

Release Notes for RISAFloor 4.1.0

Version 4.1 Enhancements/Corrections

Enhancements

- Added flexible diaphragm analysis/loading option for RISAFloor diaphragms that are brought into RISA-3D
- Added wood diaphragm design for flexible diaphragms that are brought from RISAFloor into RISA-3D.
- Added the ability to model wood shear walls with openings, incorporating three design options: segmented, perforated and force transfer around openings.
- Added a customizable graphic toolbar with new Plot Options button for easier graphical review of results.
- Added an automatic region generator for wall panels to expedite the creation of regions especially for walls that have openings.
- Added EC3 2005 Euro steel code.
- Added BSEN 2004 Euro concrete code.
- Added "Commercial Sawn" species to the wood database and to the default wood materials.
- Added common Glu-Lam and Composite Lumber to default wood materials.

Version 4.1.1 Enhancements/Corrections

- Enhanced the wood wall panel feature so that wall panels can be copied above or below, with the windows automatically copying as well.
- Enhanced the graphics so that on a frozen model, if the composite flag is removed we will not show studs on that member.
- Enhanced the diaphragm region validation and error checking during creation and prior to solution.
- Added an option in the elevate joints tools to return all joints to the zero elevation. This allows the user to quickly correct a model that has an invalid slope to the roof.
- Added a "composite" check box to the generate infill framing tool.
- Replaced some toolbar icons in RISAFloor to be more consistent for similar features in RISA-3D.
- Improved the behavior of wall openings to be tied to the distance to the floor below. Previously this information could be disassociated when changing floor elevation.
- Improved the Tools - RISA-3D Data options to better allow for the removal of RISAFloor information from the RISA-3D model.
- Improved plotting options for diaphragms and diaphragm regions.
- Deflection calculations for multi-zone diaphragms now consider multiple rows when calculating 'load per nail' for calculation of Apparent Shear Stiffness.
- Fixed a problem that would cause load attribution errors for models that had inactive floors at any level except the top.
- Corrected an issue where the program would still generate flexible diaphragm loads for diaphragms that were tagged as inactive.
- Corrected an issue where the program would generate flexible diaphragm detail reports even though no LC's were chosen for wood design.
- Corrected an issue associated with column load attribution caused by the presence of an inactive floor at an elevation between two active floors.
- Corrected an issue where the changing of solution options in RISAFloor could affect some unassociated RISA-3D global parameters.
- Corrected an issue with concrete design where the RISA-3D force and moment demand would be reported as the capacity of the member designed by RISAFloor.
- Corrected a graphical display issue where the program was showing studs for members that were marked as non-composite. Design values were not affected.
- Corrected an issue where the Masonry Wall Reinforcement results in RISA-3D were getting corrupted by the RISAFloor solution.
- Corrected a point load attribution error which caused a crash during the Masonry Lintel design.
- Fixed a program crash which originated from large number of bars (200+) in a Custom Rebar Layout.
- Corrected a problem where flexible diaphragms could not be set to inactive.
- Corrected a problem where unbraced length values entered in RISA-3D were not getting saved when the model was brought back and forth from a RISAFloor model. Issue affected beams, but not columns.
- Corrected problem with seismic mass value used in F_p calculation for diaphragms in Envelope Solutions.
- Fixed a problem where the diaphragm loads from a RISAFloor model with saved results would incorrectly read the transient loads in RISA-3D.
- Fixed a bug where duplicate nodes were being created during the transition from RISAFloor to RISA-3D.

- Corrected a problem that would cause the Wall Results spreadsheet to not display results for masonry walls, though the detail report showed results.
- Corrected an issue with the naming convention of diaphragms. Previously deleted diaphragms could cause a duplicate labeling issue which affected the application of diaphragm loads.
- Corrected an issue where girders receiving a negative load from supported members were displaying a 1#00 in the Vibration Results spreadsheet.

Version 4.1.2 Enhancements

- Added 1% loading method for seismic loading for structures assigned to Seismic Design Category A.
- Improved displayed F_v and F_v' values for Glu-Lam beams to better distinguish between strong and weak axes.
- Improved the reporting of concrete column results designed by the PCA Load Contour Method.
- Added the ability to put a sketch number (and prefix) with graphic printing.
- Added the ability to specify Plane Stress plates when using RISA-3D under RISAFloor.
- Changed tolerance for reporting the KL/r limit for compression member. Limit now enforced for compression members where compression demand is 1% or greater of the compression capacity.
- Added sorting ability to the Floors spreadsheet.

Version 4.1.2 Miscellaneous Corrections

- Added a warning message to the Euro Steel detail report which reports a flaw in the Euro spec which creates moment capacities equal to zero whenever ρ approaches 1.0.
- Corrected an issue where an inactive floor would interfere with the rendering of the walls in a full model view.
- Corrected the member labeling for shape to properly display the shape rather than the design list.
- Corrected the I_{zz} value for the 358TSB18 shape in the Dietrich database.
- Corrected an issue which could cause the undo/redo counter to get off track resulting in an inability to redo changes that were made.
- Corrected an issue with the reading of the Plot Options default file which could cause interface issues and/or incorrectly trigger error messages.
- Corrected a tolerance issue which could result in over conservative steel joist design.
- Corrected an issue where the shear in columns supporting a sloped floors could be creating axial force in the beams on the floor below.
- Corrected a units conversion issue which affected column results. Issue would have been corrected after a re-solve.
- Corrected an issue where RISAFloor was erroneously discarding some 3D results when you used the director button to re-enter the program.
- Corrected issues with the load transfer between stacked walls. Issue could occur when floors were listed out-of-order on the Floors spreadsheet and which upper wall had multiple openings or regions.
- Corrected an issue where the self weight of Masonry walls with openings was not being included in the seismic weight / diaphragm mass when the model was brought into RISA-3D.
- Corrected issues with the calculation of NBC (Canadian) Seismic Loads
- Corrected an issue where uplift reactions on a girder could cause the vibration results for the member to be reported as 1#00.

Version 4.1.2 Wood Design Changes

- Added Select / Unselect functionality in RISA-3D for diaphragm regions that came from RISAFloor.
- Modified diaphragm deflection calculation for diaphragms especially for diaphragms with multiple nailing zones. Only affects diaphragms that came from RISAFloor.
- Changed a number of miscellaneous things in the design of wood walls:
 - Various issues with units conversion
 - Ability to read saved results.
- Eliminated "inadequate hold down" message from RISAFloor

Version 4.1.3 Wall Panel Enhancements

- Added wood header design into RISAFloor.
- Added a Specific Gravity adjustment factor for diaphragm capacity (based on framing members that support the diaphragm) in the diaphragms spreadsheet.
- Changed the nomenclature for the diaphragm nailing schedules. The term "_OT" was replaced with "_RS". Both terms were always intended to mean "Other Rated Sheathing".
- Improved auto-region generation for multi-story walls. Regions are now broken up for each floor level.

Version 4.1.3 General Enhancements

- Added automatic **Notional Load** generation utility similar to the existing wind and seismic load generation.
- Added the 2007 edition of the Saudi concrete code (*SBC 304*).
- Added axial code check details to wood column detail reports.
- Added **Bending Span** results to column detail reports for members with custom rebar layouts
- Modified program to be more compatible for future link to the 2011 release of Revit Structure.
- Added the ability to graphically modify column rebar layouts.
- Added the ability to graphically display moment reactions in addition to the existing shear reactions.
- Added the ability to adjust the number of internal sections from within RISAFloor.
- Added the ability to modify rebar layouts in RISA-3D for elements that had been assigned custom rebar layouts from within RISAFloor.
- Improved speed of graphics for models with more than one slab edge.
- Improved the display of beam reactions for cantilevers to show reactions on each side of a beam at support locations.
- Added the ability to attribute load to areas which are non-coplanar on a sloping level, though attribution will be based on a constant elevation.
- Modified custom toolbar registry settings to allow users who are not administrators to customize their toolbars.
- Added parent child functionality for design parameters that were not present when parent/child feature was originally implemented.
- Modified concrete shear tie design to round to the nearest 10mm when metric units are being used.
- Modified RISA-3D/RISAFloor optimization routine for members explicitly defined by the user.
- Improved the error detection and reporting for invalid wood material / design code combinations.
- Improved the auto update detection sequence so that it cannot falsely report the presence of an update.

Version 4.1.3 Corrections

- Corrected a member optimization issue which could result in a member getting chosen which had a code check 1 or 2 percent higher than 1.00.
- Corrected an issue where the program was not allowing the user to modify the diaphragm eccentricity fields.
- Corrected a **Warning Log** message where elements were incorrectly being viewed as unsupported or as supported only by gravity elements.
- Corrected a display issue with the detail reports for concrete members with custom rebar layouts specified with a non-default rebar set.
- Corrected an issue where the spacing of shear ties was not properly taking into account the **Global Parameters** setting for increments.
- Corrected an issue where wall panel results would not be remembered when opening a saved solution.
- Corrected an issue where cantilever members were not behaving well when going back and forth multiple times between RISAFloor and Revit Structure
- Corrected an issue where *2001 NDS* stress values were used when doing code checks for Glu-Lam beams per *91/97 NDS*.
- Corrected an issue where the self weight of masonry lintels was getting improperly calculated.
- Corrected an issue where bad framing layouts were not being properly detected.
- Corrected a unit conversion error with some column design parameters.
- Corrected a unit conversion issue with the Canadian seismic force generation for braced frames.
- Corrected an issue where **Floor Vibration** results could be reported as 1#.inf.
- Corrected an issue where the self weight of the triangular portion of a wall panel at a sloped roof level could cause problems with transferring the model into RISA-3D.
- Corrected an issue where the program was not properly accounting for the $I_{cracked}$ factor for concrete column stiffness.

- Corrected an issue where the **Undo/Redo** feature was not working properly for column stacks when a US to metric unit conversion was performed.
- Corrected an issue where inactive floors were still creating diaphragms in the RISA-3D model.
- Corrected a bug where doing a units conversion in RISA-3D on a model that was created in RISAFloor with inactive floor levels could cause a crash.

Version 4.1.4 Enhancements/Corrections

- Added RISA-Revit 2011 Link compatibility. These enhancements were previously covered in the 4.1.3.1 Beta version and have now completed the implementation of all the new Revit 2011 Link functionality.
- Corrected an issue with the seismic weight calculations for shear walls which were being calculated overly conservative.