

ID 7786

Section A

Assignment :-

Ahmed Shahzad.

Geotechnical Report :-

Multi-Level Building :-

Proposed Khan General
Stantic consulting Limited
~~NHA and CPK~~ highways Authority

June 9, 2014

Project No 3412679

Prepared for :-

Overland Properties.

Prepared By :-

Khan & Brothers Inc

Phase 3, Hyderabad.

- 1) A rock to grout working bond stress of 1000 kPa may be used for holes grouted with non shrink grout having minimum compressive strength of 30 MPa.
- 2) The minimum fixed anchor length should be 3mm.
- 3) Submerged unit weight of rock = 16 kN/m³
- 4) A 90° failure cone with apex at midpoint of bonded length.

FOUNDATION BACK FILL :-

Backfill within the footprint of the proposed building should consist of OPSS Granular A compacted to 100% SPMDD. Exterior foundation backfill should consist of material meeting the requirements of OPSS select

Cement type and corrosion Potential:-

One representative groundwater sample was submitted to parcel laboratories in Ottawa Ontario for pH, chloride, sulphate and resistivity testing.

Borehole No	pH	Sulphate	Resistivity	Chloride
MW12-7	7.7	104 µg/l	5.06 ohm.m	664 µg/l

The pH, resistivity and chloride concentration provide an indication of degree of corrosiveness of subsurface environment. The pH range is normal. The above data can help us in providing aid to selecting of coatings and corrosion protection systems for buried steel objects.

Pavement Structure Recommendation:

It has been assumed that the parking areas will be used mostly by passenger vehicles and the access roads will be used by delivery truck and fire vehicles.

Material	Heavy Duty Parking Access Roads	Standard Duty Parking Area
SP 12.5 Asphaltic concrete	40 mm	50 mm
SP 19 Asphalt concrete	50 mm	—
OPSS Granular A	150 mm	150 mm
Granular Subbase course, OPSS	400 mm	300 mm
Granular B Type II		

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It is estimated that the service life prior to major rehabilitation for above pavement structure is 20 years provided they are properly maintained. The pavement surface and the underlying subgrade should be graded to direct runoff water toward suitable drainage.

All granular material should be tested and approved by geotechnical engineer. Base and subbase material should be compacted to 100%. SPMD Asphalt should be compacted to 97%.

Closure:-

Use of this report is subject to the statement of general condition provided in appendix A. It is responsibility of "client" to review the conditions and to notify stantec should any of these note be satisfied. The statement of general condition addresses the following

Use of report

Basis of report

Standard of care

Interpretation of site conditions

Varying of unexpected site conditions

Planning design or construction

This report has been prepared by Ahmed and

Reviewed by Mr Ali Khan
Respectfully Submitted

STANIC CONSULTING LIMITED.

Ahmed
Shehryar

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Section A

Ahmed Shahzad

Quiz 1.

Software use in Geotechnical Engineering

3DEEP:- It is a virtual reality software for deep excavations. It was made by Deep Excavation LLC.

ACCECALC:- This program analysis the behaviour of rock slopes under seismic conditions. It was made by geo and soft international.

ADONIS:- It was made by Roozbeh Geraiki Mikola. It is free finite Element Software for Geo Engineers. ADONIS improve the modeling and computational simulation in geotechnical engineering.

Alp:- It was made by Oasys. It is used to analyse soil structure interaction of a laterally loaded pile when it comes to laterally loaded pile design software. Alp makes things simple.

ALP99:- It was made by Arnold Verruigt and is used for axially loaded pile.

AMRETIAM:- It was made by terrasol. It is a software for checking single or double retaining walls made of ArcelorMittal, sheet piles.

APILE:-

It is used to compute the axial capacity

CADS:- It helps engineers to investigate the effects of soil parameters.

CAPWAP:- Made by Pile Dynamics, Inc. It is a software programme that estimates total bearing capacity of pile or shaft.

Ce. Ca. P:- It is a complete pkg. for design and analysis of foundations.

Some other software are mentioned below:-

CGM :-

CLASROCK :-

D-MOD2000 :-

DAN-W :-

DC - Bearing :-

DC - Cantilever :-

DC - Footing :-

DC - Footing / Pylon :-

DC - Gabion :-

DC - Geotex :-

DC - Integra :-

DC - Nail :-

DC - Pile :-

DC - Pit etc etc.