

Bureau of Project Delivery Bridge Design and Technology Division

BRADD

No. 047
December 6, 2017

Release of Version 3.2.4.0

PennDOT's Bridge Automated Design and Drafting Software (BRADD) has been revised as described in the attached Summary of November 2017 Revisions - Version 3.2.4.0.

This release includes the implementation of the Concrete Vertical Wall Bridge Barriers for bridges with Integral Abutments and for bridges with Superstructure Only Abutments and it also includes implementation of the PA 10M Bridge Barrier for bridges with Integral Abutments. As a result, BRADD v3.2.4.0 is considered an update of additional function. As such, all existing license holders of BRADD will be required to submit a completed Update Form and payment of the Updated Version for Additional Functions license fee.

Please note that the software will no longer be provided on a CD. Once the Update Form is received an e-mail will be sent with download instructions. The new installation will require a License Key that will be provided in the e-mail. A valid e-mail address must be provided on the Update Form in order to receive the download instructions.

Consultants and others with a license for version 3.2.3.0, 3.2.2.0, 3.2.1.0, or 3.2.0.0 can obtain BRADD Version 3.2.4.0 by paying an update license fee of \$1,590 (including tax) for Private Organizations, \$1,590 (including tax) for Educational institutions for Consulting Use, \$150 (no tax) for Educational institutions for Educational Use, \$150 (no tax) for Local Government Agencies, \$159 (including tax) for Foreign Governmental Agencies, and no fee for Department Executive Agencies and State Transportation Agencies outside Pennsylvania. Use the Update Form located in the Ordering/Updating section on the PennDOT BRADD Software website at <http://bradd.engrprograms.com/>.

Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT BRADD website at <http://bradd.engrprograms.com/home> and clicking on "e-Notification" and then "Mailing List Archives."

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Consultants and others with a license for version 3.1.6.2 and earlier require an additional license fee documented on the Ordering/Updating section on the PennDOT BRADD Software website at <http://bradd.engrprograms.com/>.

Consultants and others without a license can obtain BRADD Version 3.2.4.0 by paying the license fee of \$5,300 (including tax) for private organizations and \$500 (no tax) for local governmental agencies. Use the Ordering Form located in the Ordering/Updating section on the PennDOT BRADD Software website at <http://bradd.engrprograms.com/>.

Please direct any questions to:

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SUMMARY OF NOVEMBER 2017 REVISIONS - VERSION 3.2.4.0

Since the release of BRADD Version 3.2.3.0 several reported operational issues have been addressed. This release of BRADD Version 3.2.4.0 contains the following revisions:

1. Version 1.16.0.0 of the PennDOT ABLRFD program has been incorporated into BRADD. (TFS 5297)
2. Version 2.11.0.0 of the PennDOT PSLRFD program has been incorporated into BRADD. (TFS 5295)
3. BRADD has been updated for the April 2015 Release of Design Manual Part 4 (DM-4). (TFS 5298)
4. BRADD has been updated for the April 2016 Release of the BD Standards and the September 2016 Release of the BC Standards. Changes were implemented for BD-601M, BD-611M, BD-617M, BD-621M, BD-651M, BD-656M, BD-667M, BC-754M, BC-755M, BC-788M. (TFS 5289, 5290, 5291, 5292, 5306, 5322)
5. Publication 408/2016, Initial Edition (April 2016), Change No. 1 (October 2016), Change No. 2 (April 2017) and Change No. 3 (October 2017) has been included in BRADD. (TFS 5321)
6. The Concrete Vertical Wall Bridge Barrier from BD-618M has been incorporated into BRADD for bridges with Integral Abutments, for bridges with Superstructure Only Abutments and for bridges with Superstructure Only Integral Abutments. (TFS 5117)
7. The PA Type 10M Bridge Barrier has been incorporated into BRADD for bridges with Integral Abutments. (TFS 4528)
8. A new input has been added to the BRADD "Abutment x Superstructure Only" input menu to enable to user to define if the PA Type 10M Bridge Barrier or the Concrete Vertical Wall Bridge Barrier is terminated at the end of the deck. (TFS 4528, 5117)
9. Waterproofing detailing has been added to the concrete diaphragm cross section details for abutments without a backwall as per BD-611M and BD-656M. (TFS 4494)
10. For steel plate girders and rolled beam bridges with abutments without a backwall, the detailing has been updated as shown on BD-611M, Sheet 1, PLAN - SKEWED STRUCTURES detail. Namely, the end of the beam is now parallel to the centerline of bearings and the bearing stiffener is oriented parallel to the centerline of bearings. (TFS 3540)

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11. PennDOT e-Notification 66 – “BD-662M, Sheets 1 & 2, dated 4-29-2016 – End of Beam callout replaced with SEE GENERAL NOTE 10”, issued on 12-20-16 has been incorporated into BRADD. (TFS 5293)
12. PennDOT e-Notification 65 – “Design Manual – Part 4, Section PP1.7.4 dated 4-29-16 – Addition of Note 30 for Minimum Width of 2 ½” for Strip Seal Installation”, issued on 12-12-16 has been incorporated into BRADD. (TFS 5294, 5299)
13. BRADD now supports the Bentley MicroStation CONNECT Edition software to generate drawings, however the Bentley PowerDraft CONNECT Edition software is not supported due to recent restrictions imposed by Bentley. (TFS 5112)
14. The Reinforcement Bar Schedule was enhanced to show only the reinforcement bar shapes for those bars included in the bar schedule. Previously all possible bar shapes were always shown. (TFS 4527)
15. A new optional input value “User Input Minimum Dap Width” has been added to the Bearing Menu to allow the user to override the minimum dap width computed by BRADD. This new input will enable BRADD to successfully design a Dap for bridges where the minimum dap width computed by BRADD is too small. (TFS 4459)
16. Revisions have been made to the minimum overhang calculation to resolve an issue for a specific adjacent box beam bridge that could be designed successfully with a Dap, but if the Sole Plate option was chosen, would stop and display an erroneous message indicating that the bridge cannot be designed with the same number of beams successfully used for the Dap run. (TFS 3224)
17. Removed “Sidewalks” from the General Notes Class AAAP Concrete list and added “Raised Sidewalks” or “Alternate Sidewalks” depending on which exists on the bridge to the General Notes Class AA Concrete list. (TFS 4900)
18. On the bridge Elevation detail, the bottom of footing locations between Abutments 1 and 2 were sometimes not located properly when two different types of abutments were specified. This issue has been corrected. (TFS 5226)
19. For abutments with flared wingwalls and safety wings, the abutment corner work points called out on the Abutment Plan detail have been corrected to call out the proper location. (TFS 5141)
20. Several users reported that they were unsuccessful in having BRADD produce a single PDF of the drawings. Investigation identified that the user’s MicroStation User Preference File interfered with the MicroStation PDF Print Driver that BRADD uses. To resolve this issue BRADD has been

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revised to use a special BRADD MicroStation User Preference File only during the BRADD PDF generation process. (TFS 5287, 5305)

21. As issue was reported where importing a BRADD Export File (BRT) multiple times creates different jobs with the same job description. This issue has been fixed to ensure that each job created has a unique job description. (TFS 5302)
22. For superstructure only jobs with integral abutments, the Barrier Plan details callout to the vertical barrier bars in the integral abutment region was sometimes missing. This issue has been fixed. (TFS 5304)
23. For certain adjacent box beam bridges, BRADD increased the bottom flange thickness even though no Dap is needed. This issue has been resolved by adding messages to the Superstructure Controller Log file and the Geometry output file to inform the user that the Dap depth calculations are oscillating and that the user should try increasing the INITIAL BEAM CAMBER FOR DAP DESIGN input on the Bearing input menu and rerunning the superstructure design to resolve this issue. (TFS 5309)
24. The BEAM END TRANSVERSE REINFORCEMENT detail has been revised for adjacent box beams to no longer show a long line across the beam to represent the A1 & A3 bars. This was done to match what is shown on BD-661M, Sheet 2. (TFS 5325)
25. For U-Wing Abutments with cheekwalls, the STAKE-OUT PLAN detail dimensions along the front face of the abutment to the work point at the corner of the cheek wall were incorrect. This issue has been fixed. (TFS 5314)