

EFFECT OF SOIL TYPE ON SEISMIC
PERFORMANCE OF REINFORCED
CONCRETE SCHOOL BUILDING

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SUPERVISOR'S DECLARATION

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I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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LIST OF SYMBOLS

Δ	Displacement
Δ_{\max}	Maximum displacement
R	Force Reduction Factor
V	Shear
Q_k	Live load
G_k	Dead Load
f_{cu}	Concrete compressive strength
f_y	Yield strength of steel
C_t	Coefficient
F_b	Base shear force
q	Behaviour factor
γ	Base Shear Coefficient
T_1	Fundamental Period
T_B	lower limit of the period of the constant spectral acceleration branch beginning of the constant displacement response range of the spectrum
T_D	Upper Limit
S	soil factor
$S_d(T)$	design spectrum
β	lower bound factor for the horizontal design spectrum (0.2)
W	Weight
N	Number of Storey
a_g	Peak ground acceleration
a_{gR}	Reference peak ground acceleration
γ_1	Important factor
Δ_y	Yield displacement

LIST OF ABBREVIATIONS

FEMA	Federal Emergency Management Agency
BS	British Standard
MMD	Malaysia Metrology Department
JMGM	Jabatan Mineral and Geoscience Malaysia
RC	Reinforced Concrete
FFE	Far Field Earthquake
MDOF	Multi Degree of Freedom
NEHPR	National Earthquake Hazards Reduction Program
NFE	Near Field Earthquake
NTHA	Nonlinear Time History Analysis
IDR	Interstorey Drift Ratio
SDOF	Single Degree of Freedom
UBC	Uniform Building Code
USGS	U.S Geology Survey
BNFS	Near Filed Single Earthquake on Soil Type B
BNFR	Near Filed Repeated Earthquake on Soil Type B
DNFS	Near Filed Single Earthquake on Soil Type D
DNFR	Near Filed Repeated Earthquake on Soil Type D