CORRUGATED STEEL PIPE INSTITUTE
TECHNICAL ADVISORY COMMITTEE
Memorandum of Meeting

10:00 A.M. Thursday March 5th, 2015 – Cambridge, Ontario

Present:

Kevin Williams (Chair)	Atlantic	Dave Watson	Leland
Lyndsay Dokas	Armtec	Kamran Derayeh	ArcelorMittal
Ian Berry	Warner	Dave Penny	CSPI
Phil Carroll	Atlantic	Ray Wilcock	CSPI
Byron Nelson	Leland		

Absent:

Bruce Matheson	Frontier	Chris Groot	ES Hubbell
Shane Setter	Ironside	Randy McDonald	Armtec
James Evans	AK Steel		

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1. Welcome and Opening Remarks
Kevin Williams opened the meeting at 10:00am.

2. Review Minutes from November 12th, 2014
Minutes were reviewed and a motion for approval was made by Kamran, second by Dave Watson.

3. MTO / MTQ Structures Task Force

a) MTO Design Guidelines
The specification was completed and was implemented on March 1st. Many of the changes we requested were accepted. There were a few areas that we will continue to pursue going forward. The big win is that this specification has a clause which states as follows:

As of July 1, 2015, all SPCS used on the Contract shall be supplied from a manufacturer that produces the SPCS according to CSA G401 and shall be certified by a certification body recognized by the Owner and have a **valid certificate from the Corrugated Steel Pipe Institute (CSPI)**. The certification body shall be an independent 3rd party agency accredited by the Standards Council of Canada that has the qualifications, skills, and expertise required to confirm that a culvert manufacturer produces culverts to the quality and requirements of an accepted standard and that has the mandate to certify the culvert produced. Certified SPCS shall be marked according to CSA G401, along with the logo of the certification body and CSPI stamp.

This will prevent non-members from participating and circumventing the rules as was done in 2014. Structural plants will need to be certified by July 1st, 2015.

Kevin highlighted two areas to pursue; 1) Water proofing, and 2) maximum deflection of structure of 3%, would like 5 to 6 %. He also recommended that we retain Baidar Bakht to lobby this effort.

Action: Ray to advise Maria Bianchin (MTO) of these issues that we would like to table for discussion. Also, Ray to review CSPI budget for including Baidar.

b) Bolts & Bolted Seams – Abrasion / Corrosion Testing

MTQ required some information on the Leland coatings. Byron contacted MTQ and satisfied their request. The report from MTQ should be released within the next week. Kevin asked about the Kesternich results. Byron stated that cycles are in the 30 range and all proceeding well.

There was a great deal of discussion surrounding the corrosion results. Ian reported that at 2,118 hours the DT 2000 silver and black are performing well with little corrosion apparent. The failure level for HDG is 280 hours. Ian reported that polymer plate has passed 12,000 hours salt spray following ASTM B17 test. He is also checking for creepage on scribed plate. The test is at 7,000 hours with no issues.

Kevin inquired about the 7 bolts that were given to Leland for testing. Byron stated that this in process. He also wants to look at putting zinc flakes over HDG to increase the thickness as a potential means to increase resistance to abrasion.

Questions were raised regarding the length of tests and what is required to proceed with a recommendation going forward. It was stated that there was three tests 1) Corrosion, 2) Abrasion and 3) Kesternich that needed to be compared against the HDG bolt now accepted as industry standard. Kevin asked about polymer plate Kesternich testing and what would be the required standard. 30 cycles appeared to be the required result. Kamran stated that AMD cannot do the testing in Canada. Byron agreed to supply Ian with contacts in Kentucky that Leland uses for Kesternich in order for Ian to conduct testing on Trenchcoat and Warner's product (scribed and unscribed).

Once the test results are received from MTQ and Kesternich, the next step will be decided. The idea is to establish a relative benchmark of the bolts performance vs. galvanized and Trenchcoat steel for abrasion, salt spray, and Kesternich.

c) CSA Certification of Structural Steel Plants

Ray will be meeting with Quasar on March 18th. The final protocol will be ready to go by then with certification deadline set at July 1st, 2015.

4. NFLDOT Structures

CSPI has been asked by Doug Powers (NFLD Chief Bridge Engineer) to write the Polymer Coated Plate specification. Ray will vet the spec through Kevin before submitting. Ray will be meeting with Doug next week in Newfoundland.

5. Polymer Laminated Research Project – Alberta Trans

5 year project – next site visit will be August 2015. Dave commented on the BC spec request. This is a one off and CSPI will submit to the Engineering Consultant.

6. Steel Drainage Handbook Update

Lyndsay reported that it is ongoing, however no update from the last meeting. Kevin reported that calculations and examples are being worked on to bring Tech Bulletin #13 (durability) into the handbook. Kevin/Lyndsay agreed that flexibility checks would be brought into shallow corrugated design calculations. AIL and Armtec to compare notes to establish common information in design methods. Kevin also stated that the height of cover tables needs to be looked at per BC request but this would take place after the standard calcs have been updated.

7. Transportation Research Board

Kevin & Randy attended the meeting in January. Kevin reported that buried bridges presentations will be available this summer. A webinar this summer titled "How to design buried bridges" will make for an excellent marketing tool to invite DOT's, Consultants, etc.

Kevin reported that the Virginia DOT has placed a moratorium on "cured in place" concrete rehabilitation method, due to storm water management issues, impacts on fish and other wildlife. Dave mentioned that this process was banned in Ontario a while ago.

Action: Kevin to supply the presentations to Ray for inclusion on the CSPI website.

8. ASTM Update

Kevin reported as follows:

ASTM A796 – update the design approach. Kevin has received conceptual support from Contech and Lane and this will now proceed with a ballot.

ASTM A761 – AIL flange ballot has moved on to Main as is. Agreement discussed with industry that would support the ballot as is through to publication. Once the ballot has been published AIL will take out another ballot to modify terminology for Type 1 vs. Type 2 connections.

Kevin is reviewing a draft test standard developed by SGH which is looking to standardize a testing and normalization approach for the axial strength of deep corrugated steel plate.

9. Fish Ladder Presentation – MTO Opportunity

Dave gave the power point presentation on the structural plate fish ladder that he gave to MTO London. The CSPI Hannaford design has been accepted by MTO and is planned for summer installation. The modeling on flows was performed by Jason Duguay of the Universite de Sherbrooke at a cost of $3,500. One issue that has surfaced within the last week is there are power lines near the plunge pool where the crane will be that may need to be moved. Since this meeting, Dave has talked with MTO and it appears that this will be taken care of by Ontario Hydro by shutting off the power only. Dave has supplied the consultant with installation sketches and all appears on track at this time.

10. Discussion / New Business

a) AREMA (American Railway Engineering & Maintenance of Way Association)

This is a PPC marketing initiative. The plan is to join for a year and determine feasibility after that.

b) CSCC (Canadian Steel Construction Council)

CSPI will remain a member however will not attend future meetings due to minimal interaction and benefit. Steve Fox will keep Ray up to date on a needs be basis.

c) Ontario Gravity Pipe Design Guidelines Webinar

Our speaker, Art Groenveld from MTO is on sick leave due to his back. He is expected to return to work by mid-March. Once he is able, we will plan for this webinar to be scheduled.

d) In the Trenches Release

Website was updated in February and notification via "Chimp" mail was released 1st week in March.

e) Ideas for new Technical Bulletins

Ray suggested the idea of "rehabilitation of inverts" using the methods in that are used in Sweden. I have reached out to Viacon and Nordic Culvert for more information. No response thus far. I suggested this method to the NB Miramichi DOT district supervisor. Dave suggested I include polymer coated and baffles.

f) Research Projects – Rerolled Ends?

Ray threw out the idea of a coupler that would not require rerolled ends. This was just to put out an idea to stimulate future thought with regards to research. For future considerations.

g) New Business

Phil stated that Alberta Transportation document "Local Road Bridge Design Guidelines" contains guidance to municipalities that should be shared with all members. Ray will download PDF and sent to committee members.

Phil mentioned that there was a sink hole on Highway 99 in Vancouver. It was a 14 FT pipe arch. After the sinkhole, several alternatives were analyzed by the owner (bridge, pre-cast box) and replacement of the NB lanes section was chosen along w/ concrete invert of SB lanes. The connection between the old and the new was designed by Associated Engineering – apparently it was done previously in AB. Basically layer crown / corner plates over existing, then butt joint the invert plates, with an extra invert plate on top. Then pour concrete invert / sides, like a flume. Phil will send some pictures.

11. Adjourn & Next Meeting

The meeting was adjourned at 12:08pm. Next meeting tentatively scheduled for Thursday, April 23rd.

Secretary
Ray Wilcock