AIN SHAMS UNIVERSITY
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STABILITY OF PILES PENETRATED INTO LIQUEFIABLE SOIL UNDER SEISMIC EXCITATION

BY

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بسم الله الرحمن الرحيم

"قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم"

صدق الله العظيم

الآية ٣٢ – سورة البقرة

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STATEMENT

This dissertation is submitted to Ain Shams University for the degree of Ph.D. in Civil Engineering (Structural Engineering).

The work included in this thesis was carried out by the author in the Department of Structural Engineering, Ain Shams University, from 2005 to 2009.

No part of this thesis has been submitted for a degree or qualification at any other University or Institution.

Date : May, 2009

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Table 4.1: Geotechnical properties of the studied sand.

Soil Type	Specific Gravity, Gs	Dry unit weight, γ_d (g/cm^3)	Saturated unit weight, γ_{sat} (g/cm^3)	Relative density, Dr * (%)	Angle of shearing resistance, ϕ^o*	Max. shear modulus, G_{max}** (t/m^2)
S1	2.65	1.64	1.97	35	32	1000
S2	2.65	1.68	2.00	50	34	2500
S3	2.65	1.73	2.03	65	36	5000
S4	2.65	1.79	2.07	85	40	10000

* Values are estimated according to recommendations of the Egyptian Code of Soil Mech. and Foundation, Parts 1& 3.

** After Abdel Motaal, 1999.

CHAPTER 1

CHAPTER 2

CHAPTER 3

CHAPTER 4

CHAPTER 5

REFERENCES

APPENDIX A

APPENDIX B