

RESPONSE TO REVIEWER COMMENTS:

Authors' General comment: Thank you again for the Reviewer's constructive comments concerning the manuscript entitled "Sensitivity analysis of a built environment exposed to the synthetic monophasic viscous debris flow impacts with 3-D numerical simulations" (ID: nhess-2022-173). Reviewer's comments are all valuable and very helpful for revising manuscript and improve our research. We have studied comments carefully and have made corrections which we hope meet with approval.

REVIEW COMMENTS:

1. Figure 17-> delete "The time of peak impact force are marked with dot." since no dots are reported.

AUTHORS RESPONSE: Thank you very much! This statement has been deleted from the illustrations in Fig.17.

2. Figure 20 -> delete "The time of peak impact force are marked with dot." since no dots are reported.

AUTHORS RESPONSE: Thank you very much! This statement was present in Fig.21, not Fig.20. We have deleted this sentence from the illustrations of Fig.21.

3. Moreover, use the same velocity range for the three plots in Figure 2(b). In this way is more simple to compare how the velocity magnitude changes over time.

AUTHORS RESPONSE: We greatly appreciate for Reviewer's good comments! As Reviewer suggested, the velocity range of three plots in Figure 2(b) has been set to be same, as shown below.

