BRASS™

Wyoming Department of Transportation

RELEASE NOTES

for

BRASS-CULVERT™
Version 3.4

February 2019

General

The BRASS™ incident tracking system can be found at www.wydot-brass.com. Users without an account on the incident tracking system can request an account by clicking on the "Open a Technical Support Account" link/button and e-mailing the address or calling the phone number listed. A username and password will be created and sent to the user. All BRASS™ technical support questions should be logged in this system.

Program Maintenance

The following issues were addressed for this release. The incident number is listed in parentheses after each issue if applicable.

Maintenance

➢ Updated the program to the 2019 Interim Revisions of the AASHTO *Manual for Bridge Evaluation*, 3rd Edition. (1467)

➢ Improved the input graphics for defining culverts without bottom slabs. (1468)

➢ Updated the analysis engine to Intel Parallel Studio XE Composer Edition for Fortran 2019. (1490)

➢ Revised the GUI behavior to check for all dependent files immediately after the program opens. The GUI notifies the user immediately of any missing or out-of-date files. (1495)

➢ Added static graphics (bitmaps) for a culvert with no bottom slab. (1407, 1437)

Bug Fixes

➢ Corrected symmetry errors for multiple cell culverts that were due to analyzing the culvert after each cell is designed. (1382)

➢ Corrected errors storing the bottom slab shears for some culverts. (1438)

➢ Corrected the LRFR rating factor output to include legal and permit ratings in all locations that the design level rating factors are output. (1444)

➢ Corrected a problem with the application of live load actions at the end of slabs. Some live load actions were being switched between the ends of slabs. (1463)

➢ Corrected an error where an incorrect moment was being used to compute design ratios at some locations. (1480)

➢ Corrected an error with the application of haunches to the right cell of multicell culverts. Corrected an error transferring area of steel from the GUI to the analysis engine. Added a conditional check to avoid computing rating factors where moments have been released. (1507)

➢ Added output for the magnitudes of soil pressures at the center of the top and bottom slab. (1509)

➢ Revised the translator to remove the "(US)" string at the end of some vehicle names. Only the first 12-characters were used anyway, so this change does not affect the results. (1435)

Program Verification

Regression testing was performed on BRASS-CULVERT™ using its feature that allows automatically-varying geometry and load parameters. The results of the new version were compared to the previous version and examined for any unexpected results. See the separate release testing report for details.

Service Pack 1 – March 2019

Service Pack 1 addresses the following issues in the analysis engine:

➢ Corrected the selection of ES loads for the exterior wall in shear. (1539)

➢ Corrected an output for the rating factor summary for LFD analyses. (1544)