

LEAP Bridge Concrete CONNECT Edition V18 (April 23, 2018)

Version	V18.00.00.34
Operating Systems	Windows 7, Windows 8, Windows 10
Language	English

Before you begin, please note the following:

- Review the End-User License Agreement (or EULA) carefully during the installation of LEAP Bridge. By installing this release, you agree to the terms and conditions of the agreement. A copy of the End User License Agreement named EULA.pdf will be included in the "\\LEAP Bridge Concrete\eula.pdf" folder of the product installation. By default, this location is "C:\Program Files\Bentley\LEAP Bridge Concrete."
 - Before installing LEAP Bridge, be sure to fully read this document as well as the Installer Note where you can find critical information important to your installation.
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This document contains the following information:

- What is New & Changed?
 - Installer Notes
 - Directory Structure
 - Support and Services Information
 - Using the Online Help
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What is New & Changed?

LEAP Bridge Concrete (LBC) CONNECT Edition v18.00.00.34 is the consolidated version of all LEAP standalone products including CONSPAN, CONBOX, RC-PIER, GEOMATH, and CONSPLICE. It incorporates Bentley CONNECT which helps you produce better designs by facilitating collaboration, interoperability, standardization and skills development. For an organization and enterprise, CONNECT provides greater insight and control over project design, deliverables and the people working on them. To learn how CONNECT will benefit you and your projects, please read this (<http://bit.ly/CONNECT-Overview>). This release extends CONNECT features further.

Following enhancements are available in this release.

Major Enhancements

- Concurrent loads in shear/torsion design

LBC now offers an option for shear and torsion design check for substructure using the maximum shear with concurrent torsion, and the maximum torsion with concurrent shear.

- Extension of Response Spectrum Analysis
 - Support Canadian CHBDC code
 - Support static live load
 - Seismic reports in enhanced format
- Extension of the new graphic engine of the 3D viewer for
 - Main module
 - Precast/Prestressed Girder module
- Pennsylvania option for the State Specifications Compliance with PennDOT DM-4 (phase I)
 - Skew angle reported in PennDOT format
 - Support design live load PHL-93
 - Support permit live load P-82
 - Dynamic load allowance for permit live load
 - No reduction in load distribution factor of moment for skewed bridges

Additional Enhancements

- Intraoperability with OpenBridge Modeler
 - Stepped cap pier
 - Support different material properties of column and drilled shaft
 - Modified definition of H-pile
- An option to use equal shear force distribution in shear design
- Vertical wind load auto-generation per FDOT SDG
- GUI cleaning for dead and vertical soil pressure loads
- Live load generation details in final design reports
- New input for material property of drilled shaft
- End diaphragm design for India market

Apart from the enhancements to LEAP Bridge Concrete listed above, this release incorporates fixes for the following bugs.

- Precast/Prestressed Girder module (formerly called CONSPAN)
 - Incorrect warning message about beam spacing popped up when a new superstructure only model was created.
 - Demand of shear reinforcement was unexpectedly changed when stirrups were added.
 - Program crashing when the strand layout was being modified in the beam library.
 - Negative live load option did not function normally in the load rating.
 - Incorrect warning message about negative or zero beam spacing.
 - The minimum steel reinforcement was not correctly considered in the horizontal shear check.
 - Discrepancies were found between the analytical results in the diagrams and those in the tables under the Analytical tab.
 - Spacings of beams were not retained correctly in the cross-section window for flared and skewed bridges.
 - Edit button did not function normally in the beam section library.

- Substructure module (formerly called RC-PIER)
 - Height of structure was incorrectly calculated in wind load auto-generation when the height was greater than 33 feet for the design code of AASHTO LRFD-7 with 2016 Interims.
 - Incorrect headers were used in wind load auto-generation report for the design code of AASHTO LRFD-7 with 2016 Interims.
 - Unknow symbols showed up in the design reports of pile cap and pile reactions in a user's files.
 - No warning flag when the input of stirrup leg was less than 2.
 - Seismic load was not correctly applied on abutment, and the related load effects were calculated incorrectly.
 - Load effects (Fx and Mz) of the column loads applied in global transverse direction were incorrectly calculated.
 - Incorrect unit was used in step height, and the related cross section area of steps was incorrectly calculated in the Stepped Cap Parameters window.
 - Temperature load was generated incorrectly both for fixed and elastomeric bearing options.
 - Parameters in the Spectrum Table were not automatically updated when the Site Class was changed.
 - Analytical model internally generated for the Response Spectrum Analysis had incorrect release conditions when the hinge option was used.
 - The minimum steel reinforcement was not correctly considered in the horizontal shear check.
 - Bearing lines were incorrectly mirrored in the 3D graphic view.
 - Longitudinal moment Mx was not correctly calculated for the option of pile integral with cap in abutment design.
 - Minimum spacing of reinforcement in column was not correctly checked.
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Installer Notes

How to install & activate LEAP Bridge CONNECT Edition?

Contents:

- Installation Wizard
 - Activation wizard
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This section guides you through the process of installing LEAP Bridge on your computer. In order to install LEAP Bridge Concrete, please login as an Administrative user. LEAP Bridge can be installed by invoking Setup.exe. If you use Setup.exe, no other special consideration is necessary. Simply follow the instructions that follow. For details on the installation, please refer to the Installation Wizard section in this manual.

Note: LEAP Bridge Concrete requires Microsoft .NET 4.5 framework to be installed in order to operate properly.

Upgrading to the newer version of LEAP Bridge Concrete

Before following the Installation Wizard instructions, please note the following regarding the libraries:

- During installation, program default libraries will be added under “C:\ProgramData\Bentley\LEAP Bridge Concrete\” folder to comply with Windows standards to eliminate problems with access to users without Admin privileges.
 - The installation program will not overwrite the files already existing in the library folder.
 - If you have customized program libraries, you can move them to the above folder, and set the correct paths in the Library Setup dialog from within LEAP Bridge interface.
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Installation Wizard:

- First log into the [Bentley CONNECTION Center \(https://connect.bentley.com/\)](https://connect.bentley.com/) and download the LEAP Bridge Concrete installation files for the version you have purchased.
- Once you have downloaded the LEAP Bridge Concrete installation files, locate the install folder. Run the installer file by double clicking the setup.exe icon.
- You will be greeted by the Welcome screen. Click Next> to proceed with the installation process.
- You are now presented with the End User License Agreement for this software. Please read the agreement and then click the radio button to accept the terms. You may also print a copy for your records. Click Next> to continue.
- You will be asked for an installation location. This is the directory location of the program on your computer.
- The installer now has gathered all the information needed to complete the installation. Click Install to finish the process. The wizard begins installing the program onto your computer. Once the process is complete, click Finish to exit the Wizard.
- After the installer completes its process, the program is ready for use. You can launch the program by clicking the Start button and then All Programs > Bentley > LEAP Bridge Concrete.

Note: Until you have activated a license for the program, it will remain in the demo mode and function for only 30 days past installation.

Activating a product using the Product Activation Wizard

This is for installations which use a Bentley Server to authenticate the Bentley SELECT License used to run LEAP Bridge Concrete. In order to complete the installation, the SELECT Server Name and Site Activation Key will be required. If you do not have these, please contact Bentley technical support. Without this information, the installation will operate using a trial license valid for only 30 days.

- Install LEAP Bridge Concrete following the instructions in the Installation section.

- Locate the Bentley SELECT License Management Tool, LicenseTool.exe in the program installation folder (typically the location is c:\Program Files\Bentley\LEAP Bridge Concrete\).
- Select the installation type, then click the Next > button.
- Type in the Server Name and the Activation Key provided to you. Click the Next > button. Before accepting the entered information, you may choose to click the Test Connection button to confirm that the entries are correct.
- After the information is accepted by the system, the program then displays the summary of the Activation Parameters. Review the information and click Finish. The license security is now in place. The installation is complete and LEAP Bridge Concrete is ready for use.

Note: You may need to contact your system administrator if your organization uses a proxy server to connect to the Internet. Click the Proxy... button in the Product Activation Wizard to display a dialog for entering these connection settings.

Directory Structure

The default directory of LEAP Bridge Concrete is "C:\Program Files\Bentley\LEAP Bridge Concrete \" , if the user has not changed the location during installation. The tutorials are installed in the Example directory within LEAP Bridge folder. Help directory within LEAP bridge folder contains all the necessary help files for individual components. Lib folder contains the default library files for rebars, tendons, cross sections. It is recommended not to delete the default library files. Starting with v12.01.00.57, there is a change in the location of the library files. During installation, program libraries will by default be added under "C:\ProgramData\Bentley\LEAP Bridge Concrete\" folder to comply with Windows standards to eliminate problems with access to users without Admin privileges. If you have customized program libraries, you can move them to the above folder, and set the correct paths in the Library Setup dialog from within LEAP Bridge interface.

Support and Services Information

FAQs, What's New/Changed and other technical information can be found on Bentley's [technical support documentation](https://www.bentley.com/en/support) (<https://www.bentley.com/en/support>) page.

Please log issues that you encounter in Bentley products with the [Service Ticket Manager](http://apps.bentley.com/srmanager/ProductSupport) (<http://apps.bentley.com/srmanager/ProductSupport>).

Using the Online Help

LEAP Bridge Concrete features a user manual available in the *.chm* format. The step by step guides to the tutorials is also provided in the *.chm* format. Tutorial files are located in Example directory. To access the manual and tutorial guides, select the appropriate link from the Help menu.

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