

FINAL REPORT

GEOTECHNICAL/SUB-SOIL INVESTIGATION WORK

FOR A RESIDENTIAL BUILDING PHASE-1, ESW (PACKAGE-9) ,

IN

FP NO.:133, SURVEY NO.:136, 134/1/P, 138/3, 138/2, 138/1, TP NO.:64 (TRAGAD),

MOJE: TRAGAD, DIST. : AHMEDABAD , STATE:GUJARAT

REPORT NO. : 2511/EI-589/S-142/25

MONTH & YEAR : NOVEMBER, 2025

SUBMITTED TO

THE ADDITIONAL CITY ENGINEER (HOUSING PROJECT) ,

5TH FLOOR, C-BLOCK, SARDAR PATEL BHAVAN,

**AHMEDABAD MUNICIPAL CORPORATION,
AHMEDABAD.**

PREPARED BY

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CONVINER

LABORATORY COMMITTEE

Date :29/11/2025

To,

The Additional City Engineer,
5th Floor ,C-Block, Danapith
Ahmedabad

Sub.: Report for the soil investigation /Geotechnical Investigation for work for Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad), FP NO.:133, Survey No.: 136, 134/1/P, 138/3, 138/2 , 138/1, Moje : Tragad Dis: Ahmedabad.

We have conducted the soil investigation work at above mentioned site

.Along with this letter we are submitting the soil report for the same along with the SBC analysis.

Please call us for further information and clarification.

Thanking You,

For, **GICEA**

MATERIAL TESTING & N.G.PATEL SOIL TESTING LABORATORY,

Authorised Signatory,

Encl.

1.Two copy of Report

2.One report in soft copy

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[1] INTRODUCTION :

Report for the soil investigation /Geotechnical Investigation for work for a Residential Building, Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad), FP NO.:133, Survey No.: 136, 134/1/P, 138/3, 138/2 , 138/1, Moje : Tragad Dis: Ahmedabad. The purpose of the investigations was to determine the sub soil stratification of the soil, geotechnical information & safe bearing capacity of the soil, so as to provide information that will assist the structural engineers in the design of the foundations and the relevant works.

The Job was carried out under the guidance and supervision of the soil personnel of **G.I.C.E.A Laboratory,Ahmedabad**, and client's engineer.

[2] FIELD WORK :

- 1) Drilling Two nos. of 150 mm dia borehole with casing whenever required up to maximum depth of 20.0 m from ground level.
- 2) Carryout standard penetration test at regular interval alternate to undisturbed sampling
- 3) Collecting disturbed soil samples at regular interval as per the stratification of soil ,recording depth at which soil changes.
- 4) Collecting undisturbed samples (UDS) at regular interval alternate to SP Test or continuous UD samples at regular interval if subsoil is cohesive.

[2.1] Borehole Drilling :

Drilling of 150 mm dia borehole was carried out by tractor mounted rotary drilling method above water table. Water was added while drilling but stopped at enough height above the test level to avoid disturbance. Drilling below water table was made by percussion drilling method casing is required to be lowered if holes do not retain its shape. Care is taken to maintain ground water table during drilling and particularly before testing or sampling levels. In no case casing is allowed to advance below the bottom of borehole. Chiselling is carried out if required while drilling .The Location of borehole was decided with due consideration of Client/Consultant of the project

(2.2) Collection of Samples:

Undisturbed soil samples in shelly tubes were collected in the thin walled sampling tubes in accordance with IS: 1525. The sampling tube was connected to the rod by jarring link in case of Ø tubes. A' drill rods were connected by suitable adaptor with ball check valve. Sampling tube was pushed into the borehole by pressure hammering as per the soil stiffness. The sampling tubes were waxed immediately after removal.

In case of medium to coarse grained, non-cohesive sand samples, where sampling is unsuccessful, Standard Penetration Tests was carried out after cleaning the borehole.

However, disturbed soil samples from shell or split spoon samplers were also collected in polythene bags with proper labels during drilling for finding index properties of the soil and transported to our laboratory.

[2.3] Standard Penetration Test :

The Standard Penetration Tests (SPT) (IS-2131, 1981) was carried out in the bore hole at predetermined depths. It gives indirect evaluation of strength–deformation characteristics of the sub soil. The test includes driving a split spoon sampler using a 63.5 kg hammer with a free fall of 750mm. The first 15cm is considered as seating drive. The No. of blows required to penetrate next 30 cm is reported as N-value. Empirical relations are established to correlate N-Value with the shear parameters or bearing capacity of soil. A disturbed soil sample is collected inside the split spoon sampler which can be used to find soil classification and In-situ water content.

If the no. of blows exceeds 50 before desired penetration is achieved, it is reported as N- value >50 with the actual penetration achieved.

[2.4] Ground Water Table

Ground Water table not seen in the borehole up to 20.00m depth below EGL, when investigation carried out in the month of (November- 2025).

[3] LABORATORY WORK

The laboratory tests on soil samples were started immediately after the receipt of the same in the laboratory. Following laboratory tests are carried out to determine the physical and engineering properties of undisturbed and disturbed soil samples.

1. Dry Density and Natural Moisture Content (IS - 2720, Part – II)
2. Particle Size Analysis (IS - 2720, Part – IV, 1985)
3. Atterberg's Limit (IS -2720, Part – V, 1985)
4. Specific Gravity (IS -2720, Part – III, 1980)
5. Test for Shear properties of selected samples (IS -2720, Part-XI)

The common practice adopted in the field and laboratory testing by & large are as per I S code indicated . Results of the laboratory tests performed on various soil samples are presented in the form of table at the end of report.

[4 .0] PHYSICAL PROPERTIES:-

The moisture cans collected from SPT samplers from the field are weighed and placed in oven for drying to determine natural moisture content(NMC). Results are tabulated in table

UDS are extracted using screw type extractor and samples were prepared as per the required size of the test. Weight and volume of the samples were noted before extracting from tubes. Average bulk density is calculated and samples were placed in oven to get the field moisture content for computing the dry density as per IS formula. Results are tabulated in table.

Specific gravity with specific gravity bottle/ pycnometer is calculated as per IS 2720-part-3.

Grain size analysis is made by IS-2720-Part-4 sieves of sizes 4.75mm,2.00mm,1.00mm,0.425mm,0.25mm and

0.075mm.For coarse grained soil a graph of particle size v/s cumulative % finer is plotted.

For fine grained soil wet analysis is made on plummet balance. Results are tabulated in table

Liquid limit and Plastic Limit tests are carried out with distilled water as per IS 2720 part – 5. Liquid and Plastic Limits are determined by using procedure given in IS: 2720, Part-V, 1985. The results are given in result sheet. Use testing method Casagrande method. A soil sample weighing about 150gm from the thoroughly mixed portion of soil passing 425 micron was used for testing.

The soil samples showing high plasticity were checked for swelling and shrinkage. Firstly for rough estimate, free swell test is carried out as per IS 2720 part – 40. Shrinkage limit test is carried out as per IS 2720 part 6.

[5.0] SHEAR PROPERTIES:-

Shear tests were carried out by three methods.

- 1) Unconfined compressive strength as per IS 2720 part-10 for the saturated plastic soil
- 2) Triaxial shear test is tube carried out on samples of size 38mm dia and 76 mm in height on motorized 30 speed load frame. The confining pressure 63 is applied to the cell by oil water constant pressure system. The tests are carried out for the three conditions
 - a) Unconsolidated Undrained (UU) test without pore water pressure measurement as per IS 2720 part 1
 - b) Consolidated Undrained (CU) test without pore water pressure measurement as per IS 2720 part 11

The condition decided on type of sample and water table condition or designers specifications.

- 3) Direct/box shear test on noncohesive medium to coarse sandy soil as per IS 2720 part 13. The graph for triaxial shear test is plotted by modified method.

6.0 SUB SOIL STRATIFICATION

Field and laboratory test data reveal the general stratification in mention in the Table

7.0 COMPUTATION OF SAFE BEARING CAPACITY

The following formula is used for calculating ultimate net bearing capacity in the case of footings: (Ref: IS: 6403 - 1981)

a) In case of general shear failure:

$$q_d = C N_c + q (N_q - 1) + 0.5 B \gamma N_\gamma$$

b) In case of local shear failure:

$$q_d' = \frac{2}{3} C N'_c + q (N'_q - 1) + 0.5 B \gamma N'_\gamma$$

The ultimate net bearing capacity obtained for footing is modified to take into account, the shape of the footing, inclination of loading, depth of embedment and effect of water table. The modified bearing capacity formula is given as under:

a) In case of general shear failure:

$$q_d = C N_c S_c d_c i_c + q (N_q - 1) S_q d_q i_q + 0.5 B \gamma N_\gamma S_\gamma d_\gamma i_\gamma W'$$

b) In case of local shear failure:

$$q_d' = \frac{2}{3} C N'_c S_c d_c i_c + q (N'_q - 1) S_q d_q i_q + 0.5 B \gamma N'_\gamma S_\gamma d_\gamma i_\gamma W'$$

c) In case of stiff cohesive soil:

$$q_d = C N_c S_c d_c i_c$$

Shape Factor	S_c	S_q	S_γ
Continuous strip	1.00	1.00	1.00
Rectangular	$1 + 0.2 (B/L)$	$1 + 0.2 (B/L)$	$1 - 0.4 (B/L)$
Square	1.30	1.20	0.80
Circle	1.30	1.20	0.60

Depth Factor	
d_c	$1 + 0.2 \frac{D_f}{B} \sqrt{N\phi}$, Where $\sqrt{N\phi} = \left(45 + \frac{\phi}{2} \right)$
$d_q = d_\gamma$	1 for $\phi < 10$ degree
$d_q = d_\gamma$	$1 + 0.1 \frac{D_f}{B} \sqrt{N\phi}$, for $\phi > 10$ degree

Considering applied load as vertical, $i_c = i_q = i_\gamma = 1.0$

Project : FP NO.:133, SURVEY NO.:136, 134/1/P, 138/3, 138/2, 138/1 TRAGAD, TP NO.:64 (Tragad), Nana Tragad

Design Data :

Foundation Type	: Square Footing
Width of Footing	: 2.00 m
Depth of Footing	: 1.50 m
Load inclination	: 0.00 Deg
Water Table	: Not seen at drilling time
Factor of Safety	: 2.50

Where

c = Cohesion = 0.27 kgf/cm²
 q = Effective surcharge at base of fdn = 0.2625 kgf/cm²
 B = Width of footing = 150 cm
 γ = Bulk unit weight of foundation soil = 0.00175 Kgf/cm³
 W' = Correction factor for location of water table = 1
 ϕ = Angle of shearing resistance of soil in degrees = 12.5
 N'_c = Bearing Capacity Factor = 7.65
 N'_q = Bearing Capacity Factor = 2.13
 N'_γ = Bearing Capacity Factor = 0.93
 s_c = Shape factor = 1.3
 s_q = Shape factor = 1.2
 s_γ = Shape factor = 0.8
 d_c = Depth Factor = 1.249
 d_q = Depth Factor = 1.125
 d_γ = Depth Factor = 1.125
 i_c = Inclination Factor = 1
 i_q = Inclination Factor = 1
 i_γ = Inclination Factor = 1

As per Table-1 of IS-1904 (Page No.19) Permissible Settlement For Shallow Foundation

50mm Permissible Settlement Taken (Isolated Footing)

Project : FP NO.:133, SURVEY NO.:136, 134/1/P, 138/3, 138/2, 138/1 TRAGAD, TP NO.:64 (Tragad), Nana Tragad

8.) SUMMARY OF SAFE BEARING CAPACITY

Sr.	Width	Depth	Surcharge	W'	Shape F	Shape F	Shape F	Depth F	Depth F	Depth F	q _{safe}	settlement
No	(m)	(m)	Kg/cm ³		s _c	s _q	s _γ	d _c	d _q	d _γ	T/m ²	mm
1	1.50	1.50	0.26	1.00	1.30	1.20	0.80	1.25	1.13	1.13	11.0	15.2
2	1.50	2.00	0.35	1.00	1.30	1.20	0.80	1.33	1.17	1.17	12.3	13.7
3	1.50	2.50	0.44	1.00	1.30	1.20	0.80	1.42	1.21	1.21	13.5	12.9
4	2.00	1.50	0.26	1.00	1.30	1.20	0.80	1.19	1.09	1.09	10.7	18.8
5	2.00	2.00	0.35	1.00	1.30	1.20	0.80	1.25	1.13	1.13	11.7	17.0
6	2.00	2.50	0.44	1.00	1.30	1.20	0.80	1.31	1.16	1.16	12.8	15.8
7	2.50	1.50	0.26	1.00	1.30	1.20	0.80	1.15	1.08	1.08	10.5	21.8
8	2.50	2.00	0.35	1.00	1.30	1.20	0.80	1.20	1.10	1.10	11.4	20.2
9	2.50	2.50	0.44	1.00	1.30	1.20	0.80	1.25	1.13	1.13	12.4	18.7

For,,G.I.C.E.A.,

MATERIAL TESTING & N.G.PATEL SOIL TESTING LABORATORY,

Authorized Signatory

9 | CONCLUSIONS & RECOMMENDATION:

(9.1) The site for proposed soil investigation work at Nana Tragad general is observed to consist of Fine sandy , silty, Little portion clayey soil. soil up to 20.00 m depth of termination.

(9.2) The net safe bearing capacity of open foundation having width varying from 1.50 to 2.50 m at 1.50 m to 2.5 m depth is recommended in following paras considering 50 mm maximum permissible settlement and in natural condition of soil. For individual depth and size of footing please refer table on page no.10 of this report.

(9.3) If the soil strata encountered during actual excavation are found different from strata mentioned in the report, the matter should be reported to us for reconsideration.

(9.4) In this site Foundation pleased on clayey soil so may be at foundation time or day by day more settlement part of Layer so take more prechosen.

9.5) The results of the laboratory tests are incorporated in the form of table at the later part of the report.

(9.6) If you need more accurate SBC than you can Plat load test at site

For,,G.I.C.E.A.,

MATERIAL TEATING & N.G.PATEL SOIL TESTING LABORATORY ,

Authorized Signatory

CLASSIFICATIONS:

GW: Well graded gravels, gravel sand mixture or no fines

GP : Poorly graded gravels or gravels sand mixture, little or no fines

GM: Silty gravels, poorly graded gravel-sand-silt mixtures

GC : Clayey gravels, poorly graded gravels-sand-clay mixtures

SW : Well graded sands, gravelly sands , little or no fines

SP : Poorly graded sands or gravelly sands; little or no fines

SC : Clayey sands, poorly graded sand-clay mixture

SM: Silty sands, poorly graded sand-silt mixture

ML: Inorganic silt and very fine sands, silty or clayey fine sands or clayey silt with non to low plasticity

CL: Inorganic clays, gravelly clays, sandy clays, silty clays, lean clays of low plasticity

OL: Organic silts and organic silty clay of low plasticity

MI: Inorganic silts, silty or clayey fine sands or clayey silts of medium plasticity

CI: Inorganic clays, gravelly clays, sandy clays, silty clays, lean clays of medium plasticity

OI : Organic silts and silty clay of medium plasticity

MH: Inorganic silt of high compressibility, micaceous or diatomaceous fine sandy or silty soils, elastic silts

CH: Inorganic clays of high plasticity, fat clays

OH: Organic clays of medium to high plasticity

Pt.: Peat and other highly organic soil with very high compressibility

ABBREVIATIONS

DS : Disturbed Soil Sample

UDS : Undisturbed Soil Sample

SPT : Standard Penetration Test

SBC : Safe Bearing Capacity

NP : Non Plastic

DST : Direct Shear Test

LL : Liquid Limit

PL : Plastic Limits

PI : Plasticity Index

***** : Remolded Sample

Ref. : Refusal

REFERENCES

Indian Standard	IS 2720 Pt II, III, IV , V ,XIII ,XXXI ,XXVII,XXVI,IS 1498,IS 6403,IS 1904,IS 8009,IS 1892,IS 12070, IS 13365
Murthy V.N.S.	Soil Mechanics and Foundation Engineering
Lambe T.W.	Soil Testing Engineers
Peck,R.S. Hanson	Foundation Engineering
Nayak N.V.	Foundation Engineering Manual
Kaniraj S.R.	Design Aids in Soil Mechanics and Foundation engineering
Alam Singh	Modern Geotechnical Engineering
Hunt	Foundation Engineering Analysis
Shamsher Prakash	Analysis and Design of Foundation and Retaining Structures
Winterkorn H.F. & Fang H.Y.	Foundation engineering Handbook
R.P. Rethaliya	Soil Engineering Book
Dr B. P. Verma	Rock Mechanics for Engineers

GENERAL TERMS AND CONDITIONS

- 1.** The test are carried out under certain laboratory condition and parameter
- 2.** Results given in this report refers only to the material supplied to the laboratory.
- 3.** The test report do not indicate the quality of the product or usage of product or suitability of the product or material.
- 4.** This test report does not indicate the sampling criterion for testing the samples..
- 5.** Any site testing or supervision is to be done separately.
- 6.** Any kind of addition , alteration or deletion is not permitted.
- 7.** Reproduction of this report in whole or in part by any means except with written
Permission of the testing agency shall be deemed to be an infringement.
- 8.** Location of bore hall and depth of bore hall decided by client.
- 9 .** The report/results are not to be used for publicity.

For, G.I.C.E.A.,

MATERIAL TESTING & N.G.PATEL SOIL TESTING LABORATORY

Authorized Signatory

SOIL CHARACTERISTICS TABLE																	
Project Site:		Geotechnical Investigation for Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad), FP NO.:133, Survey No.: 136, 134/1/P, 138/3, 138/2 , 138/1, Moje : Tragad Dis: Ahmedabad.															
Client Name:		Add City Engineer Housing Projects												Bore Hole No.:		1	
Co-ordinats				N-22.998965°								E-72.50204°					
Water Table		Seen at Drilling Time				Bore Hole Start Date:				15-11-2025		Bore Hole Completed on:				15-11-2025	
Depth	Sample Type	SPT-N Value	Insitu Water Content	Density (gm/cc)		Specific Gravity	Particle Size Analysis (%)			Liquid Limit	Plasticity Index	Classification	Type of Shear Test	Cohesion C	ϕ Friction	Compression Index, Cc	Frees Well
mtr.	spt/uds/ds	Nos.	%	Bulk	Dry		Gr	Sn	Silt+ Clay	%	%			(kg/cm²)	(°)		%
0.0	DS		10.50				8.3	35.8	55.9	36.40	17.57	CL					
1.5	SPT	13	15.94				9.5	37.9	52.6	31.22	11.30	CL					
3.0	UDS		12.99	1.82	1.61	2.6	10.1	29.4	60.5	34.71	15.53	CL	TUU	0.27	12	0.085	30
4.5	SPT	23	13.31				5.5	45.5	49	34.77	15.32	SC					
6.0	UDS		12.36	1.85	1.65	2.62	7	69	24	28.73	8.68	SM-SC	DUU	0.07	27		
7.5	SPT	53	10.50				3.9	56.5	39.6	0.00	0.00	SM					
9.0	UDS		11.11	1.86	1.67		11.3	74.8	13.9	0.00	0.00	SM	DUU	0	31		
10.5	SPT	72	11.73				0.5	62.7	36.8	0.00	0.00	SM					
12.0	UDS		14.94	1.95	1.70	2.63	3.4	50.1	46.5	27.20	6.50	SM-SC	DUU	0.08	29		
13.5	SPT	64	12.99				0.6	49.5	49.9	35.54	15.86	SC					
15.0	UDS		11.42	1.93	1.73		0	63.7	36.3	34.97	16.05	SC					
16.5	SPT	>100	11.73				1	51.7	47.3	0.00	0.00	SM					
18.0	DS		10.19	1.92	1.74		0	86.9	13.1	0.00	0.00	SM					
20.0	SPT	78	17.86				11.7	31.1	57.2	30.00	11.07	CL					

SPT & DEPTH DESCRIPTION					
Project Site:	Geotechnical Investigation for Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad), FP NO.:133, Survey No.: 136, 134/1/P, 138/3, 138/2 , 138/1, Moje : Tragad Dis: Ahmedabad.				
Client Name:	Add City Engineer Housing Projects				
Borehole No	Diameter of Boring	150mm	Termination Depth :20.00 meter		
Depth(m)	SYMBOL/ HATCHIN G	Thickness of Strata(m)	Sampling Type	Sample Depth (m)	SPT Value Number
0.00	CL	0.50	DS	0	
1.00	CL	2.20	SPT	1.50	4+6+7=13
2.00			UDS	3.00	
3.00					
4.00	SC	1.70	SPT	4.50	8+10+13=23
5.00			UDS	6.00	
6.00	SM-SC	1.60			
7.00	SM	4.20	SPT	7.50	17+23+30=53
8.00					
9.00			UDS	9.00	
10.00			SPT	10.50	21+30+42=72
11.00	SM-SC	1.70	UDS	12.00	
12.00					
13.00	SC	3.20	SPT	13.50	19+28+36=64
14.00			UDS	15.00	
15.00					
16.00	SM	2.80	SPT	16.50	34+70/8cm>100
17.00					
18.00			UDS	18.00	
19.00	CL	2.10			
20.00			SPT	20.00	30+36+42=78

SOIL CHARACTERISTICS TABLE																	
Project name:		Geotechnical Investigation for Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad), FP NO.:133, Survey No.: 136, 134/1/P, 138/3, 138/2 , 138/1, Moje : Tragad Dis: Ahmedabad.															
Client Name:		Add City Engineer Housing Projects												Bore Hole No.:		2	
Co-ordinats				N-22.999414°								E-72.502367°					
Water Table		Seen at Drilling Time				Bore Hole Start Date:				16-11-2025		Bore Hole Completed on:				16-11-2025	
Depth	Sample Type	SPT-N Value	Insitu Water Content	Density (gm/cc)		Specific Gravity	Particle Size Analysis (%)			Liquid Limit	Plasticity Index	Classification	Type of Shear Test	Cohesion C	Friction ϕ	Compression Index, Cc	Frees Well
mtr.	spt/uds/ds	Nos.	%	Bulk	Dry		Gr	Sn	Silt+ Clay	%	%			(kg/cm²)	(°)		%
0.0	DS		10.50				8.3	35.8	55.9	36.40	17.57	CL					
1.5	UDS		12.68	1.8	1.60	2.59	9.5	37.9	52.6	31.22	11.30	CL	TUU	0.24	15		
3.0	SPT	17	12.99				10.1	29.4	60.5	34.71	15.53	CL					
4.5	UDS		13.31	1.84	1.62	2.61	5.5	45.5	49	34.77	15.32	SC	DUU	0.05	26		30
6.0	SPT	27	12.36				7	69	24	27.81	7.46	SM-SC					
7.5	UDS		10.50	4.75	4.30		3.9	56.5	39.6	0.00	0.00	SM	DUU	0	30		
9.0	SPT	41	11.11				11.3	74.8	13.9	0.00	0.00	SM					
10.5	UDS		11.73	6.75	6.04	2.64	0.5	62.7	36.8	0.00	0.00	SM					
12.0	SPT	52	14.94				3.4	50.1	46.5	27.20	6.50	SM-SC					
13.5	UDS		12.99	8.75	7.74		0.6	50.5	48.9	35.54	15.86	SC					
15.0	SPT	51	11.42				0	63.7	36.3	34.97	16.05	SC					
16.5	UDS		11.73	10.75	9.62		1	51.7	47.3	0.00	0.00	SM	DUU	0	34		
18.0	SPT	>100	10.19				0	86.9	13.1	0.00	0.00	SM					
20.0	SPT	>100	17.86				11.7	31.1	57.2	30.00	11.07	CL					

SPT & DEPTH DESCRIPTION					
Project Name:	Geotechnical Investigation for Construction of 336 EWS Residential Flats Under PMAY 2.0 Including Internal Infrastructure & Development work within the plot in Ahmedabad City. (Pjase-1, Package-9) TP No.:64,(Tragad),				
Client Name:	Add City Engineer Housing Projects				
Borehole No	Diameter of Boring	150mm	Termination Depth :20.00 meter		
Depth(m)	SYMBOL/ HATCHIN G	Thickness of Strata(m)	Sampling Type	Sample Depth (m)	SPT Value Number
0.00	CL	1.00	DS	0	
1.00	CL	2.20	UDS	1.50	
2.00			SPT	3.00	5+8+9=17
3.00					
4.00	SC	1.60	UDS	4.50	
5.00	SM-SC	1.30	SPT	6.00	8+11+16=27
6.00					
7.00	SM	4.30	UDS	7.50	
8.00					
9.00			SPT	9.00	13+18+23=41
10.00			UDS	10.50	
11.00	SM-SC	1.70	SPT	12.00	19+22+30=52
12.00					
13.00	SC	3.30	UDS	13.50	
14.00			SPT	15.00	15+20+31=51
15.00					
16.00	SM	2.90	UDS	16.50	
17.00					
18.00			CL	1.70	SPT
19.00					
20.00					SPT