

Section A  
ID 7795  
ABUBAKAR

- 1) A rock to grout working bond stress of 100 kpa may be used for holes grouted with non shrink grout having minimum compressive strength of 30mpa
- 2) The minimum fixed anchor length should be 3mm.
- 3) Submerged unit weight of rock =  $16 \text{ kN/m}^3$ .
- 4) A  $90^\circ$  failure cone with apex at mid point of bonded length.

### FOUNDATION BACK FILL:-

Back fill within the foot point 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 subgrade materials.

### Cement type and Corrosion Potential:-

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

Barcode No	pH	sulphate	Resistivity	chloride
MW12-7	7.7	104 $\mu\text{g/g}$	5.06 ohm.m	664 $\mu\text{g/g}$

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 coating and corrosion protection surface 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 delivering trucks and fine vehicles.

Materials	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.	400 mm	300 mm
OPSS Granular B Type.		

It is estimated that the service life prior to major rehabilitation for above pavement structure is 20 years provided.

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They are properly maintained. The pavement surface and underlined subgrade should be graded to direct runoff water to direct 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 compact to 97%.

### Closure:-

Use of this report is subject to the statement of general 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

Basics of report

Standard of care

Interpretation of site condition.

Varying of unexpected site condition.  
planning design or construction.

This report has been prepared by

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Respectfully submitted  
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section A

(QUIZ)

## Software used in Geotechnical Engineering.

### 3DEEP:-

It is a virtual reality software for deep excavation. It was made by deep excavation LLC.

### ACCECALC:-

This program analysis the behaviour of rock slopes under seismic condition. It was made by geo and soft international.

**ADONIS:-** It was made by ~~rootz~~ Roozbeh Gerali Mikola. It is free finite element software for Geo Engineers. ADONIS improve the modeling and computational simulation in geotechnical engineering

**AIP:-** 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. AIP makes things simple.

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**AIPaa:** It was made by Terzaghi and was used for axial loading.

**APILE:-**

It is used to measure the ~~axial~~ axial capacity.

**CADS:-** It helps in finding soil parameter.