



SDI Review Form 1.6

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	Ms_BJAST_30219
Title of the Manuscript:	A numerical procedure of coupled consolidation in saturated soils
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	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)
Compulsory REVISION comments	(1) Please check the Eq. (12), i.e. $\begin{bmatrix} 0 & 0 \\ K_v & 0 \end{bmatrix} \begin{Bmatrix} \dot{U} \\ \dot{p} \end{Bmatrix}.$ How is it derived? (2) Line 157-159, the author declare that "Furthermore, the clay layer is placed above a sand layer which allows outflow water of the lower boundary." What about the top surface of the soil? Please check the Fig. 3. (3) Please check Fig. 4. It may be wrong.	Matrix equation (12) has two components, its sum generate the two matrix obtained (9) & (10) (2) Line 157 to 159 was improved: "Furthermore, the clay layer is placed above a sand layer which allows outflow of water from the lower boundary. So, on this boundary excess pore pressure is zero. On the other hand, in the upper boundary, water flow is not allowed due to the slab foundation." This represents what is shown in Fig. 3. (3) was placed the correct Fig. 4.
Minor REVISION comments	(1) The English should be revised by a professional English company. (2) Please check line 178, 290, etc.	(1) and (2) The paper has been rewritten, improved and errors corrected. Special attention was paid to a native speaker of English.
Optional/General comments	(1) Please specify the contribution of this paper in the Introduction. (2) How can we extend the presented procedure to analyse the unsaturated soil?	(1) The introduction section has been rewritten and improved with special attention to its contribution. (2) This paper presents a coupled model for the saturated consolidation of soils, which can be further extended to the unsaturated consolidation, because its formulation allows the introduction of Bishop effective stress for unsaturated soils that include the Terzaghi's effective stress ($\sigma - u_a$) and matric stress ($\chi\psi$, product of parameter χ and soil suction), the last one can be obtained from the soil-water retention curve (SWRC). Also, the variation of permeability with respect to soil suction (hydraulic conductivity) can be obtained from the SWRC.