Summary Minutes Of The
AASHTOWare Bridge Rating and Design Products Meeting
November 13 – 15, 2012   Boston, MA

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General Information – Meeting of the Bridge Products Task Force

Date: Tuesday, November 13, 2012

Participants:

AASHTO	Judy Skeen	Project Manager	Bridge Products
SCOJD	Bruce Johnson	Oregon DOT	
T&AA	Wally Ballou	Kansas DOT	
BrD/R Task Force	Tim Armbrecht Bryan Silvis Joshua Sletten Dean Teal Amjad Waheed Tom Saad	Illinois DOT Virginia DOT Utah DOT Kansas DOT Ohio DOT FHWA Resource Center	Chair Bridge Design (Opis) Bridge Rating (Virtis) Bridge Design (Opis) Bridge Rating (Virtis) FHWA Liaison
BrM Task Force	Ralph Phillips	Connecticut DOT	Bridge Management
BrD/R Contractor	Jim Duray Herman Lee	Baker Baker	
Guests	Mike Taylor John Sze Tuan Nguyen	MassDOT MassDOT MassDOT	

Note Taker: Tom Saad

General Discussion
The meeting began at 8:11 AM. Meeting attendees introduced themselves.

Review Agenda / Assign minutes recorder
No additional items were added to the agenda at the start of the meeting.
Tom Saad was assigned as the minutes recorder.

Prior business
1a.   Review June meeting minutes
Montgomery Meeting Minutes: Change to page 8 - strike the last sentence of the second paragraph under item 5a. The June meeting minutes were approved with the aforementioned change.

Niagara Falls Meeting Minutes: The July meeting minutes were approved as-is.

Edits to the Montgomery meeting minutes for the User Group will be discussed under agenda item 10. Executive session portions of the meeting minutes will not be included in the User Group meeting summaries. The contractor will develop the User Group summary minutes for the Niagara Falls meeting and submit them for review.

Financial overview and work plan summary
2a.   Update on Phase 15 (FY 2011)
The Contractor summarized the Phase 15 report. Four tasks from the FY 2011 Work Plan are still active.
- FP6, Detailed LFR Report, is 100% complete.
- FP22, Floor Truss Boundary Conditions, is 100% complete.
- FP27, Drilled Shaft, is 70% complete.
- FP28, RC Culvert, is 100% complete.
- The other 24 fixed price tasks are completed or deferred.

2b.   Update on Phase 16 (FY 2012) – Final TM Budget
The Contractor summarized the Phase 16 report. The following items were called to the attention of the Task Force:
- All Time and Materials tasks are 100% complete.

2c.   Update on Phase 17 (FY 2013)
The Contractor summarized the Phase 16 report. The following items were called to the attention of the Task Force:
- MSE FP3, Fixed Price Maintenance, is 33% complete.
- MSE TM8, TM8A, and TM8B represent Task Force directed work.
- MSE TM13, Specification-related Updates requires additional funding.
- 6.5 SU work for Okie Pros has been completed.
- 6.5 Task FP1, User Requested Improvements, will be increased from $100,000 to $104,000 to support the development of User Group requested enhancements.

Update on Virtis/Opis Licensees (FY 13)
3a.   Product Report
The Contractor reviewed the Product Report. Judy handed out spreadsheets summarizing Bridge Design/Rating licenses for FY12 and FY13 and provided an overview of the data presented.

3b.   Service Unit report
The Contractor reviewed the Service Unit Report.

3c.   Licensing options
The Idaho DOT approached the Task Force to request that the Task Force consider offering a licensing option to allow consultants to license a multi-pack license that can be used for work on multiple workstations, doing work for more than one state. This issue will be discussed in the future after the Task Force has had an opportunity to review the software licensing counts available in the data download from AASHTOWare Manager. End user support

avenues need to be considered in concert with changes being considered to the current licensing structure.

After considerable discussion, the Task Force decided to change the single workstation licensing option to increase the fee for the first license to $10,000. Subsequent single workstation licenses for a user entity would be $8,500 each. Governmental entities licensing either the unlimited or single workstation versions of the software will be allowed to send one participant to the annual User Group meeting (with expenses reimbursed by AASHTO).

Support and Maintenance report
4a. Incident and support summary
The Contractor reviewed the defect history report for 6.4 releases. Forty-four (44) bugs were reported between June 2012 and October 2012. The number of unresolved bugs is currently 30 and none of these are critical.

4b. Progress on bug resolution
The Contractor reviewed the following handouts.
- Maintenance Progress for 6.5 and 6.4 releases.
- Unresolved Incidents in Maintenance Progress for 6.4 Release. Deck rating results are not being reported correctly in the analysis results screen. The data output from Madero is correct; however, one bug, likely within the engine, exists. Madero was developed by the University of Wyoming via a research project for the U.S. Forest Service. Development of a timber engine will likely be included as a future enhancement to BrDR.

4c. Enhancement list update
The Contractor reviewed the Buckets and Enhancement List handouts.

4d. Maintenance issues
Maintenance items will be discussed under agenda item 11b.

Update on 6.4.1
5a. Progress and schedule
The first beta release was posted last Friday (November 9, 2012) for the beta testers to download and test. The plan is to have beta one testing completed prior to Thanksgiving (November 21, 2012). Bryan Silvis will send an email to the TAG members to remind them of the beta testing process and schedule. The Task Force would like to have all reported bugs corrected in beta 2, which is planned to be posted during the week of December 3. Beta 2 testing should be completed by the week of December 10.

Update on 6.5
6a. Progress and schedule review
- Work on the curved girder is in progress. Database enhancements to support curved girders are being developed.
- Working to revise the analysis procedures and mock ups for post-tensioned elements.
- Capacity override is well underway. Spec articles and windows are being developed.
- Montana corregated deck enhancement is almost complete.

Development of 6.5 will be completed in April 2013. Alpha will be conducted in May and June. The schedule is approximately two to three months behind the normal schedule for product delivery. The current schedule will result in the production delivery not being available prior to the User Group Meeting.

Following much discussion, the Task Force made the decision to focus on low-hanging fruit and a two-stage approach to the release delivery in order to provide an updated version of the software prior to the User Group meeting. A June

release of the software would be optimal. The Contractor advised that the slab system functionality is a candidate for earlier release. Slab system mockups would include Caltrans requirements to incorporate the box analysis in the slab system design. This approach would result in the second release scheduled in the August – December 2013 time frame. The second release would include post-tensioned and reinforced concrete box elements.

The Task Force further discussed the need to ensure that the two-phase release approach does not sacrifice the product's quality. Care should be taken to ensure that added enhancements do not negatively impact current functionality with the introduction of bugs to code that was previously bug-free.

In addition to California and Idaho, Arizona, Colorado, Florida and New Mexico will be asked to participate in the testing as TAG members. Current TAG members will be contacted to determine who is interested in participating in the 6.5 TAG.

Run time frames and server crash issues were discussed at length. The need for flexibility in being able to remove the loading of cross frames in the analysis computations was also discussed. It was decided that curved girder analysis (using concentric curves) will proceed. A progress indicator will be added to the finite element generator in the next release. The identification of an estimated time in which the analysis will be completed should also be incorporated.

6b.　　Curved girder mockups
The Contractor reviewed the curved girder round 1 TAG comments and mockups. The following tasks were included in the mockups.
- **Load Factor Rating of curved steel beams****
- **Crossframe Forces****

- Crossframe Spec Checking
- Revisions to Bridge Alt Wizard
- Simplified Diaphragm Wizard
- Display support bearings to help users enter skew

The following tasks were not included in the mockups.
- Lateral bracing of bottom flanges
- **Modify Supports window for bearing constraints not tangent to girder****
- **Store influence surfaces for later re-use****
- **Allow user to pick which crossframes should be loaded and spec checked****

** Enhancements, in addition to slab systems, to be include in the June 2013 release.

Enhancements
7a.　　User Group Top Ten Estimates
The Contractor reviewed the User Group top ten list and the associated enhancement detail information. $100,000 is available to fund user requested enhancements. The following User Group requested enhancements were approved for development. This totals $104,200. Therefore, as agreed with the contractor, the Task Force will request a change to FP1, increasing it from $100k to $104k.

1 – Number of decimal points shown (Option 1)
3 – Allow for beam top flange Lateral Support to be entered at point locations
4 – Add a Stop Button to Stop an analysis Run
6 – Weld Design
7 – Enhancement for Shear Stirrup Wizard
8 – Copy Bracing from One Bay to Multiple Bays
10 – User defined shapes and materials

The User Group's enhancement rated as number two, 'Rate steel girders as simple for dead and continuous for live will be included in the 6.6 Work Plan.

7b.   R/C Frames conceptual mockup and rough estimate
Reinforced concrete examples were reviewed and discussed.

7c.   Bridge Explorer Additional Fields
A "warning" message to overwrite with "OK" to continue was determined to be incidental to the estimate.

7d.   VI 10776 Adj. vehicle rating
This item is also included in the maintenance item list. This enhancement is the functionality that Tim Armbrecht previously discussed with CalTrans. New York is also interested in this enhancement.

7e.   Adj. vehicle truss rating and interaction eqn. (2011-VO-34)
Originally requested by CalTrans.

7f.   Use of welded wire in culverts (2012-VO-60)
Action item assigned during the Task Force meeting in Montgomery, AL.

7g.   2013 Interim spec updates
The control option to consider increase in shear load in varying depth concrete beams for 5.8.2.8 is included in the estimate.

7h.   Integral abutment rough estimate
The estimate only includes steel H piles (i.e., no pipe piles).

Miscellaneous Topics

8a.   Support web site "facelift"
The Contractor provided illustrations of websites the contractor has developed. The support site is currently hosted by the contractor, but it could be hosted at an AASHTO site.

8b.   Simplified BWS tree mockup (2012-VO-87)
The Contractor reviewed the simplified BWS tree mockup. Several items on the current tree would be moved to sub-items. Three main tree items are intended (Components / Superstructure /Substructures) although not currently reflected in the Handout. If approved, this concept could be applied to other structure types. This might be better accomplished in conjunction with the .NET upgrade.

The objectives of the proposed mockup include:
- Hide alternatives
- Condense the tree
- Minimize changes to the existing windows
- Only applies to bridges consisting of one bridge alternative, one superstructure, one structure definition, and one member alternative per member. Perhaps for bridges with multiple alternatives, etc. it could show only the ones marked 'Existing' or 'Current'.
- Allow user to switch between standard view and simplified view as long as it only applies to bridges consisting of one bridge alternative, one superstructure, one structure definition, and one member alternative per member.
- The tree remains similar to the standard view.
- Similar for the other structure types.

8c.   User interface discussion
The 'Proposed Input Revisions for AASHTOWare Bridge Rating Software' document, produced by the NMDOT, and verbal input provided TxDOT were discussed.

8d.   SEI Update
Addressed in agenda item 11a.

8e.   VSE availability
Michigan, and other states had inquired about enhancing VSE. The policy previously established by the Task Force is that there will be no further support for VSE, but that states may use service units and directly contract with Baker to enhance VSE. Michigan has since indicated they can use BRASS.

8f.   Single Workstation Pricing
Addressed in agenda item 3c.

8g.   Report TAG update
No work during the past quarter.

8h.   Brainstorming results
No longer require this item; will be removed from future agendas.

8i.   IssueNet migration to JIRA

Herman suggests two options:
1. Establish JIRA database and migrate IssueNet incidents based on what proposed in Handout BM-8i.
2. Establish JIRA database, but do not migrate incidents. - Use IssueNet for old issues and simply reference old VI incident numbers in JIRA if needed.
There may be as many as 450 users; all can register when JIRA is established. The Task Force agrees to Option 2.

Third-Party Issues
9a.   DVD Delivery content (engines)
The DVD will not include analysis engines; therefore, developers will not have access to 3D. Since it is part of the AASHTO engine, the contractor recommends making the non-standard gauge available to developers. The Task Force discussed the need for the contractor to have 3rd party engines in the event there is a need to analyze problems. BRASS was unwilling

to provide contractor with a free version for potential problem solving. There is no desire to have access to source code, only the engine for possible debugging needs.

Josh will follow-up with developers as he planned to discuss providing the full package with them in January. Currently, the developer license is only $500. This item will remain an agenda item for the January 2013 meeting.

9b.   Plug-ins
Estimate allows 3rd parties an option to add to the Bridge Rating menus only those products they wish to launch from their products. For example, 3rd party has 'app' that to download or upload data to BrD/R similar to the Kansas need to have an 'app' that uploads data from BRASS Culvert into BrR. TF agrees that there is no need for this expenditure, until several 3rd parties have this need. Follow-up discussion can be beneficial after the Carnegie-Mellon workshops.

9c.   Mutual Partnership discussion
Judy Skeen discussed App store options with Jan Edwards. Jan supported moving forward with possible consideration, keeping the following thoughts in mind.
- AASHTO should not be a sales channel for third party software unless there is an advantage for the membership.
- AASHTO should consider pursuing relationships with third parties if such a relationship would result in better, faster, cheaper solutions for the AASHTO membership.
- AASHTO would support pursuing opportunities should the Task Force recommend such a direction.
- Interested vendors should be asked to put forth a proposal for Task Force consideration.

Tim suggested a possible venture with Bentley to develop a specific 'app' such as permit analysis for major and unusual bridges (i.e. cable-stay or suspension). Discussion suggests that other 3rd parties should not be excluded from these discussions; one vendor should not have an opportunity that others do not have access to. Further discussion for this agenda item at future meetings is recommended.

User Group

10a.   Summary Minutes from June meeting

Work Plan

11a.   .NET discussion

The Contractor indicated that they need to have further discussions with Carnegie Mellon to understand what will result as an outcome of the proposed service agreement 8d. Tim suggested that an interative design module could be developed using .NET.

Josh, Wally and Dan Wyly should be in attendance at the workshops. Josh would like to have an advance list of questions that will be discussed at the workshop. If capitalization funds are available, the workshop should be scheduled and additional invitees should include Brad Wagner, Todd Thompson, Jeff Olsen, Bryan and Dean.

The goal is to establish a draft .NET implementation plan by the November 2013 meeting in New York City and to have it included in the 2015 work plan.

11b.   Maintenance items

Task Force can set aside money to address some maintenance items.

11c.   FY2014 Work Plan

The Task Force spent 45 minutes addressing the 2014 work plan and making modifications The contractor will fine tune some of the estimates in preparation for the January 2013 Task Force meeting (see Action Item for agenda Item 11b).

The Task Force is interested in putting these enhancements in the Work Plan:

Prestress Deisgn Tool (.NET)
Curved Girder Part III (addresses TAG comments)
Rate Steel Girders Simple for DL and Continuous for LL
Maintenance Bucket work
VI 10776 Adjacent Vehicle Rating
Anticipated additional work for PS/RC box based on TAG feedback

11d.   Future Work Plans

The Task Force agreed to table discussion until the January 2013 meeting.

11e.   Long-term plan

The Task Force agreed to table discussion until the January 2013 meeting.

FHWA Update

FHWA hosted a webinar on the impacts of the new 2 year highway bill, MAP-21, on September 13, 2012. Additional information can be found at http://www.fhwa.dot.gov/map21/presentations.cfm.

FHWA Office of Bridge Technology distributed a memorandum to FHWA Division Bridge Engineers to ensure that Specialized Hauling Vehicles are being included as legal loads in the load rating process, for SHVs that may operate in a particular State. Additional guidance on the need to evaluate SHVs is being prepared by the Office of Bridge Technolgy.

Upcoming NHI courses for loading rating are being hosted by NJDOT and IADOT.

FHWA is hosting a webinar on the implementation of load rating software on February 28, 2013, as part of the webinar series to promote the use of LRFR in load rating. FHWA requests a 45 minute presentation on the capabilities of BrR, and will also invite other load rating software vendors to

participate in the webinar which will include a second session in the spring of 2013 to allow 8 to 10 vendors to demonstrate the functionality of their software.

Marketing / Training

- **Pennsylvania** – Judy called PENNDOT on 10-18-12 to follow-up on their request for a Bridge Design/Rating demonstration. The Department has not yet responded to her voice mail message.
- **Texas** – Judy followed-up with TxDOT's request to secure a demonstration copy of the Bridge Rating software. TxDOT responded that they would be interested in securing the software in the November 2012 time frame. A decision on what version of the software should be provided to TxDOT shoud be made by the Task Force to ensure a majority of the TxDOT issues have been addressed in the software they are provided.
- **West Virginia** – Received a follow-up email from WVDOT on 11-01-12. WVDOT is working towards getting approval within their DOT to initiate the demo software use effective 02-01-13.

TF Executive Session as needed
A brief executive session was held at the conclusion of the general session on Wednesday.

The meeting was adjourned at 5:10 P.M on Wednesday. The meeting resumed on Thursday morning, for 90 minutes.