

***Interactive comment on* “Technical note: The beneficial role of stratigraphy on slope stabilization by drainage trenches” by Gianfranco Urciuoli et al.**

Anonymous Referee #1

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The paper shows that the eventual presence of a persistent pervious natural soil layer intercepting the drainage trenches in a slope has the beneficial effect of increasing drainage efficiency and reducing time lag. The manuscript is well written with clear figures and tables. The Authors also provide the minimum trench spacing needed to attain the atmospheric pressure at the middle plane, so that a condition of water table can be assumed at the top of the pervious layer. A simplified procedure is developed to analyse this case that provides results in a good agreement with those computed by FE seepage analyses. Then, the design charts available for the design of drainage trenches in homogeneous soils can be still used referring to the equivalent scheme proposed by the Authors.

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The paper can be accepted for publication in its present form.

In the following just a few notes:

(1) In Table 1, first row, last column there are two subcases, but the second seems to be included in the first one in that both refer to $b/H_0 = 0.16$ and $H/H_0 = 1$, please check;

(2) Page 6, line 111: please cancel “where”;

(3) Page 6, line 118: the sentence “ Any further increment of the water level would generate an artesian condition” could be eliminated in that introduces an additional comment not needed to understand the concept of reduced seepage domain.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-637>, 2019.

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