Interactive comment on "All-in-one model for designing optimal water distribution pipe networks" *by* Dagnachew Aklog and Yoshihiko Hosoi

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First, I would like to thank the referee for the constructive comments and remarks.

Regarding optimality of the results, the LP optimizer provides a global optimal solution, but this is only attainable for branched network design since network topology is fixed and pipe flows are known.

For looped network design, however, neither the models developed in this study nor any other optimization method for that matter, at least as far as the authors know, can provide global optimal solution, except direct enumeration, which is extremely inefficient and hence not applicable for practical purposes. We accept the comment and will

revise the manuscript to avoid any possible confusion of readers in this regard.

We also accept the comment regarding literature review of more recent works on the subject and will include some works in the revised manuscript.

Regarding the technical remarks: The expression "fairly huge problem" at Page 6, Line 6 is used referring to the LP problem of 23 equations and 487 unknowns. Otherwise, the branched network design problem itself is not huge as correctly commented!

The expression "global optimal solution" at Page 7, Line 19 is used because previous researchers solved the looped network expansion problem using direct enumeration and found the same optimal solution.