

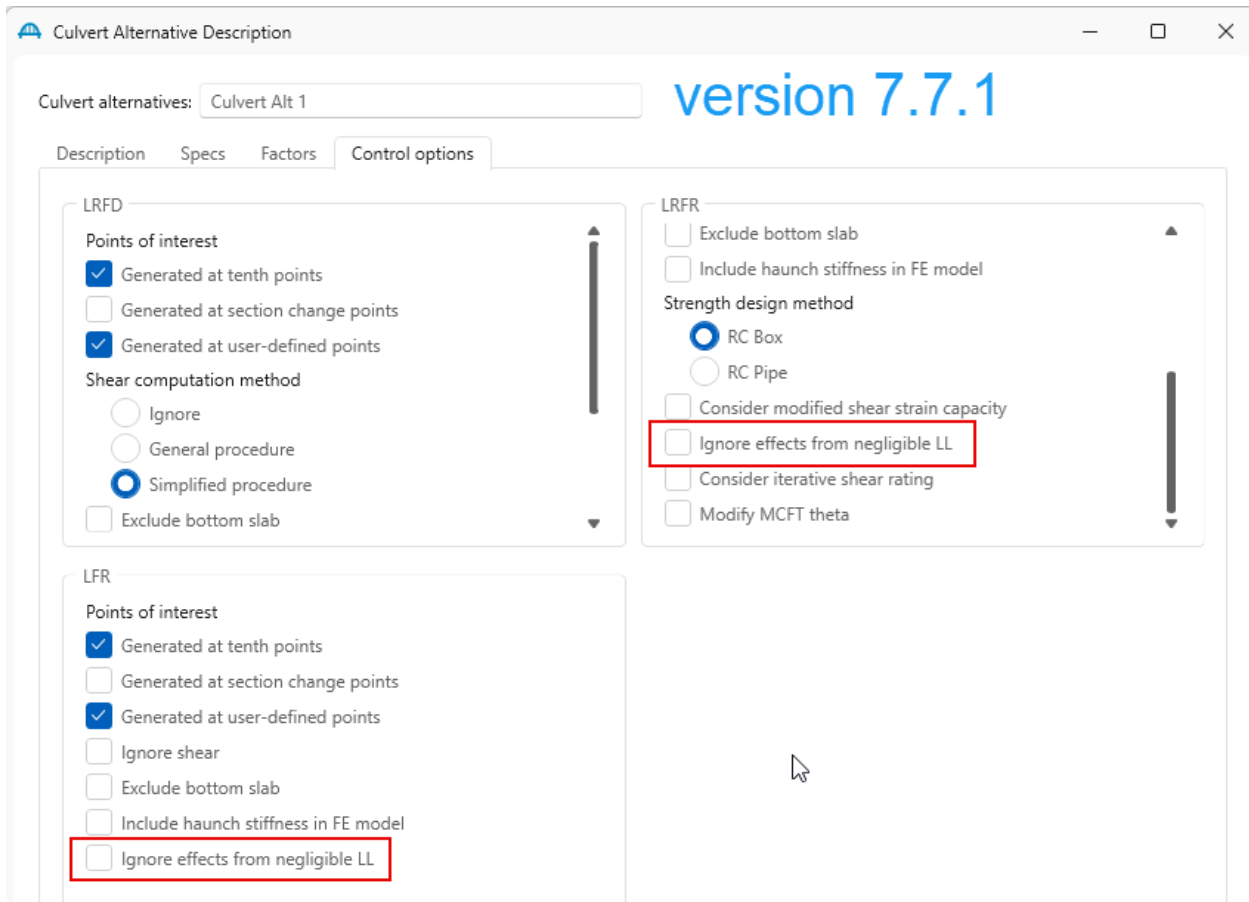
Culvert control option: Ignore effects from negligible LL

Applies to the following products:

- BrR - all versions 7.3.0 onwards

Description

The 2022 interim to the third edition of the Manual for Bridge Evaluation specification in article 6A.10.10.3a stated that “The effects of live load may be neglected when the factored vertical live load pressure at the surface of the culvert is less than 10 percent of the sum of the factored vertical earth load plus factored vertical live load pressure.” A control option was implemented for both Load and Resistance Factor Rating (LRFR) and Load Factor Rating (LFR) to ignore negligible live load based on the above directive in BrR version 7.3.0.



If this control option is checked, the magnitude of the live load in the rating factor equation would be considered as zero, when the above condition for live load pressure is satisfied. This yields a blanket rating factor of 99.0 in culvert rating articles even though the dead load may still exceed the computed capacity.

This issue of not reporting a zero rating factor when the dead load exceeds the capacity with the control option checked, causes incorrect analysis results. When this control option is not checked, the dead load is indeed checked against the capacity, and the live load is used to compute the rating factor. This control option stays unchecked by default.

Workaround

Currently there is no workaround.

Resolution

The issue will be corrected in version 7.8.