

RELEASE NOTES

for

BRASS-GIRDER™

Version 8.7

April 2021

General

The BRASS™ Incident Tracking System can be found at <https://www.wydot-brass.com>. Users without an account for the incident tracking system can request an account by clicking on the "Open a New 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 GUI grid control to use Spread.NET Version 14. (1864)
- Updated the application to provide 64-bit executables and DLLs. (1873, 1893, 1894)
- Added specification references for the initial stress ratio for strands to the Strand Groups: Groups help topic for both the Pretensioned Strand and Post-tensioned Strand sections. (1883)
- Updated the program to the 2020 Interim Revisions to the AASHTO Manual for Bridge Evaluation, 3rd Edition. A checkbox labeled *Use MBE for End Panel Shear Evaluation for Rating* was added to the Steel tab of the Specification Control form. Additionally, a grid control was added to the steel Member Control form to obtain beam overhang distances. These options are necessary to exercise Article 6A.6.10.1 and Article 6B.5.3.1. (1902)
- Updated the primary output report to show the Wheel Advancement Denominator used in the analysis, which can be turned on using the Live Load Settings checkbox on the Output form. (1903)
- Updated the analysis engine and translators to the Intel Fortran Compiler 2021. (1911, 1912)
- Added Oregon special hauling vehicles (OR-SU4, OR-SU5, OR-SU6, OR-SU7) to the standard vehicle library. (1913)
- Revised the dead load distribution primary and intermediate output reports to use the term 'deck' instead of 'slab' for timber decks. (1922)

- Changed the floating-point input default to use four digits right of the decimal. As before, trailing zeros will be truncated. (1930)
- Updated the steel Member Control form to provide input for end panel distances at interior support points of interest for structures composed of simple-spans made continuous for live load. These end panel distances are necessary for the non-composite stages. (1932)

Bug Fixes

- Corrected the LFD Applicable/LRFD Applicable settings for Top Fillets and Bottom Fillets tab pages on the Beam Profile form so these tab pages are shown as expected per the control options on the User Interface tab of the Preferences form. (1884)
- Revised the GUI validation for prestressed concrete strand profiles to ensure that the Distance to Harp Point 2 is input if the Distance to Harp Point 1 is greater than midspan. (1905)
- Revised the lever rule module to analyze more lanes. The module had previously only performed lever rule calculations for up to four lanes loaded, which was not sufficient for wide member spacings. The lever rule distribution factors did not always apply, so this change should only affect structures with member spacings wider than 24 ft. (1907)
- Corrected the concrete Member Control data validation to only check the duct diameter when post-tensioning is present. (1908)
- Revised the export from BrDR to consider both single- and multi-lane load distribution factors when sending data to the BRASS-GIRDER™ engine. (1910)
- Increased the tolerance for comparing brace point locations so duplicates can be eliminated. (1914)
- Corrected steel analysis module to sum the bracing moments from all stages through the current stage of analysis. (1925)
- The column headers in the Defaults table of the Specification Control: Limit State Map help topic were corrected. (1929)
- Revised the GUI to uncheck the *Apply to entire structure* checkbox when a particular component schedule is cleared, such as when shear connectors schedules are deleted when the structure is changed to non-composite. Additionally, when an input file is loaded and a particular component schedule is empty, the *Apply to entire structure* checkbox is automatically unchecked. These changes address working with an open file and opening an existing file. (1935)
- Revised the engine to output the Standard Section Name for all applicable points in the Calculated Properties report. (1936)

Program Verification

The NCHRP 12-50 process was used to perform regression testing on this version of BRASS-GIRDER™. This process compares key results from this version of BRASS-GIRDER™ with the previous version.