



صندوق العلوم والتنمية التكنولوجية

Science and Technology Development Fund



وزارة الدولة للبحث العلمي

Ministry of State for Scientific Research



The British University In Egypt  
الجامعة البريطانية في مصر

# Geofoam to Improve Infrastructure Efficiency

**STDF – Research Support Grants**

**Selected for Funding Project ID No. 12629**

**100,000 EGP in 12 Months**

**Research Team:**

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# Problem Statement

- Some infrastructure projects require large retaining walls.
- Soil backfill behind walls is heavy and lead to oversized wall dimensions.
- This wastes land area, costly, and takes time.
- Consume more cement and steel reinforcement.
- Hence, EG code limits the free walls heights to 6 m.

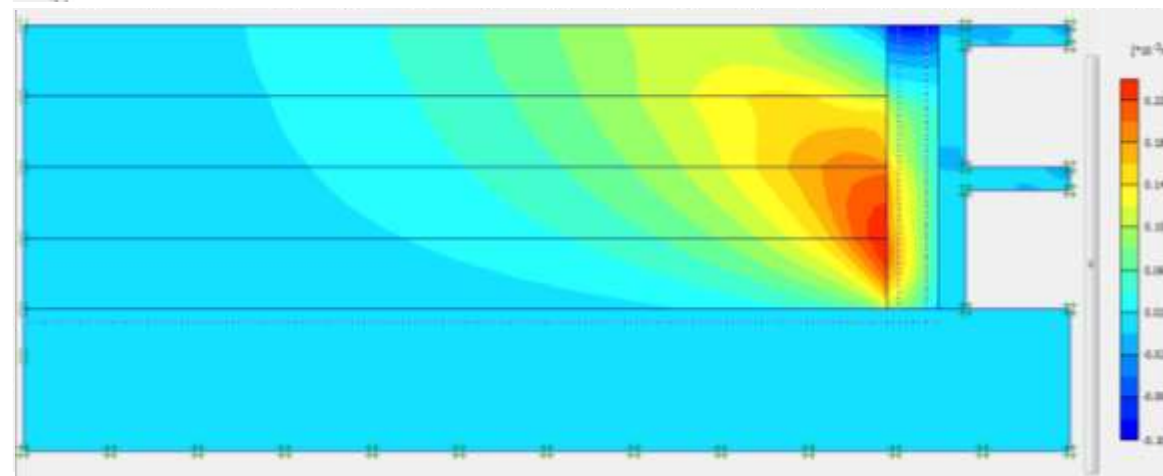
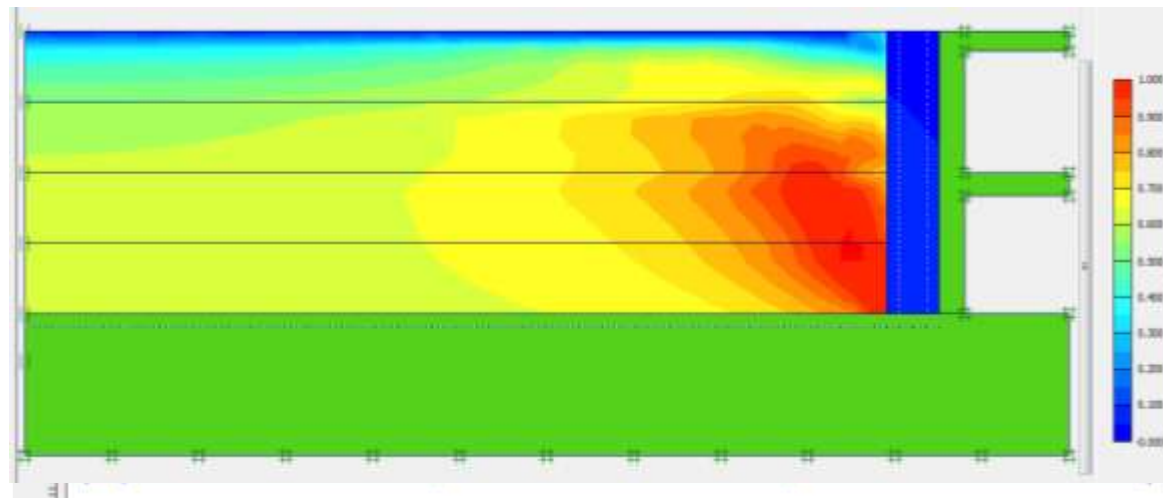
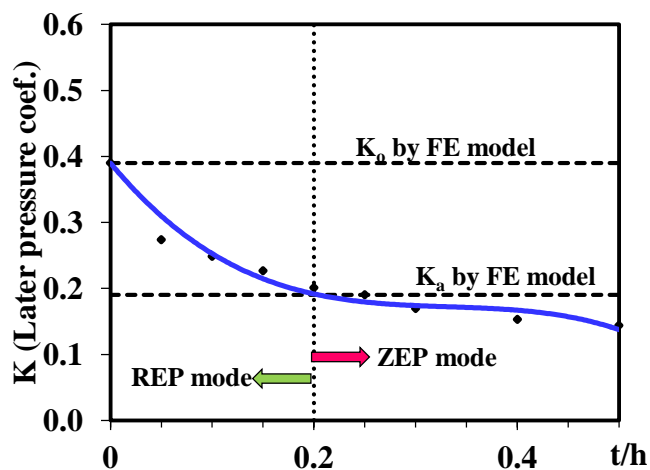
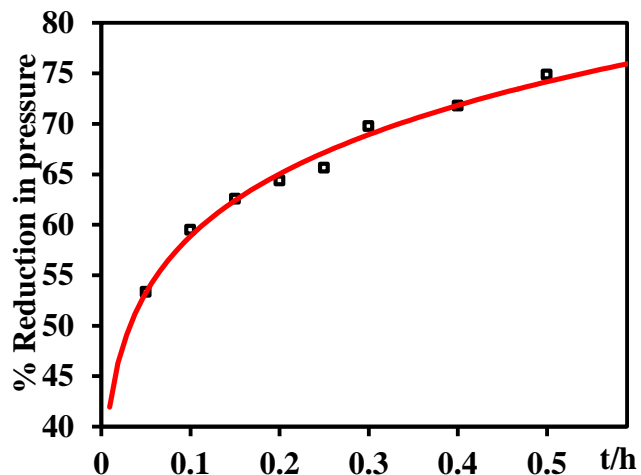


# Solution using EPS Geofabric

- EPS is a lightweight and durable material (1% of soil weight).
- EPS significantly reduces the loads imposed on retaining walls and underlying soils.
- Solve challenges, reduce cost, inc. sustainability, positive impact on environment.
- **Future uses of EPS**



# Primary FE Analysis





# Tangible Results

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## ■ In 12 Months:

- 1) Characterization of local EPS in the Lab.
- 2) Prototype for walls with EPS inclusion
- 3) Calibration of a FE numerical model
- 4) Design charts and recommendations for industry

## ■ Publications:

- 1) At least one journal paper
- 2) Two paper in international conferences

Thank you..



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