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| Journal Name: | [**Journal of Engineering Research and Reports**](https://journaljerr.com/index.php/JERR) |
| Manuscript Number: | **Ms\_JERR\_131404** |
| Title of the Manuscript: | **FINITE ELEMENT MODELLING OF TRANSIENT SEEPAGE AND SEDIMENT TRANSPORT SOLUTIONS IN DIAPHRAGM WALLS FOR COASTAL PROTECTION WORKS IN THE NIGER DELTA.** |
| Type of the Article | **Original Research Article** |

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **This article presents a finite element analysis of transient seepage and sediment transport in diaphragm walls used for coastal protection in the Niger Delta. The use of FEM with SEEP/W is a suitable approach for analyzing complex seepage and sediment transport problems. Transient analysis is crucial for capturing the effects of fluctuating water levels. The article concludes with a practical recommendation to incorporate seepage and sediment transport considerations into design.** | Good comments. Thank you. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **The title is acceptable and understandable. Removing "solutions" would make it slightly more concise.**  **While not strictly incorrect, the word "solutions" could be removed without losing any meaning. "Finite Element Modelling of Transient Seepage and Sediment Transport in Diaphragm Walls..." is perfectly sufficient. The article presents solutions, but the title doesn't need to explicitly state that.** | The title has been adjusted with the removal of the word “Solution” as suggested |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **The abstract of the article is reasonably comprehensive, but it could be improved by adding a few points and slightly rephrasing some sentences.** | The Abstract has been rephrased inline with the suggestions of the first reviewer. |
| Is the manuscript scientifically, correct? Please write here. | **The manuscript presents a valid scientific study, but with some weaknesses. The main improvements should focus on validating the model, expanding the discussion of the results and practical implications, and providing more details about the provenance and potential limitations of the data.** | Some updates have been made in the Results & Discussion section. The results and discussion are very brief and direct. The result is the outcome of the application of a commercial software, Geostudio 2018R2V9.1 (SEEP/W) which has been calibrated and validated. Therefore, the software is mainly for application on case studies and nothing more. In effect, in this study we are not expected to calibrate and verify or validate an existing commercial software. |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | **yes** | Okay! |
| Is the language/English quality of the article suitable for scholarly communications? | **The language quality needs significant improvement before it's truly suitable for high-quality scholarly communication.** | The paper has been edited for grammatical errors. |
| Optional/General comments | **The article presents a useful application of FEM to a relevant problem. However, the lack of model validation, limited discussion of simplifications, and relatively shallow discussion of the results weaken the overall impact. While the conclusions are reasonable, more rigorous analysis and validation are needed to strengthen the findings and make more specific design recommendations. The article provides a good starting point, but further research and refinement are necessary.** | The application of an existing commercial software such as Geostudio 2018R2V9.1 (SEEP/W), does not call for model calibration and verification/validation on the part of the user. The outcome of the application of the software on the case studies presented in the manuscript are sufficient enough to highlight the issue of seepage and sediment transport predictions on diaphragm walls in Niger Delta. An extension of this work may be to fill up knowledge gap by other researchers. |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |