



TECHNICAL ADVISORY COMMITTEE Memorandum of Meeting

10:00 A.M. Wednesday April 8th, 2020 – Go-to-Meeting

Present:

Nick Spence (Chair)	Atlantic	Kamran Derayeh	AMD
Kevin Williams	Atlantic	Dave Watson	Leland
Jason Sherwood	Atlantic	Jim Evans	AK Steel
Randy McDonald	Atlantic	Ian Berry	Warner
Phil Carroll	Atlantic	Mike Mounts	Valfilm
Scott MacRae	Armtec	Byron Nelson	Leland
Bruce Matheson	Frontier	Ray Wilcock	CSPI

Absent:

Heba Ahmed	Armtec	Mike McGough	NCSPA
Riley Wilson	Atlantic	Todd Gray	ACI
Marc Warden	Hubb-Cap	Derek Niezen	Ironside

1. Welcome and Opening Remarks

Kevin Williams opened the meeting at 10:00 a.m. and welcomed everyone. Attendance was taken and is recorded above.

2. Chair succession, nomination & vote

Kevin announced that he was stepping down as chair and put forth Nick Spence, Atlantic Industries as the new chair effective with this meeting. Kevin called for discussion and subsequent vote. There was no discussion and Kevin asked for a motion. Motion was made to approved Nick's appointment as chair by **Kevin Williams**, second by **Jason Sherwood** and all voted positive. Motion passed.

Kevin was verbally thanked for his leadership. The committee will formally thank Kevin for his dedication and service, the next time we meet in person.

3. COVID 19 – impact on future meetings, goals, etc.

Discussion: Nick opened the discussion with regards to what the future holds. Ray summarized what has taken place since March 13th. Working from home office, all travel cancelled and working on E-Blasts, future webinars and current projects. Only those items requiring travel are on hold.

4. Review Minutes from Nov 21st, 2019

Minutes were reviewed and a motion for approval was made by **Jason Sherwood**, second by **Scott MacRae**.

5. Outstanding Items to Complete

a) Bolt & Nut 3rd round of testing with MTQ (Ray)

Heard from Liana Stepan who has requested additional information on coatings. Working with Leland and ATOTECH to respond. Donald Villeneuve our main contact has retired. Response to MTQ expected by mid-April.

b) Rehabilitation White Paper release (Kevin)

Kevin – Final version has been submitted, waiting for final publication. Edits have been completed. Release expected for 2nd Q. Will be posted to the website – proceed with the technical bulletin.

c) MTO – Structural Plate Standards Advancement (Ray)

Participants:	Tony Merlo	Chief Bridge Engineer
	Walter Kennedy	Head Bridge Rehabilitation
	Kris Mermigas	Head Engineer, Bridge Design
	Erum Mohsin	Lead Bridge Engineer, Bridge Standards
	Darryl Langendoen	Sr. Bridge Engineer, Rehabilitation Section
	Ben Huh	Lead Bridge Engineer, Bridge Design
	Dennis Park	Atlantic
	Nick Spence	Atlantic
	Ray Wilcock	CSPI

Agenda / discussion notes:

1) Structural Planning Guideline: Tony to discuss with Kris how structural plate is considered in the structural planning guideline.

Kris stated that structural plate is in the guidelines and that it would take about 2 years to update. He would like to see chemistry similar to the Design Build guidelines.

Electrochemical limits are not well understood and MTO “have no direct control over consultants”. Concern from the MTO is that there are too many options for Structural plates, with various shapes, thickness’, coatings, etc. The current guideline is from 2005, so span limits and coating options would be dated. Review guidelines and submit what we would like to see.

2) Financial Analysis: Tony to advise how financial analysis of various bridge options, such as structural plate, is considered.

When products are being evaluated, rehabilitation costs play a part in the decision making. Rehab/repair costs/methods for Structural Plate can be an unknown by MTO engineers or Consulting Engineers and this can eliminate SPCS from being an option on a project. So even if the cost of a structural plate option is at an initial lower cost, if they don't have anything for rehab/repair/maintenance costs, it can be eliminated from the available option. Tony stated that MTO would be very interested in a rehabilitation presentation and future technical bulletin. When presenting, we should prepare as much as possible with respect to the sections of the report that discuss % of buried structures that have been rehabbed vs % of concrete structures, as well as highlight that many concrete structures have been relined with metal structures. Reach out to Dina Miron (613-545-4736), Kingston, who is the head of the Bridge Committee.

3) Design-Build Tenders: Tony to get back to CSPI on how design-build tenders are being drafted and how it appears there is a preferred product option in the tenders.

Tony explained that at conception stage, the bias is towards concrete structures as they look at the entire project cost, not just material savings. Although not fair, perception wins over reality. Education is necessary. He mentioned that one issue in both concrete and structural plate is the leaking from above at the joints. Refer to NSTIR spec, geomembrane over structures. Is it to our advantage to start including this if addressing it gives a leg up on concrete?

4) Design Guideline for Structural Plate: MTO to advise on who would be a liaison for the structural plate design manual. CSPI can take the lead on developing.

Kris & Erum will be the liaisons. As mentioned above, key will be to shorten the amount of options. It is worth noting that the concrete manual is being developed by MTO whereas the buried structure manual will be developed by industry. We should try to use this to our advantage, as the perception could be that an MTO manual carries more weight than an industry manual.

5) Rehabilitation of Structural Plate: CSPI open to presenting to MTO the structural plate rehabilitation report later this year. Covered above. Very interested in the Queen's report and how we present that.

6) Further discussion required on drafting a structural plate technical design guideline (section 7 of CHBDC). Include notes required for drawings and tenders. Covered above.

7) Touch base with Kris Mermigas, head of design to educate on materials, service life, etc.

Kris was present and took the lead on much of the conversation from MTO's perspective. He will be a key contact going forward. It was noted there were comments made regarding lack of confidence in laboratory testing vs real world performance, directed mostly at polymer coating. Also, a general comment that no material lasts 75 years (including concrete).

8) Tony to talk to the Bridge Committee in September about deep buried structures, LCA, etc.

MTO was interested in hearing about the Environmental impact of Structural Plate, however are keen to see what the overall impact is of an entire project (cradle to grave). Less equipment at the construction site, smaller equipment, shorter times for construction, less traffic congestion and time, etc. Our snapshot needs to be expanded to a more overall scope for an entire project/life of a structure.

9) Tony to advise Ray on MTO participation on the CSA G401 committee.

Adam McDonald. Kris will confirm.

10) Tony to advise Ray on including NZF3000 bolts in specifications, Design Build or reference to CSA G401 once published.

Submit to Kris once it is published in CSA G401.

11) Use Bid Enquiry when tenders are unclear – multiple materials shown, etc.

This is an issue of human error. Common complaint of ORBA. Solution – use bid enquiry for clarification.

12) QVE – responsibility of the C.A.

Concern at MTO. Would like to standardize similar to OGPDG. Will look at Design Build Spec. Tony commented on his previous response to Heba as follows:

“I had a meeting yesterday with Magdy and our contracts people. The expectation is that the supplier is responsible for certifying the installation. The reason being that it provides the ministry with assurance that the installation is carried out as per the requirements of the supplier. Our view is that the supplier is in the best position to know the specific requirements of the installation and to judge if the installation has met these requirements.”

Take up with replacement in the near future. Address at the bridge committee level.

13) Other

Dennis asked about changing the name of our structures from Culverts to Buried Bridges/Structural Plate Bridges/ Soil Metal Structures in their Structures Manual, as it causes lack of understanding. MTO thinks it would have a major trickledown effect in all of their documentation that currently references our bridges as culverts. They did not say that this could be done, but we would need to have a proper definition as well. As Bridge Engineers, their current definition of a bridge is anything with less than 600m cover. This is important to help change the stigma about our products.

Committee to review and prioritize items.

d) Galvalume – release of final report from Pete Ault (Kamran / Ray)

Kamran updated: Contacted Pete Ault who stated final report to be released by April month end. Next step is to update Bulletin #1.

Resistivity strips have been found and will be ordered for future water testing. Nick commented on writing a spec for water testing. A possible ASTM spec.

e) MTO Bancroft Polymer Laminated Site – final sign off from MTO (Ray)

Met with Art Groenveld (MTO) on December 3rd in St. Catharines. Sign off complete.

f) Bay of Fundy & Cabot Trail polymer coated sites – future visit (Ray)

Dates to be determined.

Site visit to cover:

- Abrasion 4 or tidal waters, ice conditions?
- Water velocity, chemistries, grade of pipe, fish passage design?
- Inlet control to protect sediment from entering pipe. Characterize the upstream water feeding the pipe, sediment load.
- Send pictures to Ian.
- Find out more information and root causes of the abrasion. Work with Roger Leger.
- Bay of Fundy (AIL), Cabot Trail (Armtec)
- Nick to share any information he has on the Bay of Fundy site

Phil: Port Hardy (Armtec structure) site to visit – similar abrasion issues. Future visit for site inspection next time in B.C.

g) AT – Bridge inspection guidelines response from CSPI (Ray / Bruce)

Met with AT on February 25th which included 4 AT staff with representation from FSI, AIL & Armtec. AT has asked CSPI to put together training guidelines for culvert plants inspection.

- Compare plant certification technical bulletin to AT inspection manual and put together a subcommittee to review a training program for AT. Committee members will be Bruce Matheson (FSI), Richard Fleming (AIL) and Armtec (Scott) to name a member.
- Communicate to AT a letter of concern on the difference between storing (concave down) and shipping of plates (concave up) for safety reasons. Armtec & AIL to participate. Send letter to Dave Besuyen and cc Des Williamson & John Alexander.

6. Long Term Items

a) ASTM A742 ballot- update (Mike Mounts)

Approved ballot for abrasion testing for A742.

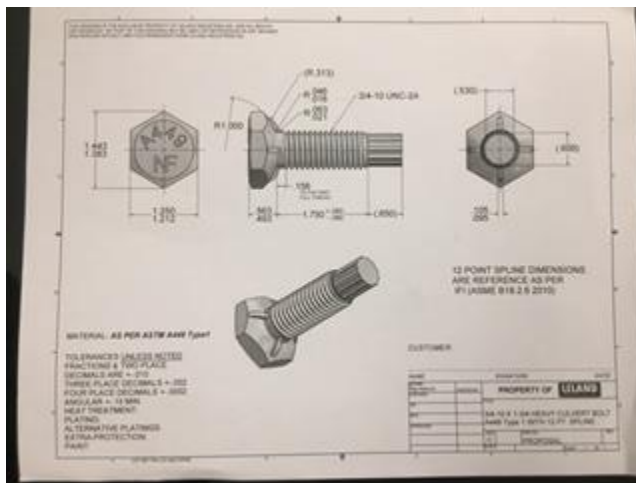
Mike to review the boiling water method and will report on testing methods of both coaters at the June 2020 meeting. Mike asked Ian for a time frame on the water boiling test. Ian stated that it is about an hour. Kamran believes there is a standard and will take a look. For future, leave item on as ASTM A742 update.

b) Thermopolymer plate in brackish/salt water – (Ray)

There are three sites requiring a review (1 in BC, QC & NS) in 2020. QC site set up on September 6th. Site visits to be determined.

c) Bolt & Nut Research – Higher abrasion resistant coatings (Leland lead)

Covered in 3 a) above for MTQ.



Byron stated that the tooling for these new bolts should be ready in about 4 weeks. Dave to ship samples to Nick and Scott for testing. Nick and Scott to send shipping addresses to Dave.

d) Green Handbook update (Scott to discuss proposed plan)

Jason: We have budget savings from the current environment, thus should we look at a 3rd party to coordinate this to move it forward. Scott and Randy agreed, provided they have the right skill set. Jason suggested Steve MacKinnon and Bruce suggested Dave Penny.

Scott to reissue the proposal and work with Nick & Ray to put together an RFO.

e) Project Priority as voted by the board

1) EPD comparison to concrete (Ray / Stan)

Ray informed the committee that Groupe AGÉCO from Montreal has been chosen to perform the review. Kick off meeting held on April 1st attended by 3 AGECO staff, Stan & Ray. Information exchanged. Details are as follows:

- 2 months review
- Report June 10th
- 1.5 months of critical review by 3 members panel
- Final report July 20th or TBD (COVID 19)
- 17 weeks process

- Manufacturing members encouraged to look for improvements and start tracking EPD information for future update. Annual renewal with 5-year update. Spreadsheet for tracking sent to all manufacturers.

2) CSA quote update (Ray)

Funding of \$45,000 available. Once committee has signed off on updates, will seek quote from CSA. Last meeting held on February 14th. Next meeting scheduled for April 29th at 10:00am EST.

7. Ongoing Items

a) Kleskun Hills – update with AT (Ray)

Presented report in December 2019. The 5-year project with AT is complete.

b) ASTM (Kevin / Mike / Ray)

1. ASTM A1113/A1113M covering polymer coated plate and bolts passed
2. A762 repair language ballot approved
3. A742 abrasion testing ballot passed

Ray to send Ian, Byron & Dave the new spec A1113/A1113M.

The month of May face to face meetings were cancelled and replaced with WEBEX on May 11th & 12th.

c) NCSPA update (Mike)

Annual meeting cancelled and replaced with WEBEX meetings.
Monthly meetings held for TAC with emphasis on Quality Program.

d) TRB – Long Span Buried Bridge Webinar Results (Kevin)

Held on October 3rd. Kevin was one of the speakers. Available for download from the TRB site.

e) CSA G401 update (Kevin)

Update: Covered above.

f) AREMA (Mike)

Nothing to report.

g) CSCC Canadian Steel Construction Council (Ray)

Nothing to report.

h) AISI News (all)

Webinar on buried bridges on May 5th at 3pm given by Joel Hahm and Mike McGough. Send details to Scott.

6. Discussion / New Business

a) PPI Environmental Sustainability Statement (Ray / Mike)

PPI has removed the graph indicating a smaller carbon footprint for HDPE versus CSP and RCP

b) ASTM specification for water testing – Ray to lead the standard / specification once technical bulletin 1 is updated. Include AIL, Armtec, AMD, Warner, & Valfilm. TBD – spec or technical bulletin.

c) Include TAC (Transportation of Canada) on L/T items for update at next meeting.

7. Adjourn & Next Meeting at the call of the chair

The meeting was adjourned at **11:36am**. Next meeting at the call of the chair.

Nick Spence
Chair

Ray Wilcock
Executive Director