Contractors Perception towards Excavation Hazard

Clinton Aigbavbao
Sustainable Human Settlement and Construction Research Centre, Department of Construction Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa.

Zakari Mustapha
School of Engineering, Department of Building Technology, Cape Coast Technical University, Cape Coast, Ghana.

Wellington Didi Thwala
Sustainable Human Settlement and Construction Research Centre, Department of Construction Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa.

Abstract

Construction employees all over the world, are faced with series of dangers within a depth greater than 1.5 metres in an excavation work, due to the extent of collapse. The study assessed contractors’ perception associated with hazards with excavation work. Forty-seven contractors within Central Region were involved in the face-to-face administration questionnaire. Findings from the study reveal that excavation depth, nature of the strata, presence of water, exposure to wet weather, any load close to the edge of the zoned of influence and the presence of chemical gases within the excavation area have major impact on excavation works. Excavation depth and nature of the strata were ranked as the highest among the thirteen hazardous variables within construction work area and the least was the time under which the excavation works will be carried out. Planning for hazard prevention should be in accordance with the OSHA guidelines. The identified hazards should be carefully analyzed for prompt measures to be taken.

Keywords: Construction, depth of excavation, influence of water, risk, weather condition.

Short bio data of authors

Prof. Aigbavboa Clinton, PhD, is an Associate Professor at the Sustainable Human Settlement and Construction Research Centre, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa. His research interests are situated in the fields of sustainable human development, with the focus on: sustainable housing regeneration (urban renewal and informal housing), Life Cycle Assessment in the Construction Industry, remanufacturing, leadership in low-income housing, Biomimicry, post occupancy evaluation and green job creation.

Dr. Zakari Mustapha, PhD, is a Senior Lecturer at the Building Technology Department and Dean, School of Engineering, Cape Coast Technical University, Cape Coast, Ghana. His research interests are in the fields of Construction Health and Safety, Environmental Management and Construction Education.

Professor Wellington Didi Thwala, PhD, is a Professor at the Sustainable Human Settlement and Construction Research Centre, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa. Prof. Thwaal is the South African Research Chairs Initiative (SARCHI) in Sustainable Construction Management and Leadership in the Built Environment. He is one of the researchers rated by the National Research Foundation (NRF). He has varied research interests, which include project management, engineering design management, economic and social infrastructure delivery, operations and production management and business competitive intelligence.