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GEOGLOBE FOUNDATIONS

An ISO 9001:2015 Certified Firm

Licensed by DTCP, Tamilnadu

Member of Indian Geotechnical Society

Geotechnical investigation report

for

Mrs. E. Sangeetha Enian (W/o P.R. Enian),
Mr. E. Ezhilan (S/o P.R. Enian) &
Mr. Amudhan (S/o P.R. Enian)

Old No. 89, New No.33, Vanniyar Street, Porur, Chennai - 600116.

Ref. No: GGF/20-21/049

PROJECT NAME

GEOTECHNICAL INVESTIGATION WORK FOR THE CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI - 116, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT.

Geoglobe Foundations

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Ref. No: GGF/20-21/049

16.10.2020

To

Mrs. E. Sangeetha Enian (W/o P.R. Enian),
Mr. E. Ezhilan (S/o P.R. Enian) &
Mr. Amudhan (S/o P.R. Enian),
Old No. 89, New No.33, Vanniyar Street,
Porur, Chennai - 600116.

Name of Work: GEOTECHNICAL INVESTIGATION WORK FOR THE CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT, RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT.

Sub : Submission of Geotechnical Investigation work Report

Dear Sir,

We are pleased to hereby transmit an original Hard Copy and Soft Copy sent to your concern address, our final Geotechnical Investigation Report for the above mentioned project. If you have any questions, please contact this office.

It has been a pleasure being of service to you on this project. Assuring you of our continued co-operation, we remain.

For Geoglobe Foundations,

Er.S.ANAND, M.E., M.I.G.S
(Geotechnical Engineer)
GEOGLOBE FOUNDATIONS
No. 46/38, Chelliamman Kovil Street,
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1. INTRODUCTION

1.1. PURPOSE AND SCOPE

Geo-technical site investigation work for. "CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT" The primary purpose of our investigation is to obtain data to develop foundation design recommendations for the above work. At, first instance, three boreholes were bored at site. Client's representatives choose a no of location and selected the locations of borings. To accomplish these purposes, the following tasks were performed:

1. Detailed soil borings were done up to stratum to explore the sub surface stratigraphy and obtain soil samples for testing.
2. Field and laboratory tests were conducted to evaluate the index and engineering properties of the soils
3. Engineering analysis were performed to develop foundation design information for proposed structure

1.2. SITE ADDRESS:

The site was located at Ramamurthy Avenue, Kolappakkam, Chennai Comprised In S. No. 58/1, New S. No. 58/1A1A, Kolapakkam Village, Kundrathur Taluk, Kanchipuram District.

1.3. THE STRUCTURE

As per the client information the proposed construction is New Residential Building With Stilt+5 Floors for the above mentioned site.

2. FIELD INVESTIGATIONS

2.1. ROTARY BORING

Rotary drilling technique was adapted using Calyx machine in this field. In this method, boring is effected by the cutting action of a rotating bit that is kept in firm contact with the bottom of the hole. The bit is attached to the lower end of a hollow drill rod that is rotated by a suitable chuck. Drilling mud (usually Bentonite) is continuously forced down the hollow drill rods. The mud returning upwards though the annular space between the drill rods and the side of the hold bring the cutting to the surface.

2.2. STANDARD PENETRATION TEST

It is now most commonly used in site test. The test measures the penetration resistance of the split spoon sampler, when it is driven into the soil, at the bottom of a borehole in a standard manner. The N-value, which is the number of blow required to

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achieve 300mm penetration of the soil, indicates the relative density of sand or gravel, the consistency of other soil such as silts or clays and the strength of weak rocks.

The test is described in IS 2131 - 1981. The split spoon sampler is attached to stiff drill rod and lowered to the bottom of the bore hold. A standard blow consists of dropping a mass of 63.5kg free fall through 750 mm on to an anvil at the top of the rods and ensuing that this amount of dynamic energy is transferred to the sampler as much as possible.

The number of blows required to achieve each 150mm penetration is recorded for a fall penetration of 450mm. The initial 150mm penetration is Referred to as seating drive and the blows required for this penetration are not considered as this zone is in disturbed soil. The next 300mm of penetration is Referred to as the test drive and the number of blows required to achieve this fully is termed the penetration resistance or N-value.

The total number of blows (N) required, to advance the spoon into the bore, for another two successive 15cm (a total of 30 cm) is recorded as a measure of the soil relative density or consistency as given in Table.

CO – RELATION FOR SATURATED SAND/NON – PLASTIC SILT

Relative Density	Penetration Value (Blows/Ft)
Very loose	0 to 4 Blows
Loose	5 to 10 Blows
Medium	11 to 30 Blows
Dense	31 To 50 Blows
Very Dense	> 50 Blows

CO – RELATION FOR SATURATED CLAY/PLASTIC SILT

Relative Density	Penetration Value (Blows/Ft)
Very Soft	0 to 2 Blows
Soft	3 to 4 Blows
Medium Stiff	5 to 8 Blows
Stiff	9 To 16 Blows
Very Stiff	17 To 32 Blows
Hard	> 32 Blows

Rock samples were extracted by Rotary drilling technique using double tube core barrel of 76mm diameter, filter with a diamond bit. The extracted cores for every run, not exceeding 1.0 meter were arranged in the core boxes and the T.C.R as well as R.Q.D values were measured. The appropriate estimation of the properties of the encountered rock strata can be obtained by Referring to the borehole logs and the following description.

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R.Q.D %	ROCK QUALITY
90 – 100	Excellent
75 – 90	Good
50 – 75	Fair
25 – 50	Poor
0 - 25	Very Poor

RECOVERY %	DESCRIPTION OF ROCK
0 – 20	Rock is treated as soil
20 – 35 with SPT > 50 blows / 30 cm	Soft or disintegrated rock
35 – 50	Intermediate rock
50 – 85	Medium rock
> 85	Sound rock

The fieldwork was carried out under the close supervision of our engineer in accordance with Indian Standard mentioned earlier.

2.3. SAMPLING

Soil samples were collected through Split spoon and rock core sample were collected through single tube core barrel.

3. LABORATARY TESTS

The operations to be performed in the laboratory depend upon the type of the nature of data required for the problem at hand. In case of cohesionless material, like sand, the laboratory tests are usually minimum and the design parameters are worked out from field test data such as form SPT- N value, Core resistance and plate load test data.

In the case of cohesive soils, the programme of laboratory testing can vary from carrying out simple tests such as unconfined tests to comprehensive study of soil behaviour using triaxial shear tests and consolidation tests.

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Following laboratory tests are conducted.

For Cohesionless soil

a) Specific gravity
b) Sieve analysis
c) Natural moisture content

For Cohesive soil

a) Specific gravity
b) Natural moisture content
c) Atterberg's limits
d) Sieve Analysis

4. FOUNDATION ANALYSIS

4.1 Soil Profile

The profile of the area as observed in the bore hole is given in the chart. The Borehole is terminated at maximum depth of 15.00 m.

4.2 Safe Bearing Capacity

The bearing capacity of granular soil depends upon the unit weight and angle of internal friction of the soil. These two properties of granular soils are determined by standard penetration tests.

The allowable bearing pressure based on tolerable settlement has been established empirically by Terzaghi and Peck, 1948 and may be expressed by the equation.

Safe bearing capacity = $1.40(N''-3) \times ((B+0.3)/2B)^2 \times W' \times Rd \times s$

Where,

N" = Corrected N value

B = Width of Foundation = constant 1

W' = Water table correction = constant 0.5

Rd = Depth of Foundation = constant 2

s = Tolerable settlement = 25 mm

5. DESIGN CRITERIA

5.1 Design of Foundations

As per the clients information the proposed project is construction of New Residential Building With Stilt+5 Floors at Ramamurthy Avenue, Kolappakkam, Chennai Comprised In S. No. 58/1, New S. No. 58/1A1A, Kolapakkam Village, Kundrathur Taluk, Kanchipuram District.

The design of foundation depends upon the founding strata, loading intensity at the foundation level and configuration at loading points.

For the above conditions, pile foundation is recommended for the proposed structure shown in the following recommendation.

5.2 Depth of Foundation

Minimum depth of foundations is governed by the following factors:

- Top loose zone.
- Adequate depth of soil above founding level, to ensure mobilization of full safe bearing capacity.
- Adequate depth of soil strata below founding level of requisite strength to mobilize the safe bearing capacity and at the same time restricts the total and differential settlements within the allowable limits.
- The type and depth of foundation shall be decided by the design engineer.

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6. FOUNDATION RECOMMENDATIONS

- The engineering properties of soil and SPT N value are to be considered for the foundation recommendation
- The site for construction of **NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT** the borehole investigation was conducted and SBC was determined.

Pile Foundation

Maximum Borehole Depth	**15.00 m**
Type of Foundation	**Pile Foundation with pile cap**
Type of pile	**Bored cast in-situ**
Loading type	**End Bearing**
Minimum Spacing of piles	**2.5 D c/c**

Allowable Vertical load carrying capacity of single pile

Depth from GL	300mm pile	380mm pile	450mm pile	600mm pile
15.00 m	27 tonnes	35 tonnes	41 tonnes	54 tonnes

*** All piles should be embedded in hard strata for minimum 1.00 m depth.**

*** A plinth beam should be provided at the ground level which connects all columns.**

- **Reinforcement:**

  Longitudinal Reinforcement: Minimum Ast =0.4% of sectional area of pile.

  Main rod: Minimum 6Nos. bars shall be used. Minimum dia. of bar is 12mm.

  Lateral ties: Minimum Dia of links or spiral shall be 8 mm and spacing of links or spirals not less than 150mm.

- **Concrete Grade:**

  Minimum M25. The minimum cement content shall be 400 kg/m3 . However, with proper mix design and use of proper admixture the cement content may be reduced but in no case the cement content shall be less than 350 kg/m3.

- We gave general recommendation only, depending upon the structure type and load condition the Design Engineer may choose an alternate foundation based on the safe bearing capacity given in soil test results.

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7. PRECAUTIONS

Entire report should be studied before implementing the recommendations. Loose pockets of soil, if encountered shall be removed and backfilled with a levelling course of concrete shall be laid and construction of foundations with **IS CODE recommends** can be taken up subsequently.

8. LIMITATIONS

The soil investigations have been carried out at locations in the site chosen by the client so as to represent the entire site. The recommendations provided in this report are hence valid only for these test locations. However, if there is any change in sub soil conditions and properties at places between or beyond chosen test locations, GEOGLOBE FOUNDATIONS may be contacted for further advice.

With passage of time, the recommendations may vary due to manmade and natural environmental changes.

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Er. S.ANAND., ME(GEOTECH)
GEOTECHNICAL ENGINEER

9. REFERENCES

1. IS: 6403-1981
2. IS: 2911-(part1/sec-2 0-1979)
3. IS: 2131-1980
4. IS: 8009 (Part-1) 1976
5. IS: 2720 for all laboratory tests
6. Wayne CTEng(1992)Foundation design,13th reprint, Prentice - Hall of India Pvt.Ltd.,
7. Bowles J.E,(1982) Foundation Analysis and design ,3rd edition, Mc Graw Hill International Book Co.
8. Tomlinson M.J. (1995) Foundation Design and Construction, 6th edition, Longman Group.

ANNEXURE – I

Bore Log

Ref.: GGF/20-21/049

Name of Project: **GEOTECHNICAL INVESTIGATION WORK FOR THE CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT**

Soil Investigation done by:	GEOGLOBE FOUNDATIONS, Chennai.	**Type of Drilling:** Rotary – Mud Circulation	**Date of Commencement** 11.10.2020
			Date of Completion 11.10.2020
Bore hole No	01		
Location	Mentioned on Map		**Ground Water Level** Not met

Depth below G.L.(R.L)	Soil Profile	Visual Description of Soil	Thickness of layer (m)	Depth at which test is conducted	STANDARD PENETRATION TEST DATA – N – Value- Depth of penetration 15cm	30cm	45cm	For 30cm	Relative density / Consistency	Graphical representation of penetration resistance 20 40 60 80 100
				1.50	10	9	7	16	Medium	
		SAND	**2.00**	3.00	3	3	6	9	Stiff	
2.00				4.50	1	2	4	6	Do	
				6.00	5	4	6	10	Do	
		CLAY	**1.50**	7.50	6	7	7	14	Medium	
3.50				9.00	7	7	10	17	Do	
				10.50	10	16	8	24	Do	
		SILTY SAND	**4.00**	12.00	12	14	21	35	Dense	
7.50				13.50	R	-	-	>50	V dense	
		BLACKISH SAND	**5.50**							
13.00										
13.50		**SDR**	**0.50**							

R* - Rebound

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Bore Log

Ref.: GGF/20-21/049

Name of Project: **GEOTECHNICAL INVESTIGATION WORK FOR THE CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT DISTRICT .**

Soil Investigation done by:	GEOGLOBE FOUNDATIONS, Chennai.	**Type of Drilling:** Rotary – Mud Circulation	**Date of Commencement** 12.10.2020
			Date of Completion 12.10.2020
Bore hole No	02		
Location	Mentioned on Map		**Ground Water Level** Not met

Depth below G.L.(R.L)	Soil Profile	Visual Description of Soil	Thickness of layer (m)	Depth at which test is conducted	STANDARD PENETRATION TEST DATA – N – Value- Depth of penetration 15cm	30cm	45cm	For 30cm	Relative density / Consistency	Graphical representation of penetration resistance 20 40 60 80 100
		SAND	**6.50**	1.00	6	5	6	11	Medium	
				2.00	7	5	8	13	Do	
				3.00	2	3	5	8	Loose	
				4.50	4	5	6	11	Medium	
				6.00	3	6	8	14	Do	
				7.50	5	8	8	16	Do	
				9.00	9	5	7	12	Do	
				10.50	10	10	7	17	Do	
				12.00	3	4	5	9	Loose	
6.50				13.50	6	8	10	18	Medium	
		BLACKISH SAND	**7.20**	14.00	R	-	-	>50	V dense	
13.70										
14.00		**SDR**	**0.50**							

R* - Rebound

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Bore Log

Ref.: GGF/20-21/049

Name of Project: **GEOTECHNICAL INVESTIGATION WORK FOR THE CONSTRUCTION OF PROPOSED NEW RESIDENTIAL BUILDING WITH STILT+5 FLOORS AT RAMAMURTHY AVENUE, KOLAPPAKKAM, CHENNAI COMPRISED IN S. no. 58/1, New S. no. 58/1A1A, KOLAPAKKAM VILLAGE, KUNDRATHUR TALUK, KANCHIPURAM DISTRICT**

Soil Investigation done by:	GEOGLOBE FOUNDATIONS, Chennai.	**Type of Drilling:** Rotary – Mud Circulation	**Date of Commencement** 12.10.2020
			Date of Completion 12.10.2020
Bore hole No	03		**Ground Water Level** Not met
Location	Mentioned on Map		

Depth below G.L.(R.L)	Soil Profile	Visual Description of Soil	Thickness of layer (m)	Depth at which test is conducted	STANDARD PENETRATION TEST DATA – N – Value- Depth of penetration 15cm	30cm	45cm	For 30cm	Relative density / Consistency	Graphical representation of penetration resistance 20 40 60 80 100
				1.50	5	6	7	13	Medium	
				3.00	3	4	5	9	Loose	
				4.50	3	3	6	9	Do	
				6.00	5	5	7	12	Medium	
				7.50	6	9	5	14	Do	
				9.00	7	7	8	15	Do	
				10.50	5	8	12	20	Do	
				12.00	6	7	11	18	Do	
				13.50	8	9	17	26	Do	
				15.00	R	-	-	>50	V dense	
		SAND	**14.50**							
14.50										
15.00		**SDR**	**0.50**							

R* - Rebound

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Er. S.ANAND., M.E.(GEOTECH)
GEOTECHNICAL ENGINEER

Ref.: GGF/20-21/049

SOIL TEST RESULTS

Soil Investigation done by: GEOGLOBE FOUNDATIONS, Chennai.	**BORE HOLE NO:** 01	**LOCATION:** Mentioned on Map	**GROUND WATER LEVEL:** Not met	**WORK STARTED ON**	11.10.2020
				WORK COMPLETED ON	11.10.2020

SOIL PROFILE AND DEPTH IN METRES	DEPTH OF SAMPLING	IS SOIL CLASSIFICATION	NATURAL MOISTURE CONTENT %	INDEX TEST			SIEVE ANALYSIS %					SPECIFIC GRAVITY	DEPTH (m)	OBSERVED N VALUE	CORRECTED N VALUE	**SAFE BEARING CAPACITY (t/m^2)**
				LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	CLAY & SILT					
	0.00															
		S	17.5	NP	NP	NP	0	11	17	26	46	2.42	1.50	16	15.0	12.1
	2.00															
		CL	20.2	30	14	16	0	0	6	9	85	2.40	3.00	9	9.0	6.0
	3.50															
													4.50	6	6.0	3.0
		SM	15.5	NP	NP	NP	0	0	12	38	50	2.51	6.00	10	10.0	7.0
													7.50	14	14.0	11.1
	7.50															
													9.00	17	16.0	13.1
		S	10.2	NP	NP	NP	0	23	26	21	30	2.56	10.50	24	17.3	14.4
													12.00	35	21.0	18.1
	13.00	SDR	-	-	-	-	-	-	-	-	-	-				
	13.50	(WS)											13.50	>50	50.0	47.2

S – SAND, CL – LOW COMPRESSIBLE CLAY, SM – SILTY SAND, SDR – SOFT DISINTEGRATED ROCK (WASHING SAMPLE)
SBC is based on SPT Result. *NP – Non Plastic, N/A – Not Applicable

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SOIL TEST RESULTS

Soil Investigation done by: GEOGLOBE FOUNDATIONS, Chennai.	**BORE HOLE NO:** 02	**LOCATION:** Mentioned on Map	**GROUND WATER LEVEL:** Not met	**WORK STARTED ON**	12.10.2020
				WORK COMPLETED ON	12.10.2020

SOIL PROFILE AND DEPTH IN METRES	DEPTH OF SAMPLING	IS SOIL CLASSIFICATION	NATURAL MOISTURE CONTENT %	INDEX TEST			SIEVE ANALYSIS %					SPECIFIC GRAVITY	DEPTH (m)	OBSERVED N VALUE	CORRECTED N VALUE	**SAFE BEARING CAPACITY (t/m^2)**
				LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	CLAY & SILT					
	0.00												1.00	11	11.0	8.0
		S	15.4	NP	NP	NP	0	14	21	28	37	2.44	2.00	13	13.0	10.1
													3.00	8	8.0	5.0
													4.50	11	11.0	8.0
	6.50												6.00	14	14.0	11.1
			16.1	NP	NP	NP	0	5	16	31	48	2.50	7.50	16	15.0	12.1
		S											9.00	12	12.0	9.0
													10.50	17	16.0	13.1
			11.6	NP	NP	NP	0	11	19	34	36	2.57	12.00	9	9.0	6.0
													13.50	18	16.5	13.6
	13.70 14.00	SDR (WS)	-	-	-	-	-	-	-	-	-	-	14.00	>50	50.0	47.2

S – SAND, SDR – SOFT DISINTEGRATED ROCK (WASHING SAMPLE)
SBC is based on SPT Result. **NP – Non Plastic, N/A – Not Applicable*

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SOIL TEST RESULTS

Soil Investigation done by: GEOGLOBE FOUNDATIONS, Chennai.	**BORE HOLE NO:** 03	**LOCATION:** Mentioned on Map	**GROUND WATER LEVEL:** Not met	**WORK STARTED ON**	12.10.2020
				WORK COMPLETED ON	12.10.2020

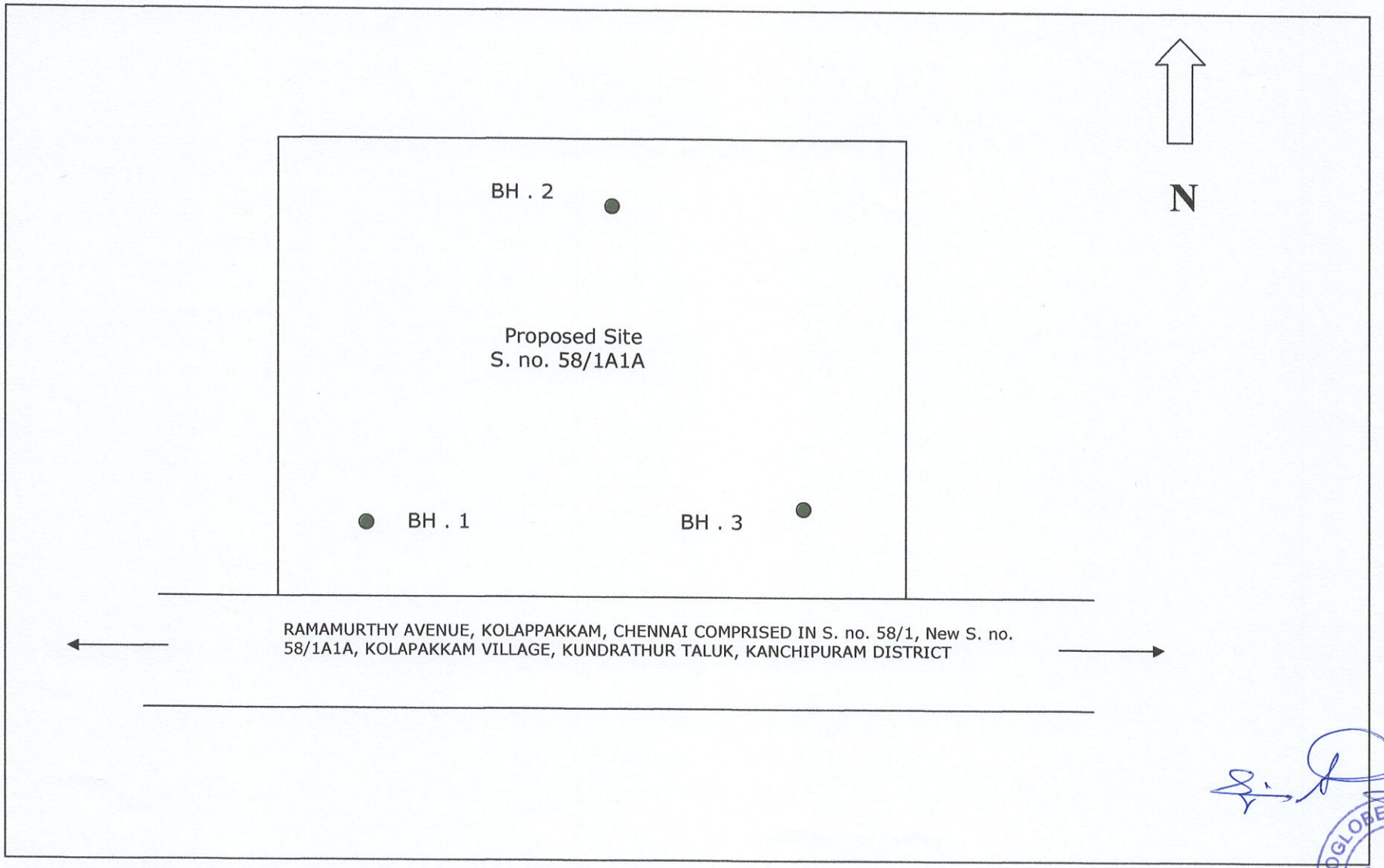
SOIL PROFILE AND DEPTH IN METRES	DEPTH OF SAMPLING	IS SOIL CLASSIFICATION	NATURAL MOISTURE CONTENT %	INDEX TEST			SIEVE ANALYSIS %					SPECIFIC GRAVITY	DEPTH (m)	OBSERVED N VALUE	CORRECTED N VALUE	**SAFE BEARING CAPACITY (t/m^2)**
				LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	CLAY & SILT					
	0.00												1.50	13	13.0	10.1
			16.0	NP	NP	NP	0	7	18	32	43	2.42	3.00	9	9.0	6.0
													4.50	9	9.0	6.0
													6.00	12	12.0	9.0
		S	18.3	NP	NP	NP	0	2	18	34	46	2.50	7.50	14	14.0	11.1
													9.00	15	15.0	12.1
													10.50	20	15.7	12.8
													12.00	18	14.4	11.5
			14.2	NP	NP	NP	0	6	22	35	37	2.56	13.50	26	16.9	14.0
	14.50 15.00	SDR (WS)	-	-	-	-	-	-	-	-	-	-	15.00	>50	50.0	47.2

S – SAND, SDR – SOFT DISINTEGRATED ROCK (WASHING SAMPLE)
SBC is based on SPT Result. **NP – Non Plastic, N/A – Not Applicable*

Er. S.ANAND., M.E.(GEOTECH)
GEOTECHNICAL ENGINEER

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11. BORE HOLE LOCATION MAP – Not to scale



GEOGLOBE FOUNDATIONS 600 117 CHENNAI

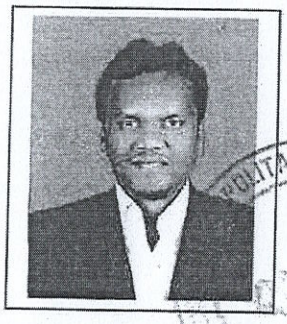
CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY
'ThalamuthuNatarajan Building', No.1, Gandhi Irwin Road,
Egmore, Chennai-600 008.

PROFESSIONAL REGISTRATION CERTIFICATE

This is to certify that the **Thiru K.S.TAMIL MARAN** has enrolled as **Registered Geo-Technical Engineer (RGTE)** with Chennai Metropolitan Development Authority (CMDA) who has the qualification of **M.E.,(Geo Techinical Engg.)** and experience in the relevant field for **05 years**.

He has been given the Registration No.**GTE/2020/03/044** on **05.03.2020.** He shall be required to comply with the duties and responsibilities prescribed by the Government of Tamil Nadu in Part-V, "Registration of Professionals", Tamil Nadu Combined Development and Building Rules, 2019 approved vide G.O.(Ms) No.18 MAWS (MA1) Dept. dated 04.02.2019.

This Registration is valid upto **04.03.2025**.



05/03/2020

(R.SHIVAKUMAR)
ASSISTANT PLANNER
CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY
CHENNAI - 600 008

20/07/24

Er. K.S. TAMIL MARAN, M.E.,(Geotech.,
GEOTECHNICAL ENGINEER
Reg. No GTE/2020/03/044
138/B,Deeran Nagar Thuraimangalam
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