

**KERJA-KERJA PENYIASATAN TANAH BAGI PERKHIDMATAN PERUNDING BAGI REKABENTUK TERPERINCI
BAGI CADANGAN TEBATAN BANJIR SG. PERMATANG RAWA (BAHAGIAN HULU) DI KG. TANAH LIAT,
DAERAH SEBERANG PERAI TENGAH, PULAU PINANG**

SUMMARY OF TENDER

ITEM	DESCRIPTION OF WORK	FROM PAGE NO.	AMOUNT (RM)
BILL NO.1	GENERAL CONDITIONS AND PRELIMINARIES	1/1 - 1/2	
BILL NO.2	BORING PLANTS AND FIELD TESTS	2/1 - 2/4	
BILL NO.3	LABORATORY TESTING	3/1 - 3/3	
	TOTAL		

TOTAL: RINGGIT MALAYSIA

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The time of completion of all works shall be **TWELVE (12)** weeks.

TENDERER

WITNESS

Signature:.....

Signature:.....

Name:.....

Name:.....

I/C No.:.....

I/C No.:.....

Designation:.....

Designation:.....

Chop:

Chop:

Stamp / Seal of Firm :

Date :

**KERJA-KERJA PENYIASATAN TANAH BAGI PERKHIDMATAN PERUNDING BAGI REKABENTUK TERPERINCI
BAGI CADANGAN TEBATAN BANJIR SG. PERMATANG RAWA (BAHAGIAN HULU) DI KG. TANAH LIAT, DAERAH
SEBERANG PERAI TENGAH, PULAU PINANG**

**BILLS OF QUANTITIES
GENERAL CONDITIONS AND PRELIMINARIES**

Bill No. 1

(All quantities are provisional)

Item No.	Description of Work	Unit	Qty.	Rate (RM)	Amount (RM)
1.1	Allow for Performance Bond in the form of Bank Guarantee/ Insurance/ Takaful as specified in "Syarat Sebut Harga"	Lump Sum			
1.2	Provide Insurances of works and Personal Injuries and damages to Property as stated in "Syarat Sebut Harga"	Lump Sum			
1.3	Provide SOCSO/PERKESO and workman compensation	Lump Sum			
1.4	Allow for full time Contractor geologist on site for the duration of the contract.	man/month	2		
1.5	Provide five (5) number copies of Interim Factual Report.	set	5		
1.6	Provide five (5) number copies of complete Final Factual Report, one compiled and bound set of all raw field and Laboratory sheets and one copy of Factual Report in electronics format (CD).	set	5		
1.7	Provide for setting out survey and establishment of all necessary bench marks for the works, inclusive of coordinates, planimetric and height control, to be carried out by licensed surveyor.	Lump Sum			
1.8	Supply progress photographs in hard copy for each machine position, each SPT split-spoon sample and core box properly labeled and in JPEG files in a CD format	Lump Sum			
1.9	To construct exploratory borehole marker for each borehole location	No.	10		
TOTAL OF BILL NO. 1 CARRIED TO SUMMARY					

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BILL OF QUANTITIES

GENERAL CONDITIONS AND PRELIMINARIES

GENERAL SUMMARY

BILL NO.	DESCRIPTION	AMOUNT (RM)
1	BQ 1/1	
	COLLECTION CARRY TO GENERAL SUMMARY	

**KERJA-KERJA PENYIASATAN TANAH BAGI PERKHIDMATAN PERUNDING BAGI REKABENTUK TERPERINCI BAGI
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PERAI TENGAH, PULAU PINANG**

**BILLS OF QUANTITIES
BORING PLANTS AND FIELD TESTS**

Bill No. 2
(All quantities are provisional)

Item No.	Description of Work	Unit	Qty.	Rate	Amount (RM)
2.1	BORING PLANT - MOBILIZATION (On Land)				
2.1.1	Bring two (2) nos of boring plant to the respective sites and remove the same from the sites after completion of boring , shall include erecting the boring plant, installation dismantling and removal from site after completion	Nos	2		
2.1.2	Move the boring plant from one borehole position to the next, including dismantling it at the old position.	Nos	8		
	BORING IN SOIL				
2.2	Rotary Wash Boring Carry out rotary wash boring whether cased or uncased, using water as flushing medium or as otherwise specified by Employer.				
2.2.1	Depth from existing ground level not exceeding (n.e) 10m	Metre	100		
2.2.2	- Ditto - exceeding 10m but n.e 20m	Metre	100		
2.2.3	- Ditto - exceeding 20m but n.e 30m	Metre	100		
2.2.4	- Ditto - exceeding 30 m but n.e. 40 m	Metre	100		
TOTAL CARRIED TO SUMMARY					

BILLS OF QUANTITIES
BORING PLANTS AND FIELD TESTS

Bill No. 2 (Cont'd)
(All quantities are provisional)

Item No.	Description of Work	Unit	Qty.	Rate	Amount (RM)
2.3	<u>Drilling in Rock</u>				
2.3.1	Carry out diamond core drilling of 52.0 mm minimum diameter into any kind of rock including delivery of cores in standard boxes to the specified Laboratory:				
2.3.1.1	Depth from existing ground level not exceeding (n.e) 10 m	Metre	Rate Only		
2.3.1.2	- Ditto - exceeding 10 m but n.e. 20 m	Metre	Rate Only		
2.3.1.3	- Ditto - exceeding 20 m but n.e. 30 m	Metre	Rate Only		
2.3.1.4	- Ditto - exceeding 30 m but n.e. 40 m	Metre	Rate Only		
2.3.1.5	- Ditto - exceeding 40 m	Metre	Rate Only		
2.4	<u>Insitu Field Test</u>				
2.4.1	Carry out standard penetration test :				
2.4.1.1	Depth from existing ground level not exceeding (n.e) 10 m	No.	60		
2.4.1.2	- Ditto - exceeding 10 m but n.e. 20 m	No.	70		
2.4.1.3	- Ditto - exceeding 20 m but n.e. 30 m	No.	60		
2.4.1.4	- Ditto - exceeding 30 m but n.e. 40 m	No.	70		
2.5	<u>Sampling</u>				
2.5.1	Obtain disturbed sample with split-barrel tubes or otherwise for the purpose of doing Classification tests on these samples :				
2.5.1.1	Depth from existing ground level not exceeding (n.e) 10 m	No.	60		
2.5.1.2	- Ditto - exceeding 10 m but n.e. 20 m	No.	70		
2.5.1.3	- Ditto - exceeding 20 m but n.e. 30 m	No.	60		
2.5.1.4	- Ditto - exceeding 30 m but n.e. 40 m	No.	40		
2.5.2	Obtain undisturbed (UD) samples with thin-wall tube sampler :				
2.5.2.1	Depth from existing ground level not exceeding (n.e) 10 m	No.	30		
2.5.2.2	ditto-exceeding 10 m but n.e 20 m	No.	20		
	TOTAL CARRIED TO SUMMARY				

BILLS OF QUANTITIES
BORING PLANTS AND FIELD TESTS

Bill No. 2 (Cont'd)
(All quantities are provisional)

Item No.	Description of Work	Unit	Qty.	Rate	Amount (RM)
2.5.3	<u>Permeability Test</u>				
2.5.3.1	To carry out permeability test in soil by Constant Head Method (Clause 21.4 BS 5930 : 1981)	No.	3		
2.5.3.2	To carry out permeability test in soil by Variable Head Method (Clause 21.4 BS 5930 : 1981)	No.	3		
2.5.5	<u>Penetration Field Vane Shear Test (Geonor Vane)</u>				
2.5.5.1	Mobilisation of Penetration Field Vane to the site.	L.Sum			
2.5.5.2	Carry out Vane Shear Test using Penetration Vane.				
2.5.5.3	Depth from existing ground level not exceeding (n.e.) 10.00 metres	No.	20		
2.5.5.4	- Ditto - exceeding 10 m but n.e 20 m	No.	20		
2.5.6	<u>Water Sample</u>				
2.5.6.1	Collect 1 litre of representative ground water sample in water-tight clean container from a hand bore or deep bore as instructed by the S.O	No.	10		
TOTAL OF BILL NO. 2 CARRIED TO SUMMARY					

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BILL OF QUANTITIES

BORING PLANTS AND FIELD TESTS

GENERAL SUMMARY

BILL NO.	DESCRIPTION	AMOUNT (RM)
1	BQ 2/1	
2	BQ 2/2	
3	BQ 2/3	
	COLLECTION CARRIED TO GENERAL SUMMARY	

**KERJA-KERJA PENYIASATAN TANAH BAGI PERKHIDMATAN PERUNDING BAGI REKABENTUK TERPERINCI
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**BILLS OF QUANTITIES
LABORATORY TESTING**

Bill No.3
(All quantities are provisional)

Item No.	Description of Work	Unit	Qty	Rate	Amount (RM)
3.1	<u>Classification test</u>				
3.1.1	Carry out classification tests:				
3.1.2	Moisture Content (Test 1)	No.	60		
3.1.3	Liquid limit, Plastic Limit and Plasticity Index (Test 2,3 and 4)	No.	170		
3.1.4	Linear Shrinkage (Test 5)	No.	60		
3.1.5	Specific Gravity (Test 6)	No.	60		
3.1.6	Particle size distribution for fine-coarse-grained soil	No.	220		
3.1.7	Particle size distribution for fine-grained soil (Hydrometer)	No.	170		
3.2	<u>Soil Strength Test</u>				
3.2.1	Carry out strength test on undisturbed samples.				
3.2.1.1	Unconsolidated undrained triaxial compression without porewater measurement (Test 21) for one specimen only.	No.	N/A		
3.2.2	Similar to item 3.2.1.1-but involving at least 3 specimens to obtain the cohesion value and friction angles.	Set	10		
3.2.3	Consolidated undrained triaxial compression test with pore water pressure measurement in accordance with the method recommended by Bishop and Henkle. At least 3 specimens are required to obtain the cohesion values and friction angles.	Set	10		
3.2.4	One-dimensional consolidation (Test 17).	No.	10		
TOTAL OF BILL NO. 3 CARRIED TO SUMMARY					

Bill No. 3 (Cont'd)
(All quantities are provisional)

Item No.	Description of Work	Unit	Qty		
3.3	<u>Rock Strength Test</u>				
3.3.1	Unconfined compression strength (Dry and saturated) of intact rock and Poisson's Ratio with determination; of elastic modules.	No.	5		
3.3.2	Point Load Test	No.	5		
3.4	<u>Soil Chemical Test</u>				
3.4.1	Carry out chemical tests on soil or water samples:				
3.4.1.1	Organic matter content (Test 8).	No.	60		
3.4.1.2	Total sulphate content (Test 9).	No.	60		
3.4.1.3	Sulphate content of ground water (Test 10)	No.	60		
3.4.1.4	pH value (Test 11)	No.	60		
TOTAL OF BILL NO. 3 CARRIED TO SUMMARY					

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BILL OF QUANTITIES

LABORATORY TESTING

GENERAL SUMMARY

BILL NO.	DESCRIPTION	AMOUNT (RM)
1	BQ 3/1	
2	BQ 3/2	
	COLLECTION CARRIED TO GENERAL SUMMARY	