

## FAD Tools 5.2.1 Release

## December 2018

## **Enhancements Introduced with FAD Tools 5.2.1**

- New Custom Minimum Longitudinal Steel Reinforcement Ratio available.
- Intermediate empty pages in the PDF report eliminated.
- FAD 5.2.1 installation overwrites FAD 5.2.0. There is no need to uninstall 5.2.0.
- Refinement of warning/error message to better guide Licensees and avoid confusion. This includes:
  - Adding a warning message when a soil layer with very low cohesion and angle of friction is introduced, because low, noncharacteristic values can introduce numerical instabilities in FAD.
  - Improving the message indicating that the licensing driver is installed the first time FAD is run in a computer.
  - The warning message for annulus thickness is not triggered for the thickness equal to 0.5 ft.
- Improvement to the locking system implemented in 5.2.0 to prevent several Licensees using the same database at the same time. FAD 5.2.1 now allows the Engineer to unlock a database or input file that is locked by himself due to an unexpected termination of FAD (e.g. power outage, system error, etc.)
- Several corrections to features of FAD 5.2.0:
  - Correcting the conversion of the Design Moment to metric units in the report when this unity system is requested by the Engineer.
  - Correcting the implementation of the new minimum longitudinal reinforcement ration options in HFAD, which caused inconsistent selection for all loading cases.
  - Updated window display issue for friction angle in subsurface properties and deformation modulus in backfill.
- Updated User Guide.