

DUPLICATE

Appendix IV - Details of Laboratory Tests Results

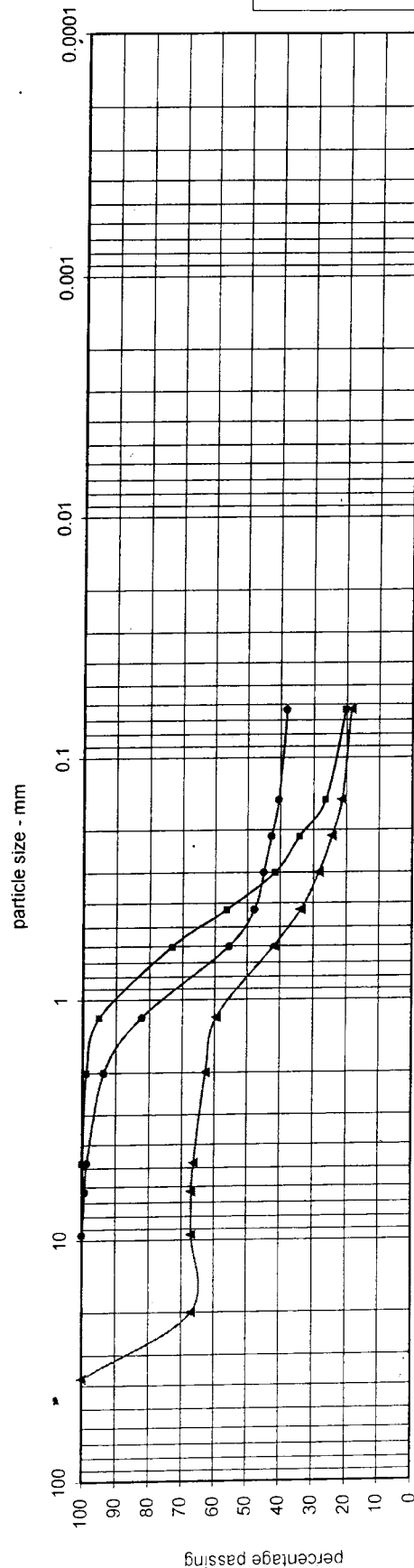


PARTICLE SIZE DISTRIBUTION

Test Method

BS 1377 : 1990 (Part 2) : Clause 09

Cobble	GRAVEL			SAND			SILT		CLAY
	Coarse	Medium	Fine	Coarse	Medium	Fine			



Location

51 CAMPBELL
AVENUE,
COLOMBO 8

GEL/2018/00255

GEL/2018/00256

GEL/2018/00257

BH 1

BH 1

BH 1

2.00-2.45

3.00-3.45

4.00-4.45

SC

SC

CS

18

50

62

12

25

31

6

25

31

1

37

6

79

44

56

20

19

38

DATE : 15/3/2018

TESTED BY : WKS

CHECKED BY : DR

CERTIFIED BY : WDBC

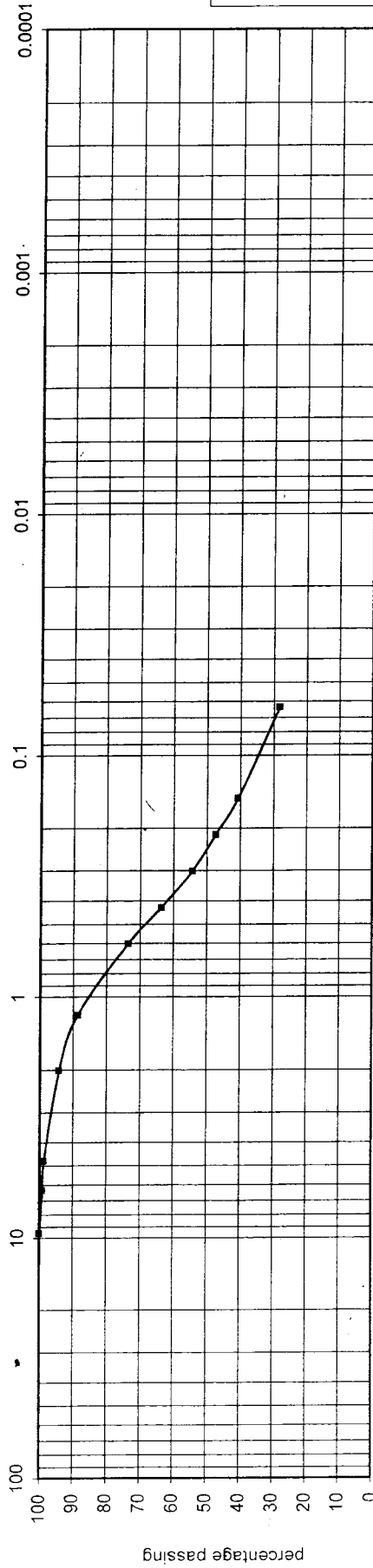


Test Method

BS 1377 : 1990 (Part 2) : Clause 09

GRAVEL			SAND			SILT		CLAY	
Cobble	Coarse	Medium	Fine	Coarse	Medium	Fine			

particle size - mm



DUPLICATE

BH 1
(7.00-7.45)

51, CAMPBELL
AVENUE,
COLOMBO 8

GEL/2018/00258

BH 1

7:00-7.45

SC

34

18

16

6

66

28

DATE : 15/3/2018

TESTED BY : WKS *WKS*

CHECKED BY : DR *DR*

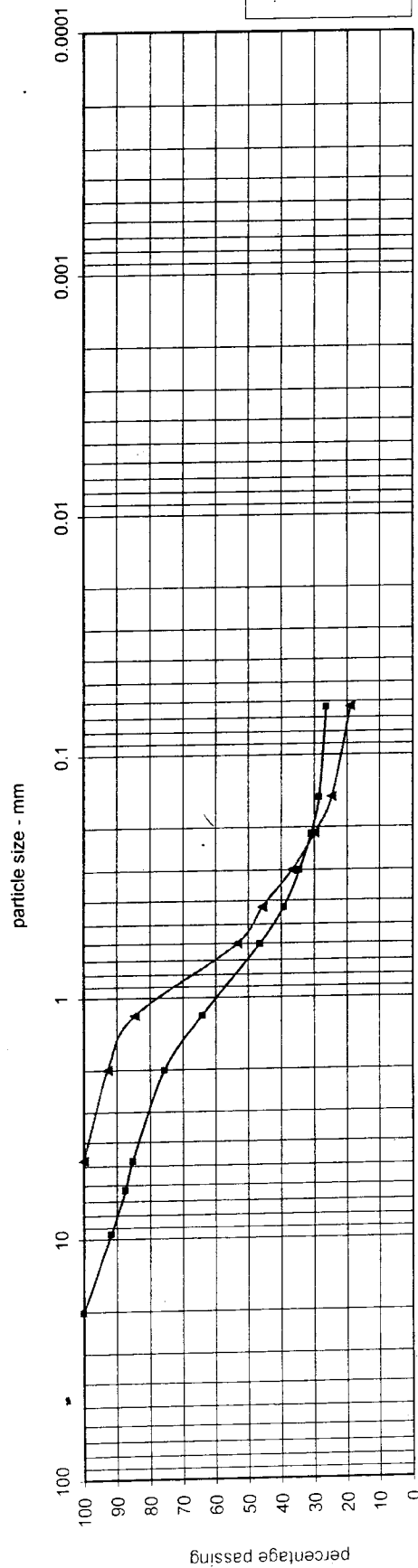
CERTIFIED BY : WDBC *WDBC*



PARTICLE SIZE ANALYSIS

Test Method : BS 1377 : 1990 (Part 2) : Clause 09

GRAVEL			SAND			SILT		CLAY	
Cobble	Coarse	Medium	Fine	Coarse	Medium	Fine			



Location	Lab No. / Sample No.									
51, CAMPBELL AVENUE, COLOMBO 8	GEL/2018/0689	BH 2	2.00-2.45	SC	42	23	19	24	50	26
	GEL/2018/0690	BH 2	4.00-4.45	SC	28	19	9	7	74	19

DATE : 25/4/2018

TESTED BY : WKS

CHECKED BY : DR

CERTIFIED BY : WDBC

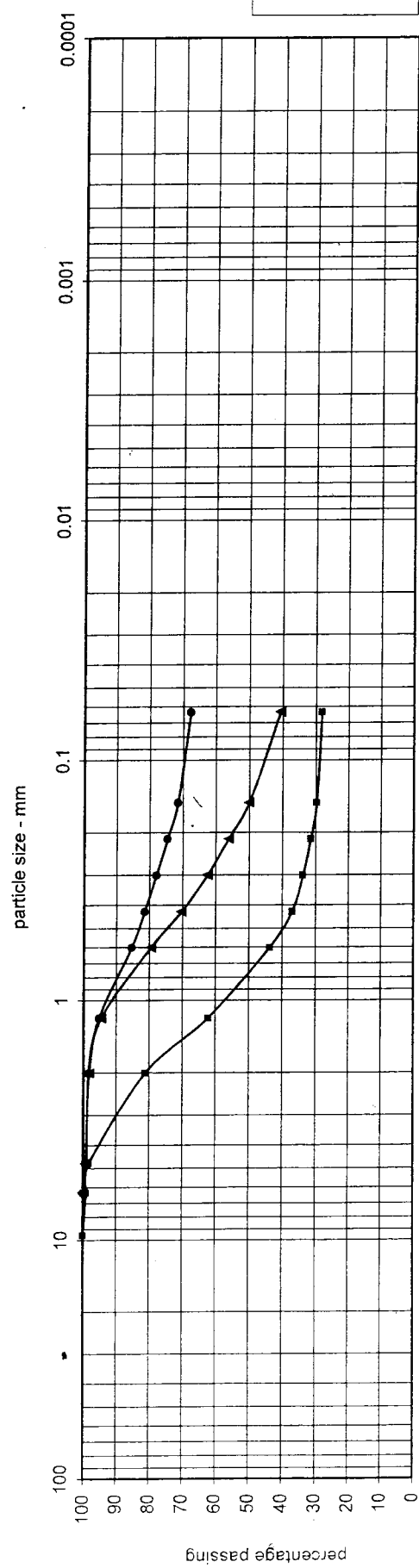


Test Method

BS 1377 : 1990 (Part 2) : Clause 09

Cobble	GRAVEL			SAND			SILT		CLAY
	Coarse	Medium	Fine	Coarse	Medium	Fine			

DUPLICATE



51, CAMPBELL AVENUE, COLOMBO 8	GEL/2018/00259	BH 2	3.00-3.45	SC	65	30	35	19	53	28
	GEL/2018/00260	BH 2	5.00-5.45	CS	46	24	22	2	58	40
	GEL/2018/00261	BH 2	7.00-7.45	MH	62	33	29	2	30	68

DATE : 15/3/2018

TESTED BY : WKS

CHECKED BY : DR

CERTIFIED BY : WDBC

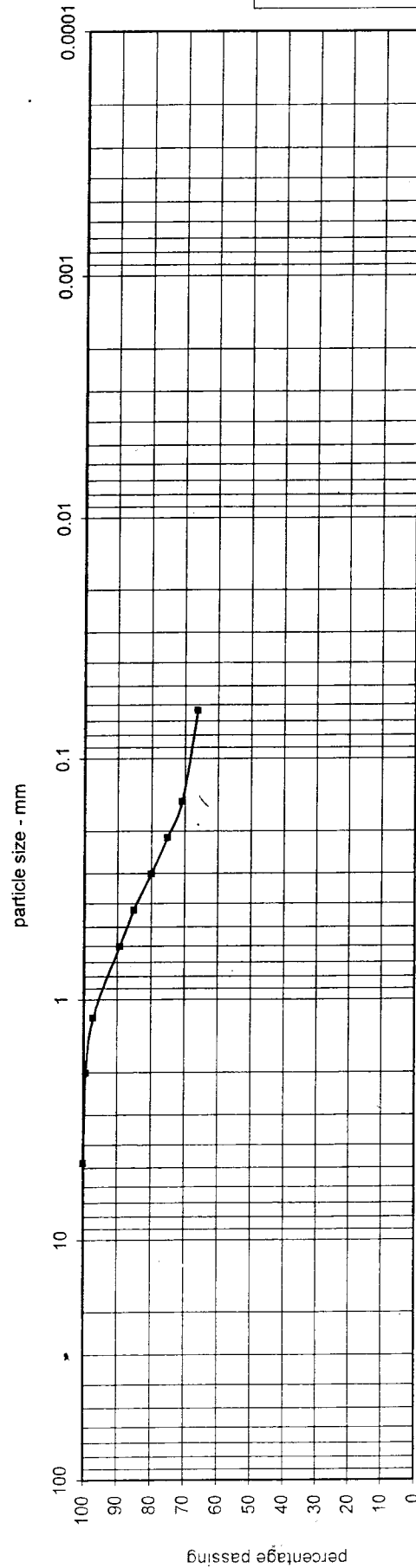


Test Method

BS 1377 : 1990 (Part 2) : Clause 09

Cobble	GRAVEL			SAND			SILT		CLAY
	Coarse	Medium	Fine	Coarse	Medium	Fine			

DUPLICATE



— BH 2
(8.00-8.45)

51, CAMPBELL
AVENUE,
COLOMBO 8

GEL/2018/00262

BH 2

8.00-8.45

MH

54

32

22

1

33

66

DATE : 15/3/2018

TESTED BY : WKS *WKS*

CHECKED BY : DR *DR*

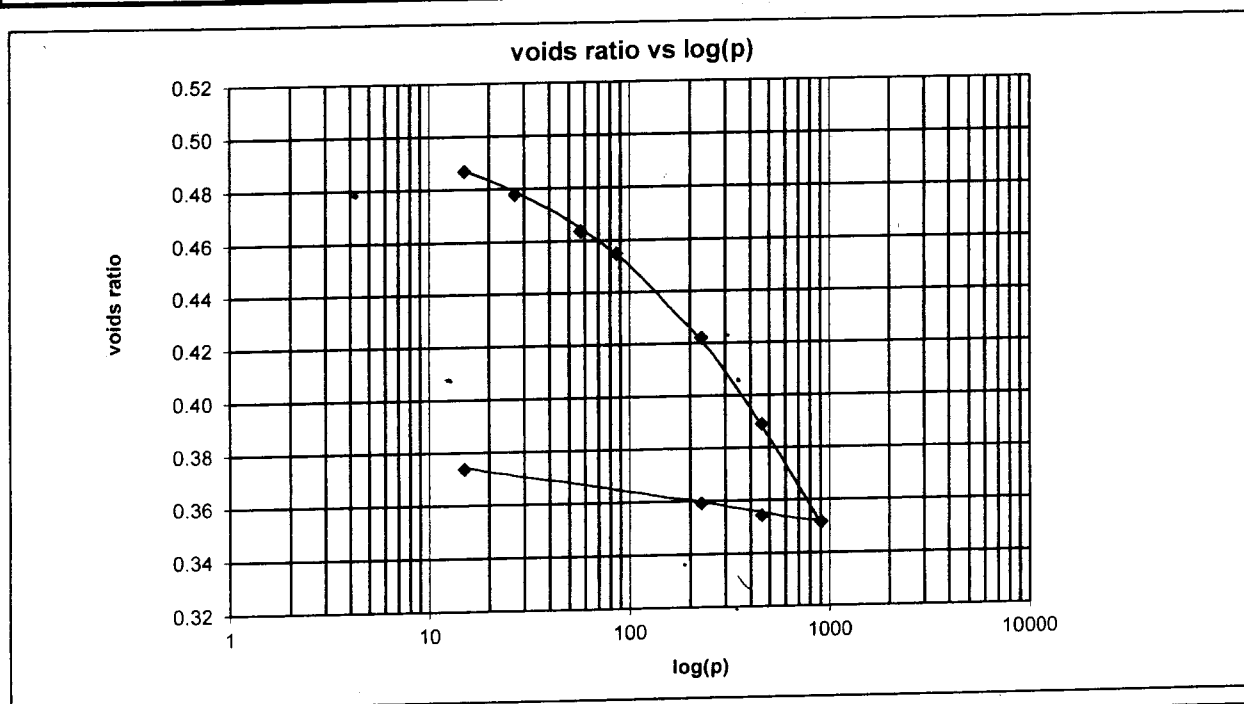
CERTIFIED BY : WDBC *WDBC*



CONSOLIDATION TEST (Log Pressure / Void Ratio Curve)

Project	SOIL INVESTIGATION FOR PROPOSED DEPOT BUILDING FOR CENTRAL ROAD MAINTAINANCE UNIT (CRMU) AT CAMPBELL PARK			
Client	COLOMBO MUNICIPAL COUNCIL	Project No.	NBRO/GED/2017/30/25848	
Location	51, CAMPBELL AVENUE, COLOMBO 8	Laboratory Sample No:	GEL/2018/00263	
Depth (m)	3.50-3.90	Chainage	-	Client's Sample Ref. No
Soil Description	Sandy CLAY	Started Date	19/3/2018	BH 1
		Completed Date	2/4/2018	

Test Method : BS 1377 : 1990 (Part 5)



Diameter	mm	50.40	Bulk density	g/cm^3	2.12								
Height Initial	mm	20.00	Moisture content	%	23.4								
Void ratio initial	e_0	0.50	Dry density	g/cm^3	1.72	0.0	0.50						
Saturation	%	100	Specific gravity	G	2.65	15.0	0.49	0.00077	40.9648				
Void ratio final	e_r	0.37	Solid height	mm	13.30	27.0	0.48	0.00051	5.1335				
Compression Index	C_c	0.130	Swelling index	C_s	0.01	57.0	0.46	0.00032	3.4274				
Pre consolidation pressure			110 kPa			86.0	0.45	0.00021	3.0098				
Remarks: <div>DUPLICATE</div>						228.0	0.42	0.00016	5.6067				
						456.0	0.39	0.00010	2.7921				
						911.0	0.35	0.00006	2.1495				
						456.0	0.35						
						228.0	0.36						
						15.0	0.37						
						Date				Tested by	Checked by	Certified by	Remarks
						05/4/2018							

✓ 7
DUPLICATE

• Section - 7

• **BILLS OF QUANTITIES**

- 1. Include Preliminary Bill items as Bill No. 1**
- 2. VAT Component shall be filled in Bills of Quantities and it shall not be carried to Form of Bid.**
- 3. Any discount offered will not be considered for Provisional Sum Items**

**BILL OF QUANTITIES FOR PILING WORKS FOR PROPOSED OFFICE, DEPOT & QUARTERS BUILDING
FOR PROJCT DIVISION, DIRECT LABOURE UNIT AT CAMPBELL PARK.**

BILL NO. 01- PRELIMINARIES

ITEM	DESCRIPTION	UNIT	QTY	RATE Rs. Cts.	AMOUNT Rs. Cts.
	The Bidder is advice to visit the site of the proposed work, as it is this responsibility to ascertain the conditions governing access to the site, and external working space etc. or any other conditions of relevance.	Note			
	And other preliminary items not listed below but deemed necessary for the successful execution of the project shall be included in the Bid rates. As no claims for extra payments for such, would be entertained.	Note			
	Insurance and Securities				
1A -01	Allow Provisional sum for providing Performance Security	Pro. Sum			
1A -02	Allow Provisional sum for providing an Advance Paymnet Security	Pro. Sum			
1A -03	Allow lump sum for insurance Machinery and Equipment, Plant, materials, third party persons and properties and Employer's personnel and property at site as per the contract.	Pro. Sum			
1A -04	Allow Provisional sum for Insurance against accidents and injury to contractor's personals.	Pro. Sum			
	Contractor's Facilities				
	Temporary site office space for the Contractor's site management staff & stores.	Note			
	Construction Management and Supervision				
1A-5	Allow Lump sum for employing suitably qualified and experienced technical person (a qualified geotechnical Engineer with M.Sc in geotechnical Engineering & experience of 3 Years in similar nature pile construction work on full time basis for Construction Management Services as per the Contact.	Item			

ITEM	DESCRIPTION	UNIT	QTY	RATE Rs. Cts.	AMOUNT Rs. Cts.
	Setting Out				
	Setting out of Works shall be in accordance with drawings and other written information given by the Engineer.	Note			
1A -6	Allow lump sum for employing a licensed land surveyor to define the building site work etc., check levels and carry out such other surveys as may be necessary to establish location of the piling accurately and all other setting out in both vertical and horizontal plane. Same to be carried out after completion of the piling works in order to ascertain deviations/accuracy of setting out.	Item			
1A -7	Allow lump sum for provision of 2 sets of as -built drawings for Engineer's approval.	Item			
	Health, Safety and Environment				
1A -8	Allow lump sum for initial crack survey and report.	Item			
	Allow lump sum for maintaining in the site in a clean and orderly manner at all times and during the entire contract period and mobilization, removal of all rubbish & debris and clearing up site on completion, leaving all in good order and handling over.	Item			
	Services and Facilities				
1A -10	Allow lump sum for supply of water for the works and paying all charges and other expenses in connection with the supply from water mains or any other alternative method of water supply, storage and reticulation.	Item			
1A -11	Allow lump sum for supplying temporary electricity for the works including connection, distribution system for the works, internal arrangements and all payments to the authorities for consumption.	Item			
1A -12	Construction of Project Name Board				
Total of Preliminaries Carried to Main Summary					

**BILL OF QUANTITIES FOR PILING WORKS FOR PROPOSED OFFICE, DEPOT & QUARTERS
BUILDING FOR PROJRCT DIVISION, DIRECT LABOURE UNIT AT CAMPBELL PARK.**

BILL NO 02

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p><u>Notes</u></p> <p>The attention of the Bidder is drawn to the use of Bill of Quantities, Drawings, Conditions of Contract, CIDA Specifications and any other particulars related to this Bid. It is the Bidder's responsibility to see that his price includes for complying with all the requirements of the conditions of contract and other documents whether specifically referred to in this Bill of Quantities or not.</p> <p>The Bidder is advised to visit the site of the proposed work, as it is his responsibility to ascertain the Conditions, governing access to the site, Adjoining buildings, the working space, storage area, access to the site, availability of power and water etc. or any other conditions of relevance.</p> <p>The contractor shall be responsible for any loss or damage to the works, existing structures, adjoining or adjacent structures and unfixed materials during the term of the contract.</p> <p>All temporary works, shall be dismantled and cleared away from the site on completion of the work.</p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p>			
	<p><u>Plant, Material & Work Practices</u></p> <p>No work in any trade shall be carried out in such a manner as to cause any nuisance to adjacent owners or the public.</p>	<p>Note</p>			

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NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>Mechanical plant and equipment which emits excessive vibrations, noise, water, smoke, fumes, obnoxious liquids, gases etc., will not be allowed to be used on the site, Hydraulic rotery drilling machines with necessary supportive machineries shall be used and prior approval shall be taken for all method statements from the Engineer.</p> <p>The Engineer has the final decision as and when he deems it necessary for the Contractor to take precautions, maintain or repair such plant and equipment or order their removal from the site.</p> <p>Site shall be maintained in a clean and orderly fashion at all times and during the entire contract period. Materials, etc., shall be kept neatly stacked on the site with all access - ways kept clear. All dust, debris and rubbish etc., arising out of his own work shall be continuously cleared and removed from the site. The burying of rubbish and debris on site will not be allowed.</p> <p><u>The installation of piles shall be in conformity with the specification with respect to vertical and horizontal alignment. Any deviation greater than the permissible tolerance , the cost of additional structural work arising from such misalignment shall be borne by the piling contractor.</u></p> <p><u>In case of any failure of the piles such piles to be rectified by installation of new pile and cost of such piles to be borne by the piling contractor.</u></p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p>			

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NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>Adequate provisions to be allowed to reduce the amount of vibration, dust, pollution and noise from the site and shall be the contractor's responsibility for any complaints, damages or claims in connection with the works. The contractor shall measure and maintain noise and vibration levels acceptable to the environmental and other authorities and shall maintain a monitoring procedures acceptable to the Engineer including necessary changes to the method of working time to time to be within the acceptable noise and vibration level.</p>	Note			
	<p>The Contractor shall provide necessary lighting, watchmen, and other suitable security measures during construction until handing over.</p>	Note			
	<p>The contractor shall give notice to authorities etc., obtaining permits and the payment of fees for such permits in compliance with the requirement of the by-laws and regulations lawfully imposed by the Government or Semi Governmental or other local authorities.</p>	Note			
	<p>The Contractor shall prepare and submit a detailed programme of work in the form of a Network Analysis. This shall be known as the Bid Network. The Network shall be defined and developed as a Critical Path Network and shall include all activities. The activities shall include the delivery, construction, installation, testing and commissioning of components and all items associated with setting up on site shall be indicated.</p>	Note			

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NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>Care shall be taken to ensure that the rights of all adjoining and adjacent owners, tenants and the public are fully respected. Immediately upon receipt of any form of complaint from adjoining property, owners or any Authorities, the Contractor shall notify the Employer and the Engineer and the nature of such complaint and the corrective measures he intends to employ. The Contractor will be held solely responsible for any damage caused to the adjoining and adjacent properties through the carrying out for the works under this contract and shall make good and compensate such damage to the satisfaction of the Engineer.</p> <p>The Contractor shall maintain the quality and standards during construction including supplying specimen, all necessary tests and samples of materials for approval and for testing with out any additional cost.</p> <p>The Contractor shall maintain safety procedures and provide and maintain first aid facilities at site.</p>	<p>Note</p> <p>Note</p> <p>Note</p>			
	<p>The Contractor shall protect, uphold and maintain all water and drain pipes, ducts, sewers, service mains, overhead cables, etc., unless earmarked for demolition, during the execution of the works. The Contractor is to make good any damage due to any cause within his control at his own expenses or pay any cost and charges in connection therewith. In cases where the services are to be temporarily terminated or diverted the Contractor is to give the necessary notice to the appropriate Authority with the approval of the Employer/Engineer and arrange for the work to be carried out and pay all costs and charges in connection therewith. Delays to the Contract completion time caused by such damage will not be entertained.</p>	Note			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>The Contractor shall protect and maintain the approaches to the site, clear of mud and debris with connected services. The contractor is to make good any damage attributable to the works at his own expense or pay all costs, charges in connection therewith.</p> <p>Cost of Contract stamps, CIG levy, to be borne by the Contractor as applicable .</p> <p>Normal working Hours should be the laws of the democratic socialist republic of sri lanka.</p> <p>Plant and Machinery-</p> <p>Contractor shall be aware about the air spaces related to adjacent land and any additional cost due to limitations shall be borne by the Contractor.</p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p>			
D	<p>Mobilization and demobilization of plant and equipment for piling included in the relevant trades.</p> <p><u>PILING WORK (BORED CAST IN SITU PILES)</u></p> <p>The Bidder is requested to refer General Notes, Pricing Preambles, drawings, Specifications, CIDA guidelines Conditions of Bid, Conditions of Contract and all other relevant documents prior to pricing the items in this Bid.</p> <p>The piling contractor shall carry out piling work considering the close proximity of the adjacent buildings and proposed to carry out the installation of piling using the appropriate equipment and piling machines approved by the Engineer.</p>	<p>Note</p> <p>Note</p> <p>Note</p>			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	The Bidders are specially requested to refer the soil investigation report thoroughly prior to pricing this section. Any discrepancies and or any suggestion to be forwarded with the Bid or prior to that to the Engineer for clarification.	Note			
	The Bidder is advised to take special precautions during the entire construction period for the monitoring vibration and noise at regular intervals, submission and carrying out of testing for effects to existing adjoining buildings and other properties due to erection of the works for a full scale measurement exercise including taking levels of streets, adjacent buildings, etc.	Note			
	The Bidder shall make all arrangement for clearance from statutory divisions, Road Development Authority, Colombo Municipal Council, Sri Lanka Police etc., and other related statutory bodies as no extra payment for any such delay in obtaining necessary approval.	Note			
	No extra payment will be made for any delay caused by security or any other arrangement of the statutory- divisions, Road Development Authority, Colombo Municipal Council, Sri Lanka Police etc.,	Note			
	The Bidder is advised to visit the site of the proposed work, as it is his responsibility to ascertain the conditions governing, actual quantum of work involved, access to the site, the external working space, storage area etc.	Note			

DUPLICATE

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>The onus of responsibility will be on the contractor to ensure that the actual rock level with anticipated bearing capacity, cut off levels are established at the time of piling, so that the final payments may be computed accordingly.</p>	Note			
	<p>The lengths of all piles has been calculated from cut off levels to end of piles for the purpose of working out the quantities in this Bill of Quantities but payments shall be to the actual cut off levels of the piles. Fresh Rock level is at app. 18m - 23 m level from existing ground level.</p>	Note			
	<p>The Contractor shall insure against damage to adjoining properties, adjacent structures, any existing over head and/or under ground services that may cause damages as a result of this piling work not less than their prevailing market values of the relevant properties. (measured under preliminaries)</p>	Note			
	<p>Rates shall include for mobilization, demobilization and maintenance of plants and equipment unless measured separately.</p>	Note			
	<p>If any damage is caused to any pile or piles due to the installation of adjacent piles or due to any other work being carried out by the Contractor the contractor shall take such remedial measures as may be ordered by the Engineer including the installation of additional piles and the cost of such measures to be borne entirely by the contractor.</p>	Note			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	The rates shall include for temporary back filling (filled with soil) and steel casing (minimum 6m) and high strength concrete grouting at cut-off level as per specification and drawings.	Note			
	The rate shall include for removal of all spoils, soil, including removal of any cut lengths broken concrete of Laitance and used fluid etc., away from the site.	Note			
	Concreting of piling shall be terminated to a height as specified above the cut off level and then cut back to the specified cut off level. Piling length will be measured between the end of pile and up to the cut off level for payments.	Note			
	Setting out of piles and dimensions of piles to be approved by the Engineer on submission of a survey plan certified by a licensed Surveyor in triplicate. Setting out piles and dimensions of piles to be approved by the Engineer prior to commencement of work.	Note			
	Socketing to rock will be as per detail drawing.	Note			
	The Bidders shall submit the detail of the method of piling work together with necessary shop drawing, equipment to be used, duration, durability and method of erection etc., The method of piling should take into consideration the surrounding buildings and other services etc., in the vicinity, suitable to the type of soil strata method of removal of temporary work and construction chosen to adopt the proposal given herein.	Note			
	Payments for piling shall be valued as follows				

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<p>(a) Piling rate to be applicable from bottom level of pile to specified cut off level for payment.</p> <p>(b) Empty boring has been measured separately from existing ground level to top of hard rock including drilling through any weathered rock /soft rock.</p> <p>(c) No payment will be made for any length of pile above specified cut off level.</p> <p>(d) Boring through the hard rock has been measured separately. Each pile and to be casted into the base rock for a minimum length of 1500 mm boring through the fresh bed rock unless other wise specified.</p> <p>(e) Payments for piling shall be on a Measure and Pay Basis.</p> <p>The Bidders are requested to submit to the Engineer for approval, full details of piles offered on how the calculation and checking of the load bearing capacity and settlement of the piles that will be carried out and the tests proposed to be done at the site.</p> <p>No earth work supports have been measured separately for boring the piling. Should the earth work supporting system and dewatering as required and the contractor shall include this in his pricing. No temporary casing measured separately and rates shall include for providing temporary casing as required.</p> <p>The contractor shall submit the details of the temporary works to the Engineer for approval prior to commencement of such work.</p> <p>Rate for bored piles include excavation, concrete and high strength grout at cut off level etc.</p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p>			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	Rate shall include for remove surplus excavated materials and dispose it off the site.	Note			
	Each pile should be concreted an adequate length above the pile cut-off level to allow for slump and weak concrete with laitance at the top so that at cut- off point sound concrete of the specified strength is obtained.	Note			
	Filling of Cavities if any, shall not be considered as a variation and shall not be paid separately. It is the contractors responsibility to fill the cavities as per the requirements in the contract Document and or to the satisfaction of the Engineer.	Note			
	Having had pile or piles liable for rejection, further testing of piles by static load test method or dynamic load testing will be required for each rejected pile. Extra piles to be tested will be nominated at the discretion of the Engineer. All costs associated with extra testing requirements, time extension claims and other consequential claims put forwarded by Main Contractor shall be borned by the Piling Contractor.	Note			
	Pile caps and ground beams have been measured under "Concreter".	Note			
	Main Piles				
	<u>Mobilization</u>				
	Allow for mobilization plants and equipment initially and and demobilization of plants and equipment on completion of piling work	Item			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<u>Empty Boring</u> Empty boring for piles including boring through any material including weathered rock, soft rock, fractured rock in an approved method including earth support in an approved method, removal of all soil from the existing ground level to top of hard base rock and dispose them away from the site in the following.				
1	600mm dia piles 14 nr app. 22.0 m depth	m	308.00		
2	900mm dia piles 02 nr app. 22.0 m depth	m	44.00		
3	1200mm dia piles 02 nr app. 22.0 m depth	m	44.00		
	<u>Boring in hard base Rock</u> Allow for boring in hard base fresh rock for socketing to a 1500 mm depth as specified including removal of all spoils away from the site in an approved method. Rock quality to be determined by the contractor's geotechnical engineer with the approval from the Engineer.				
4	Boring through hard base rock 600mm dia. piles -14nr	m	21.00		
5	Boring through hard base rock 900mm dia. piles -2nr	m	3.00		
6	Boring through hard base rock 1200mm dia. piles -2nr	m	3.00		
	<u>Concreting</u> All the piles should be socketed in to the hard rock. The minimum depth in to the hard rock is minimum 1.5 m. as per Engineer's instructions.	Note			

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
7	The cement use shall be PPC cement complying BS 8500. The minimum cement content shall be not less than 400Kg/m ³ for concreting under water.	Note			
	Cut off level of piles to be established as per the details indicated.	Note			
	Any under cast piles to be built up in case, found after expose the piles without any additional cost to the Employer.	Note			
	Rate shall include for installing and retrieving temporary steel casing if necessary. (Temporary steel casing of approved quality shall be used to maintain the stability of pile excavation which might otherwise collapse).	Note			
	The piling sequence should be prepared by the contractor for the prior approval of the Engineer. The minimum distance to be maintained with raw piles and the equipment available.	Note			
	Average pile depth to be taken as approximately 23.5 m (app 22m + 1.50 m) including socketing to cut off levels for the purpose of calculation of prices. Rate shall include for dewatering, if necessary. Actual pile length may vary on actual construction and payment will be made on linear meter rate from bottom level to cut off level for each pile as work done at site. Empty boring has been measured separately.	Note			
	The Piling contractor shall execute pile hacking, pile testing during the excavation.	Note			
	Reinforced concrete in grade 30 with necessary casing system,				
	600mm dia piles 14 nr	m	336.00		

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
8	900mm dia piles 02 nr	m	48.00		
9	1200mm dia piles 02 nr	m	48.00		
	<u>Reinforcement to piles</u> High yield steel bar reinforcement (The characteristic strength of reinforcements shall be not less than 460N/mm ² . Concrete cover to all reinforcements, welded joints or welding procedure shall be carried out in accordance with specifications and as shown in the detail drawing and including stirrups including welding, bends, hooks, distance blocks, ordinary spacers, concrete blocks, laps, etc. in the following.				
10	600mm dia piles 14 nr	kg	12,500.00		
11	900mm dia piles 2 nr	kg	2,800.00		
12	1200mm dia piles 2 nr	kg	4,600.00		
	<u>Pile Hacking</u> Any over cast piles to be hacked to cut off levels by the piling contractor with out any additional cost to the Employer. Allow for pile hacking at cut off levels and removal of all debris away from the site. Rate for pile hacking shall include for necessary excavation and earth work supports and dewatering as necessary. Rates shall include for removal of all debris, back filling, leveling and making good the effected area to the following.	Note			
13	600mm dia piles 26 nr	nr	14.00		
14	900mm dia piles 60 nr	nr	2.00		
15	1200mm dia piles 60 nr	nr	2.00		

NO	DESCRIPTION	UNIT	QTY	RATE Rs.	AMOUNT Rs.
	<u>Pile Tests</u> Allow testing cast insitu piles and the number of piles to be tested as specified in specifications of pile works. The Bidder shall submit the method of test and all technical information along with the tender for the Engineer's approval. (including equipment test certificates etc.,)	Note			
	<u>Pile Dynamic Analyzer -PDA</u> Allow for Pile Dynamic Analyzer -PDA test to the specified load test including preparation of pile top for testing by a specialist authority and submission of test report to the following.	Note			
16	600 mm dia Piles to specified load	nr	2.00		
17	900 mm dia Piles to specified load	nr	1.00		
18	1200 mm dia Piles to specified load	nr	1.00		
	<u>Pile Integrity Test (PIT)</u> Allow for pile integrity tests - PIT for all number of piles. The contractor shall submit the method and details of the test for following.	Note			
19	600 mm dia Piles	nr	14.00		
20	900 mm dia Piles	nr	2.00		
21	1200 mm dia Piles	nr	2.00		
	TOTAL FOR PILING WORK CARRIED TO BID SUMMARY				

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DUPLICATE

**BILL OF QUANTITIES FOR PILING WORKS FOR PROPOSED OFFICE, DEPOT &
QUARTERS BUILDING FOR PROJRCT DIVISION, DIRECT LABOURE UNIT AT
CAMPBELL PARK.**

SUMMARY

BILL NO	DESCRIPTION	AMOUNT RS.
BILL NO. 01	PRILIMINARIES	
BILL NO. 02	PILLING WORK	
	SUB TOTAL	
	ADD 10% CONTINGENCIES	
	TENDER PRICE (BID PRICE	
	ADD 8% VAT	
	FINAL COST (WITH TAXES)	

.....

SIGNATURE OF TENDERER

DATE:-

DUPLICATE

Section -8
DRAWINGS