Annexure - IV

Port led developmental activities at various islands of Lakshadweep - Conducting Geotechnical investigation work for Marine Infrastructures and Landside Facilities

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
A	**Androth Island**			
1	***Field Investigations – Taking bore hole data:***			
1.1	Moving pontoons/ barges with equipments and accessories from one location to another, fixing and setting up the equipment at the location including cost of materials, consumables, labour etc., complete i) Marine	18 nos.	Each	
	ii) Land	4 nos.	Each	
1.2	Boring with bailer/rotary drilling equipment using casing for initial depth and then bentonite slurry to retain sides through sand, silt and clay, excluding rock, pebble, gravel or boulders which cannot be bored through by using the above equipment including supply of all materials, casing pipes, labour etc., all complete			
a)	From bed/ ground level to (-)15m depth i) Marine	195 metres	One metre	
	ii) Land	68 meters	One metre	
b)	From (-)15m to (-)25m depth i) Marine	30 metres	One Metre	
	ii) Land	40 Meters	One Metre	
1.3	Collect and preserve disturbed samples as per specifications, hand over them to the department / at place as pointed out by the Engineer-in-Charge in well sealed condition or transport to the laboratory i) Marine	57 nos.	Each	
	ii) Land	16 nos.	Each	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
1.4	Recover and preserve undisturbed samples with appropriate type of piston sampler, preserve and transport the samples with tubes in a well sealed and packed condition as specified and as per instructions of the Engineer-in-charge to the laboratory i) Marine	99 nos.	Each	
	ii) Land	32 nos.	Each	
1.5	Carrying out the Standard Penetration tests in bore holes as specified and as per the instructions of the Engineer-in-Charge including supply of all tools, plants, labour etc. complete and submit the data with a report to the department i) Marine	99 nos.	Each	
	ii) Land	32 nos.	Each	
1.6	Carrying out in-situ vane shear tests as per specifications and directions of the Engineer-in-charge including supply of all tools, plants, labour etc complete and submit the data with a report to the department. i) Marine	57 nos.	Each	
	ii) Land	16 nos.	Each	
1.7	Collect water samples from marine / land bore holes as per specifications and directions of the Engineer-in-Charge and transport the same to laboratory	5 nos.	Each	
2	***Laboratory Tests***			
2.1	Natural moisture content in the laboratory	131 nos.	Each	
2.2	Wet and dry density at the field laboratory	131 nos.	Each	
2.3	Specific Gravity tests	131 nos.	Each	
2.4	Particle size analysis by sieve/hydrometer analysis	131 nos.	Each	
2.5	Unconfined compression tests on selected UDS in the laboratory	131 nos.	Each	
2.6	Direct shear tests on sandy samples	44 nos.	Each	
2.7	Chemical Analysis for			
a)	Sulphate content in water	10 nos.	Each	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
b)	Sulphate content in soil	10 nos.	Each	
c)	Chloride content in water	10 nos.	Each	
d)	Organic content in soil	10 nos.	Each	
e)	Calcium Carbonate in soil	10 nos.	Each	
f)	Total salinity in water sample	10 nos.	Each	
g)	pH value	10 nos.	Each	
3	Conducting Plate Load Test as per standard IS codes, including cost of materials, consumables, labour etc., complete	4 nos.	Each	
4	Compilation and analysis of all field data and laboratory test data and submission of report giving recommendations (10 copies)	1 no.	Each	
B	**Kadmath Island**			
1	***Field Investigations – Taking bore hole data:***			
1.1	Moving pontoons/ barges with equipments and accessories from one location to another, fixing and setting up the equipment at the location including cost of materials, consumables, labour etc., complete i) Marine	11 nos.	Each	
	ii) Land	2 nos.	Each	
1.2	Boring with bailer/rotary drilling equipment using casing for initial depth and then bentonite slurry to retain sides through sand, silt and clay, excluding rock, pebble, gravel or boulders which cannot be bored through by using the above equipment including supply of all materials, casing pipes, labour etc., all complete			
a)	From bed/ ground level to (-)15m depth i) Marine	84 metres	One metre	
	ii) Land	34 meters	One metre	
b)	From (-)15m to (-)30m depth i) Marine	45 metres	One Metre	
	ii) Land	20 Meters	One Metre	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
1.3	Collect and preserve disturbed samples as per specifications, hand over them to the department / at place as pointed out by the Engineer-in-Charge in well sealed condition or transport to the laboratory i) Marine	34 nos.	Each	
	ii) Land	8 nos.	Each	
1.4	Recover and preserve undisturbed samples with appropriate type of piston sampler, preserve and transport the samples with tubes in a well sealed and packed condition as specified and as per instructions of the Engineer-in-charge to the laboratory i) Marine	68 nos.	Each	
	ii) Land	16 nos.	Each	
1.5	Carrying out the Standard Penetration tests in bore holes as specified and as per the instructions of the Engineer-in-Charge including supply of all tools, plants, labour etc. complete and submit the data with a report to the department i) Marine	68 nos.	Each	
	ii) Land	16 nos.	Each	
1.6	Carrying out in-situ vane shear tests as per specifications and directions of the Engineer-in-charge including supply of all tools, plants, labour etc complete and submit the data with a report to the department. i) Marine	34 nos.	Each	
	ii) Land	8 nos.	Each	
1.7	Collect water samples from marine / land bore holes as per specifications and directions of the Engineer-in-Charge and transport the same to laboratory	5 nos.	Each	
2	***Laboratory Tests***			
2.1	Natural moisture content in the laboratory	84 nos.	Each	
2.2	Wet and dry density at the field laboratory	84 nos.	Each	
2.3	Specific Gravity tests	84 nos.	Each	
2.4	Particle size analysis by sieve/hydrometer analysis	84 nos.	Each	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
2.5	Unconfined compression tests on selected UDS in the laboratory	84 nos.	Each	
2.6	Direct shear tests on sandy samples	26 nos.	Each	
2.7	Chemical Analysis for			
a)	Sulphate content in water	7 nos.	Each	
b)	Sulphate content in soil	7 nos.	Each	
c)	Chloride content in water	7 nos.	Each	
d)	Organic content in soil	7 nos.	Each	
e)	Calcium Carbonate in soil	7 nos.	Each	
f)	Total salinity in water sample	7 nos.	Each	
g)	pH value	7 nos.	Each	
3	Conducting Plate Load Test as per standard IS codes, including cost of materials, consumables, labour etc., complete	2 nos.	Each	
4	Compilation and analysis of all field data and laboratory test data and submission of report giving recommendations (10 copies)	1 no.	Each	
C	**Kalpeni Island**			
1	***Field Investigations – Taking bore hole data:***			
1.1	Moving pontoons/ barges with equipments and accessories from one location to another, fixing and setting up the equipment at the location including cost of materials, consumables, labour etc., complete i) Marine	17 nos.	Each	
	ii) Land	2 nos.	Each	
1.2	Boring with bailer/rotary drilling equipment using casing for initial depth and then bentonite slurry to retain sides through sand, silt and clay, excluding rock, pebble, gravel or boulders which cannot be bored through by using the above equipment including supply of all materials, casing pipes, labour etc., all complete			
a)	From bed/ ground level to (-)15m depth i) Marine	119 metres	One metre	
	ii) Land	34 meters	One metre	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
b)	From (-)15m to (-)30m depth i) Marine	45 metres	One Metre	
	ii) Land	20 Meters	One Metre	
1.3	Collect and preserve disturbed samples as per specifications, hand over them to the department / at place as pointed out by the Engineer-in-Charge in well sealed condition or transport to the laboratory i) Marine	46 nos.	Each	
	ii) Land	8 nos.	Each	
1.4	Recover and preserve undisturbed samples with appropriate type of piston sampler, preserve and transport the samples with tubes in a well sealed and packed condition as specified and as per instructions of the Engineer-in-charge to the laboratory i) Marine	92 nos.	Each	
	ii) Land	16 nos.	Each	
1.5	Carrying out the Standard Penetration tests in bore holes as specified and as per the instructions of the Engineer-in-Charge including supply of all tools, plants, labour etc. complete and submit the data with a report to the department i) Marine	92 nos.	Each	
	ii) Land	16 nos.	Each	
1.6	Carrying out in-situ vane shear tests as per specifications and directions of the Engineer-in-charge including supply of all tools, plants, labour etc complete and submit the data with a report to the department. i) Marine	46 nos.	Each	
	ii) Land	8 nos.	Each	
1.7	Collect water samples from marine / land bore holes as per specifications and directions of the Engineer-in-Charge and transport the same to laboratory	5 nos.	Each	
2	***Laboratory Tests***			
2.1	Natural moisture content in the laboratory	108 nos.	Each	

Item No.	Description of item	Approx. Quantity	Unit	Rate (Rs. Ps)
2.2	Wet and dry density at the field laboratory	108 nos.	Each	
2.3	Specific Gravity tests	108 nos.	Each	
2.4	Particle size analysis by sieve/hydrometer analysis	108 nos.	Each	
2.5	Unconfined compression tests on selected UDS in the laboratory	108 nos.	Each	
2.6	Direct shear tests on sandy samples	38 nos.	Each	
2.7	Chemical Analysis for			
a)	Sulphate content in water	7 nos.	Each	
b)	Sulphate content in soil	7 nos.	Each	
c)	Chloride content in water	7 nos.	Each	
d)	Organic content in soil	7 nos.	Each	
e)	Calcium Carbonate in soil	7 nos.	Each	
f)	Total salinity in water sample	7 nos.	Each	
g)	pH value	7 nos.	Each	
3	Conducting Plate Load Test as per standard IS codes, including cost of materials, consumables, labour etc., complete	2 nos.	Each	
4	Compilation and analysis of all field data and laboratory test data and submission of report giving recommendations (10 copies)	1 no.	Each	