

**Summary Minutes of The
AASHTO Virtis Opis Task Force Meeting**
October 26-27, 2010 San Francisco, CA

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General Information – Meeting of the BRIDGEWare Task Force

Date: Tuesday 8:00-5:00

Participants:

BRIDGEWare Task Force

AASHTO	Jim Ramsey	Project Manager	BRIDGEWare
V/O Task Force	Tim Armbrecht Beckie Curtis Dean Teal Bryan Silvis Joshua Sletten Tom Saad	Illinois DOT Michigan DOT Kansas DOT Virginia DOT Utah DOT FHWA	Chair
Pontis Task Force	Mike Johnson Scot Becker Paul Jensen Francois Ghanem	CalTrans Wisconsin DOT Montana DOT New York DOT	Chair
Contractor	Jeff Campbell Jim Duray Herman Lee	Baker Baker Baker	

Note Taker: Beckie Curtis

Meeting opened at 8:00 AM

General Discussion

The Task Force welcomed the latest member, Josh Sletten.

The Task Force accepted the agenda as presented with no changes and assigned a minutes recorder. They reviewed and approved the prior meeting minutes with a few modifications.

Financial Overview and Work Plan Summary

Update on Phase 14 (FY 2010)

Task Force approves line item changes to the Time and Material budget in order to balance the line items.

Update on Phase 15 (FY 2011)

Some items are running a little over budget, for example support. General agreement to monitor - No changes were made at this time.

Update on Virtis/Opis Licensees (FY 11)

Product Report

The Contractor was questioning how consultants that are operating under the umbrella of an agency unlimited option should be shown. The Task Force directed that these consultants should be shown with the State in the

Agency Sponsored Consultant License section. AASHTO will provide the Contractor with the list of consultants that fall into this group. The Task Force further mentioned that Puerto Rico should also be listed.

States are finalizing their license renewals. The Task Force anticipates all the state will renew their licenses.

Service Unit Report

The Task Force reviewed the Service Units Report.

Support and Maintenance Report

Incident and Support Summary

The Contractor reported that there is a small increase in bugs.

Progress on Bug Resolution

Many resources were dedicated to the product release and betas. This prevented those resources from working on bugs and there was an increase. This should decline now that the release is no longer being worked on.

The cut-off for bugs being incorporated into the next release was set for December 31. However, with the late



release for this version, there will be bugs that “should” have been in the release but will not make the cutoff. These should still be tracked.

Enhancement list update

The list was reviewed. Enhancements added to the work plan were updated by the Contractor.

Critical Bug discussion – VO Issue Policy

The additional items required from the Issue Policy were reviewed and the Contractor estimated 300 hours for each year. The Task Force supports the additional effort for the task.

Update on 6.3

Progress and Schedule Review

The Contractor mentioned that the current schedule appears to be on track for February 9 to finish. This estimate does not include the proposed contract amendment.

Task Force Requested Testing.

The Contractor expanded upon the discussion regarding testing from the Nashville User Group Meeting. The significant additions are a quality assurance spreadsheet and an alpha testing tool similar to the tool used by NCHRP 12-78 to compare results. The NCHRP utility will be carried forward for future releases, but the quality assurance spreadsheet would only cover LFR for this release.

The Task Force feels that expanding the test suite by 16 additional user-provided bridges is a low estimate of the numbers that would be submitted to represent the TAG’s inventory. The Contractor indicated that the number of bridges is directly related to the budget hours.

The Contractor explained that bug fixes were tested for each Beta build, but did not check previous Beta builds originally. This new process would check the bugs that were fixed in each version of the Beta every time that a new build is made. The Task Force expressed concerns that adding this effort should be reflected in a reduction of costs as the bugs are identified and resolved sooner in the process. The Task Force further commented that the program should be able to identify values that indicate an error has happened at some point and develop an error log. The Contractor mentioned that they could add acceptable values in the flow charts so that the developers would know what to add the code.

The Task Force agreed to include the extra hours for testing in the contract modification with the assumed number of Beta builds reduced from 7 to 5.

Load Factor Flowchart Review Comments: Reviewer Requests.

The Task Force reviewed the LFR flow charts.

Enhancements

Implement User Selection of the Specification Edition

The previous estimate did not have the option for choosing factors. The Task Force was interested in administrator control as to which specification edition would be available for specific users, but suggested that restricting options should be discussed with the general preferences enhancement.

R/C Slab System – Variable Slab Thickness and Rebar Patterns

Substructure pier caps assume a horizontal pier cap. The changes for substructure are not included in the estimate. An additional handout describing CalTrans’s current work around was given. The Task Force is concerned that similar issues will be repeated in tee-beams and box girders. The Task Force suggested investigating whether the generic shape solution would help solve the issue.

NSG/LRFR – Add Computation of Shear and Moment DF

The estimate was modified to add LFR as an option.

Engine Selection If Default Not Available

The Task Force decided on options that would be included in the development.

VDOT Multimedia and Pontis Links Enhancements

The Task Force and the Contractor need to discuss a few changes to the estimate to meet VDOT’s needs. The Task Force directed the Contractor verify with the Pontis developers that proposed changes to Pontis linkages would not interfere with storing the links in Virtis.

Full 3D Analysis Update

The Contractor is waiting on responses from a few individuals. There is a national interest in standardizing finite element and refined analysis modeling, but this will not likely be resolved for a while.

Spec Updates

The estimates for this item were reviewed. The Task Force will adjust the work plan to include these estimates.

ALDOT Floor Truss Supports Enhancements

The estimate for this item was reviewed.

General Preferences

The preliminary estimate for this item was reviewed.



The Task Force commented that they would like to see security requirements set for this ability. The Contractor verified that security would be included for this feature.

The Task Force wants to verify that these can be saved as an xml. In addition, the results should include the preference that was run on the bridge.

Corrugated Metal Deck Mockup Discussion

The mock-ups were reviewed. After reviewing the user interface and calculation mockups, the Task Force requested a few additional requirements. The mockups showed the section properties being entered by the user. The Task Force would also like the software to be able to compute the properties from the dimensions. Further, they envisioned two windows – a generic deck that was input by the user and a corrugated deck where the program developed the section properties. Another new suggestion is to add corrugated metal deck to the library. All agreed this would be useful but decided to defer to a future work plan. Also suggested, was the assumed size of the tire print should be input. The Task Force wondered if standard gage will follow the AASHTO table or if the distribution factor will always be computed using the NSG engine. The computation of the distribution factor for standard analysis will be added. The Task Force conveyed the concern that the FE engine and the GUI could have different section properties. The Contractor indicated the section properties from the FE model class would be used to populate the properties in the UI when the Compute button is clicked.

Design Settings – Removal of Vehicle Selection

This is related to problems saving a bridge with vehicle definitions in the substructure that do not exist in the new database. The planned fix by the Contractor is to remove the vehicle definitions to match with superstructure. The Task Force agrees in principle.

The Task Force discussed the Allowable Reinforcing in Concrete enhancement in the current work plan as well as the varying slab thickness estimate. CalTrans believes this one overlaps with a new estimate. The Task Force requested that all work be halted on the enhancement.

Miscellaneous Topics

Sunset BRASS from V/O – Expiration Date for License

The current contract states that we will stop disseminating BRASS July 1 2011. It does not cover what happens with existing software. The Task Force will ask WYDOT for clarification on the existing software.

Licensing Options Update

The costs for agency sponsored consultant licenses show up as \$0, as the agency is paying the cost.

AASHTO will continue to follow up on companies requesting unlimited licenses.

Third Party Coordination

Third Party Coordination was assigned to a Task Force member.

Discussion about Migration to a 64-Bit Release – Memory Requirements, Status

The Contractor has been working on a 64-bit build that allows access to more system memory. Last year a pre-beta build was made as part of the switch from Developer Studio 2005 to Developer Studio 2008 for the TAG to test. The Contractor is recommending sending out another build with Developer Studio 2010, Windows 7 and 64-bit. The next release will be 32-bit and 64-bit build. The Task Force mentioned that a TAG member had suggested adding a note in the catalogue that recommended 64-bit installation. The 64-bit installer will not write the connection for the ODBC connection. A request has been submitted for this by the Contractor to the install shield developer. The Task Force suggests updating to the same installer that Pontis uses, and is concerned that otherwise we are only doing a piece-meal method of updating.

The Task Force discussed the possibility of no longer offering 32-bit when going to 3-D. The Contractor felt that a 32-bit version would still be allowed, however the size of the models allowed would be smaller. The Contractor stated that memory and performance are separate issues. Some 3-D software uses a parallel solver to increase performance. In order to improve memory utilization, some data could be written to an intermediate file. This will help memory but decrease performance. The Task Force recommended looking into parallel processing. The Contractor stated that Developers Studio 2010 allows for parallel libraries, and the Task Force felt that was worth investigating further. Seven of the current TAG members have access to 64-bit machines. The Task Force and the Contractor confirmed that this would not require two analysis trees.

User Group Discussion

Discuss Enhancement Voting Results

The user requested enhancements were discussed. The Task Force raised concerns that the input for the shear stirrup design wizard would have very little user-input. The people in a transportation agency questioned whether the shear stud wizard was worth the effort.



Comments had not been made previously, and so the Task Force would like to investigate the issue.

The Task Force recommended getting estimates for the top 5 items voted by the users as well as items 8 through 10 for potential service unit work. Items 6 and 7 are part of the planning items. The top 4 items were short listed for likely inclusion in the work plan.

Summary Minutes from Portland

The summary minutes were presented.

WisDOT Culvert Software Update

Wisconsin distributed a copy of the GUI and the engine to six states volunteering to review. The GUI is not fully developed. Some items that were included in the engine were not included in the GUI. A rating portion is not included in the code because there is often very little live load on a culvert. The Task Force mentioned that AASHTO is putting together ballot items for box culverts for T-18. Three sided culverts and examples will likely be put together for next year.

FHWA Update

The States of IA, CT, MI, MT, VA, KY and the FHWA FLBO are hosting the NHI Load and Resistance Factor Rating for Highway Bridges course in the next 6 months.

FHWA has issued a reminder to the FHWA Division Bridge Engineers that all ancillary structures (culverts, walls, sign supports and luminaries) need to be designed in accordance with the AASHTO LRFD design provisions as of October 1, 2010, in accordance with FHWA policy and agreement with AASHTO SCOBS. All new bridges that are constructed using federal-funds are required to be designed in accordance with the AASHTO LRFD Specifications as of October 1, 2007.

The FHWA has new criteria for Division Bridge Engineers to use to oversee and review State Highway Agency implementation of the National Bridge Inspection Program. There are 23 metrics which will be used to measure the State's compliance with Federal law. The procedures were established to ensure more comprehensive and uniform oversight of SHA bridge inspection practices in accordance with CFR 650, Subpart C. The FHWA Bridge Office has made this the highest bridge program priority for Division Offices to implement, in order to address recommendations made by OIG and GAO from earlier congressional reviews and reports.

The FHWA provided a brief presentation on the FHWA LTBP Program. The program is established as a \$100 M research program over 20 years, to clearly define

and quantify all factors that affect bridge performance. It is anticipated that hundreds of bridges, nationwide, will be comprehensively evaluated over this 20 year time frame and numerous design and analysis tools and processes will be validated and improved through the program. The Bridge Portal, a comprehensive database will be rolled out in the spring of next year. SHAs are asked to fully collaborate in this program so that products that result from the program will be used immediately, and the research program can provide meaningful solutions to problems that are faced by bridge engineers today.

Work Plan

FY11 draft amendment

The unofficial estimate for the additional Montana deck work is \$30,000. The unofficial estimate for Additional Testing is \$85,000. A conference call will be scheduled to discuss the user requested enhancements after the estimates are submitted.

In the FY11 work plan, it was decided to remove the Report Tool Using Crystal Reports and Substructure LRFR Rating – Updated for Footings. VI 7991 Illinois NSG should be maintained but the deadline extended to be released with FY12 product. Work on the Allowable Reinforcing Steel for Concrete was stopped pending review of implementation approach for concrete structures. API Updates (super, FE engine, spec-checker) was reduced to include only the Domain API. LRFR for Non-standard gage was removed from the work plan. Implementing the Virtis/Opis Issue Policy; Formalize BRASS linkage in Virtis/Opis; VDOT Enhancement to Include Multimedia Links in Bridge Export/Import and Incident 10155: Floor Truss - Boundary Conditions are to be added to the work plan as an amendment.

FY12 draft work plan

Agency Default Control Options, Analysis Engine Override for Rating and Data Exchange for System Data need to be reviewed for overlaps with General Preferences. Michigan Enhancement Request – Splayed Girders, Generic Cross Sections – Initial Setup and PS and Substructure FRFR Rating (from FY11) were moved to the FY13 draft work plan. Limit State Selection and Allow Thicker PS Webs near bearings were deferred to future work plans. The remaining API updates, LFR report and Culvert engine were added to the work plan. Spec Updates remained, but removing drilled shaft rating was discussed.

Staffing

The Contractor passed out resumes. Two employees started recently and one employee is going to start soon.

