

Schedule of Quantity and Rate

Name of the work:-Topographical survey and geo-technical investigation” works in “Demonstration of Methanol Firing in One GT at NTPC Kayamkulam”, Kerala.
Tender ref no.T0AXX00038 dated:06.08.2024

SL NO	DESCRIPTION	UOM	QTY	AMOUNT (Rs)	WEIGHTAGE	Remark
1.0	PRICE FOR TOPOGRAPHICAL SURVEY (PART - A)	LS	1	41,812.79	0.069796536	for detail refer Part-A
2.0	PRICE FOR UNDERGROUND SCANNING SURVEY (PART - B)	LS	1	17,318.83	0.028909683	for detail refer Part-B
3.0	PRICE FOR GEOTECHNICAL INVESTIGATION (PART - C)	LS	1	5,39,935.21	0.901293781	for detail refer Part-C
	GRAND TOTAL (Excluding Taxes)			5,99,066.83	1	
Note-1	Bidders should quote only the total amount, wrt to the estimated value of Rs.5,99,066.83 in the specified place in price bid format . These rates & amount will be derived from the Total amount quoted and weightage factor assigned against respective items indicated in weightage . (Bidder to quote the total price in specified palce in price bid format.					
Note-2	The rate and amount are inclusive of all applicable taxes, except for the GST. For details of taxes, clause no. 9.0 of the SCC will be applicable.					
Note-3	Evaluation Shall be based on total amount quoted by bidder					

TOPOGRAPHICAL SURVEY (PART - A)						
SL. NO	ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
1	Carrying out bench mark from the nearest GTS bench mark or any other available source as approved by the engineer-in-charge to different locations in the project area including clearing of jungles and/or cutting trees and any other works required for completion of the said item etc all complete as per specification and instructions of the engineer-in-charge. (Construction of bench mark pillar to be paid separately)	km	1	4361.23805	4361.23805	0.104303915
2	Carrying out topographical survey of plant and allied areas showing all permanent & general features. Locating (coordinates, plan dimensions, object name etc) existing building, structure, roads, drains, manhole, poles, cable trenches, pipe trenches etc and detailed contour survey by taking spot levels at 10m interval, carrying out cross section of canal/nallah by taking spot levels at 5m interval or less including clearance of jungles and cutting of trees etc which are interfering with the survey works and any other field works necessary for the completion of the said item, preparation and submission of all plans (maps), reports, CDs and originals etc all complete as per specification and instructions of the engineer-in-charge.	SQM	1000	0.256058	256.058	0.006123915
3	Construction of bench mark pillar/ reference pillar/ grid pillar etc with concrete at different locations including clearing of jungles, excavation, supply of materials, pillar marking, backfilling, white washing, painting on MS plate etc all complete as per specification, drawings and instructions of the engineer-in-charge. For construction of pillars only following quantities shall be measured for payment.					
	a) RCC (M25 grade as per DSR-2018 item no. 5.33.1)	CUM	6	4826.309	28957.8553	0.692559694
	b) Formwork (as per DSR-2018 item no. 5.9.1)	SQM	30	170.791	5123.72058	0.122539543
	C) Reinforcement (as per DSR-2018 item no. 5.22.6)	kg	50	49.245	2462.23045	0.058887012
	d) Earth work (as per DSR-2018 item no. 2.6.1)	CUM	6	108.615	651.690888	0.015585921
	TOTAL (PART -A)				41812.7932	1

UNDERGROUND SCANNING SURVEY (PART - B)						
SL. NO	ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
1	Conducting underground survey including establishment of base line for defining the co-ordinates of the various areas, mapping of location, elevation, properties, and size of underground pipeline/ piping, found electrical and instrumentation cables, civil and structural foundations, piles, manholes, tunnels and other utilities (metallic and non-metallic) including, locating the change in direction of the facility using Ground Penetration Radar (GPR), preparation of surveys maps, preparation of two dimensional (2-D)/ three dimensional (3-D) AutoCAD file for the underground services all complete as per specification and instructions of the engineer-in-charge.	SQM	600	28.86	17318.83	1
	TOTAL (PART -A)				17318.83	1

GEOTECHNICAL INVESTIGATION (PART - C)						
SL. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
1	Mobilisation of necessary equipments, men and materials to the project site for carrying out the geotechnical investigation and demobilisation of the same after completion of all the field works etc all complete as per specification, drawings and as directed by the engineer-in-charge.	LS	1	253221.44	253221.44	0.468984853
2	Making 150mm nominal diameter bore hole up to a maximum depth of 35 m below ground level at various locations in all types of soil including laterite using suitable approved method of boring including chiselling, cleaning, providing casing pipes as required or as directed; performing standard penetration test at every 1 m interval alternate to collection of undisturbed soil samples up to 10 m depth below ground level and at every 1.5 m interval alternate to collection of undisturbed soil samples beyond 10 m depth, at change of strata and at depths wherever undisturbed soil samples could not be collected; collection of undisturbed sample (UDS) at every 1 m interval (100mm dia) alternate to conducting standard penetration test up to 10 m depth below ground level and at every 1.5 m interval alternate to conducting standard penetration test beyond 10 m depth; collection of disturbed soil samples and water samples, sealing and packing of samples, observation such as ground water table etc; transportation of all the collected samples to the laboratory and back filling of boreholes with sand on completion of the same etc all complete as per specification and as directed by the engineer-in-charge for depth below ground level. Note: SPT shall be carried out by means of 63.5 kg hammer having a free fall of 0.75m with auto trip hammer .	RM	120	567.58	68109.10	0.126143098
3	Core drilling (min 76mm size) in rock using hydraulic feed rotary drill and double tube core barrel with diamond bit including collection of core samples, performing SPT at locations where core recovery is less than 20%, maintaining continuous record of core recovery and RQD, keeping the cores in wooden core boxes, transporting the cores to laboratory, back filling the holes with 1 part of cement : 3 part of sand grout on completion of the same etc all complete as per specification, drawings and as directed by the engineer-in-charge.	RM	20	1746.36	34927.24	0.064687839

GEOTECHNICAL INVESTIGATION (PART - C)						
SL. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
4	Excavating trial pit of size 3m x 3m at various locations upto a maximum depth of 2.5m below ground level in all types of soil/rock which can be excavated with pick axe/crow bar etc including sheeting or shoring the sides for the purpose of stability, dewatering and maintaining the pit dry at all times, collecting disturbed/undisturbed samples and conducting field density test at 1m interval, starting from 1m depth below ground level and transporting all the collected samples to the laboratory; backfilling of the pit with excavated material etc all complete as per specification and as directed by the engineer-in-charge.	CuM	25	113.52	2837.88	0.005255962
5	Conducting plate load test in various locations at specified depth complete as per specification, drawings and as directed by the engineer-in-charge. Payment for making the pit of suitable size, maintaining it dry and backfilling etc shall be paid separately as per item no.4.	NO	2	15280.61	30561.22	0.056601644
6	Conducting cross hole shear wave test in bore hole in all types of strata at 2m, 4m, 6m, 8m, 10m, 12m, 15m, 18m and 25m depth below ground level including drilling and preparation of required number of bore holes, providing PVC liner, grouting and backfilling with sand after completion of the test etc all complete as per specification, drawings and as directed by the engineer-in-charge.	NO	0	102161.76	0.00	0
7	Conducting In situ permeability test at various locations complete as per specification, drawings and as directed by the engineer-in-charge.	EACH	1	4555.71	4555.71	0.00843752
8	Conducting electrical resistivity test at various locations complete as per specification, drawings and as directed by the engineer-in-charge.	NO	1	2182.95	2182.95	0.00404299
9	Performing Dynamic cone penetration test at various locations complete as per specification, drawings and as directed by the engineer-in-charge.	EACH	1	6985.43	6985.43	0.012937525
10	Conducting field CBR test in various locations at specified depth below ground level complete as per specification, drawings and as directed by engineer-in-charge.	Each	1	3056.13	3056.13	0.005660186
11	Conducting laboratory test on soil samples at an approved laboratory including preparation of soil samples to determine the following properties etc all complete as per specification.				0.00	0
a)	Natural moisture content	NO	40	34.93	1397.15	0.002587617
b)	Sieve analysis	NO	40	87.33	3493.10	0.006469474

GEOTECHNICAL INVESTIGATION (PART - C)						
SL. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
c)	Hydrometer analysis	NO	20	87.33	1746.55	0.003234737
d)	Liquid limit, plastic limit, Shrinkage limit and Plasticity Index	NO	40	87.33	3493.10	0.006469474
e)	Bulk & Dry density and	NO	40	52.40	2095.95	0.003881857
f)	Specific gravity & Void Ratio	NO	40	87.33	3493.10	0.006469474
g)	Unconfined compressive strength	NO	40	130.99	5239.41	0.009703779
h)	Triaxial shear test				0.00	0
	(i) Undrained test	NO	20	113.52	2270.30	0.00420477
	(ii) Drained test	NO	20	113.52	2270.30	0.00420477
i)	Direct shear test	NO	10	152.81	1528.08	0.002830125
j)	consolidation test (Odometer)	NO	8	261.96	2095.67	0.003881339
k)	Differential free swell index	NO	8	130.99	1047.88	0.001940756
l)	Swell pressure test	No	8	130.99	1047.88	0.001940756
m)	CBR test				0.00	0
	(i) Soaked Condition	NO	2	436.59	873.18	0.001617196
	(ii) unsoaked Condition	NO	2	436.59	873.18	0.001617196
12	Conducting laboratory test on rock samples including preparation of the samples to determine the following properties etc all complete as per specification.				0.00	0
a)	Specific gravity	NO	4	74.22	296.89	0.000549858
b)	Crushing strength				0.00	0
	(i) Soaked Condition	NO	4	305.62	1222.47	0.0022641
	(ii) Unsoaked Condition	NO	4	305.62	1222.47	0.0022641
c)	Moisture content	NO	4	305.62	1222.47	0.0022641
d)	Porosity	NO	4	305.62	1222.47	0.0022641
e)	Density	NO	4	305.62	1222.47	0.0022641
f)	Hardness	NO	4	305.62	1222.47	0.0022641
g)	Soundness	NO	4	305.62	1222.47	0.0022641
h)	Slake durability index	NO	4	305.62	1222.47	0.0022641
i)	Unconfined compressive strength				0.00	0
	i) saturated	NO	4	305.62	1222.47	0.0022641
	ii) In situ water content	NO	4	305.62	1222.47	0.0022641

GEOTECHNICAL INVESTIGATION (PART - C)						
SL. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (INR)	AMOUNT (INR)	WEIGHTAGE
j)	Point load strength index	NO	4	305.62	1222.47	0.0022641
k)	Deformability test	NO	4	305.62	1222.47	0.0022641
13	Chemical analysis for presence of carbonates,sulphates, chlorites, nitrates, pH, organic matter, any other chemicals harmful to concrete and steel				0.00	0
a)	Soil	NO	4	873.18	3492.72	0.006468784
b)	Subsoil Water	NO	4	873.18	3492.72	0.006468784
14	Submitting Preparation and submission of draft report in 4 copies and final report in 5 hard copies and 2 soft copies on CD (native and PDF files) after the approval of draft report including all field records, laboratory test results, graphs, analysis of test results and recommendation etc all complete as per specification.	LS	1	78581.33	78581.33	0.145538434
	TOTAL (PART-B)				539935.21	1