

## Anonymous Referee #2

*We thank the reviewer for the comments and suggestions. Our answers to the reviewer comments are in italic, and the corrections to be included in the new version of the manuscript are in **bold black italic***

a) Regarding the written document, there is a large number of typing mistakes, signalized in the attached file. In what refers to the references, there is a number of citations not included in the references (see attached file), as well as some references not cited in the text. This topic needs a careful revision before publication.

*References were carefully revised as requested. Typing mistakes has been corrected.*

b) There are also some mistakes in the cross-references, mainly in the Figures.

*We have also revised cross-references in the figures.*

Regarding scientific improvements some questions arise:

1 – To determine the SWCC, pressure plates and filter paper was used. Normally, the first equipment is used in drying paths and the second in wetting paths. How the curves were made compatible in the transition points;

*Both methods were used in the drying paths of the samples. In the case of the filter paper method, we followed the recommendations of Marinho and Oliveira (2006). The last paragraph of section 2.3 regarding the derivation of water retention curves was written as:*

***Water retention curves -WRC of the residual soils layers were obtained using pressure plate for suctions <100 kPa and filter paper for suctions  $\geq$  100 kPa.***

*And was modified to*

***Water retention curves - WRC of the residual soils layers were obtained using pressure plate for suctions <100 kPa and filter paper for suctions  $\geq$  100 kPa for the drying path of the samples following the recommendation of Marinho and Oliveira (2006). Results showed that the differences of water retention values at the transition among both method were not significant, making unnecessary further adjustments.***

*Reference: Marinho, FAM; Oliveira, OM (2006) The filter paper method revisited. Geotechnical Testing Journal, ASTM, 29(3):250-258, doi: 10.1520/GTJ14125.*

2 – It is emphasized in the conclusions the need to perform reliability calculations in future works which the reviewer thinks is an important contribute. In any case, considering the author as intervals for the parameters of each geotechnical horizon, at least some comments could be done regarding the influence of this variability in the FS.

*In response to the reviewer comment, line 366 to 368 (Conclusions) of the original version of the manuscript was written as:*

***Future studies should combine modelling tools with probabilistic analysis to consider a wider range of geological-geotechnical and anthropic parameters in the simulations to be able to reproduce more general conditions that occur in the whole municipality.***

*And has been modified to:*

***Since simulations results indicated that the slope safety fact FS was sensitive to the anthropic factors, future studies should combine modelling tools with probabilistic analysis to consider a wider range of geological-geotechnical and anthropic parameters values to be able to reproduce more general conditions that occur in the study area.***

Please also note the supplement to this comment: <https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-242/nhess-2017-242- RC2-supplement.pdf>

*All recommendations pointed out by the reviewer in the supplemental document will be considered in the updates version of the manuscript.*