No. MMRC/TP-11/Quo/Geotech/2025 **Date: 08.01.2025**

SHORT QUOTATION NOTICE

The Director (Planning, Real Estate Dev./NFBR) invites sealed quotations on the letterhead for the mentioned work from the registered Agencies who have carried out similar type of work:

1.	**Name of Work**		**Appointment of Agency for undertaking Geotechnical Investigation works for Mumbai Metro Line 11 Revised alignment (Anik, Wadala to Gateway of India)**
2.	**Scope of Work**	:	**Goetechnical Investigation Works:** A. To investigate the subsurface soil conditions B. Boreholes should be spaced along the alignment of Mumbai Metro Line-11 shown in map Annexure-IV. An interval of approx. 750 meters in tunnel areas and 2 no.s of borehole in each station area or as directed by Client. C. Drilling of holes upto of depth of 35m or as directed by MMRC from the existing ground surface. Which includes but not limited to Setting up boring rig at each bore hole location and boring 100-150 mm diameter (or as directed by Client) bore holes through all kinds of soils. Preparation of survey drawings showing Georeferenced Co-ordinate of each borehole, survey sheets, reports, site photograph and other references, to be prepared. D. Drilling vertically through the rock using 'NX' size (76 mm) with double tube core barrel fitted with diamond studded drill bits. The aim of core drilling is not to make a hole, but to retrieve a core sample- a long solid cylinder of rock that can analyze to determine the composition of rock under the ground. The boreholes will terminate in hard rock with 2m depth below hard rock. E. Conducting Standard Penetration Test at every 1.5m interval starting from first sample at 1m depth or at the change of stratum as per IS: 2131, following associated works: 1. Marking and Finalizing Borehole locations and approval from MMRC (AutoCAD Soft copy and hardcopy), identifying location on site. 2. Taking Trail Pits.

Office Address : MMRC Transit Office Building, 'A' Wing, 'E' Block, North Side of City Park, Behind Income Tax Office, Bandra Kurla Complex, Bandra East, Mumbai - 400 051.
T +91 22 2638 4602 **F** +91 22 2659 2005 **E** mumbaimetro3@mmrcl.com **www.mmrcl.com**
CIN U60100MH2008SGC181770

			3. Obtaining Permissions from Utility owners to conduct Geotechnical Investigation Works. 4. Collection of Undisturbed soil samples, disturbed soil samples at every 1.5m interval starting from first sample at 0.5m depth or at the change of stratum and carrying out various laboratory testing as per IS codes, two set of samples should be taken. Which should include but not limited to followings: 5. Collecting undisturbed soil samples in suitable cohesive stratum. 6. Collection of undisturbed samples. 7. Collection of rock core sample and carrying out various laboratory testing as per IS codes. 8. Arranging all soil samples and rock cores in the core boxes as per the borehole logging, labelling properly in sequence indicating borehole number, building block identification and depth of sample. 9. Ground water monitoring and Sampling at all locations of borehole and as directed by MMRC. 10. Transporting the soil /rock and water samples to the laboratory for conducting tests as per the scope of the work. Storage of collected sample at locations directed by Client 11. Preparation of Geotechnical investigation report for borehole based on existing Geotechnical survey data (Bore logs, lab test data and photographs). Recommendations of SBC, settlement criteria, and foundation requirements. 12. Submission of draft report in 4 set hard copy and editable soft copies. 13. Reinstate bore hole as per the satisfaction of utility owner and MMRC. F. The final report should include but not limited to followings: • Bore hole details and locations with georeferenced co-ordinates. • Area Geology and Related Characteristics • Water table levels • Test results • Bore hole wise foundation recommendations • Cutoff value • Soil bearing capacities • Seismicity Please refer TOR for detailed scope of work.
3.	**Duration of Work**	:	2 Months from issue of Letter of Acceptance

4.	**Eligibility**	:	a. Agency should have undertaken Geotechnical Investigation Works b. Preference will be given to Agency located in Mumbai.
5.	**Date of Receipt of sealed Quotation**	:	15.01.2025 upto 16:00hrs.
6.	**Time and date of opening of sealed quotations**	:	15.01.2025 after 16:01hrs.

Note:

1. Before submitting quotations, the bidder is requested to inspect the site conditions by themselves.
2. Before submitting quotations, the consultant is requested to inspect the alignment of by visiting the following address: MMRCL, 801-803, 8th Floor, Hallmark Business Plaza, Near Gurunanak Hospital, Kalanagar, Bandra (East), Mumbai- 400 051.
3. The selected quotation will be issued work order from MMRCL.
4. The sealed quotations (Hardcopy along with supporting documents) should reach this office on or before 15.01.2025 upto 16:00hrs.
5. The above quotation rates will be valid for Six Months from the date of receipt mentioned above.
6. Detailed Scope of Work for Geotechnical Investigation Works, format for Form A, Form B and Blank Quotation can be obtained from MMRCL's official website and Office of Deputy General Manager (Town Planning), MMRCL, 801-803, 8th Floor, Hallmark Business Plaza, Near Gurunanak Hospital, Kalanagar, Bandra (East), Mumbai- 400 051.
7. The Bidder should quote the rates as per Form B.
8. The Bidder should drop the sealed envelope in tender box at MMRCL Transit office, E Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra- 400 051.
9. MMRCL reserves the authority to reject any or all quotations received without assigning any reason.
10. Testing Lab to be in Mumbai Region. Bidder to make necessary arrangements to visit Lab or as directed by Client.
11. Please refer Terms of Reference (TOR).

Address for Submission of Sealed Envelops:

MMRC, Transit Office 'E'-Block,
North side of City Park,
Behind Income Tax Office 'A' Wing Bandra (E) BKC,
Mumbai - 400051.
Maharashtra

Director
(Planning & Real Estate Dev./NFBR)

Terms of Reference

Subject- Appointment of Agency for undertaking Geotechnical Investigation Works for Mumbai Metro Line 11 revised alignment (Anik,Wadala to Gateway of India)

A. Scope Of Work: Goetechnical Investigation Works:

A. To investigate the subsurface soil conditions

B. Boreholes should be spaced along the alignment of Mumbai Metro Line-11 shown in map Annexure-IV. An interval of approx. 750 meters in tunnel areas and 2 no.s of borehole in each station area or as directed by Client.

C. Drilling of holes upto of depth of 35m or as directed by MMRC from the existing ground surface. Which includes but not limited to Setting up boring rig at each bore hole location and boring 100-150 mm diameter (or as directed by Client) bore holes through all kinds of soils. Preparation of survey drawings showing Georeferenced Co-ordinate of each borehole, survey sheets, reports, site photograph and other references, to be prepared.

D. Drilling vertically through the rock using 'NX' size (76 mm) with double tube core barrel fitted with diamond studded drill bits. The aim of core drilling is not to make a hole, but to retrieve a core sample- a long solid cylinder of rock that can analyze to determine the composition of rock under the ground. The boreholes will terminate in hard rock with 2m depth below hard rock.

E. Conducting Standard Penetration Test at every 1.5m interval starting from first sample at 1m depth or at the change of stratum as per IS: 2131, following associated works:

1. Marking and Finalizing Borehole locations and approval from MMRC (AutoCAD Soft copy and hardcopy), identifying location on site.
2. Obtaining Permissions from Utility owner to conduct Geotechnical Investigation Works.
3. Collection of Undisturbed soil samples, disturbed soil samples at every 1.5m interval starting from first sample at 0.5m depth or at the change of stratum and carrying out various laboratory testing as per IS codes, two set of samples should be taken. Which should include but not limited to followings:
4. Collecting undisturbed soil samples in suitable cohesive stratum.
5. Collection of undisturbed samples.
6. Collection of rock core sample and carrying out various laboratory testing as per IS codes.
7. Arranging all soil samples and rock cores in the core boxes as per the borehole logging, labelling properly in sequence indicating borehole number, building block identification and depth of sample.
8. Ground water monitoring and Sampling at all locations of borehole and as directed by MMRC.
9. Transporting the soil /rock and water samples to the laboratory for conducting tests as per the scope of the work. Storage of collected sample at locations directed by Client.
10. Preparation of Geotechnical investigation report, Geology profile (section in AutoCAD format) for all boreholes based on existing Geotechnical survey data (Bore logs, lab test data and photographs). Recommendations of SBC, settlement criteria, and foundation requirements and as directed by MMRC.
11. Submission of draft report in 4 set hard copy and editable soft copies.

12. Reinstate bore hole as per the satisfaction of utility owner and MMRC.
13. Obtaining Completion certificate from Utility Owners.
14. On receipt of completion certificate from Utility Owners, MMRC will issue Completion certificate for Geotechnical Investigation Work.

F. The final report should include but not limited to the following:
- Bore hole details and locations with georeferenced co-ordinates.
- Area Geology and Related Characteristics
- Water table levels
- Test results
- Bore hole wise foundation recommendations
- Cutoff value
- Soil bearing capacities
- Seismicity

G. Testing lab should be NABL accredited or as directed by MMRC. Testing Lab to be in MMR (Mumbai Metropolitan Region) Region. Bidder to make necessary arrangements to visit Lab or as directed by Client.

H. All related works as directed by MMRC.

B. Duration of Work: 2 months from issue of Letter of Acceptance

C. Payment Schedule:

Sr. No	Action	% Fees	Cumulative Time limit from Appointment days
1	On Completion of Work	50%	30
2	On submission of Geotechnical Investigation Report (Hardcopy & softcopy)	40%	45
5	Compilation of all survey data and Submission of Final Geotechnical Investigation report and drawing (Hardcopy & softcopy)	10%	**60**

D. Submission of Bank Guarantee-

Within 7 days of receipt of the Letter of Acceptance, the successful Bidder shall submit to the Employer a Performance Security in any form of Demand Draft/ Bank Guarantee for an amount equivalent to 10% of the contract price.

If the performance security is provided by the successful bidder in the form of a e-Bank Guarantee, it shall be issued by a Scheduled Commercial Bank.

Failure of the successful Bidder to comply with the above Clause shall constitute sufficient grounds for cancellation of the award. The contract will in such cases be awarded to the next lowest bidder.

FORM A

TECHNICAL PROPOSAL SUBMISSION FORM
(To be submitted in Separate Sealed Envelope with Annexures)

Check list of Documents

Please compile and enclose the following Documents as part of Form A **TECHNICAL PROPOSAL-FORM A**	i) Covering letter for _____	Yes/ No
	ii) List and Copy of Work Orders (with Client Certificates) for qualification of the Eligibility mentioned in the Notice **(Annexure I)**	Yes/ No
	iii) Undertaking that the firm/Institution is not blacklisted by any Government or its agencies including Central/ state level Public Enterprises	Yes/ No
	iv) Undertaking regarding Non-Disclosure/sharing of confidential information with third parties.	Yes/ No
	v) Certificate of incorporation, PAN Number, GSTIN details & MSME Registration details (if any)- **(Annexure II)**	Yes/ No
	vi) Letter declaring offer to be unconditional, confirming its validity for 180 days.	Yes/ No
	vii) Litigation history **(Annexure III)**	Yes/ No
	viii) Copy of valid Partnership deed/ MOU, if any	Yes/ No
	ix) Authority letter clearly mentioning details of authorized representative	Yes/ No
	x) Description in brief about Organization	Yes/ No

Note: Submission of Financial Proposal documents (Form B) in the Technical proposal (Form A) would lead to disqualification of the bidder.

FORM A: Annexure-I

LIST OF ELIGIBLE WORKS

(Eligible works as mentioned in the Notice)

S. No.	Name of Work and Location	Owner or Sponsoring Organization	Cost of Work (In Lakhs)	Length/ Area of Survey (in Km/ Sq.km)	Type of Survey Undertaken	Date of commencement as per work order	Completion date (as per Contract)

Note*- Client Certificate to be provided

Seal and signature of bidder

FORM A: Annexure-II

Please enclose following documents as per availability:

1. Certificate of Incorporation
2. PAN Card Copy
3. GSTIN Details
4. MSME Registration details

FORM A: Annexure-III

Litigation History

Sr. No	Case Particulars	Date of Filing	Case Outcome / Present Status

FORM B

FINANCIAL PROPOSAL SUBMISSION FORM
(To be submitted in Separate Sealed Envelope)

FROM: _____

M/s. Consultancy services

To,
The Director (Planning),
Mumbai Metro Rail Corporation,
202, 2nd Floor, Hallmark Business Plaza,
Opp. Gurunanak Hospital,
Sant Dnyaneshwar Marg,
Bandra (E),
Mumbai – 400 051.

SUB: Appointment of Agency for undertaking Geotechnical Investigation Works for Revised Alignment of Mumbai Metro Line 11 (Anik, Wadala to Gate of India)

Dear Sir/ Madam,

We, the undersigned, offer to provide the services for the above subject work in accordance with Tender provisions at and our financial offer and fees inclusive of all taxes and **applicable rate of GST** for this work shall be as follows:

S. No	Name of Work	Time limit	Lumpsum Fees (Rs)
1	Appointment of Agency for undertaking Geotechnical Investigation Works for Revised Alignment of Mumbai Metro Line 11 (Wadala to SPM Circle) (Approx 70 Borehole work)	2 months	
2		GST (@_____%)	
3	TOTAL In figures: - …… In Words: - ……..		

(Bidder to mention the applicable GST % separately)

(Total fees will include services as mentioned in Scope of Work of the Notice. Our Financial proposal shall be binding upon us.)

We remain,

Yours sincerely,
M/s. Company Name

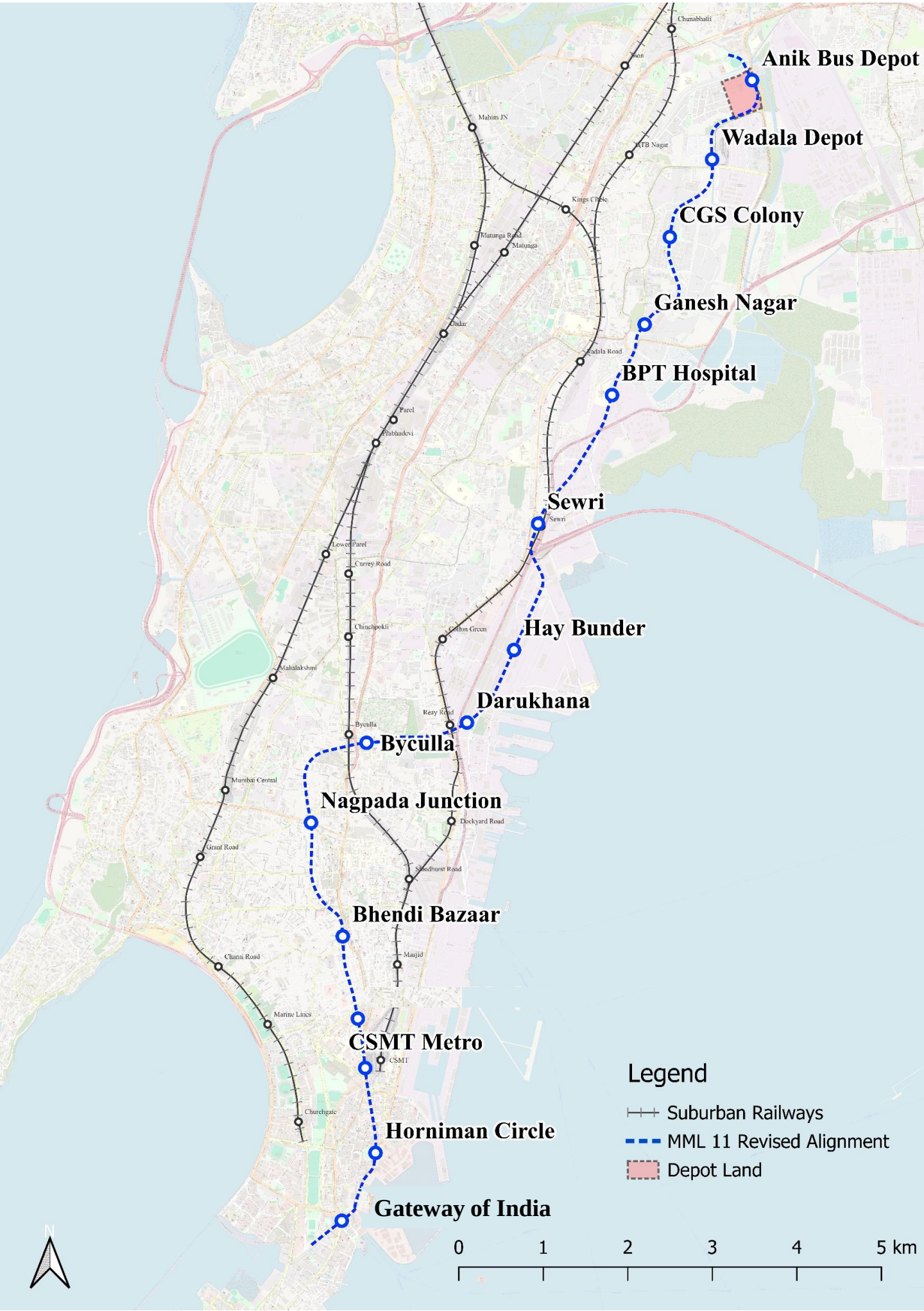
Estimated Cost of Geotechnical Investigation Works for Metro Line 11 revised alignment

BOQ for Geotechnical Investigation

Sr. No.	Description	Unit	Rate	Quantities	Amount (Rs.)
1	Providing and transporting necessary and adequate plant and equipment to site within a lead of 50 km for taking trial bores for subsoil investigations including conducting an initial survey for establishing datum RLS and locations at trial bores including installation of the drilling equipment of the first bore location etc. complete as specified, directed and demobilization. (Considering 8 sets of machinery)	Each Unit		4	
2	Shifting and locating the drilling equipment from one location to another within a lead of 500 m between successive locations including surveying the spot for establishing bore hole location, fixing ground levels with reference to datum RLs and observing groundwater level during boring operation etc. complete as specified and directed.	Each Shift		66	
3	Taking trial pit in soil of all sorts excluding rock including shoring and strutting as required, collecting disturbed & undisturbed samples at 1 m intervals and trial depth, collecting water samples & transporting all soil & water sample to lab., visual inspection for description of strata / recording water table encountered, dewatering manually and refilling at end etc. complete as specified and directed. Reinstate as per the satisfaction of utility owner.				
	a) Upto 2 mt. depth	Cum		140	
	b) 2 m to 4 m depth	Cum		140	
4	Taking trial bores upto 150 mm dia. for subsoil investigation through overburden and soil of all sorts including providing of temporary casing and cleaning the bottom of holes before conducting field tests or collecting samples at various depths etc.complete as specified and directed. Reinstate as per the satisfaction of Utility Owner.				
	a) Depth upto 6.0m below ground surface	Running metre		420	
	b) Depth beyond 6.0 m upto 20.0 m below ground surface	Running metre		980	
5	Taking trial bores for subsoil investigation through rock using rotary drilling equipment with NX size diamond core drilling bits and double tube core barrel to obtain approximately 54 mmdia. rock cores including provision of wooden boxes for storage of cores, indexing the core samples at site of work and conveying the same to the headquarters of concerned office etc. complete as specified and directed				
	a) Depth upto 10.0m below ground surface	Running metre		700	
	b) Depth beyond 10.0 m upto 20.00 m below ground surface	Running metre		700	
	c) Beyond 20 mtr	Running metre		1050	
6	Conducting Standard penetration test as per specifications in soil at various levels of bore holes and reporting the results in the approved format etc. complete as specified and directed. Reinstate as per the satisfaction of utility owner. Reinstate as per the satisfaction of utility owner.	No.s		70	
7	Collecting disturbed samples of soil from bore holes as per specifications and delivering the same to the testing laboratory anywhere in Greater Mumbai as directed etc. complete as specified and directed.				
	a) In M.S. Black tube 50 mm dia. 150 mm. long including the cost of tube	No.s		70	
	b) In polythene bags by driving 100 mm size tube	No.s		70	
8	Collecting undisturbed samples of soil as per specifications at any depth in M.S. black tube 100 mm dia. 450 mm long, sealed at both ends with paraffin wax and delivering the same to the testing laboratory anywhere in Greater Mumbai etc. complete as specified and directed.	No.		70	
9	Collecting soil samples and sub-soil water samples in glass or plastic bottles/ jars from trial bore holes and getting the same chemically analyzed in an approved laboratory for determination of sulphate and chloride content and pH value etc. complete as specified and directed.	No.		70	
10	**Laboratory Tests**				
	Natural moisture content (NMC) of soils by oven drying method.	no.		70	
	Atterbert limits of soil i.e.				
	a) Liquid limit (LL)	no.		70	

	b) Plastic limit (PL)	no.		70	
	c) Shrinkage limit (SL)	no.		70	
	d) Grain size analysis including grain size distribution curves in accordance with IS 2720 (part 4)				
	In situ dry density of soil samples	no.		70	
	Sieve analysis	no.		70	
	Hydrometer analysis	no.		70	
	Specific gravity of rock samples	no.		70	
	Unconfined compressive strenght of rock samples, including determination of percentage of water absorption and density.	no.		70	
11	Carrying out Plate Load Test complete with neccesary and adequate Kentledge loads, equipments and instruments etc. as per specifications for determination of bearing capacity of soil etc. complete as specified and diected and submitting reports in duplicate	No.		1	
12	Carrying out Vane Shear Test at various levels of bore holes as per specifications laid down in IS:4434 and reporting results thereof as per prescribed proforma etc. complete as specified and directed. (Including mobilization of necessary and adequate equipment)	No.		70	
13	Preparing and submitting reports and drawings in triplicate for location depth and details of underground pipe lines, cables and services as exsiting according to standard technique as specified upto whatever depth of excavation and including all equipment, material, and labour of technical expertise as directed excluding excavation.	Each project		1	
	Total (Rs.)				

Annexure-IV


Anik Bus Depot
Wadala Depot
CGS Colony
Ganesh Nagar
BPT Hospital
Sewri
Hay Bunder
Darukhana
Byculla
Nagpada Junction
Bhendi Bazaar
CSMT Metro
Horniman Circle
Gateway of India
Chunabhatti
Sion
Mahim JN
KTB Nagar
Kings Circle
Matunga Road
Matunga
Dadar
Wadala Road
Parel
Prabhadevi
Lower Parel
Currey Road
Chinchpokli
Cotton Green
Mahalakshmi
Reay Road
Byculla
Mumbai Central
Dockyard Road
Grant Road
Sandhurst Road
Masjid
Charni Road
Marine Lines
CSMT
Churchgate
Legend
Suburban Railways
MML 11 Revised Alignment
Depot Land
N
0
1
2
3
4
5 km