | Terry | Atema, Inc. |
| Lorenz | Kara | High Steel Structures LLC |
| Mahmoud | Hussam | Colorado State University |
| Marks | Michael | EIC Group LLC |
| Martin | Manuel | Universidad Distrital |
| Mattas | Brett | |
| McCombs | Natalie | HNTB Corporation |

| Last Name | First Name | Company |
|------------------|-------------------|---|
| McEleney | Bill | Consultant |
| Medlock | Ronnie | High Steel Structures LLC |
| Michalk | Teresa | Texas Department of Transportation |
| Miller | Johnnie | Texas Department of Transportation |
| Miller | Bryan | Pennsylvania Department of Transportation |
| Najjar | Walid | WSP USA, INC. |
| Nevling | Deanna | Michael Baker International, LLC |
| Niemann | Todd | Fickett Structural Solutions |
| Nims | Douglas | University of Toledo |
| Ocel | Justin | USDOT FHWA |
| O'Daniel | Kyle | Stupp Bros., Inc. |
| Olds | Dusten | HDR Engineering |
| Orton | Joshua | Brasfield & Gorrie, LLC |
| Paterson | Duncan | HDR Engineering |
| Percassi | Steve | Bergmann Assoc. |
| Peterson | Anthony | American Institute of Steel Construction |
| Petroski | Anna | Atema, Inc. |
| Rau | Eric | HDR Engineering |
| Ream | Tony | HDR Engineering |
| Redmond | Carl | MTA Bridges & Tunnels |
| Reichenbach | Matt | University of Texas at Austin |
| Roy | Sougata | Rutgers, The State University of New Jersey |
| Russo | Francesco | Michael Baker International, LLC |
| Sandoval Quezada | Jhonatan | |
| Sauser | Phil | U.S. Army Corps of Engineers |
| Schmitz | Grant | HDR Engineering |
| Sherman | Ryan | Georgia Institute of Technology |
| Smith | Kyle | Greenman-Pedersen, Inc. |
| Snyder | Dan | American Iron and Steel Institute |
| Sova | Gerard | Hardesty & Hanover, LLC |
| Stanley | Roger | Michael Baker International, LLC |
| Stith | Jason | Michael Baker International, LLC |
| Stoddard | David | SSAB North American Division |
| Stone | Eric | HNTB Corporation |
| Stover | Aaron | Michael Baker International, LLC |
| Stratton | Jonathan | Eastern Steel Works, Inc. |
| Streeter | Brad | Scougal Rubber Corporation |
| Svatora | Jeff | HDR Engineering |
| Tsakopoulos | Paul | HNTB Corporation |
| Turco | Gregory | Texas Department of Transportation |
| Vinik | Paul | GPI |
| Wagar | Paul | Grillo |
| Wang | Dayi | FHWA Office of Bridges and Structures |

| Last Name | First Name | Company |
|------------------|-------------------|-----------------------------------|
| Warncke | Jordan | Hardesty & Hanover, LLC |
| Watson | Ronald | RJ Watson |
| Watson | Brian | HDR Engineering |
| White | Don | Georgia Institute of Technology |
| Whittaker | Douglas | Michael Baker International, LLC |
| Wisch | Gary | DeLong's, Inc. |
| Witte | Brian | Parsons |
| Wolfe | Brian | Maryland Transportation Authority |
| Yong | Chou-Yu | Michael Baker International, LLC |
| Zecchin | Esteban | University of Texas at Austin |

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 | Submitted to AASHTO Publishing | 2020 | 1 | Detailing | Shop Drawings Approval Review/Approval Guide |
| G1.3 | Update - In-Progress | 2022 | 1 | Detailing | Shop Detail Drawing Presentation Guidelines |
| G1.4 | Update - In-Progress | 2022 | 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 |
| G2.2.2016 | Released | 2016 | 2 | Fabrication and Repair | Guidelines for Resolution of Steel Bridge Fabrication Errors |
| G2.2 | Update - In-Progress | 2022 | 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 |
| G4.1 | Update - Not Started | 2022 | 4 | QC/QA | Steel Bridge Fabrication QC/QA Guidelines |

| Document | Status | Year Completed/Targeted | Task Group | Task Group Name | Document Title |
|-----------------|-----------------------------|--------------------------------|-------------------|---|--|
| G4.2 | Passed Collaboration Ballot | 2021 | 4 | QC/QA | Recommendations for the Qualification of Structural Bolting Inspectors |
| G4.4 | Update - Not Started | 2022 | 4 | QC/QA | Sample Owners Quality Assurance Manual |
| 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 | Unknown | 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 | 2022 | 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 and Diaphragm Members |
| G11.2 | New - In-Progress | Unknown | 11 | Design | Guidelines for Straddle Bents |
| G12.1.2020 | Released | 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 | 2021 | 14 | Field Repairs and Retrofits | Maintenance Actions to Address Fatigue Cracking in Steel Bridge Structures |
| G14.2 | New - In-Progress | 2022 | 14 | Field Repairs and Retrofits | Guidelines for Field Repairs and Retrofits of Steel Bridges |
| G14.3 | New - In-Progress | 2023 | 14 | Field Repairs and Retrofits | Database of Sample Field Repair and Retrofit Details for Steel Bridges |
| G15.10 | Completed Collaboration Ballot | Unknown | 15 | Data Modeling for Interoperability | BrIM Process Model Definition for Steel Bridge Erection |
| G15.1 | Start Collaboration Balloting | 2021 | 15 | Data Modeling for Interoperability | Designer / Fabricator Exchange |
| G16.1 | New - In-Progress | 2022 | 16 | Orthotropic Deck Panels | Guidelines for the Manufacture of Orthotropic Decks and State of Practice |
| G16.2 | New - Not Started | 2023 | 16 | Orthotropic Deck Panels | Cost Effective Orthotropic Decks |

Appendix C – Meeting Schedule and Agendas

Schedule Overview

NOTE: All times are shown as Central Time Zone

Tuesday, October 27

| Track | Meeting | Secretary | Chair | Vice Chair | Start (CT) | End (CT) |
|-------|---|---------------------|----------------|-----------------|------------|----------|
| 1 | TG 15 Data Modeling for Interoperability | John Hastings | Aaron Costin | Sammy Elsayed | 8:30 AM | 10:30 AM |
| 2 | TG 8 Coatings | Jeff Carlson | Paul Vinik | Jamie Hilton | 8:30 AM | 10:30 AM |
| 1 | Combined TG 1 Detailing, TG 15 Data Modeling for Interoperability | John Hastings | Aaron Costin | Sammy Elsayed | 10:30 AM | 12:30 PM |
| 2 | TG 9 Bearings | Jeff Carlson | Michael Culmo | Ron Watson | 10:30 AM | 12:30 PM |
| 1 | TG 2 Fabrication and Repair | Christopher Garrell | Heather Gilmer | Duncan Paterson | 1:00 PM | 4:00 PM |
| 2 | TG 13 Analysis of Steel Bridges | Brandon Chavel | Deanna Nevling | Francesco Russo | 3:00 PM | 5:00 PM |

Wednesday, October 28

| Track | Meeting | Secretary | Chair | Vice Chair | Start (CT) | End (CT) |
|-------|---|------------------|-------------------|--------------|------------|----------|
| 1 | TG 12 Design for Constructability and Fabrication | Brandon Chavel | Christina Freeman | Russell Jeck | 8:30 AM | 10:30 AM |
| 1 | Combined TG 1 Detailing, TG 11 Steel Bridge Handbook, TG 12 Design for Constructability and Fabrication | Brandon Chavel | Christina Freeman | Brad Dillman | 10:30 AM | 12:30 PM |
| 2 | TG 4 QC/QA | Vin Bartucca | Jamie Hilton | Robin Dunlap | 10:30 AM | 12:30 PM |
| 1 | TG 10 Erection | Anthony Peterson | Brian Witte | Jason Stith | 1:00 PM | 3:00 PM |

| Track | Meeting | Secretary | Chair | Vice Chair | Start (CT) | End (CT) |
|--------------|-------------------------------|------------------|-----------------|-------------------|-------------------|-----------------|
| 2 | TG 16 Orthotropic Deck Panels | Jason Lloyd | Duncan Paterson | Sougata Roy | 1:00 PM | 3:00 PM |
| 1 | TG 1 Detailing | Vin Bartucca | Brad Dillman | Gary Wisch | 3:00 PM | 5:00 PM |

Thursday, October 29

| Track | Meeting | Secretary | Chair | Vice Chair | Start (CT) | End (CT) |
|--------------|-----------------------------------|---------------------|----------------|-------------------|-------------------|-----------------|
| 1 | TG 11 Design | Christopher Garrell | Brandon Chavel | Domenic Coletti | 8:30 AM | 10:30 AM |
| 1 | TG 14 Field Repairs and Retrofits | Jason Lloyd | Kyle Smith | Jonathan Stratton | 10:30 AM | 12:30 PM |
| 1 | Main Committee | Christopher Garrell | Ronnie Medlock | | 1:00 PM | 4:00 PM |



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/j/88212564516>

Zoom Meeting ID: 882 1256 4516

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (3:00 PM - 5:00 PM CT)

1. Chairperson’s Welcome (3:00 PM – 3:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Status of AASHTO Approval of G1.1 Update (3:10 PM – 3:15 PM)
3. G1.2 (Design Drawings Presentation Guidelines) and G1.4 (Guidelines for Design Details) Update - Open Discussion (3:15 PM – 4:45 PM)
 - 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. Action Items (4:45 PM - 5:00 PM)



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” 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.

Task Group Leadership

Chair: Heather Gilmer - TÜV Rheinland (hgsteelfab@gmail.com)

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/j/85049486842>

Zoom Meeting ID: 850 4948 6842

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (1:00 PM - 4:00 PM CT)

1. Chairperson’s Welcome (1:00 PM – 1:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Reminder of documents currently under the task group’s scope.
 - c. Approval of [Previous Meeting Minutes](#).
2. AASHTO fabrication spec draft (1:10 PM – 4:00 PM)
 - a. For discussion:
 - i. Discuss logistics of bolting provisions (fabrication and erection)—AASHTO decision but we can provide feedback
 - ii. Review commentary on SRMs (C1.2.9)
 - iii. “accept” vs “approve” shop drawings: TG1 voted to change the terms "Approval" to "Acceptance" and "Approver" to "Reviewer"
 - iv. Review removal of A6 from 9.2.1 (base metal repair)
 - v. Review removal of welding-related provisions from 9.2.3 (base metal repair)
 - vi. Review C9.3 (new commentary for why we don’t use A6 for base metal repair)

- vii. Tolerance figures—which in commentary & which in code? We have flange tilt not commentary; D1.5 has ONE flange tilt figure not commentary. All commentary? None/some commentary?
 - viii. How much of D1.5 commentary on web flatness should come over? Most of it is related to welding distortion. See C16.6.
 - ix. Do we need or want the web flatness and camber tabulations?
 - x. Are there any other parts of D1.5 that should come over?
 - xi. Review Appendix A, suggested items for Owner to put in contract documents. Are there any other items?
 - xii. New business, but where should we send it, D1.5 or AASHTO? Adding fill plates not shown on the drawings to address tolerances in girder depth.
 - xiii. Revisit assembly commentary
- b. Previous AASHTO spec discussion items deferred to new business:
- i. Unifying requirements for repair by grinding for various situations & combining the sections. Discuss if time.
 - ii. Applying “finish to bear” and “tight fit” to situations other than stiffeners. Do we want to do this? Discuss if time.
 - iii. RCSC burr allowance. Discuss if time.
 - iv. Reaming allowances & bolt hole tolerances (task group: Gilmer, Medlock, Ison, Grubb, Rau)
 - v. Applying A6 Table X4.2 (pretty much the old radii we used to have) to the 1.5t case for bending. Or maybe no $\frac{3}{4}$ " limit? Compare AREMA. This is T-14 issue first.
 - vi. Transverse bracing included in assembly for skewed as well as curved? May be T-14 issue first. Task group: Medlock, Bennett, Barthelemy, Paterson, Williams
- c. Questions deferred to AASHTO:
- i. Owner/Engineer/Designer/Construction Engineer etc. (but first consult with previously appointed task group of Gilmer, Rau, Stratton, Medlock)

- ii. Appendix vs. annex
 - iii. Moving bored hole in pin to BDS (T-14 issue first), perhaps aligning with AREMA. Information has been obtained from Bob Sweeney.
- 3. Reminder of outstanding items from before work began on AASHTO specification (see spring 2019 minutes for more details)
 - a. Older S2.1 new business items to be incorporated into AASHTO specification as new business
 - i. Continuing work on slip coefficients, especially regarding metallizing and combination of different coatings in same connection
 - ii. Scribing/etching of layout marks
 - iii. Allowable gap at girder bolted splices
 - b. G2.2, *Guidelines for Resolution of Steel Bridge Fabrication Errors*
 - i. Change in title of “Errors” to “Nonconformances”
 - ii. Improper preheat
 - iii. Framing members too short
 - iv. Orthotropic deck repairs
- 4. Adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

TG 4 QC/QA

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 Leadership

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

Vice Chair: Robin Dunlap - High Steel Structures (rdunlap@high.net)

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/j/84389142573>

Zoom Meeting ID: 843 8914 2573

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (10:30 AM - 12:30 PM CT)

1. Chairperson’s Welcome (10:30 AM – 10:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. G4.2 – Recommendations for the Qualifications of Structural Bolting Inspectors
 - a. Ballot update
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
 - iii. Part B, Quality Control, review for applicability - Robin Dunlap
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 - (i.e. Michigan, Florida potentially have this)
 - c. Status of survey
- 5. What is the future of QC/QA?
 - a. New technologies in contract documents
 - b. New inspection techniques
 - i. Unmanned Aerial Vehicles (UAV – Drones)
 - ii. Virtual remote visual inspection
 - iii. Lasers, infrared, the world of PAUT
- 6. 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. This is on schedule.
 - 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
- 7. New Business?
- 8. Adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/meeting/register/tZMsd-gsqTlpEtByKUXVhUb8z5nUaDwdNldN>

Zoom Meeting ID: 871 0347 9384

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (8:30 AM - 10:30 AM CT)

1. Chairperson’s Welcome (8:30 AM – 8:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Website Check in (8:40 AM – 8:50 AM) - Topics and task leaders:
 - f. Galvanizing - Tom Langill
 - g. Metalizing - Kevin Irving, I Paul Wagar
 - h. Duplex coating systems (HDG + wet applied) - Bill Corbett
 - i. Washing and cleaning programs – Geoff Swett.
 - j. Weathering Steel – Weathering Steel
 - k. Cathodic Protection – Paul Vinik, Pete Ault.

3. Detailing for Coatings - S8.4 - Updates and discussion from each task group: (8:50 AM – 9:30 AM)
 - h. Weathering Steel/A709-50CR - Jason Lloyd
 - i. Paint/liquid applied coatings - Derrick Castle
 - j. Galvanizing - Tom Langill
 - k. TSC - Kade Kovar
4. Revision of S8.1 - Zinc Rich Primer: (9:30 AM – 10:00 AM)
 - l. Overall process for revising S8.1
 - m. Comments from Bill Corbett
 - n. Comments from SSPC
5. Update from NSBA (Garrell or Carlson) on Coating Research (10:00 AM - 10:10 AM)
6. New Business: (10:10 AM – 10:30 AM)
 - o. Washing and Cleaning Program - WSDOT and interaction with AASHTO T14
 - p. IOZ one coat systems
7. Adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link:

<https://us02web.zoom.us/j/85722531249>

Zoom Meeting ID: 857 2253 1249

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (10:30 AM - 12:30 PM CT)

1. Chairperson’s Welcome (10:30 AM – 10:50 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
 - i. Review notes
 - ii. Review Action Item List
2. Review of section re-writes to date
3. Review/Set Action Items
4. Next steps (what is needed)
5. Schedule
 - a. Overall schedule
 - b. Next meeting
6. **Adjourn**



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

Secretary: Anthony Peterson - NSBA (peterson@aisc.org)

Zoom Information

Meeting Link:

<https://us02web.zoom.us/j/86892832769>

Zoom Meeting ID: 868 9283 2769

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (1:00 PM - 3:00 PM CT)

1. Chairperson’s Welcome (1:00 PM – XXX)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Bearing discussion
 - a. Small group met on June 15 to discuss possible revisions
 - b. Bearings tolerances not specifically an erection issue but certainly influence erection. Does this topic belong in G9, G12 with brief mention in S10?
 - c. Review state DOT bearing tolerance study
 - d. Review proposed language for inclusion in TG9 document.
3. Draft language for Section 3: Transportation
 - a. Sent to TG10 members for comment. Review comments received.
4. Wind Load on Girders during Erection – Christina Freeman update
5. Bolting for Bolters Update – Jason Stith
6. Beam Clamp Loading

7. S10.1 and OSHA comparison
 - a. Appendix A to Subpart R of OSHA Part 1926 provides non-mandatory guidelines for Site Specific Erection Plan – perhaps worth mentioning reference in Commentary?
8. Summary and adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link: https://us02web.zoom.us/meeting/register/tZ0kfuurqjkiEtEwT_YFwwAMk5pE-Blf1jLa

Zoom Meeting ID: 899 9234 2885

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Thursday, October 29 (8:30 AM - 10:30 AM CT)

1. Chairperson’s Welcome (8:30 AM – 8:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Announcements and Administrative Items (8:40 AM to 8:45 AM)
 - a. The Task Group Mission
3. Project Presentation (8:45 AM to 9:15 AM): Innovative Steel Straddle Bent Design – Mike Culmo, CHA Consulting and Ronnie Medlock, High Steel Structures
4. Guidelines for the Design of Cross Frames & Diaphragms (9:15 AM to 10:15 AM)
 - a. Section Reviews
 - b. Comments for discussion
 - c. Timeline Discussion
5. General Open Discussion (10:15 AM to 10:30 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



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

Vice Chair: Russell Jeck - Tutor Perini Corp. (russjeck619@gmail.com)

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/meeting/register/tZ0sc-6rrDwjHNcMlAlkuCzMBqpcjq8v2Lpx>

Zoom Meeting ID: 891 4732 7963

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (8:30 AM - 10:30 AM CT)

1. Chairperson’s Welcome (10 minutes)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Update on publication of G12.1-2020 (5 minutes)
3. Presentation by Todd Helwig on Improved Details for Tub Girder Bridges (30 minutes)
4. Weld access for WT longitudinal stiffeners on the bottom flange of tub girders (15 minutes)
5. Bolted Field Splices Comment from Domenic (15 minutes)
 - a. how to design/detail them for constructability?
 - b. should a section be added to G12 document?
6. Is there a fabrication preference for square box girders versus tub (sloped sides) girder? (15 minutes)

7. Comments for Next Version of G12.1: (30 minutes)
 - a. Comments from Heather Gilmer:
 - i. Section 1.3: "increased corrosion resistance durability" Why is "durability" there?
 - ii. C1.4.1: "encouraged to be aware" seems odd. Hard for them not to be aware once we've pointed it out. "Should be aware" or "encouraged to consider"
 - iii. In general, delete "note that" from various locations in document
 - iv. Section 2.1.1.2 technically those aren't "connection stiffeners". "Connection plates and intermediate stiffeners".
 - v. Section C2.1.2.6: not editorial; please consider as new business (I assume too late for this edition so next time): if you're going to mention FC in the context of stiffeners (2nd bullet), please note that typically bracing members are not considered FC. Wouldn't want anyone to interpret this to mean FC bearing stiffeners should be a thing!!
 - vi. Section C3.7: as new business for next edition, consider explaining why WTs are preferred and maybe have a figure illustrating the weld access.
 - vii. Section 4.4: This is a guide and shouldn't have "shall". If it's required in AASHTO. note that AASHTO requires it.
 - b. Comment from Jon Edwards:
 - i. Section 2.1.1.1, the second paragraph is commentary and should be moved there.
 - c. Comment from Russ Jeck:
 - i. Section 1.1 (Rolled vs Plate Girders): consider recommendations or suggestions for proper camber of rolled girders
 - d. Split pipe stiffeners and potential for implementation

- e. Improved Details for Tub Girder Bridges
- f. Open Discussion



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link:

https://us02web.zoom.us/meeting/register/tZYqfu6pqzwoHdPn4wRfYBWYdyjgth_hx8xB

Zoom Meeting ID: 827 9715 7277

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (3:00 PM - 5:00 PM CT)

1. Chairperson’s Welcome (3:00 PM – 3:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. General Announcements (3:10 PM – 3:25 PM)
 - 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. Presentation (3:30 PM – 4:00 PM) “PennDOT SR6 over French Creek Emergency Response and Repair,” Frank Artmont – Modjeski and Masters, Inc.
4. Break (4:00 PM to 4:10 PM)
5. G13.2 *Guidelines for Steel Truss Bridge Analysis* (4:10 PM – 5:00 PM)
 - a. Review of 2D and 3D Analysis Examples
 - b. Discuss Document Recommendations for 2D vs. 3D Analysis

- c. Start with the basics
 - d. When is 3D modeling necessary?
 - e. Connection Modeling – Level of Detail
 - f. Practical Considerations vs. Research Level Models
 - g. Volunteer Authors
6. Adjourn (5:00 PM)



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

Vice Chair: Sammy Elsayed - Skanska (sae44@msn.com)

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

Zoom Information

Meeting Link:

<https://us02web.zoom.us/meeting/register/tZ0qcOmurjkiGtT5rLSdzBER0Ja980iNR2tX>

Zoom Meeting ID: 897 7060 2800

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (8:30 AM - 10:30 AM CT)

1. Chairperson’s Welcome (8:30 AM – 8:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Design to Fabrication Model View Definition (MVD) project overview (8:40 AM – 9:00 AM)
3. Data Requirements- BrIM Data Dictionary (9:00 AM – 10:15 AM)
 - a. Update on Potential integrations
 - b. Overview of current version
 - c. Working Session
4. Closing Discussion (10:15 AM – 10:30 AM)
5. Adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/j/88389140250>

Zoom Meeting ID: 883 8914 0250

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (1:00 PM - 3:00 PM CT)

1. Chairperson’s Welcome (1:00 PM – 1:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. General updates and announcements, review of previous meeting minutes
 - a. FHWA Orthotropic Standard Panel project update
 - i. Spin-off discussion: pushing for the best set of panel details
3. Presentations – tentative: N/A
4. Task Group updates
 - a. State of Practice Synthesis Document
 - i. Review sections
 - ii. Review author assignments
 - iii. Monthly webinar meetings.
 - b. Short Span Orthotropic Update (SSSBA) collaboration
 - i. AISI and NSBA/AISC take the initiative to generate/expedite/find funds for the Task Group 16 project
 - c. Rib Standardization

- i. Is there a one size fits all for new design?
 - ii. Is there one fab procedure to eliminate the RD weld issues
- 5. Review Committee Goals
- 6. Old business and additional discussion
 - a. Floorbeam and diaphragm details
 - b. Other
- 7. Adjourn



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

Joint TG 1 Detailing, TG 11 Design TG12 Constructability

Task Group Mission:

Task Group Leadership

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

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/meeting/register/tZlucu-trzggHNNpQDVRCzIKAtLpSbMpkKR3>

Zoom Meeting ID: 863 5651 3067

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Wednesday, October 28 (10:30 AM - 12:30 PM CT)

1. Chairperson’s Welcome (10:30 AM – 10:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Presentation by Jerry Sova on Steel Straddle Bent Cap Designs (15 minutes)
3. Report Back on Information Findings (less than 10 minutes per topic)
 - a. NCHRP 527 study – Integral Steel Box Beam Pier Caps, presented by Tony Ream and Jordan Warncke
 - b. G13.1 analysis, section 3.14.3 and subsection, presented by Domenic Coletti and Duncan Paterson
 - c. G12.1 section on Boxes, presented by Brian Atkinson
 - d. FHWA Document on Proposed LRFD Specifications for Non-composite Steel Box Members, presented by Tony Ream and Brian Wolfe
 - e. MnDOT Report on Avoiding Fracture Critical Designation, fatigue cracks in box girders, retrofit details
 - f. WSBS Papers, presented by Vin Bartucca

- g. TxDOT Preferred Practices for Steel Bridge Design and Erection, section 2.5 –
Details, presented by Greg Turco
 - h. General State Design Requirements (including Florida), by Christina Freeman and
Dennis Golabek
4. Shared Folder (5 minutes)
 5. Discussion and Poll on Document Outline (Remaining Time)
 6. Adjourn.



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability

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 Leadership

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

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

Zoom Information

Meeting Link:

<https://us02web.zoom.us/meeting/register/tZwrceCogD0qHNbZTLDKuCE5llpIXHO0pDj->

Zoom Meeting ID: 886 6906 6062

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Tuesday, October 27 (10:30 AM - 12:30 PM CT)

1. Chairperson’s Welcome (10:30 AM – 10:40 AM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Overview- Design to Fabrication/Detailing Model View Definition (MVD) (10:40 AM – 11:00 AM)
 - a. Quick overview of project and status
 - b. Questions and discussion
3. Design to Fabrication/Detailing IDM and Process Map (11:00 AM – 11:30 AM)
 - a. Items to be balloted
4. Working Group (11:30 AM – 12:15 PM)
 - a. Assign Data Requirements to the Detailing Model
 - b. Next Steps
5. Closing Discussion (12:15 PM – 12:30 PM)
6. Adjourn (12:00 PM)



AASHTO/NSBA Steel Bridge Collaboration

Fall 2020 “Virtual” Meeting

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 Leadership

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

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

Zoom Information

Meeting Link: <https://us02web.zoom.us/meeting/register/tZEsc-2gpjouE9EhOF2x3d1NbUeEf4g5Cv6H>

Zoom Meeting ID: 851 4488 1495

Zoom Meeting Dial-in: 312 626 6799

Meeting Agenda: Thursday, October 29 (1:00 PM - 4:00 PM CT)

1. Chairperson’s Welcome (1:00 PM – 1:10 PM)
 - a. AISC Antitrust Policy and Meeting Code of Conduct.
 - b. Approval of [Previous Meeting Minutes](#).
2. Task Group Reports - Approximately five minutes each (1:00 PM – 3:30 PM)
 - a. TG 1 - Brad Dillman (High Steel Structures)
 - b. TG 2 - Heather Gilmer (TÜV Rheinland)
 - 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 - Christina Freeman (FDOT)
 - i. TG 13 - Deanna Nevling (Michael Baker International)
 - j. TG 14 - Kyle Smith (GPI Construction Engineering)
 - k. TG 15 - Aaron Costin (University of Florida)
 - l. TG 16 - Duncan Paterson (HDR)

- m. Joint TG 1 Detailing, TG 11 Design, TG 12 Constructability – Christina Freeman (FDOT)
- n. Joint TG 1 Detailing, TG 15 Data Modeling for Interoperability – Aaron Costin (University of Florida)
- 3. Main Committee Operations Discussions – (3:30 PM – 4:00 PM)
 - a. Publications schedule
 - b. Upcoming meetings
- 4. Adjourn