



## TECHNICAL PRESENTATION

February 14, 2024



### **Geoforensic Study for Detention Pond Segmented Block Wall Failure**

Presented by Mr. John Wang, Ph.D., with [Geotech Engineering and Testing](#)

**BIO:** Mr. John Wang, Ph.D., is a Project Manager at Geotech Engineering and Testing (GET) with the responsibility for daily operations of Geoforensic and geotechnical explorations, data analyses and preparation of report recommendations. He has several years of experience in field of geoforensic, geotechnical, environmental, and materials engineering. He has been involved in geoforensic studies as they relate to commercial structures, residential, slope failures, pavements, retaining walls, sewer leaks, plumbing leaks, etc. He other experience includes research and development in the field of soils, rock materials testing

for slopes, retaining walls, pavements, low to high rise buildings, slope protection remedial works, deep foundations, flood control channels, community centers, office buildings, and subdivisions. His other experience includes research and development in the field of unsaturated soil mechanics (expansive soils). Dr. Wang is also actively involved in environmental site assessment projects, including Phase I and Phase II Environmental Site Assessment Studies.

**PRESENTATION SUMMARY:** Mr. John Wang, Ph.D., Project Manager with Geotech Engineering and Testing discussed "Geoforensic Study for Detention Pond Segmented Block Wall Failure." A segmented block wall detention pond structure was built in 2022. The site is located in Texas. The 17-ft tall wall experienced failure. The purpose of this study was to identify the causes of segmented block wall detention pond failure and develop recommendations on wall replacement. These objectives were met by (1) conducting site visits, (2) performing field exploration, (3) conducting laboratory testing, (4) reviewing existing data and reports by others, and (5) analyzing the data to develop engineering analysis. The potential causes of the block wall detention pond failure at the project site could be attributed to (a) inadequate design, (b) improper construction, and (c) improper materials. Flood conditions with draw down exacerbated the failure.

### **PREVIOUS FPA PRESENTATIONS BY MR. WANG:**

[July 2023--Geoforensic Study of a Two-Story Building in Sugar Land, Texas](#)

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