



EGUsphere, referee comment RC3
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Comment on egusphere-2022-90

Anonymous Referee #3

Referee comment on "An algorithm for deriving the topology of belowground urban stormwater networks" by Taher Chegini and Hong-Yi Li, EGU Sphere,
<https://doi.org/10.5194/egusphere-2022-90-RC3>, 2022

Comments

The manuscript entitled "An Algorithm for Deriving the Topology of Below-ground Urban Stormwater Networks" proposes a novel algorithm for estimating Below-ground Urban Stormwater Networks (BUSNs) from existing data based on the Graph theory concepts. The paper is interesting. However, the manuscript has some shortcomings which need to be improved prior to its publication. The recommendation is that the article needs Major Revisions before it can be considered for publication.

The following suggestions must be revised:

- The abstract should be carefully rewritten as English expression needs improving and the structure is not as clear as the main part of the paper. The novel algorithm needs more explanation.
- Now the approximate computation method of drainage capacity for urban flood modeling is a common method in the area where the BUSN data are sparse, this should be mentioned in the introduction section.
- There are many drainage catchments in urban city, and the drainage pipe network is generally laid out according to the catchments. How to consider this in the algorithm?
- The article only describes the pipes without mentioning the rainwater nodes and inlets, which also play a great role in the urban flooding process.
- Validation section is weakly written. It is verified by the "covered" of the distribution of the pipe network, which is relatively rough, and there is no comparison of key parameters such as pipe diameter, slope, and flow direction.
- The author should check the whole manuscript carefully, there are some errors in the

interpretation of the diagrams.