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ARAB ENGINEERING BUREAUS

1 GENERAL

1.1 INTRODUCTION

1.1.1 Scope

- 1 This Section specifies the requirements for excavation and filling as necessary to facilitate the construction of the Works. It does not include earthworks associated with trenches for pipelines or service ducts.
- 2 The cost of all operations needed for the excavation and disposal work as required and specified, including temporary and permanent support work, breaking, loading, hauling and dumping in accordance with the provisions of the Project Documentation shall be included in the Contractor's rates.
- 3 The Contractor shall be deemed to have examined the site and verified for himself the exact nature and quality of the materials to be excavated. The Contractor shall carry out his own survey of the existing ground levels and satisfy that the quantities of all excavated and imported materials are correct.
- 4 Removal operations shall be conducted with the least interference to the public and shall not be started until approved by the Engineer.
- 5 If the technology or material or specification are not mentioned in this section, modifications are permitted and shall be subjected to approval as mentioned in the introduction of QCS (00-02)
- 6 The purpose of QCS is to provide as a general technical guide for acceptable construction work practices in the State of Qatar, considering this; any addition for technology, material, specification, standard that are not mentioned in this section or their modification, shall be subject to approval as stated in the introduction of QCS (00-02)
- 7 Related Sections and Parts are as follows:

This Section

Part 3..... Filling

Section 1	General
Section 6	Roadworks
Section 8	Drainage Works
Section 28	Landscape

1.1.2 References

- 1 The following standards are referred to in this Section:
 - BS 812.....Testing Aggregates
 - BS 1377Methods of test for soils for civil engineering purposes
 - BS 6906Methods of tests for geotextiles
 - ISO 12956Geotextiles and geotextile-related products — Determination of the characteristic opening size

1.1.3 Ground Investigation

- 1 The Contractor shall be deemed to have satisfied himself as to the character of the Site and all the various materials, strata, ground water levels, etc., and of all items liable to affect, or be encountered in, the excavations and earthworks.

- 2 If a ground investigation is not included in the Project Documentation the Contractor shall immediately after taking possession of the Site prepare a minimum of two trial pits in positions to be agreed with the Engineer. Chemical analysis tests are to be carried out on the materials from each of the pits and the results submitted to the Engineer. Similarly, chemical analysis tests shall be carried out on any water present in the pits and the results submitted to the Engineer. Ground investigation tests in accordance with the relevant provisions of BS 812, BS 1377 and BS 6906 shall be undertaken where geotextiles are to be used for temporary or permanent protection.
- 3 The Contractor shall inform the Engineer when the trial pits are ready for inspection and shall not commence excavation work until approval to proceed has been given. All trial holes and their subsequent backfilling shall be carried out at the Contractor's expense and will only be allowed in positions approved by the Engineer. All trial holes shall be backfilled as soon as the required information has been obtained and open excavations shall be adequately protected and cordoned off using temporary lights and barriers or similar method approved by the Engineer.
- 4 If a ground investigation is included in the Project Documentation, it is provided solely for the guidance of the Contractor and no guarantee is given regarding its accuracy, nor is it guaranteed that similar conditions apply elsewhere on the Site.

1.1.4 Site Clearance

- 1 Before commencing any excavation or fill, the area shall be cleared of all trees, stumps, roots, bushes, vegetation, debris, materials or other obstructions.
- 2 Before removal of any trees or shrubs the Contractor shall obtain written consent from the Engineer at least two weeks in advance of the planned removal.
- 3 All bushes, undergrowth, etc. to be removed shall be grubbed up and disposed of in a manner as agreed with the Engineer. Holes left by stumps or roots shall be filled with suitable material, compacted to the Engineer's satisfaction in accordance with Part 3 of this Section within one week of the work being performed.
- 4 The Contractor shall at his own expense make good any damage done to other property during the site clearing. Sweet soil excavated during the course of these works shall be preserved and protected by the Contractor, until removed by the Employer or until the expiration of the Contract.

1.1.5 Preservation of Property Not to be Affected by the Works

- 1 Attention is directed to the Contractor's obligations with regards to damage, particularly with regard to protection of property, plants and landscape and to responsibility for damage claims.
- 2 The form of protection to vegetation within the Site shall be as agreed with the Engineer.

1.1.6 Disposal of Historical Artefacts

- 1 Where specified, certain materials arising from site clearance and excavation work are to remain the property of the Owner. All fossils, antiquities and other objects of interest or value which may be found or uncovered on the Site shall remain or become the property of the Owner. Upon discovery of such an object the Contractor shall forthwith:
 - (a) use his best endeavours not to disturb or damage the object
 - (b) cease work which would endanger the object or prevent or impede its removal
 - (c) inform the Engineer of the discovery and precise location of the object.

- 2 The Engineer will issue an instruction on the procedure to be adopted which may include conditions to permit the examination, excavation or removal of the object by a third party.

1.1.7 Special Requirements of Utility Authorities

- 1 Prior to commencing excavation work, the Contractor shall ascertain from the responsible Utility Authorities whether any mains or services need to be diverted or cut-off in accordance with the procedure described in Part 19 of Section 1.

1.1.8 Control of Ground Water

- 1 Prior to the commencement of construction at any particular location, the Contractor shall install and maintain a system of standpipes and other devices to monitor ground water levels in any area, which in the opinion of the Engineer, is likely to be affected by the dewatering. The number, location and depth of all standpipes shall be to the satisfaction of the Engineer.
- 2 The Contractor shall check ground water levels weekly or when instructed by the Engineer. The results of such checks shall be submitted to the Engineer in a written report within 24 hours of the level being taken. The format of the report shall be as agreed with the Engineer.
- 3 In the case of uncontrolled flow of water into any excavation, the Engineer reserves the right to order the Contractor to take immediate action to control the inflow of water. Such actions and remedial works shall be to the Engineer's approval.

1.1.9 Record Procedure

- 1 If the Engineer requires foundation or formation level depths to be varied from those shown on the drawings it shall be the responsibility of the Contractor to ensure that proper records of the actual excavated levels are kept.

END OF PART