

**GEOTECHNICAL INVESTIGATION REPORT FOR  
REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN  
REPUBLIC, NOIDA  
(GT-1997)**

**CLIENT:**

**EXECUTIVE ENGINEER (P)  
NOIDA CENTRAL DIVISION, CPWD  
NEW DELHI**

**SUBMITTED BY:**



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**SOIGNÉ ENGINEERING CONSULTANTS****\*\*SOIL INVESTIGATION TEST REPORT\*\*****Job No.****Page No.**

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GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.

**1. INTRODUCTION**

The present report deals with the Geotechnical field and lab investigations conducted for **REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA**. The work was taken in hand on Behest of Executive Engineer (P) Noida Central Division, CPWD, New Delhi. The work was carried out in Month of February - March 2019.

The objective of the report is restricted to the factual information to be collected during the investigation period along with laboratory tests results and so as to obtain sequence & extent of soil so as to arrive at design parameters for the foundations from the recommended safe bearing capacity of foundation soil.

**2. SCOPE OF WORK**

- 2.1. Reconnaissance / field trip for studying the general topography and geology of the area/ terrain
- 2.2. The field Geotech investigations consisted of determination of sub soil profile by conducting 46 nos. bore holes up to maximum depth of 40.0 m below N.S.L or hard stratum/refusal, whichever is earlier, as per IS code.
- 2.3. Conducting SPT/DCPT in the bore-hole/trial pits at regular intervals and collecting disturbed/undisturbed soil samples from the bores hole at regular intervals as per Indian code of practice.
- 2.4. Recording of water table level in the bore holes at the time of boring (if encountered).
- 2.5. Conducting laboratory tests on the samples collected and thereby determining various index and engineering properties and summarizing the detail of soil classification.
- 2.6. Conducting 18 nos. Plate load test for determination of Modulus of Subgrade Reaction (K-Value) using 30cm x 30 cm plate at varying depths at 6 locations.
- 2.7. A comprehensive Geotechnical investigation report embodying all the above information along with tables of Field / Lab tests results and bearing capacity computations.



a) Correction due to effect of overburden pressure,

$$N_N = C_N \times N$$

$C_N$  is overburden pressure correction and is calculated as  $C_N = 0.77 \log_{10}(200/\sigma_0)$ .

b) Correction due to submerge effect (in case of fine sand and silt),

$$N_c = 15 + (N_N - 15)/2, \text{ provided } N_N > 15. \text{ Else } N_c = N_N$$

Where ' $N_c$ ' is the final corrected value

### 3.5. DETERMINATION OF MODULUS OF SUBGRADE (K-VALUE) OF SOIL IN FIELD

Modulus of Sub grade Reaction is Ratio of load per unit area (applied through a centrally loaded rigid body) of horizontal surface of a mass of soil to corresponding settlement of the surface. It is determined as the slope of the secant drawn between the point corresponding to zero settlement and the point of 1.25 mm settlement, of a load-settlement curve obtained from a plate load test on a soil using a 75 cm diameter or smaller loading plate with corrections for size of plate used.

#### 3.5.1. LOADING PROCEDURE

The loading system and bearing plate should be seated by applying a load of 3.1 kN (310 kgf) (0.007 MPa) for a plate size of 30cm x 30 cm. The seating load will be allowed to remain until practically complete deformation has taken place, at this time a reading should be taken on the dial gauges and adjusted to 'zero' reading. Then without releasing the seating load an additional 31 kN (3100 kgf) should be applied to the plates and held until practically complete settlement has taken place.

#### 3.5.2. EVALUATION OF SUBGRADE TEST RESULTS

Modulus of Sub grade Reaction (k) is required for foundation & Calculated by Westergads method and is estimated from Plate Load Test data.

Standard plate size for finding 'k' value is 75 cm size, the standard 'k' value corresponding to 30 cm plate is found by applying a suitable correction for plate size.

By equation,

$$K = 10p/1.25 \text{ Kg/cm}^2 / \text{cm}$$



Where,

'K' = Modulus of Sub grade Reaction

'p' = load intensity required for settlement of 1.25mm from load-settlement curve

Correction for plate size:

$$\Delta = 1.18 \text{ pa/E} \quad (\text{Elastic theory})$$

Where,

$\Delta$  = Deflection

E = Elasticity constant of soil

Now,

$$\frac{p}{\Delta} = k = E/1.18A$$

$$k A = E/1.18 = \text{Constant}$$

Therefore,  $k_1 A_1 = k_2 A_2$

$$k_{75} = k_{30} \times A_{30}/A_{75}$$

$$k_{75} = 0.16 k_{30}$$

#### 4. GROUND WATER TABLE

Determination of Ground water Table and water depth from Existing Ground level was done using Steel tape with weigh. The depth of Ground water table was determined as per procedure laid in IS 6935-1973. Depth of water tables was measured in the month of February 2019. Depth of Ground Water Table encountered in each boreholes was as follows:

S.No	BHL No	Depth of water Table, m	S.No	BHL No	Depth of water Table, m
1	BHL - 1	16.5 m	24	BHL - 24	13.5 m
2	BHL - 2	15.0 m	25	BHL - 25	13.3 m
3	BHL - 3	13.7 m	26	BHL - 26	13.8 m
4	BHL - 4	17.5 m	27	BHL - 27	13.5 m
5	BHL - 5	18.0 m	28	BHL - 28	13.2 m
6	BHL - 6	15.0 m	29	BHL - 29	13.8 m
7	BHL - 7	14.5 m	30	BHL - 30	14.5 m
8	BHL - 8	15.0 m	31	BHL - 31	11.2 m
9	BHL - 9	14.7 m	32	BHL - 32	10.9 m
10	BHL - 10	13.7 m	33	BHL - 33	14.2 m



S.No	BHL No	Depth of water Table, m	S.No	BHL No	Depth of water Table, m
11	BHL - 11	13.5 m	34	BHL - 34	12.6 m
12	BHL - 12	11.7 m	35	BHL - 35	11.4 m
13	BHL - 13	11.4 m	36	BHL - 36	12.7 m
14	BHL - 14	12.5 m	37	BHL - 37	14.7 m
15	BHL - 15	12.9 m	38	BHL - 38	11.5 m
16	BHL - 16	13.2 m	39	BHL - 39	14.6 m
17	BHL - 17	12.5 m	40	BHL - 40	14.8 m
18	BHL - 18	12.7 m	41	BHL - 41	14.7 m
19	BHL - 19	13.4 m	42	BHL - 42	14.7 m
20	BHL - 20	13.2 m	43	BHL - 43	13.5 m
21	BHL - 21	13.3 m	44	BHL - 44	12.5 m
22	BHL - 22	13.2 m	45	BHL - 45	13.4 m
23	BHL - 23	13.7 m	46	BHL - 46	14.0 m

## 5. OBSERVATION AND DISCUSSIONS

From the field borehole logs, the laboratory test result and the visual examination of soil samples indicates the following type of strata in the bore holes.

### 5.1. SOIL CLASSIFICATION & GENERAL NATURE OF THE SOIL STRATA:

Classification and identification is the pre-requisite of any site investigation report. The sub soil strata are classified on the basis of lab tests as per IS: 1498 -1978. The classification on the soil samples were obtained from the % age of grain size distribution of gravel sand silt and clay in different layers of deposit met at site. The classification soil groups are given in the data sheets attached.

## 6. LABORATORY TESTS

### 6.1. Index Properties [As per SP 36 (Part-I)-1987] :

All the relevant classification on the samples obtained from the bore holes were carried out in the laboratory. The index properties obtained from such classification tests at different depths in the bore holes are reported in the bore hole log sheets.

**6.2. UNDISTURBED SOIL SAMPLES:**

Undisturbed soil sample collected in field have been tested in laboratory and preparation of sample for the under mentioned tests have been done in accordance with I.S.2720.

1. Sieve analysis test as per I.S. Specification No. 2720 --(Part-IV).
2. Atterberg limit test (L.L., P.I. & S.L.) as per I.S. Specification No. 2720 --(Part-II,VI).
3. Natural moisture content as per I.S. Specification No.2720 - (Part-IV).
4. Particle size analysis test as per I.S. Specification No. 2720-(Part-VI).
5. Wet density test as per I.S. Specification No 2720- (Part-VI).
6. Dry density test as per I.S. Specification No. 2720- (Part-VI)
7. Free soil Index as per I.S. Specification No. 2720- (Part-XL).
8. Specific Gravity test as per I.S. Specification No-2720-(Part-III)-Sec.2.
9. Triaxial compression test and determination of shear parameter (C &  $\phi$  as per I.S. XII & I.S. 2720 - (part - XIII).
10. Consolidation test conducted as per I.S Specification No. 2720- (Part-XV).

**6.3. DISTURBED SOIL SAMPLES:**

Disturbed Soil samples have been prepared in accordance with I.S. Specification No. 2720- (Part-I)- 1983 and tested as follows:-

1. Sieve analysis test as per I.S. Specification No. 2720- (Part- IV).
2. Atterberg limit test (L.L., P.I. & S.L.) as per I.S. Specification No. 2720 --(Part-II,VI).
3. Particle size analysis test as per I.S. Specification No. 2720-(Part-VI).

Calculation of bearing capacity is governed generally by I.S. Specification No. 8009- (Part-I)- 1976, I.S.No.2720- (Part - II)- 1980, I.S. No 6403-1981, I.S. 1904-1978 and I.S. 1080-1985 and other relevant I.S. Codes as well as based on assessment and latest developments.

Test results are shown in the respective borehole data sheets.



**7. FOUNDATION PARAMETERS**

Allowable Bearing capacity values are based on the following parameters:

**Table 1: Foundation Parameters**

TYPE OF FOUNDATION	BORE HOLE NO.	FOUNDATION SIZE	FOUNDATION DEPTH
ISOLATED FOOTING	BHL - 1 to 46	3.00 m x 2.00 m 3.00 m x 3.00 m	1.5m, 3.0m & 4.50 m

**8. ESTIMATION OF ALLOWABLE BEARING CAPACITY**

A foundation can fail by two modes i.e.

- i) Shear failure.
- ii) Excessive settlement.

Shear failure being catastrophic, an adequate factor of safety is applied to ultimate bearing capacity that can initiate this type of failure. BIS recommends a value of FOS = 2.5 to obtain the net safe bearing capacity  $q_{ns}$  by using the physical characteristics of the foundation and relevant shear strength parameters of soil.

Settlement analysis a net loading intensity  $q_n$  is obtained by using the physical characteristics of the foundation and the relevant compressibility characteristics of the Underlying soil. The value so obtained ensures that the foundation shall not settle more than that which is permissible as per BIS recommendations. The permissible settlement depends upon the type of superstructure and the nature of supporting strata.

The lesser of these computed values i.e.  $q_{ns}$  or  $q_n$  is adopted as the allowable bearing capacity for proportioning the foundation of superstructures.

**9. COMPUTATION OF ALLOWABLE BEARING CAPACITY**

**SHEAR FAILURE ANALYSIS**

Net Ultimate bearing capacity for general shear failure,

$$q_{nu} = c N_c S_c D_c + q (N_q - 1) S_q D_q + \frac{1}{2} B \gamma N_\gamma S_\gamma D_\gamma W' \quad \text{-----(1)}$$

Net Ultimate bearing capacity for local shear failure,

$$q_{nu} = \frac{2}{3} c N_c S_c D_c + q (N'_q - 1) S_q D_q + \frac{1}{2} B \gamma N'_\gamma S_\gamma D_\gamma W' \quad \text{-----(2)}$$



**Shape factors,****For Strip Footing**

$$S_c = 1 \quad ; \quad S_q = 1 \quad ; \quad S_y = 1$$

**For Rectangle Footing**

$$S_c = 1 + 0.2 B/L \quad ; \quad S_q = 1 + 0.2 B/L \quad ; \quad S_y = 1 - 0.4 B/L$$

**For Square Footing**

$$S_c = 1.3 \quad ; \quad S_q = 1.2 \quad ; \quad S_y = 0.8$$

**For Circular Footing**

$$S_c = 1.3 \quad ; \quad S_q = 1.2 \quad ; \quad S_y = 0.6$$

**Depth factors,**

$$d_c = 1 + 0.2 \times D/B \tan(45 + \Phi/2) \quad ; \quad d_q = d_y = 1 + 0.1 \times D/B \tan(45 + \Phi/2)$$

(For Cohesive soil,  $\Phi = 0$ )

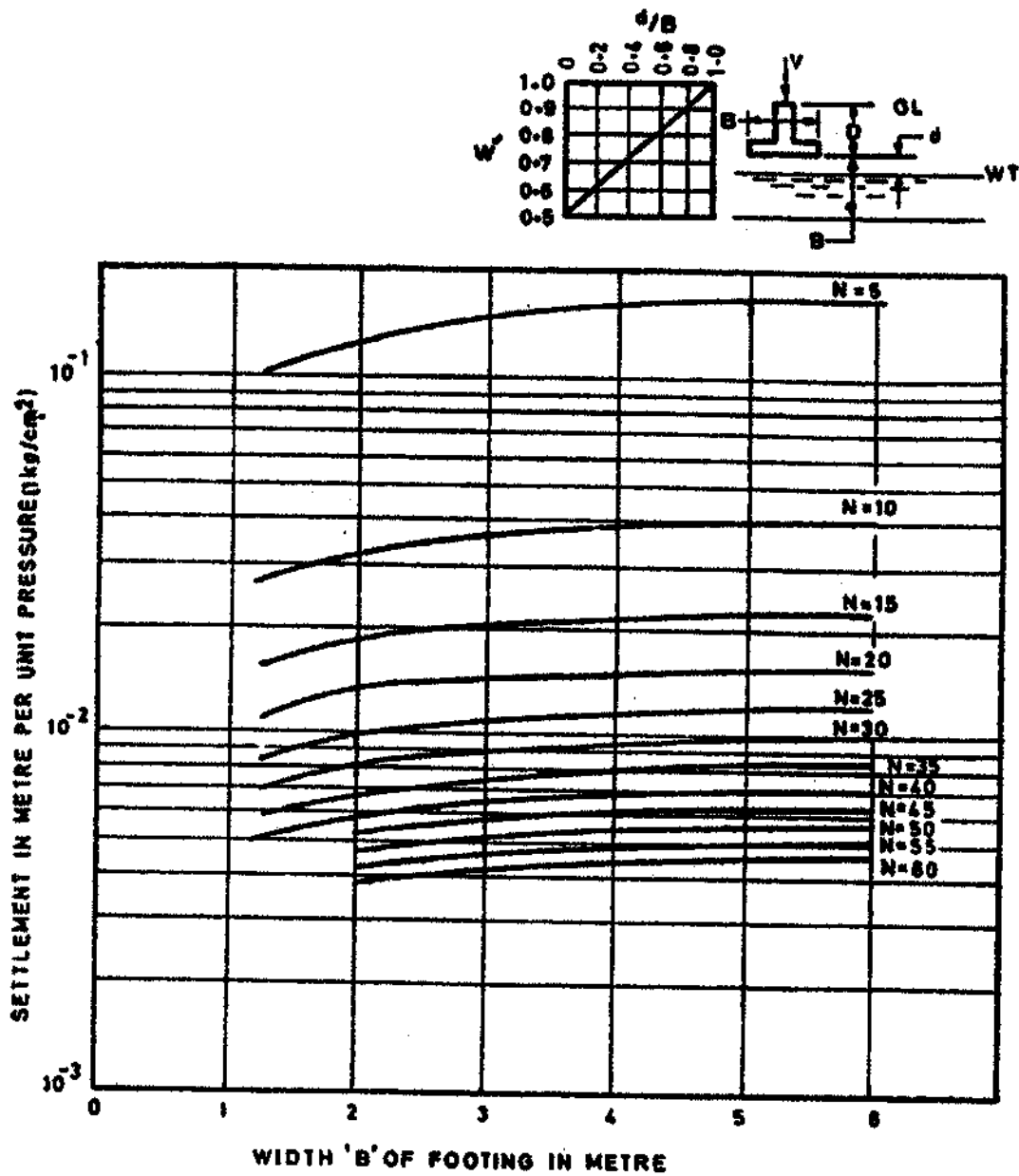
**Inclination Factors,**

$$i_c = 1.0 \quad ; \quad i_q = 1.0 \quad ; \quad i_y = 1.0$$

**SETTLEMENT ANALYSIS**

As per BIS recommendation permissible settlement for isolated column footing for RC structures on Cohesion less is 50 mm. Because of the erratic and pronounced variations of the compressibility characteristics of supporting strata, even slight differential settlement can cause distress to superstructure. As such differential settlement should be kept as low as possible. Depending upon the ability of the strata to absorb settlements, maximum permissible settlement is conservatively chosen so that resultant differential settlements do not cause distress to the superstructure. However to be on conservative side and based upon field observations, maximum permissible settlement of 40 mm has been adopted for present analysis.

Settlement for cohesion less strata is done as per figure no 9 IS code 8009 (part-1) -1976



GL = Ground level.

WT = Water table.

FIG. 9 SETTLEMENT PER UNIT PRESSURE FROM STANDARD PENETRATION RESISTANCE



**ISOLATED FOOTING (3.0 M X 2.0 M) - FOR BHL 40**

Depth of Footing, D = 1.50 m, 3.00 m & 4.50 m

Width of Footing, B = 2.0 m

Density,  $\gamma$  = 1.63 t/m<sup>3</sup>

Cohesion, C = 0.6 t/m<sup>2</sup>

Angle of shearing resistance,  $\Phi$  = 20.0°

Mobilizing angle of shearing resistance,  $\Phi'$  = 13.64°

**Bearing Capacity Factor:**

$N'_c$  = 10.26       $N'_q$  = 3.54       $N'_\gamma$  = 2.26

**Table 2: Shape & Depth Factor**

Depth of Footing	Shape Factors			Depth Factors			Surcharge (YxD), q (t/m <sup>2</sup> )	Water table correction factor, W'
	$S_c$	$S_q$	$S_\gamma$	$D_c$	$D_q$	$D_\gamma$		
1.50 m	1.13	1.13	0.73	1.214	1.107	1.107	2.45	1.00
3.00 m	1.13	1.13	0.73	1.428	1.214	1.214	4.89	1.00
4.50 m	1.13	1.13	0.73	1.642	1.321	1.321	7.34	1.00

Calculation of bearing capacity from local shear failure

Substituting values in equation,

$$q_{nu} = \frac{2}{3} c N_c S_c D_c + q (N'_q - 1) S_q D_q + \frac{1}{2} B \gamma N'_\gamma S_\gamma D_\gamma W'$$

$$q_{ns} = q_{nu} / \text{FOS} = q_{nu} / 2.5$$

**Table 3: Safe bearing capacity in Shear Criteria**

Foundation Size	Depth of Foundation	Net Ultimate Bearing Capacity, $q_{nu}$	Net Safe Bearing Capacity, $q_{ns}$
ISOLATED FOOTING 3.0m X 2.0m	1.50 m	16.40 t/m <sup>2</sup>	6.6 t/m <sup>2</sup>
	3.00 m	26.98 t/m <sup>2</sup>	10.8 t/m <sup>2</sup>
	4.50 m	39.07 t/m <sup>2</sup>	15.6 t/m <sup>2</sup>

**SETTLEMENT ANALYSIS**

Net Settlement from safe bearing capacity from Settlement criteria may be calculated from separately for foundation in cohesion less soil.

**Table 4: Settlement in Cohesion less soil**

Depth of Footing	AVG. N-VALUE	Net Safe bearing capacity, $q_{ns}$	Settlement in Cohesion less Soil, $\Delta_s$ (mm)	Total Settlement $\Delta$ (mm)
1.5 m	6.0	6.6 t/m <sup>2</sup>	45 x 6.6/10 = 29.70	29.7
3.0 m	8.0	10.8 t/m <sup>2</sup>	28 x 10.8/10 = 30.24	30.2
4.5 m	13.0	15.6 t/m <sup>2</sup>	18 x 15.6/10 = 28.08	28.1

Net Settlement,  $\Delta < 40$  mm, Hence safe



**ISOLATED FOOTING (2.0 M X 2.0 M) - FOR BHL 40**

Depth of Footing, D = 1.50 m, 3.00 m & 4.50 m

Width of Footing, B = 2.0 m

Density,  $\gamma$  = 1.63 t/m<sup>3</sup>

Cohesion, C = 0.6 t/m<sup>2</sup>

Angle of shearing resistance,  $\Phi$  = 20.0°

Mobilizing angle of shearing resistance,  $\Phi'$  = 13.64°

**Bearing Capacity Factor:**

N'<sub>c</sub> = 10.26      N'<sub>q</sub> = 3.54      N'<sub>y</sub> = 2.26

**Table 5: Shape & Depth Factor**

Depth of Footing	Shape Factors			Depth Factors			Surcharge (YxD), q (t/m <sup>2</sup> )	Water table correction factor, W'
	S <sub>c</sub>	S <sub>q</sub>	S <sub>y</sub>	D <sub>c</sub>	D <sub>q</sub>	D <sub>y</sub>		
1.50 m	1.30	1.20	0.80	1.214	1.107	1.107	2.45	1.00
3.00 m	1.30	1.20	0.80	1.428	1.214	1.214	4.89	1.00
4.50 m	1.30	1.20	0.80	1.642	1.321	1.321	7.34	1.00

Calculation of bearing capacity from local shear failure

Substituting values in equation,

$$q_{nu} = \frac{2}{3} c N_c S_c D_c + q (N'_q - 1) S_q D_q + \frac{1}{2} B \gamma N'_y S_y D_y W'$$

$$q_{ns} = q_{nu} / FOS = q_{nu} / 2.5$$

**Table 6: Safe bearing capacity in Shear Criteria**

Foundation Size	Depth of Foundation	Net Ultimate Bearing Capacity, q <sub>nu</sub>	Net Safe Bearing Capacity, q <sub>ns</sub>
ISOLATED FOOTING 2.0m X 2.0m	1.50 m	17.99 t/m <sup>2</sup>	7.2 t/m <sup>2</sup>
	3.00 m	29.30 t/m <sup>2</sup>	11.7 t/m <sup>2</sup>
	4.50 m	42.20 t/m <sup>2</sup>	17.0 t/m <sup>2</sup>

**SETTLEMENT ANALYSIS**

Net Settlement from safe bearing capacity from Settlement criteria may be calculated from separately for foundation in cohesion less soil.

**Table 7: Settlement In Cohesion less soil**

Depth of Footing	AVG. N-VALUE	Net Safe bearing capacity, q <sub>ns</sub>	Settlement in Cohesion less Soil, Δ <sub>s</sub> (mm)	Total Settlement Δ (mm)
1.5 m	6.0	7.2 t/m <sup>2</sup>	45 x 7.2/10 = 32.40	32.4
3.0 m	8.0	11.7 t/m <sup>2</sup>	28 x 11.7/10 = 32.76	32.8
4.5 m	13.0	17.0 t/m <sup>2</sup>	18 x 17/10 = 30.60	30.6

**Net Settlement, Δ < 40 mm, Hence safe**



**10. ESTIMATION OF MODULUS OF SUBGRADE REACTION (K-VALUE)**

Modulus of Sub grade Reaction (k) is required for foundation & Calculated by Westergads method and is estimated from Plate Load Test data.

Standard plate size for finding 'k' value is 75 cm size, the standard 'k' value corresponding to 30 cm plate is found by applying a suitable correction for plate size.

By equation,

$$K = 10p/1.25 \text{ Kg/cm}^2 / \text{cm}$$

Where,

'K' = Modulus of Sub grade Reaction

'p' = load intensity required for settlement of 1.25mm from load-settlement curve

Correction for plate size:

$$\Delta = 1.18 \text{ pa/E} \quad (\text{Elastic theory})$$

Where,

$\Delta$  = Deflection

E = Elasticity constant of soil

Now,

$$\frac{p}{\Delta} = k = E/1.18A$$

$$k A = E/1.18 = \text{Constant}$$

Therefore,  $k_1 A_1 = k_2 A_2$

$$k_{75} = k_{30} \times A_{30}/A_{75}$$

$$k_{75} = 0.16 k_{30}$$

Calculation of Modulus of Sub grade Reaction from field results

For PLT 1/1

$$\text{load intensity, } p \text{ (from 1.25mm settlement)} = 1.96 \text{ kg}$$

$$k_{30} = 10 p/1.25 = 1.96 \times 10/1.25 = 15.68 \text{ kg/cm}^2 / \text{cm}$$

$$k_{75} = 0.16 k_{30} = 2.509 \text{ kg/cm}^2 / \text{cm}$$

Calculation for other PLT tests have been conducted in tabular form in Annexure -1



**11. RECOMMENDATIONS**

Recommended bearing capacity for different types of foundation may be assumed as follow:

**Table 8: Recommendations**

S.No	BHL No.	Type of foundation	At 1.5 m depth		At 3.0 m depth		At 4.5 m depth	
			( $q_a$ ) <sub>net</sub> (t/m <sup>2</sup> )	( $q_a$ ) <sub>gross</sub> (t/m <sup>2</sup> )	( $q_a$ ) <sub>net</sub> (t/m <sup>2</sup> )	( $q_a$ ) <sub>gross</sub> (t/m <sup>2</sup> )	( $q_a$ ) <sub>net</sub> (t/m <sup>2</sup> )	( $q_a$ ) <sub>gross</sub> (t/m <sup>2</sup> )
1.	BHL NO-1	Isolated Footing	8.1	10.6	13.4	18.5	19.4	27.0
2.	BHL NO-2	Isolated Footing	11.5	14.0	16.8	21.8	22.6	30.1
3.	BHL NO-3	Isolated Footing	10.5	13.0	16.1	21.2	22.2	29.8
4.	BHL NO-4	Isolated Footing	8.4	11.0	12.7	17.7	17.6	25.1
5.	BHL NO-5	Isolated Footing	9.6	12.0	14.3	19.2	19.6	26.8
6.	BHL NO-6	Isolated Footing	9.0	11.5	14.3	19.4	20.5	28.1
7.	BHL NO-7	Isolated Footing	7.0	9.5	11.3	16.2	16.2	23.6
8.	BHL NO-8	Isolated Footing	8.8	11.3	14.6	19.6	21.2	28.6
9.	BHL NO-9	Isolated Footing	9.4	12.0	15.8	20.9	23.2	30.8
10.	BHL NO-10	Isolated Footing	9.4	12.0	15.3	20.3	22.1	29.7
11.	BHL NO-11	Isolated Footing	8.5	11.0	16.1	21.0	25.0	32.4
12.	BHL NO-12	Isolated Footing	9.2	11.7	17.5	22.4	27.1	34.5
13.	BHL NO-13	Isolated Footing	8.5	11.0	16.0	20.9	25.0	32.3
14.	BHL NO-14	Isolated Footing	9.0	11.5	14.2	19.2	20.2	27.7
15.	BHL NO-15	Isolated Footing	6.5	9.0	12.3	17.5	19.0	26.4
16.	BHL NO-16	Isolated Footing	7.4	9.8	12.0	16.8	17.3	24.5
17.	BHL NO-17	Isolated Footing	9.6	12.0	15.8	20.7	23.0	30.3
18.	BHL NO-18	Isolated Footing	8.8	11.3	15.0	20.0	22.2	29.7
19.	BHL NO-19	Isolated Footing	8.5	11.0	14.3	19.3	21.0	28.6
20.	BHL NO-20	Isolated Footing	7.4	10.0	12.0	17.0	17.0	24.5
21.	BHL NO-21	Isolated Footing	6.5	9.0	12.4	17.4	19.1	26.7
22.	BHL NO-22	Isolated Footing	7.5	10.0	13.0	17.9	19.4	26.8
23.	BHL NO-23	Isolated Footing	7.8	10.3	14.8	19.7	23.0	30.4
24.	BHL NO-24	Isolated Footing	6.6	9.1	12.5	17.5	19.4	27.0
25.	BHL NO-25	Isolated Footing	7.5	10.0	12.5	17.4	18.3	25.6
26.	BHL NO-26	Isolated Footing	8.0	10.5	12.7	17.6	18.1	25.5
27.	BHL NO-27	Isolated Footing	7.1	9.6	11.8	16.8	17.1	24.6
28.	BHL NO-28	Isolated Footing	7.5	10.0	12.0	17.1	17.1	24.7
29.	BHL NO-29	Isolated Footing	7.0	9.5	11.4	16.4	16.5	24.0

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S.No	BHL NO	Type of Foundation	At 1.5 m depth		At 3.0 m depth		At 4.5 m depth	
			$(q_a)_{net}$ (t/m <sup>2</sup> )	$(q_a)_{gross}$ (t/m <sup>2</sup> )	$(q_a)_{net}$ (t/m <sup>2</sup> )	$(q_a)_{gross}$ (t/m <sup>2</sup> )	$(q_a)_{net}$ (t/m <sup>2</sup> )	$(q_a)_{gross}$ (t/m <sup>2</sup> )
30.	BHL NO-30	Isolated Footing	9.0	11.5	14.2	19.2	20.2	27.7
31.	BHL NO-31	Isolated Footing	8.1	10.6	13.2	18.2	19.2	26.7
32.	BHL NO-32	Isolated Footing	8.7	11.2	15.0	19.9	22.0	29.4
33.	BHL NO-33	Isolated Footing	7.7	10.2	12.8	17.8	18.6	26.1
34.	BHL NO-34	Isolated Footing	8.6	11.0	13.5	18.4	19.0	26.3
35.	BHL NO-35	Isolated Footing	7.4	9.9	11.8	16.8	17.0	24.5
36.	BHL NO-36	Isolated Footing	7.3	9.8	13.7	18.7	21.3	28.8
37.	BHL NO-37	Isolated Footing	8.1	10.6	13.2	18.2	19.2	26.7
38.	BHL NO-38	Isolated Footing	9.5	12.0	15.5	20.5	22.7	30.1
39.	BHL NO-39	Isolated Footing	8.8	11.3	14.0	18.9	20.0	27.4
40.	BHL NO-40	Isolated Footing	6.6	9.0	10.8	15.7	15.6	22.9
41.	BHL NO-41	Isolated Footing	7.8	10.3	11.8	16.8	16.2	23.7
42.	BHL NO-42	Isolated Footing	8.1	10.5	13.8	18.8	20.3	27.9
43.	BHL NO-43	Isolated Footing	8.5	11.0	13.8	18.8	19.8	27.4
44.	BHL NO-44	Isolated Footing	8.0	10.5	15.0	20.0	23.2	30.7
45.	BHL NO-45	Isolated Footing	7.2	9.7	13.6	18.6	21.0	28.4
46.	BHL NO-46	Isolated Footing	9.3	11.8	15.6	20.6	23.0	30.5

**NOTE:**

1. The area under investigation falls under seismic zone- IV as per India seismic code.
2. It is also suggested that the backfilling of the foundation soil should be well compacted inlayer at optimum moisture content to achieve at least 95% of proctor density, followed by suitable plinth protection & effective drainage system.
3. For any other size and depth of footing bearing capacity of soil can be calculated from the data provided.



*[Signature]*  
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**LIST OF I.S. CODES****FIELD INVESTIGATION:**

1.	IS : 1498 - 1970	:	Classification and Identification of soils for general engineering purpose (First Revision).
2.	IS : 1892 - 1979	:	Code of practice for sub surface investigation for foundations (First Revision).
3.	IS : 2131 - 1981	:	Method of Standard Penetration Tests for soils.
4.	IS : 2132 - 1986	:	Code of practice for thin walled tube sampling of soils (Second Revision).
5.	IS : 4968 - 1976 (Part - 3)	:	Method of sub surface sounding for soils : Static cone penetration test.

**LABORATORY TESTS:**

1.	IS 2720 - 1983 (Part - 1)	:	Methods of test for soils : Preparation of dry soil sample for various tests (Second Revision).
2.	IS : 2720 - 1980 (Part - 2)	:	Method of test for soils : Determination of water content (Second Revision).
3.	IS : 2720 - 1980 (Part - 3) (Section - 1)	:	Method of test for soils : Determination of Specific Gravity : Fine Grained Soils.
4.	IS : 2720 - 1980 (Part - 3) (Section - 2)	:	Method of test for soils : Determination of Specific Gravity : Fine, Medium, Coarse Grained Soils (First Edition).
5.	IS : 2720 - 1985 (Part - 4)	:	Method of test for soils : Grain Size Analysis.
6.	IS : 2720 - 1985 (Part - 5)	:	Method of test for soils : Determination of liquid & plastic limit (Second Revision).
7.	IS : 2720 - 1986 (Part - 15)	:	Method of test for soils : Determination of consolidation properties (First Revision).
8.	IS : 2809 - 1972	:	Method of test for soils : Glossary of terms & symbols relating to soil engineering.



**FOUNDATION CONSTRUCTION:**

1.	IS : 1080 - 1986	:	Code of practice for design and construction of shallow foundations on soils (other than raft, ring and shell) (Second Revision).
2.	IS : 1904 - 1986	:	Code of practice for design and construction of foundation in soils : General requirements.
3.	IS : 1080 - 1986	:	Code of practice for design and construction of shallow foundations on soils (other than raft, ring and shell) (Second Revision).
4.	IS 6403 - 1981	:	Code of practice for determination of bearing capacity of shallow foundations.
5.	IS 8009 - 1976 (Part - 1)	:	Code of practice for calculations of settlements of foundations : shallow foundations subject to symmetrical static vertical loads.

**NOTATIONS USED**

N	=	Observed SPT value
$C_N$	=	Correction factor
$N_N$	=	Corrected SPT values
Y	=	Bulk unit weight
Y'	=	Submerged unit weight
$Y_d$	=	Dry unit weight
$Y_{sat}$	=	Saturated unit weight
G	=	Specific gravity of soil
$W_L$	=	Liquid limit
$W_p$	=	Plastic limit
$I_p$	=	Plasticity index
$Q_u$	=	Unconfined compressive strength
$C_u$	=	Undrained shear strength
C	=	Effective cohesion parameter
$\phi$	=	Effective angle of shearing resistance
$\phi_m$	=	Mobilized angle of shearing resistance
$N \phi$	=	Flow value $\tan^2 (45 + \phi / 2)$
GSF	=	General shear failure
LSF	=	Local shear failure
$C_c$	=	Compression index
B	=	Width of foundation
L	=	Length of foundation
D	=	Depth of foundation
q	=	Effective surcharge
$N_y, N_q, \& N_c$	=	Bearing capacity factors
$S_y, S_q, \& S_c$	=	Shape factors
$d_y, d_q, \& d_c$	=	Depth factors

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S.S.W.L.	=	Sub soil water level
W'	=	W.T. correction factor
H	=	Thickness of clayey layer
$\sigma'_o$	=	Original effective overburden pressure
$\Delta \sigma$	=	Vertical stress increment
$e_o$	=	Original void ratio
w	=	Water content
$H_t$	=	Thickness of sandy layer
$B_t$	=	Top width of sandy layer
$\Delta \sigma_t$	=	Stress increment at the top of a sandy layer
$D_r$	=	Depth factor
$L_{yf}$	=	Lateral yield factor
$R_r$	=	Rigidity factor
$q_{nr}$	=	Net ultimate bearing capacity
$q_{ns}$	=	Net safe bearing capacity against shear failure
$q_n$	=	Net foundation loading intensity for a given settlement
$q_a$	=	Allowable bearing capacity
$S_o$	=	Settlement due to a net unit foundation loading intensity
$S_{ob}$	=	Settlement due to a net unit foundation loading intensity under submerged conditions (1Kg / cm <sup>2</sup> )
WT	=	Water table
$S_t$	=	Total settlement
$S_a$	=	Maximum allowable settlement
GW	=	Well graded gravels
GP	=	Poorly graded gravels
GM	=	Silty gravels
GC	=	Clayey gravels
SW	=	Well graded sands

GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



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## \*\*SOIL INVESTIGATION TEST REPORT\*\*

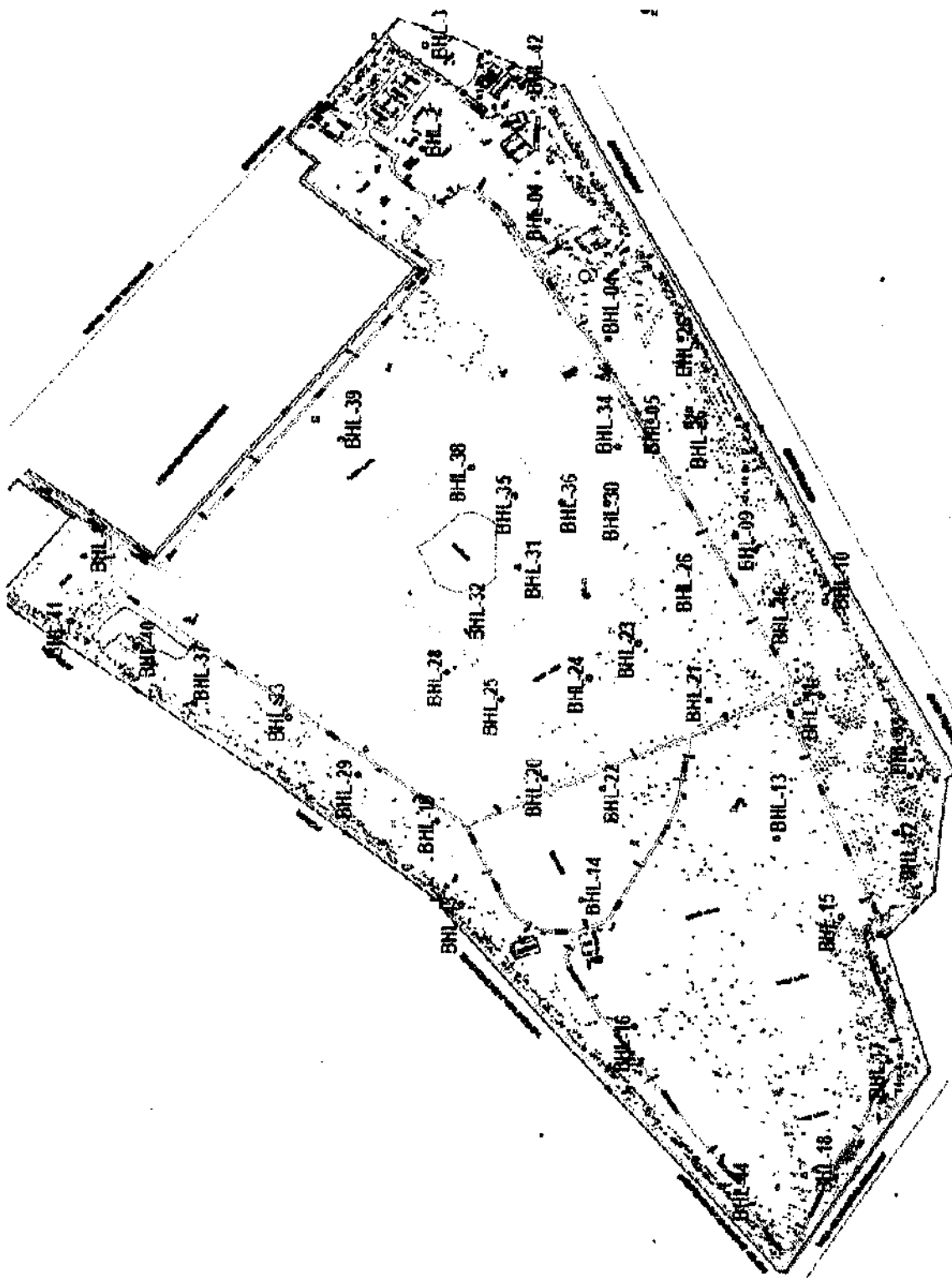
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SP	=	Poorly graded sands
SM	=	Silty sands
SC	=	Clayey sands
ML	=	Silt of low compressibility
CL	=	Clay of low plasticity
MI	=	Silt of medium compressibility
CI	=	Clay of medium plasticity
MH	=	Silt of high compressibility
CH	=	Clay of high plasticity
M(NP)	=	Non plastic silt
ML-CL	=	Mixture of ML and CL



**BOREHOLE LOCATION**



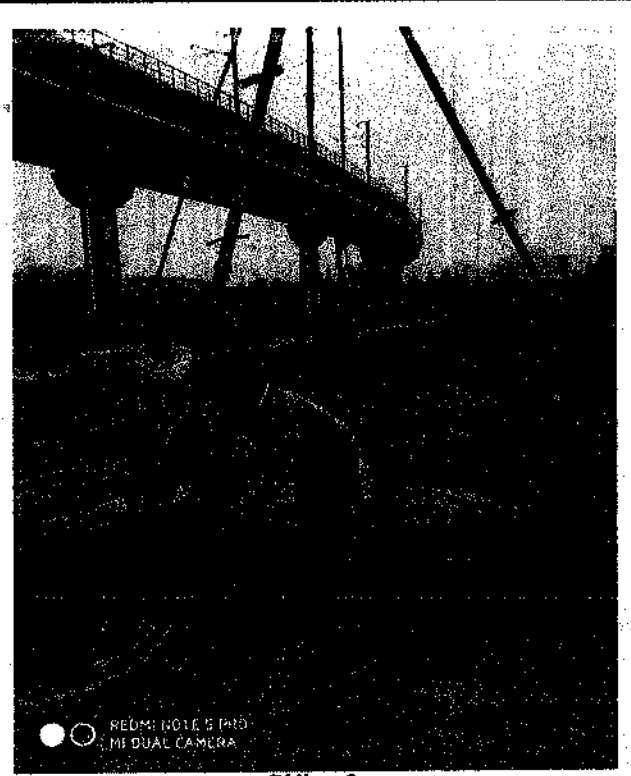
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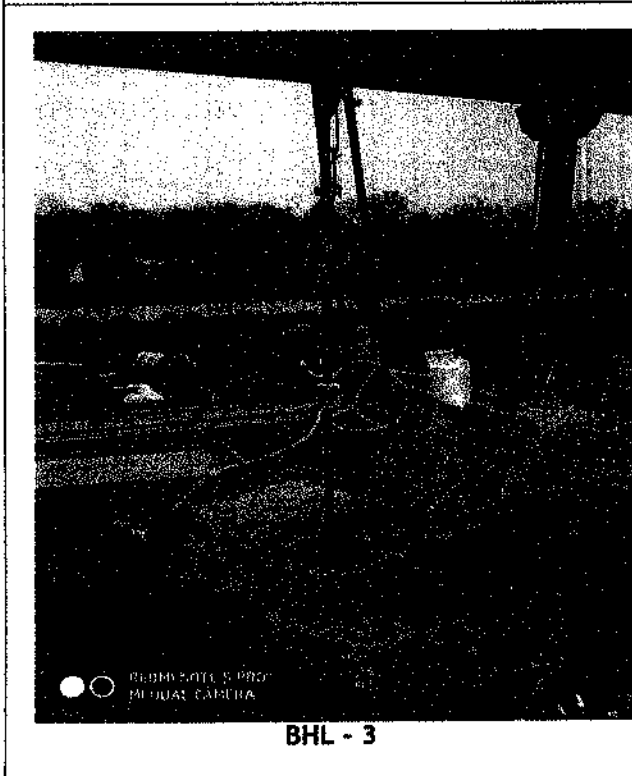
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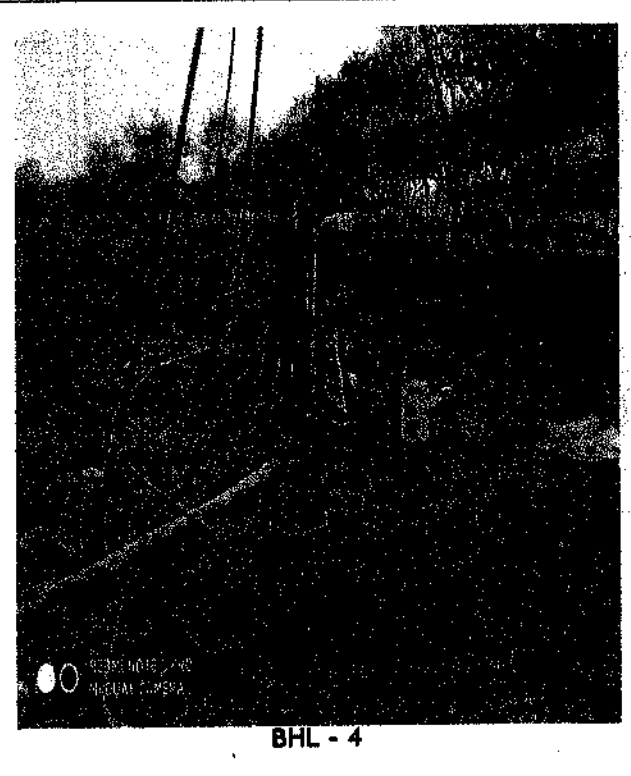
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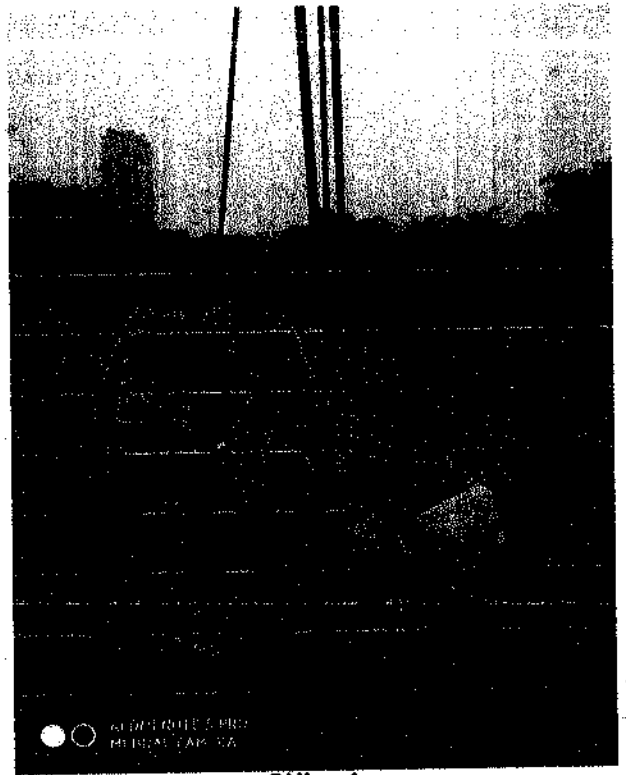
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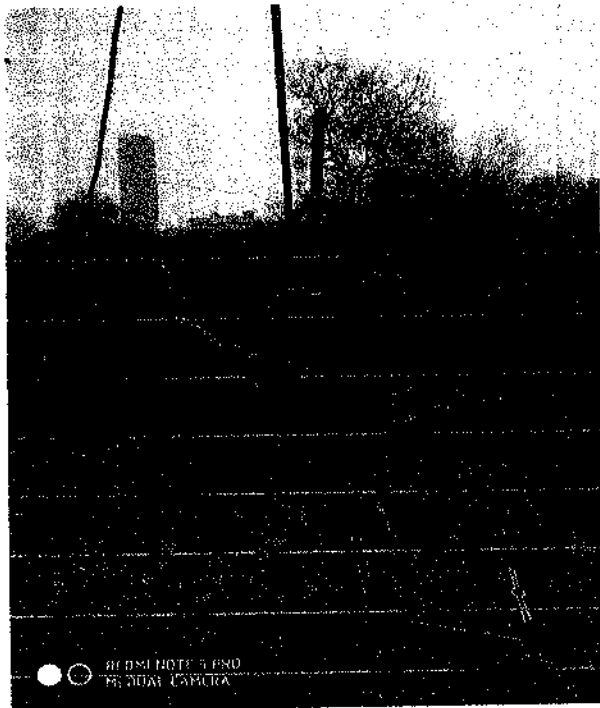
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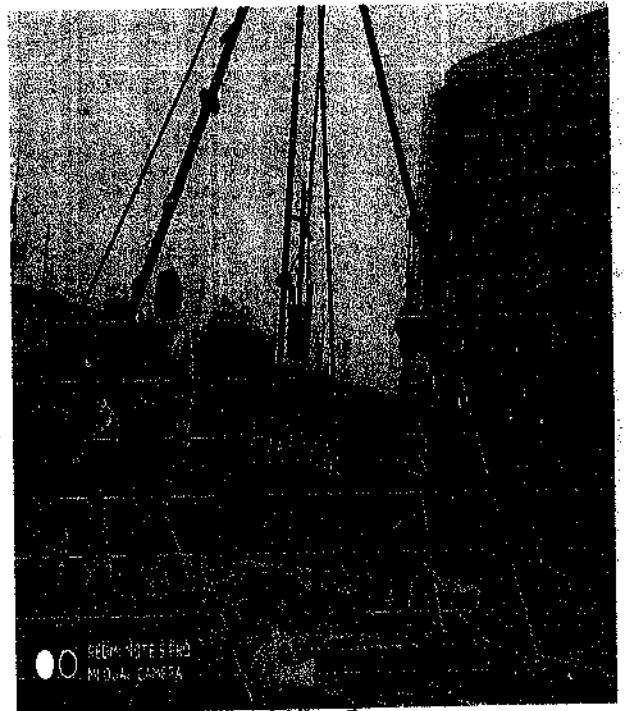
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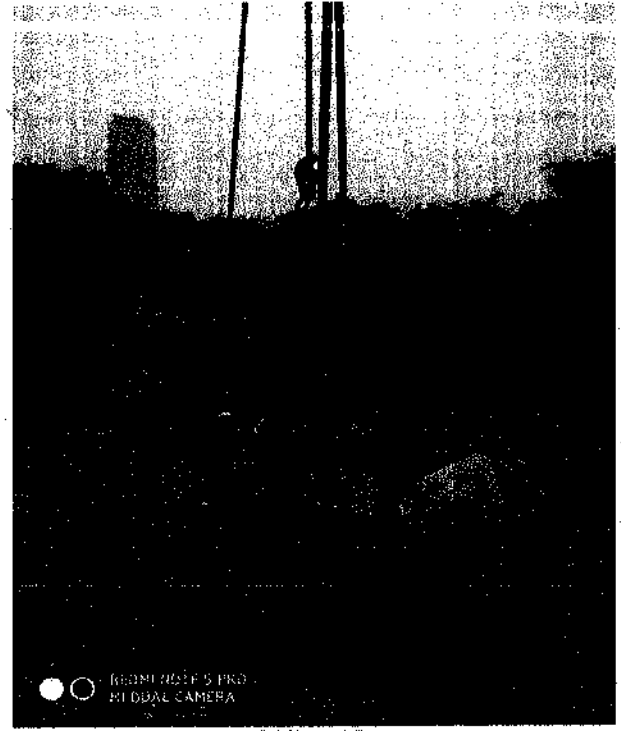
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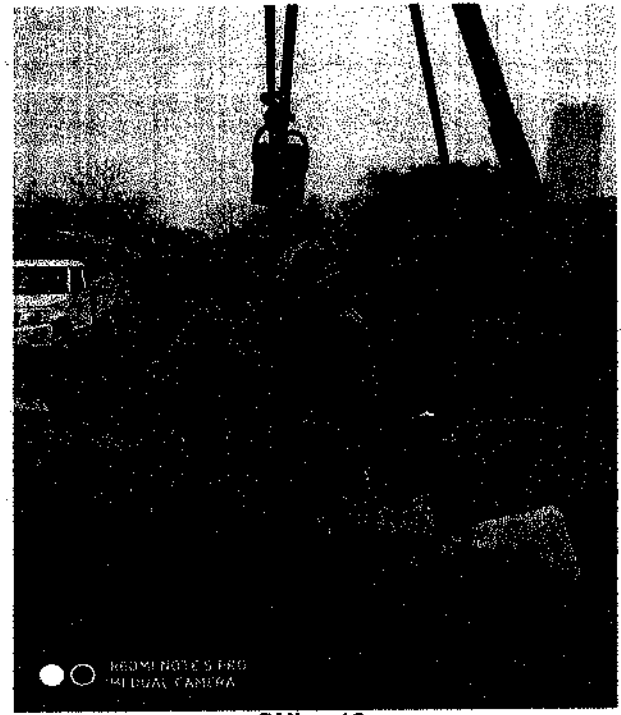
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**BHL - 10**



**BHL - 11**



**BHL - 12**





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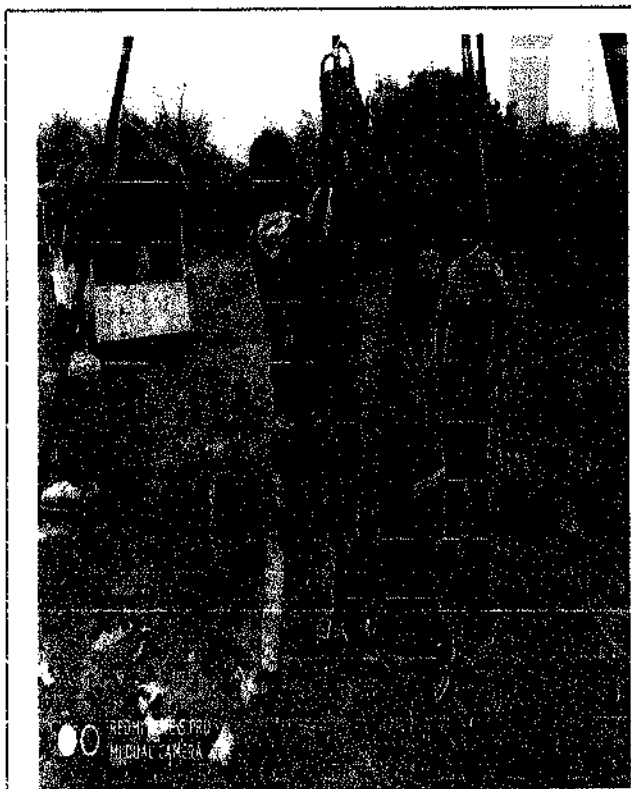
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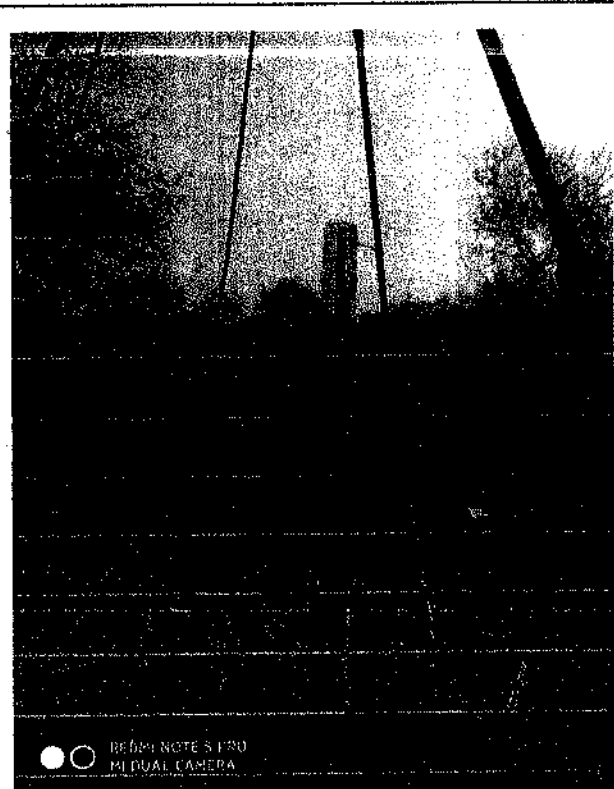
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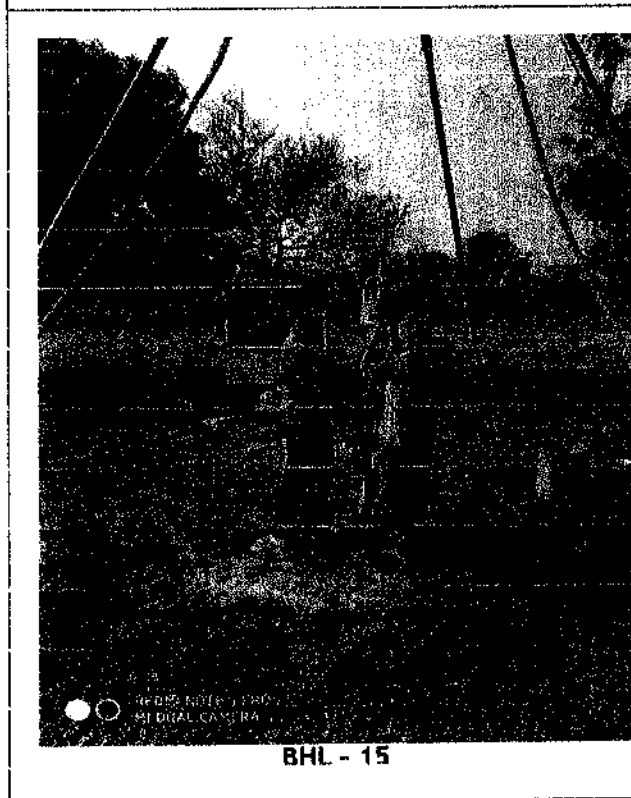
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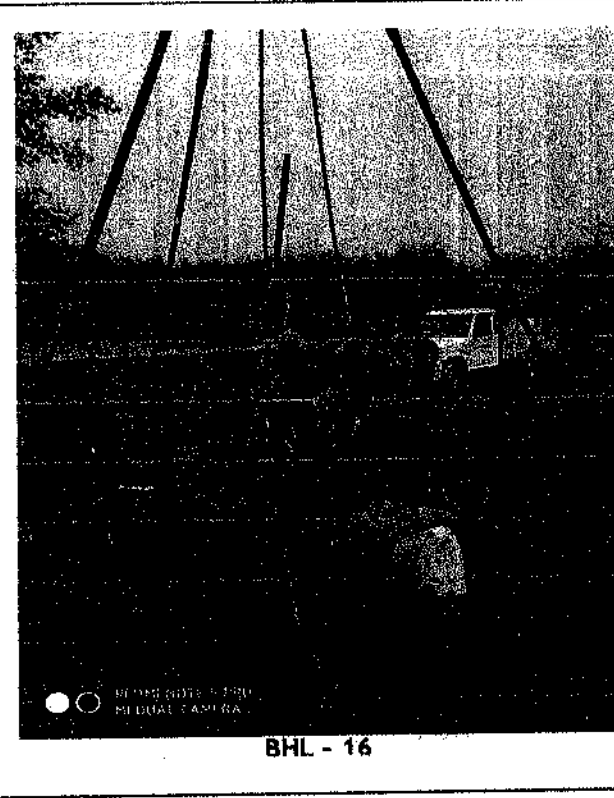
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BHL - 14



BHL - 15



BHL - 16

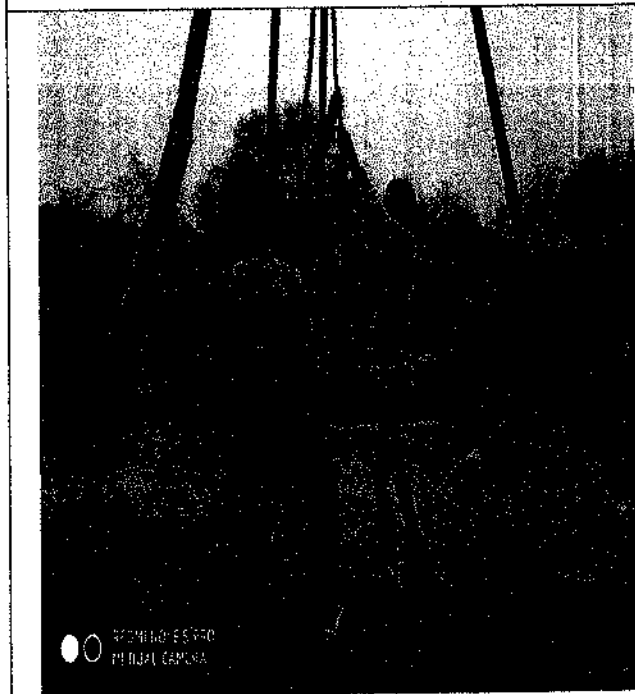
GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



**BHL - 17**



**BHL - 18**



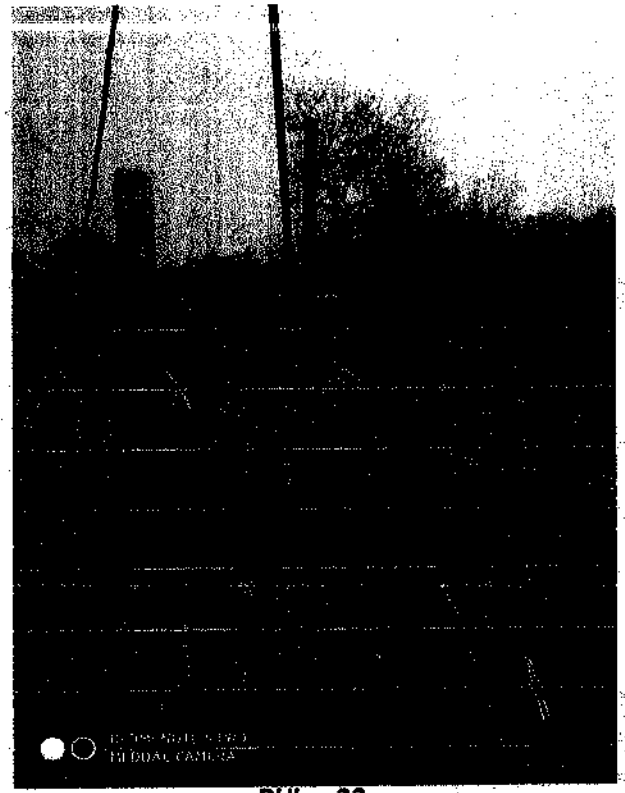
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**BHL - 20**



**BHL - 21**



**BHL - 22**



**BHL - 23**



**BHL - 24**



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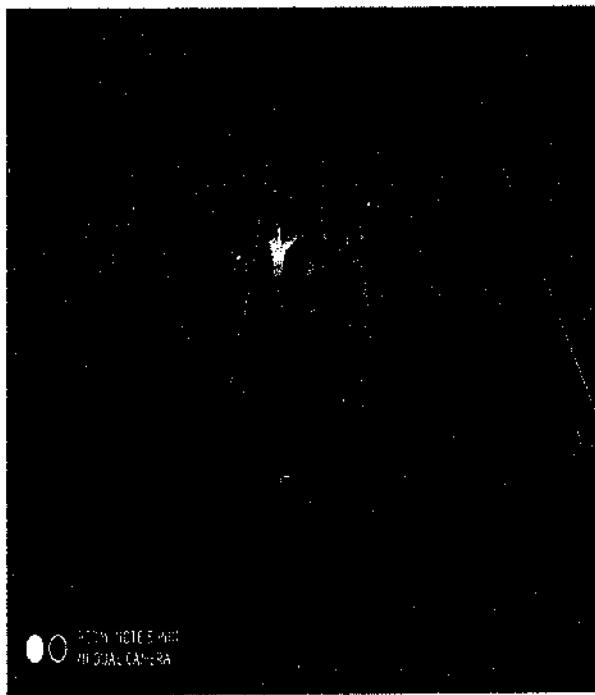
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BHL - 25



BHL - 26



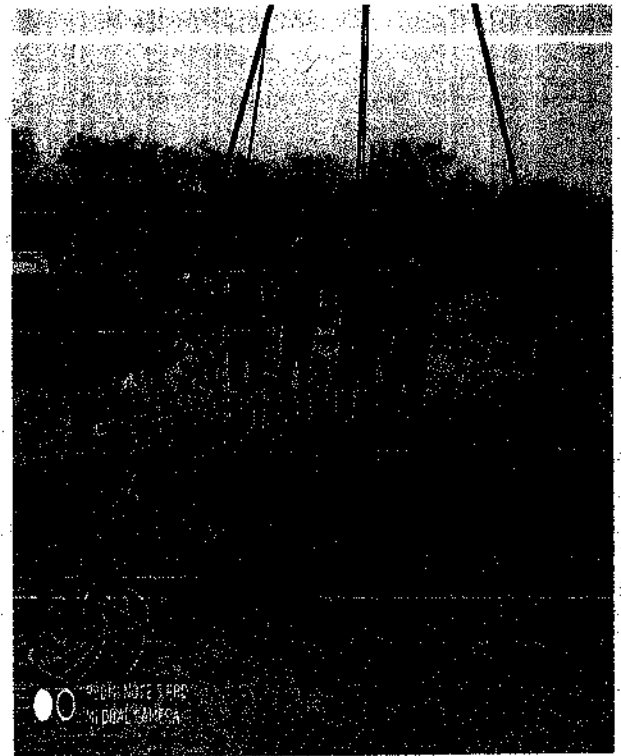
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BHL - 28



**BHL - 29**



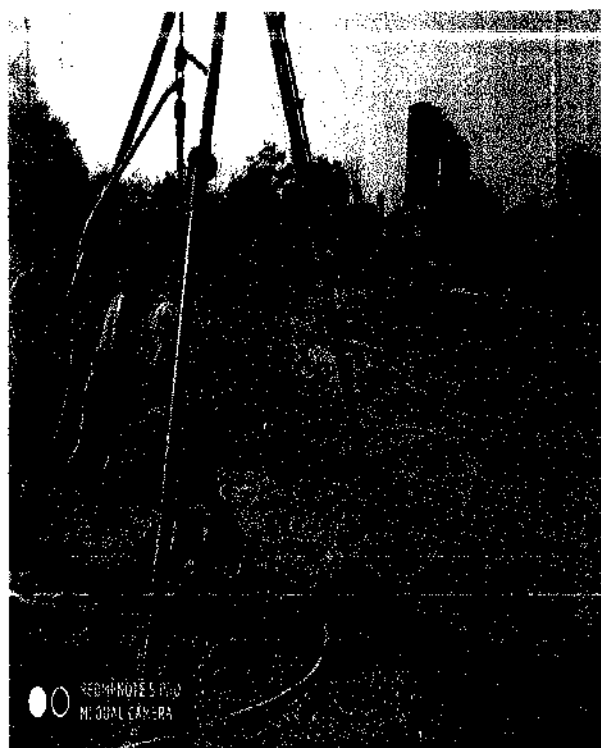
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**BHL - 31**



**BHL - 32**



**BHL - 33**



**BHL - 34**



**BHL - 35**



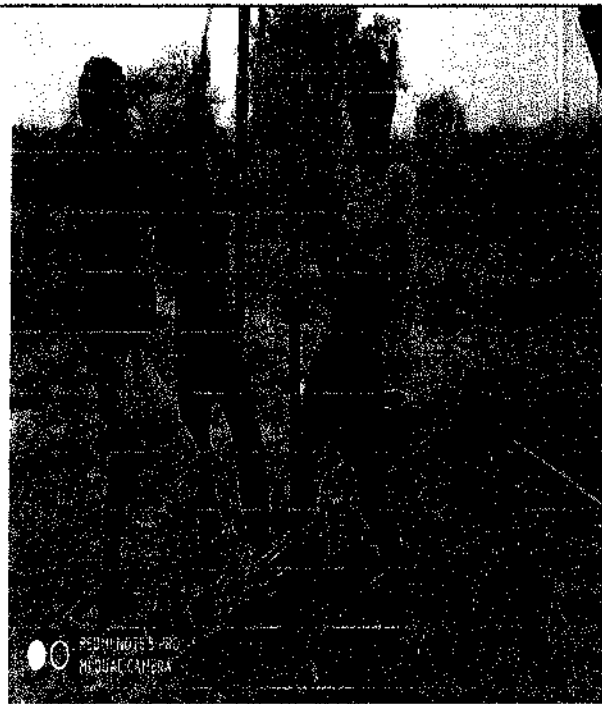
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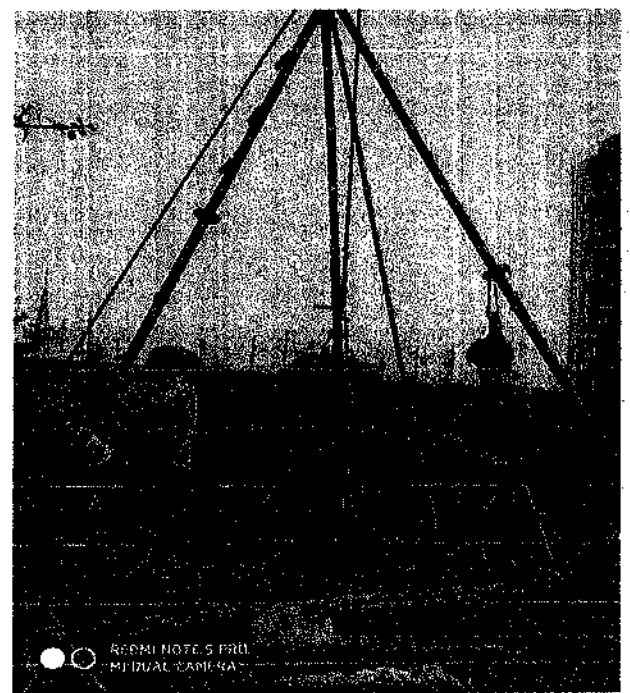
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**BHL - 38**



**BHL - 39**



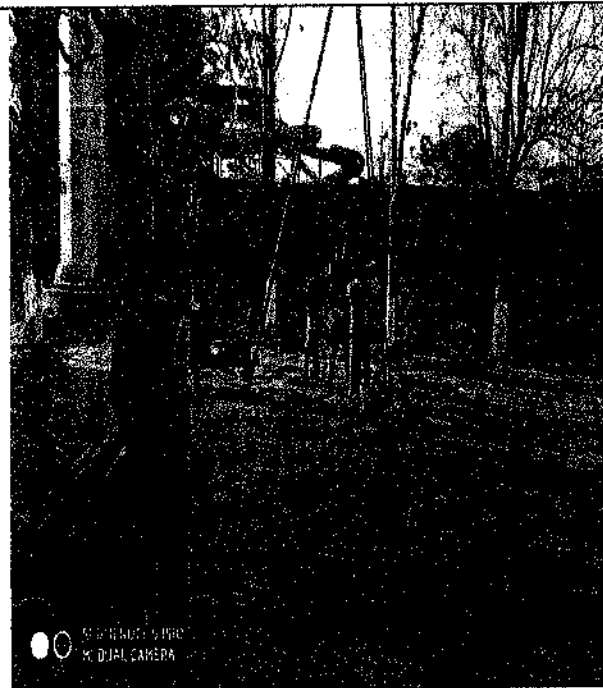
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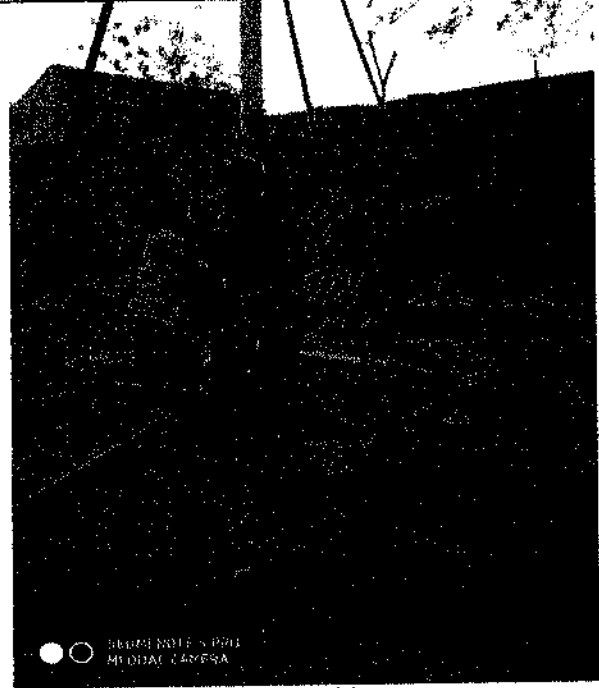
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**BHL - 42**



**BHL - 43**



**BHL - 44**

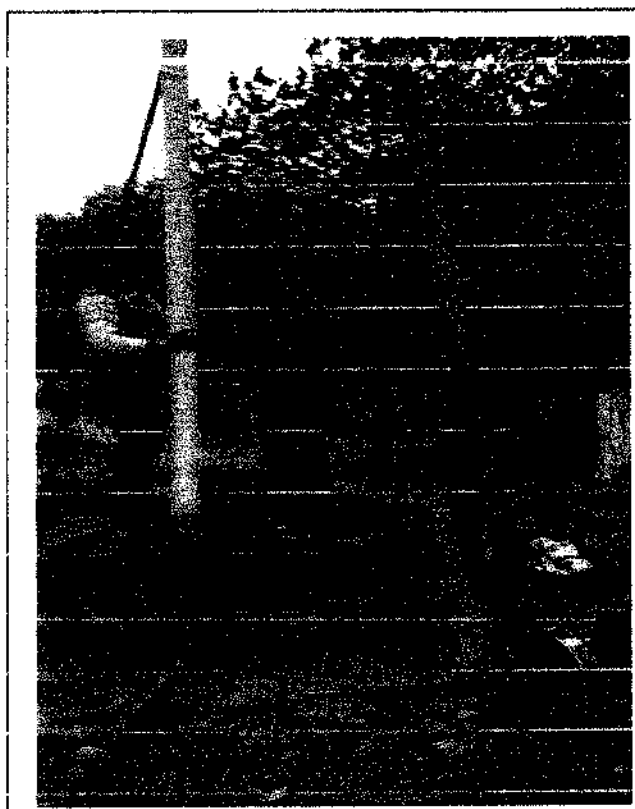




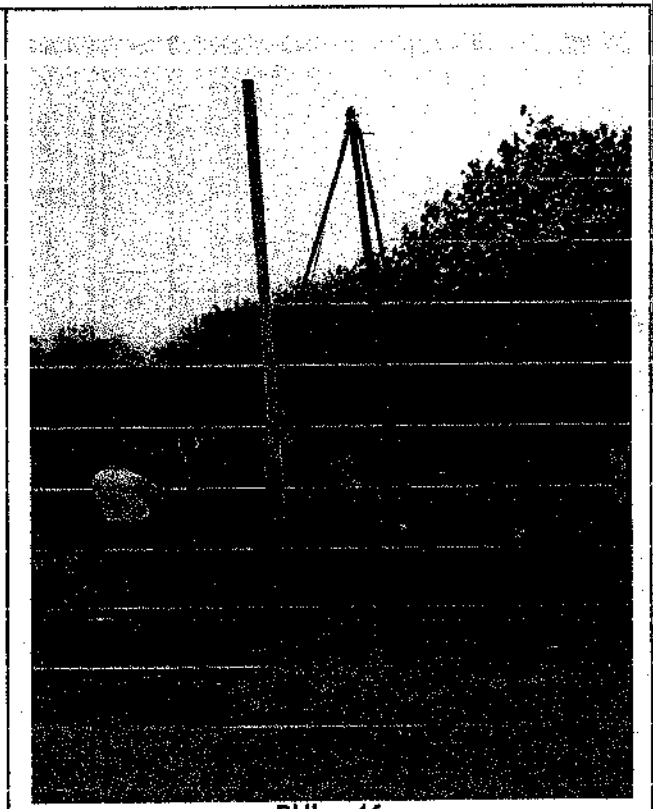
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**BHL - 45**



**BHL - 46**

**ANNEXURE 1  
PLATE LOAD TEST RESULTS**

S.No	Test Location	Depth	Load Intensity, p (tn)	K <sub>30</sub> , Kg/cm <sup>2</sup> /cm	K <sub>75</sub> , Kg/cm <sup>2</sup> /cm
1.	PLT-1/1	1.5 m	1.96	15.68	2.50
2.	PLT-1/2	2.5 m	2.36	18.88	3.02
3.	PLT-1/3	3.5 m	2.69	21.52	3.44
4.	PLT-2/1	1.5 m	2.07	16.56	2.64
5.	PLT-2/2	2.5 m	3.42	27.40	4.38
6.	PLT-2/3	3.5 m	4.13	33.10	5.28
7.	PLT-3/1	1.5 m	1.61	12.90	2.06
8.	PLT-3/2	2.5 m	1.97	15.8	2.52
9.	PLT-3/3	3.5 m	3.87	31.0	4.95
10.	PLT-4/1	1.5 m	2.28	18.3	2.92
11.	PLT-4/2	2.5 m	2.18	17.5	2.80
12.	PLT-4/3	3.5 m	3.79	30.4	4.85
13.	PLT-5/1	1.5 m	2.23	17.9	2.85
14.	PLT-5/2	2.5 m	3.22	25.8	4.13
15.	PLT-5/3	3.5 m	2.74	21.9	3.50
16.	PLT-6/1	1.5 m	2.32	18.6	2.97
17.	PLT-6/2	2.5 m	2.63	21.1	3.37
18.	PLT-6/3	3.5 m	2.77	22.2	3.55



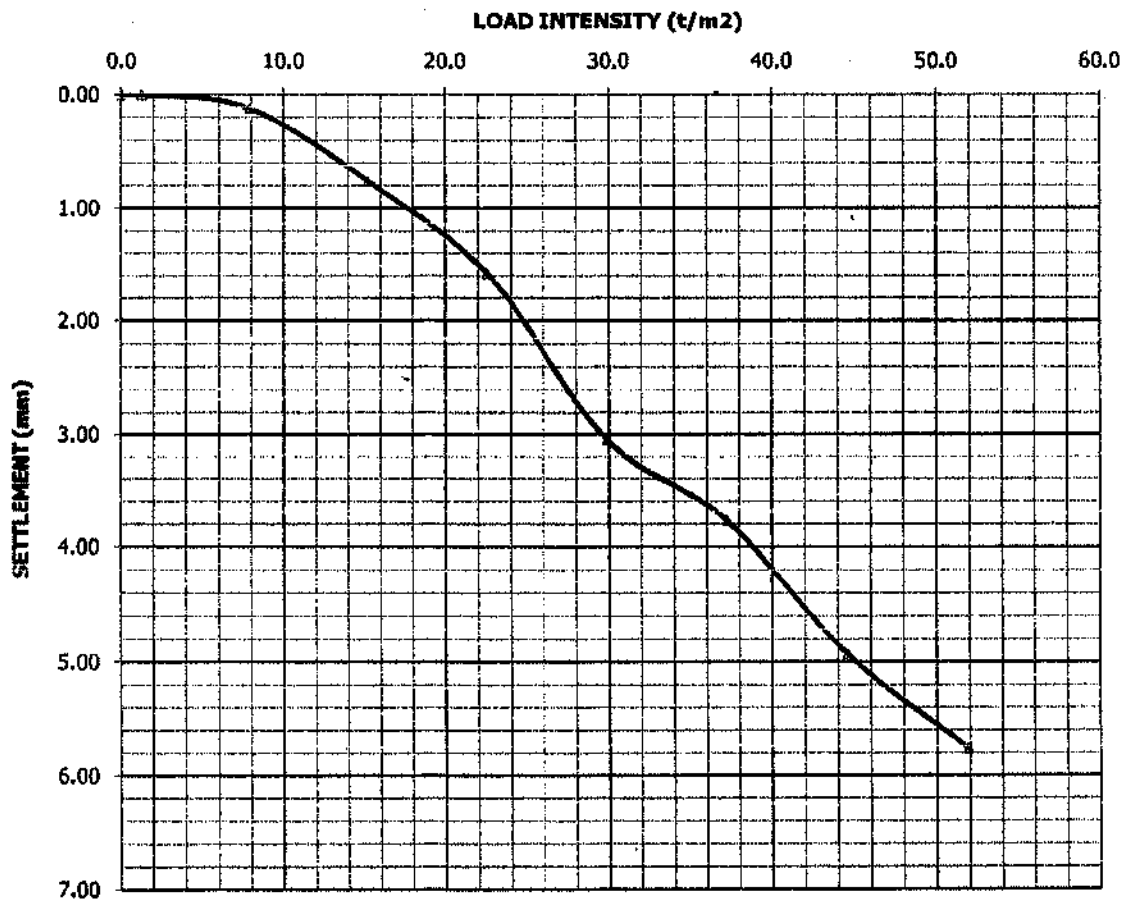
PIT NO-1

TEST NO-1/1

DEPTH-1.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	10	13	12
1320	15.22	67	85	76
1980	22.56	152	163	158
2640	29.89	300	310	305
3300	37.22	380	374	377
3960	44.56	437	548	493
4620	51.89	538	614	576

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





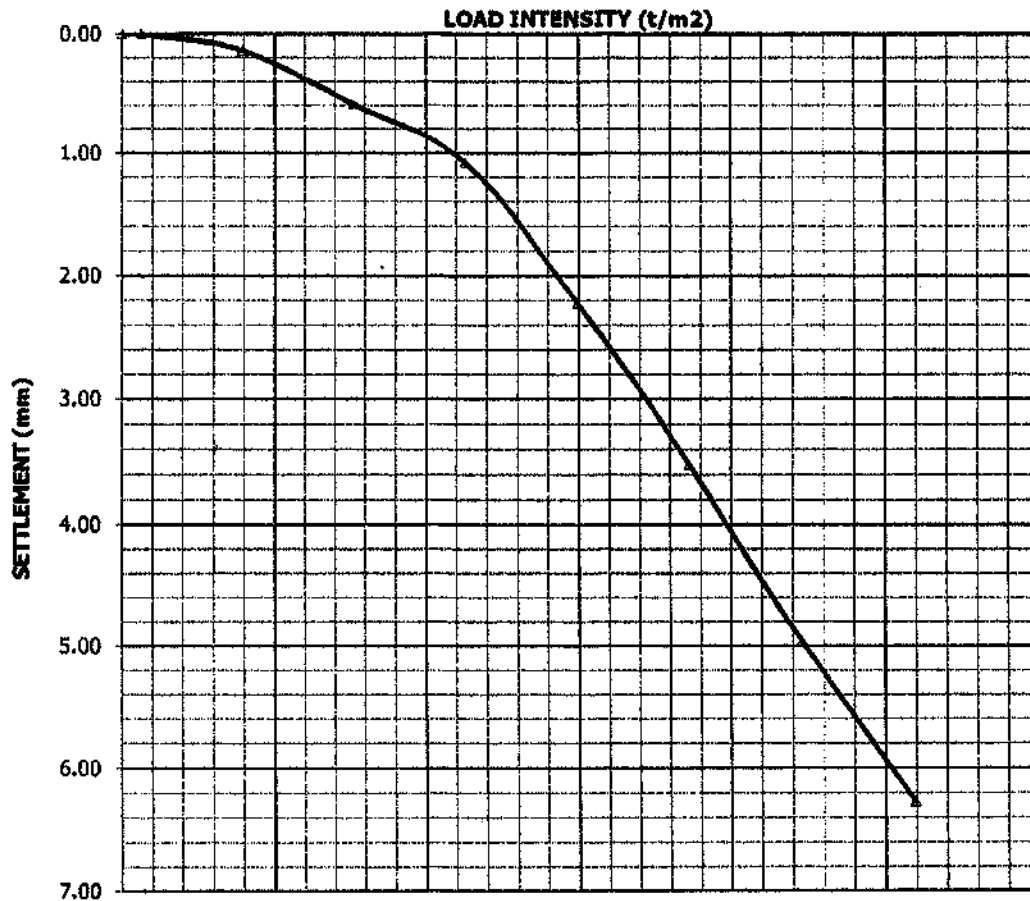
**PIT NO-1**

**TEST NO-1/2**

**DEPTH-2.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	11	16	14
1320	15.22	56	62	59
1980	22.56	103	112	108
2640	29.89	210	234	222
3300	37.22	346	358	352
3960	44.56	477	514	496
4620	51.89	590	663	627

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





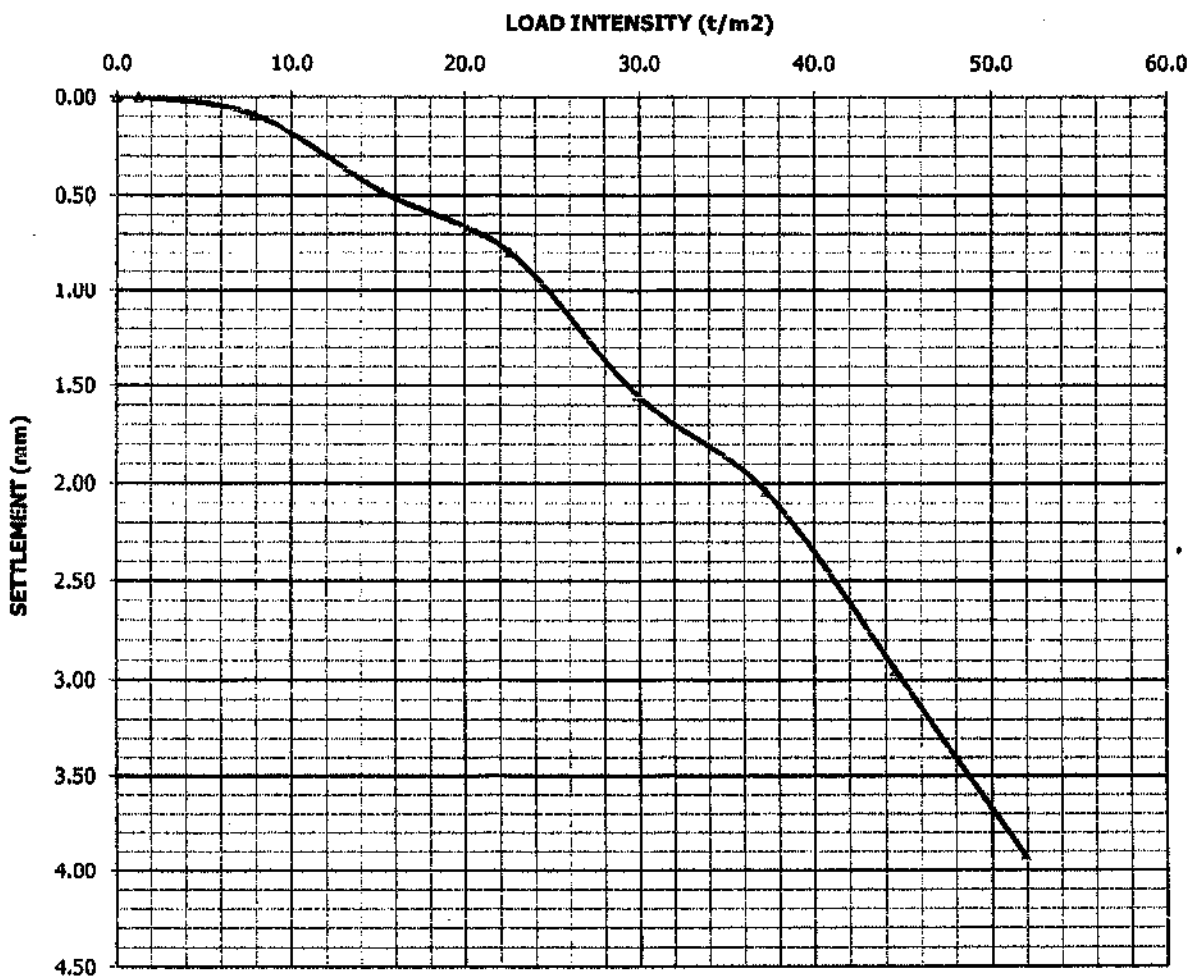
PIT NO-1

TEST NO-1/3

DEPTH-3.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	7	10	9
1320	15.22	43	52	48
1980	22.56	78	82	80
2640	29.89	146	163	155
3300	37.22	199	208	204
3960	44.56	278	312	295
4620	51.89	398	388	393

LOAD INTENSITY v/s SETTLEMENT PLOT





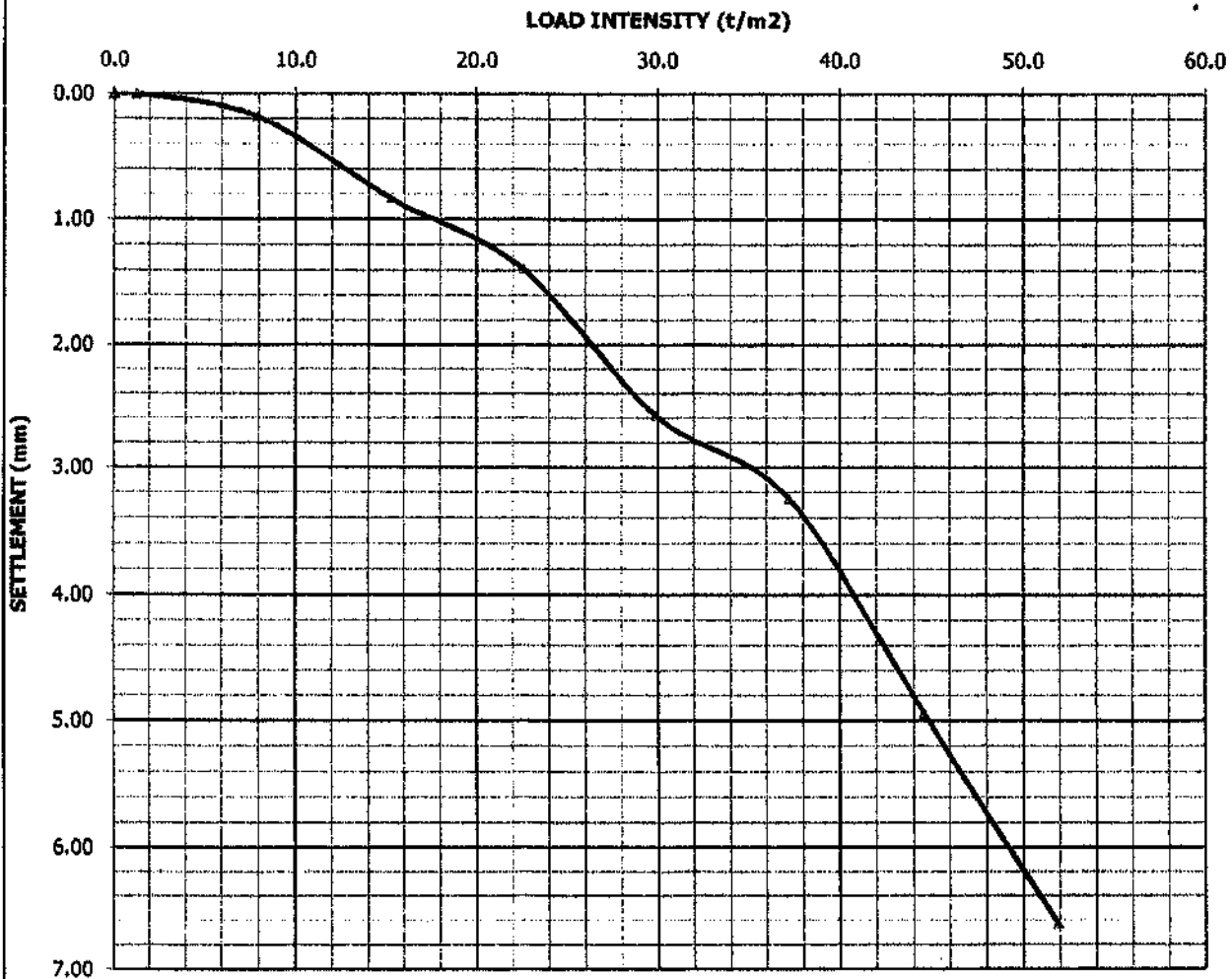
**PIT NO-2**

**TEST NO-2/1**

**DEPTH-1.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	14	22	18
1320	15.22	77	89	83
1980	22.56	147	130	139
2640	29.89	235	280	258
3300	37.22	310	340	325
3960	44.56	457	531	494
4620	51.89	614	712	663

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





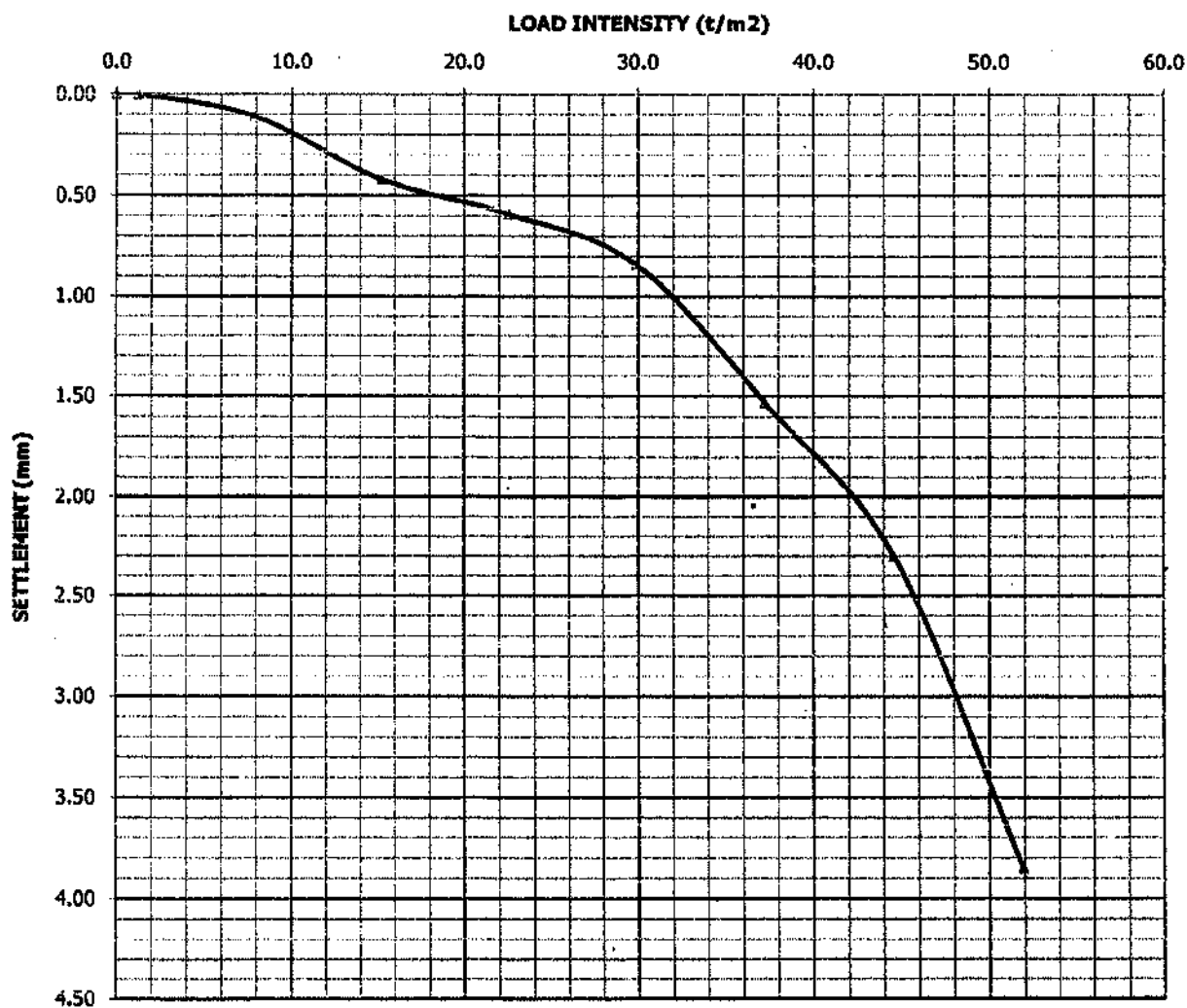
**PIT NO-2**

**TEST NO-2/2**

**DEPTH-2.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	9	12	11
1320	15.22	37	46	42
1980	22.56	56	62	59
2640	29.89	77	91	84
3300	37.22	143	162	153
3960	44.56	212	248	230
4620	51.89	356	413	385

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





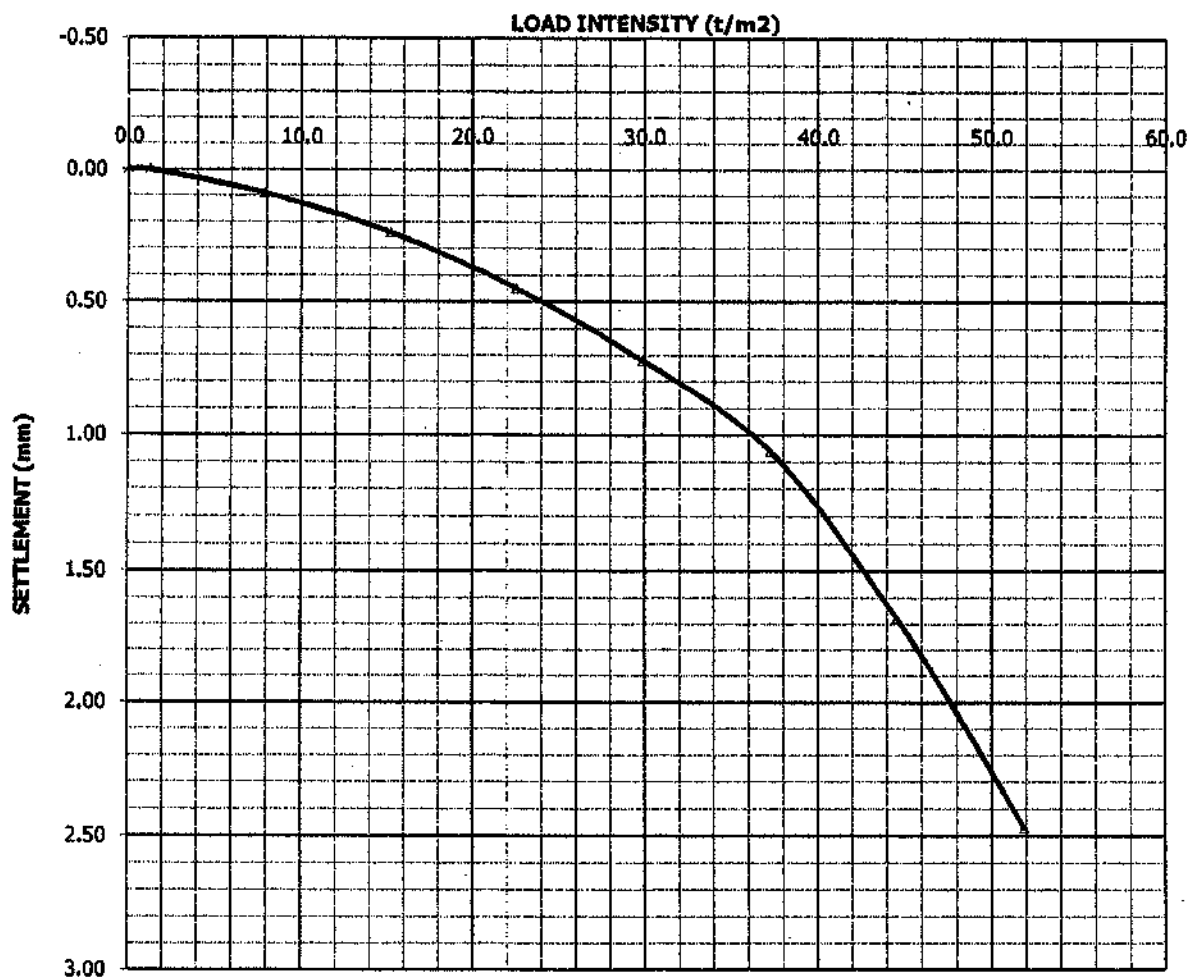
PIT NO-2

TEST NO-2/3

DEPTH-3.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	7	10	9
1320	15.22	22	26	24
1980	22.56	42	47	45
2640	29.89	69	75	72
3300	37.22	99	113	106
3960	44.56	152	183	168
4620	51.89	240	253	247

**LOAD INTENSTIY v/s SETTLEMENT PLOT**







**PIT NO-3**

**TEST NO-3/2**

**DEPTH-2.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	22	33	28
1320	15.22	68	79	74
1980	22.56	143	171	157
2640	29.89	271	322	297
3300	37.22	362	403	383
3960	44.56	512	575	544
4620	51.89	621	702	662

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





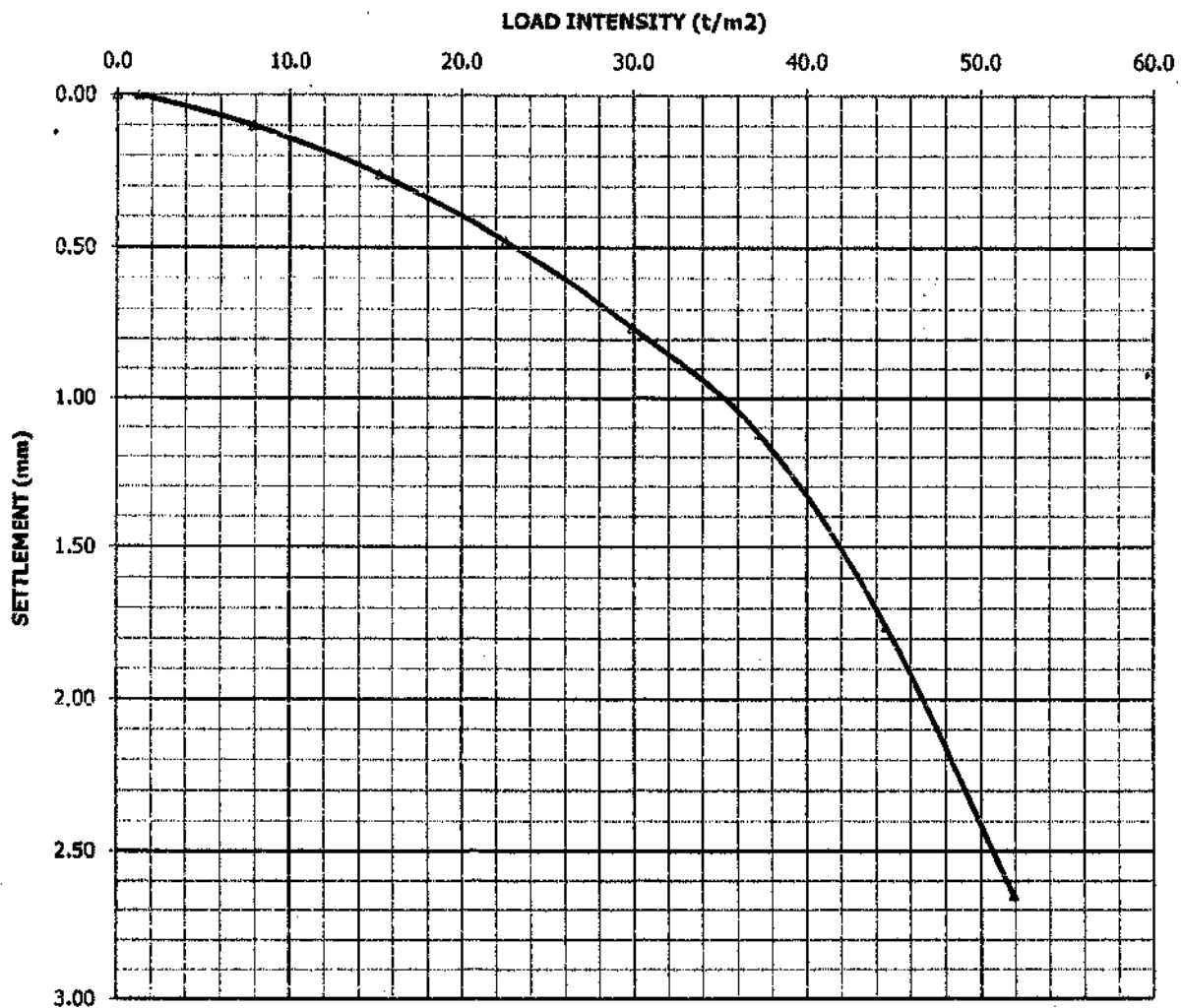
**PIT NO-3**

**TEST NO-3/3**

**DEPTH-3.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	9	11	10
1320	15.22	23	29	74
1980	22.56	44	51	48
2640	29.89	72	79	76
3300	37.22	105	119	112
3960	44.56	160	191	176
4620	51.89	259	270	265

**LOAD INTENSITY v/s SETTLEMENT PLOT**





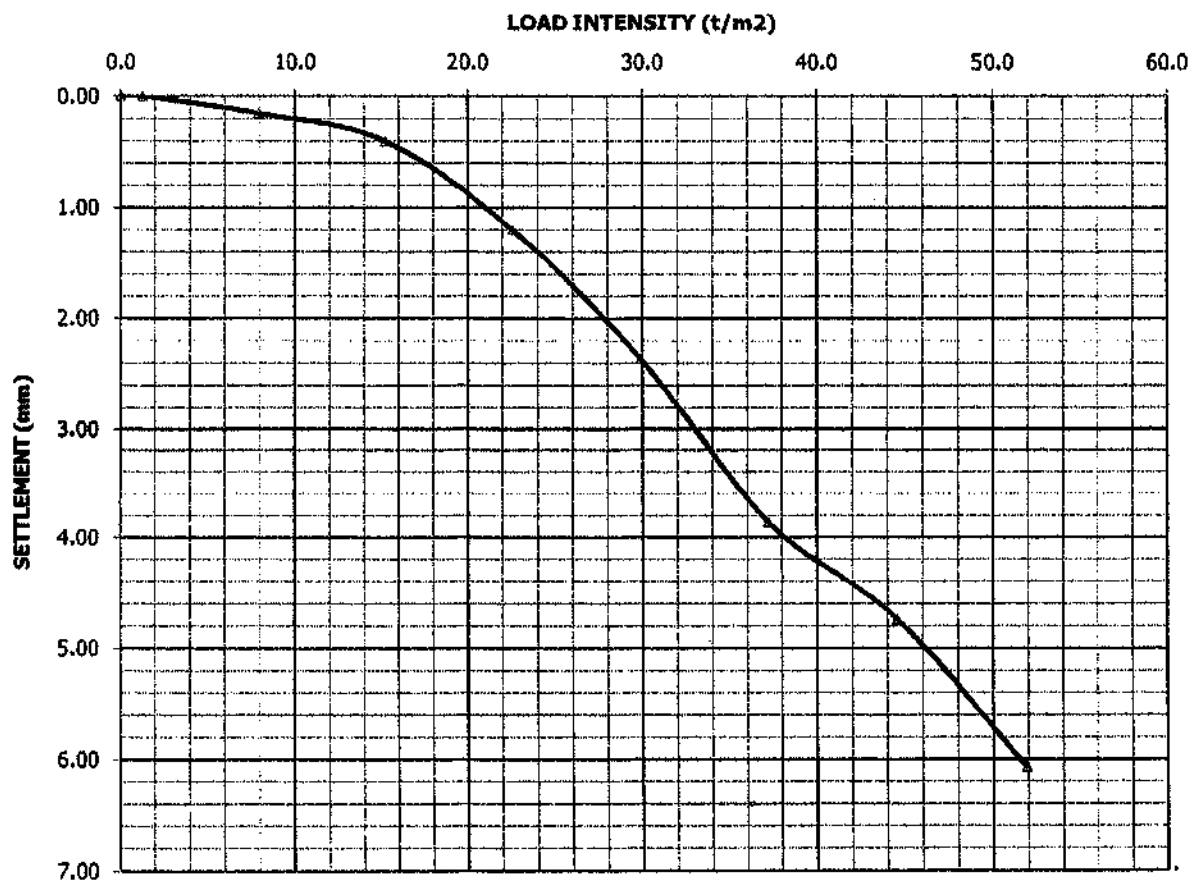
**PIT NO-4**

**TEST NO-4/1**

**DEPTH-1.5**

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	12	17	15
1320	15.22	28	52	40
1980	22.56	101	138	120
2640	29.89	214	258	236
3300	37.22	358	413	386
3960	44.56	436	511	474
4620	51.89	567	647	607

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





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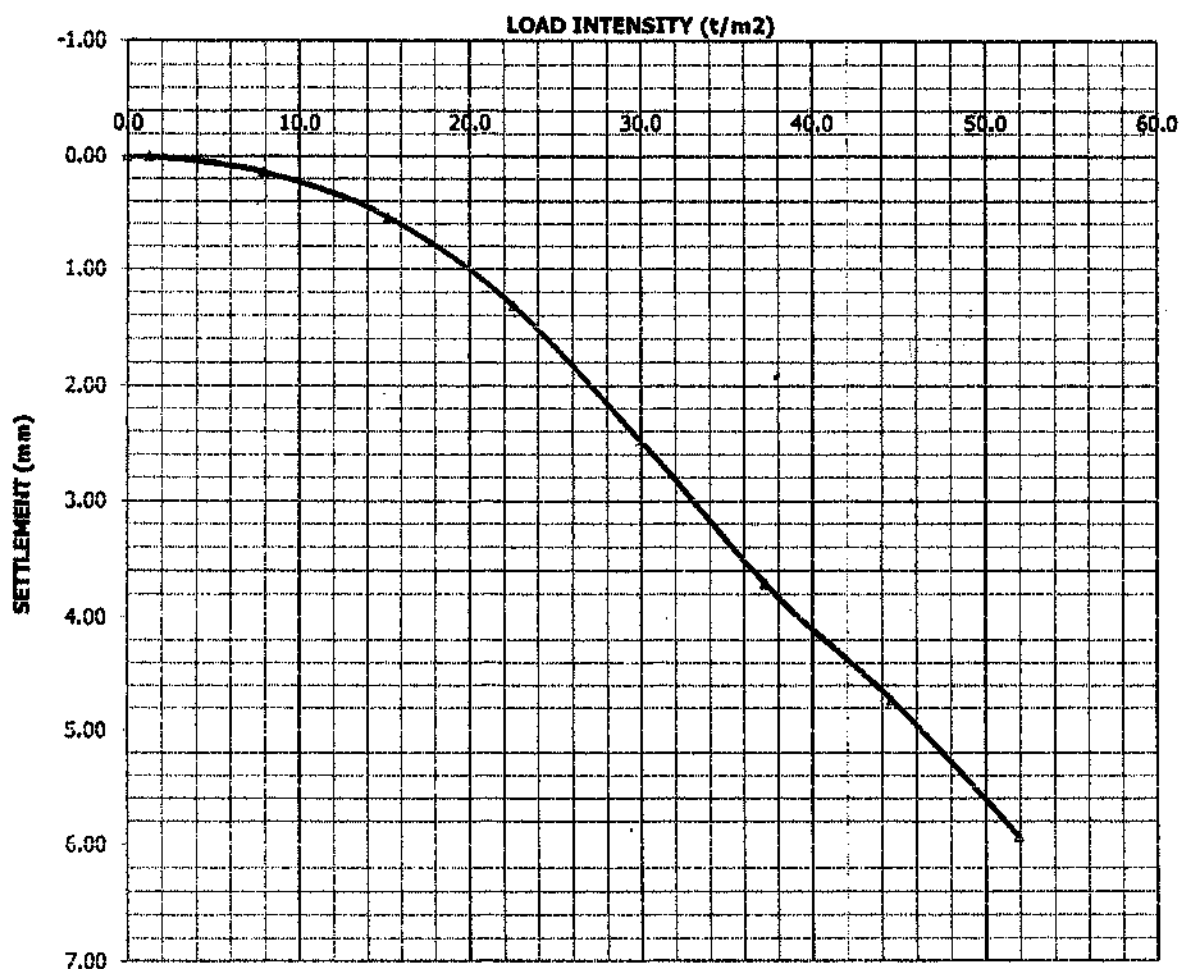
PIT NO-4

TEST NO-4/2

DEPTH-2.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	12	16	14
1320	15.22	48	59	54
1980	22.56	113	150	132
2640	29.89	215	279	247
3300	37.22	338	403	371
3960	44.56	432	513	473
4620	51.89	516	670	593

LOAD INTENSTIY v/s SETTLEMENT PLOT



GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



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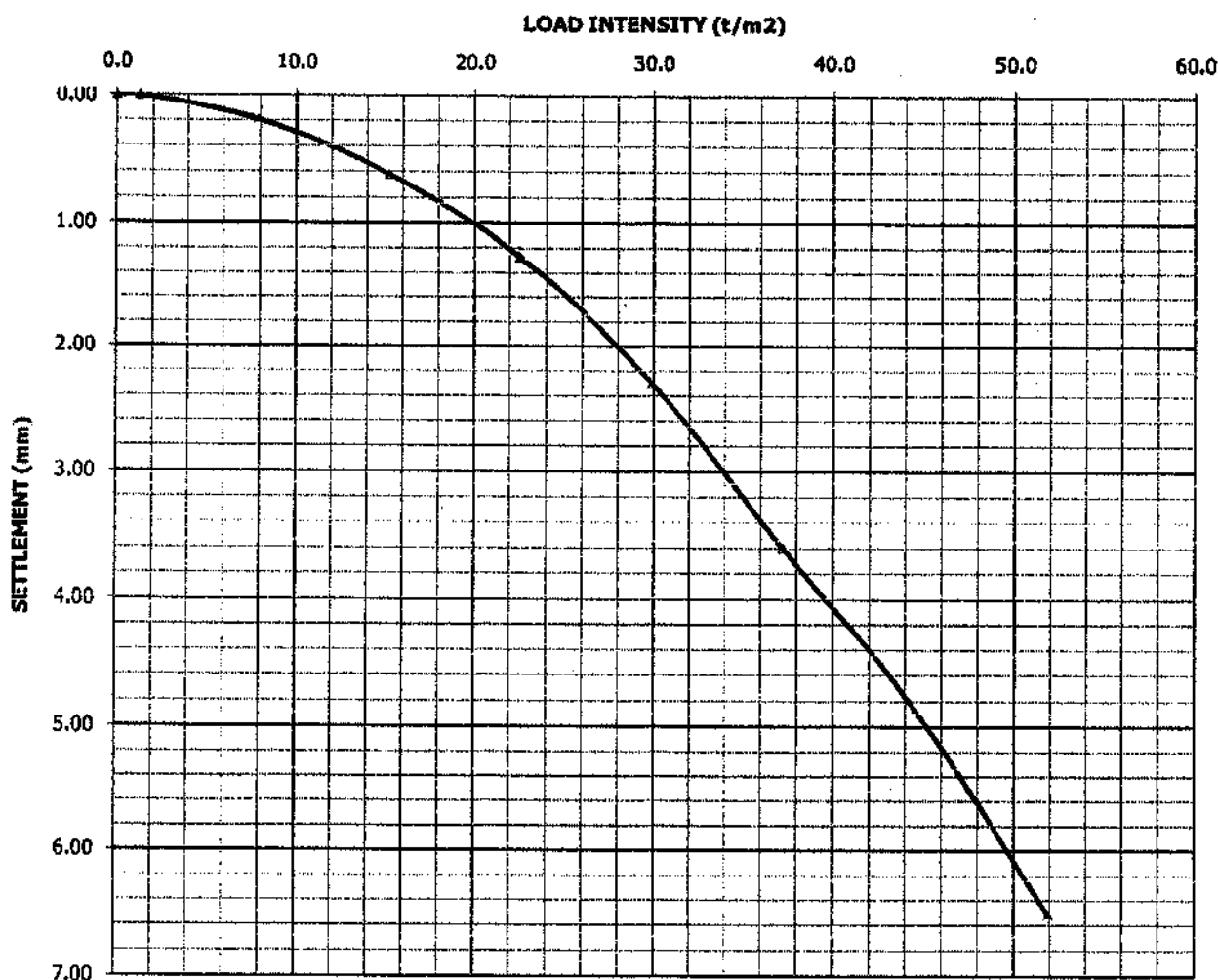
PIT NO-5

TEST NO-5/1

DEPTH-1.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	16	21	19
1320	15.22	54	69	62
1980	22.56	112	141	127
2640	29.89	210	249	230
3300	37.22	338	381	360
3960	44.56	463	510	487
4620	51.89	606	698	652

**LOAD INTENSTIY v/s SETTLEMENT PLOT**





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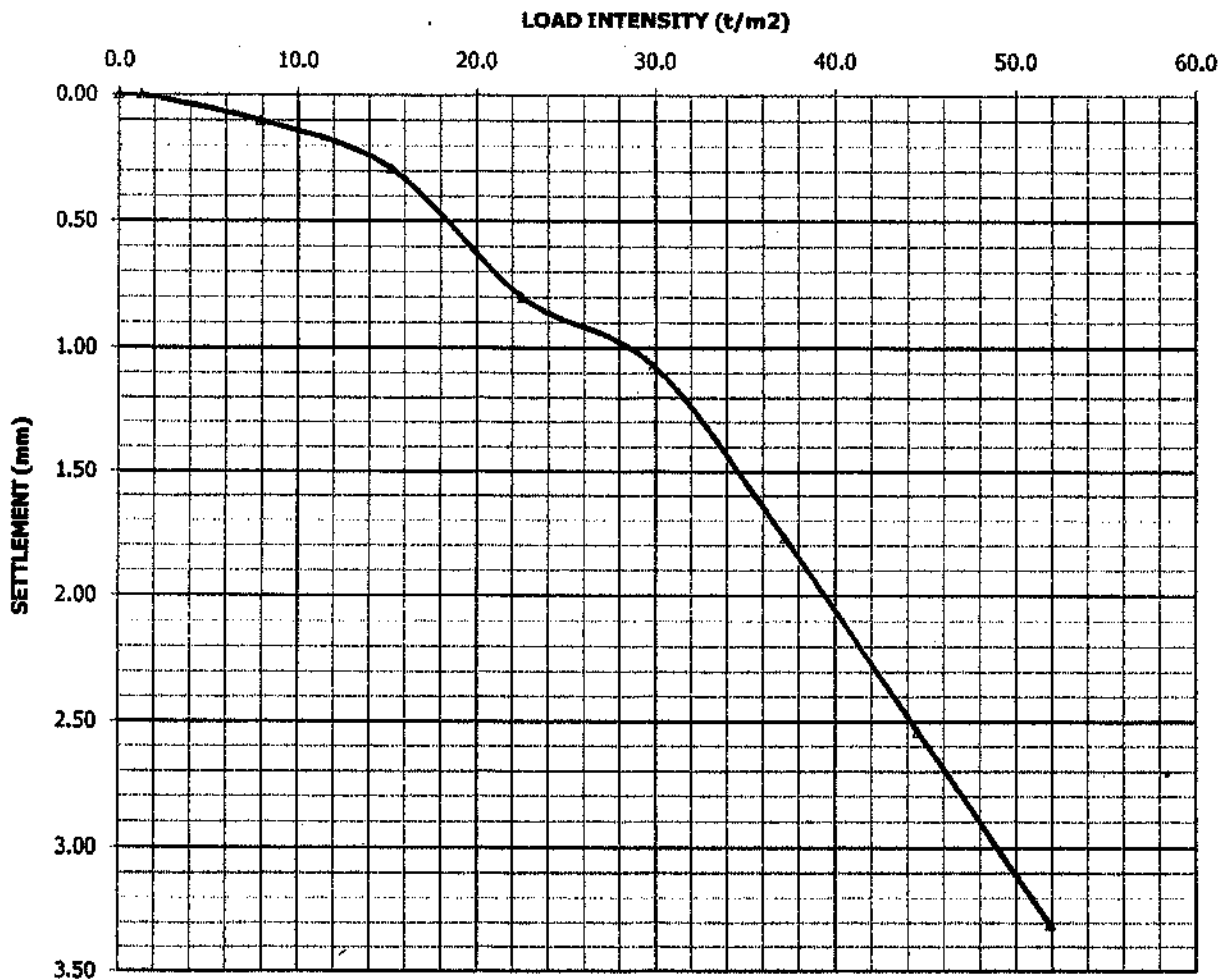
PIT NO-5

TEST NO-5/2

DEPTH-2.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	9	11	10
1320	15.22	21	36	29
1980	22.56	76	84	80
2640	29.89	102	112	107
3300	37.22	170	183	177
3960	44.56	248	259	254
4620	51.89	319	342	331

**LOAD INTENSITY v/s SETTLEMENT PLOT**





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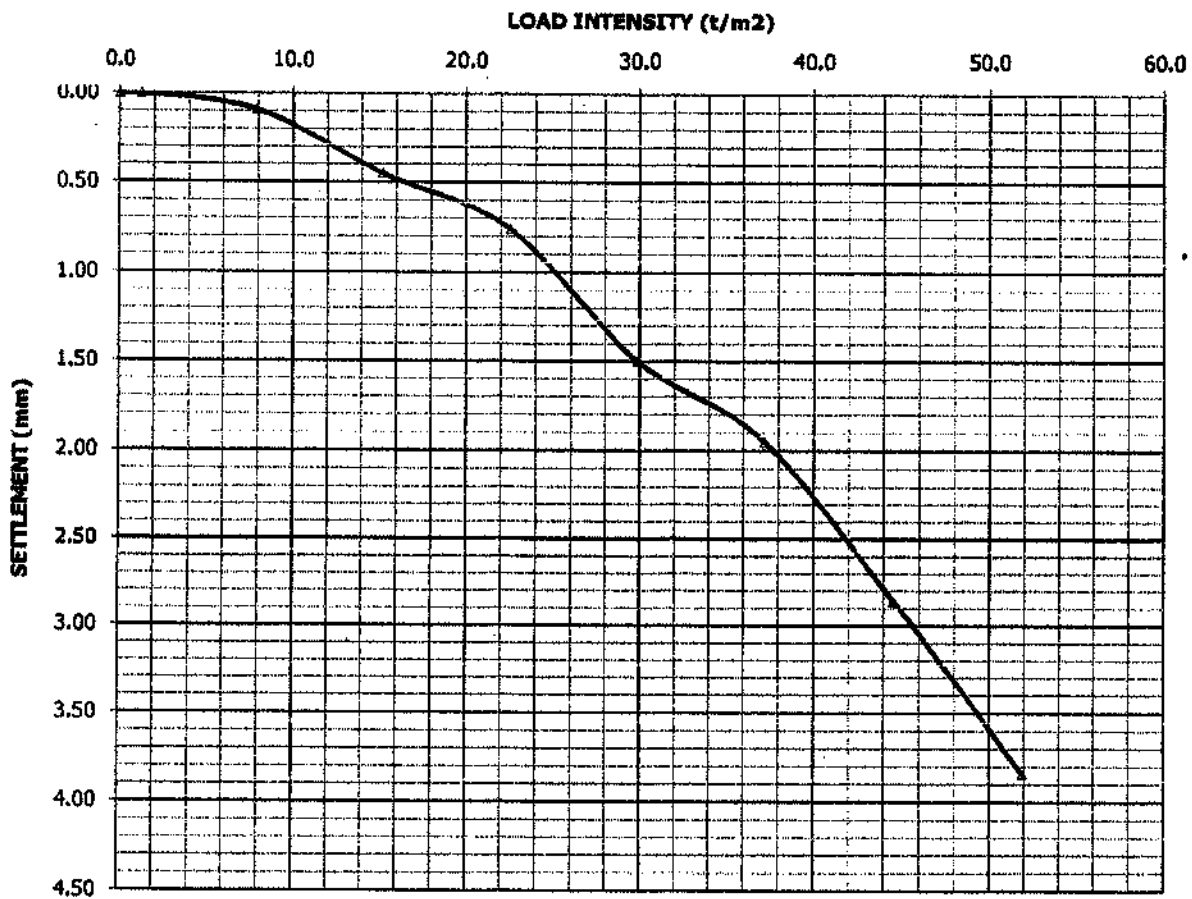
PIT NO-5

TEST NO-5/3

DEPTH-3.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	8	9	9
1320	15.22	41	48	45
1980	22.56	74	77	76
2640	29.89	141	159	150
3300	37.22	190	200	195
3960	44.56	271	301	286
4620	51.89	389	379	384

### LOAD INTENSITY v/s SETTLEMENT PLOT





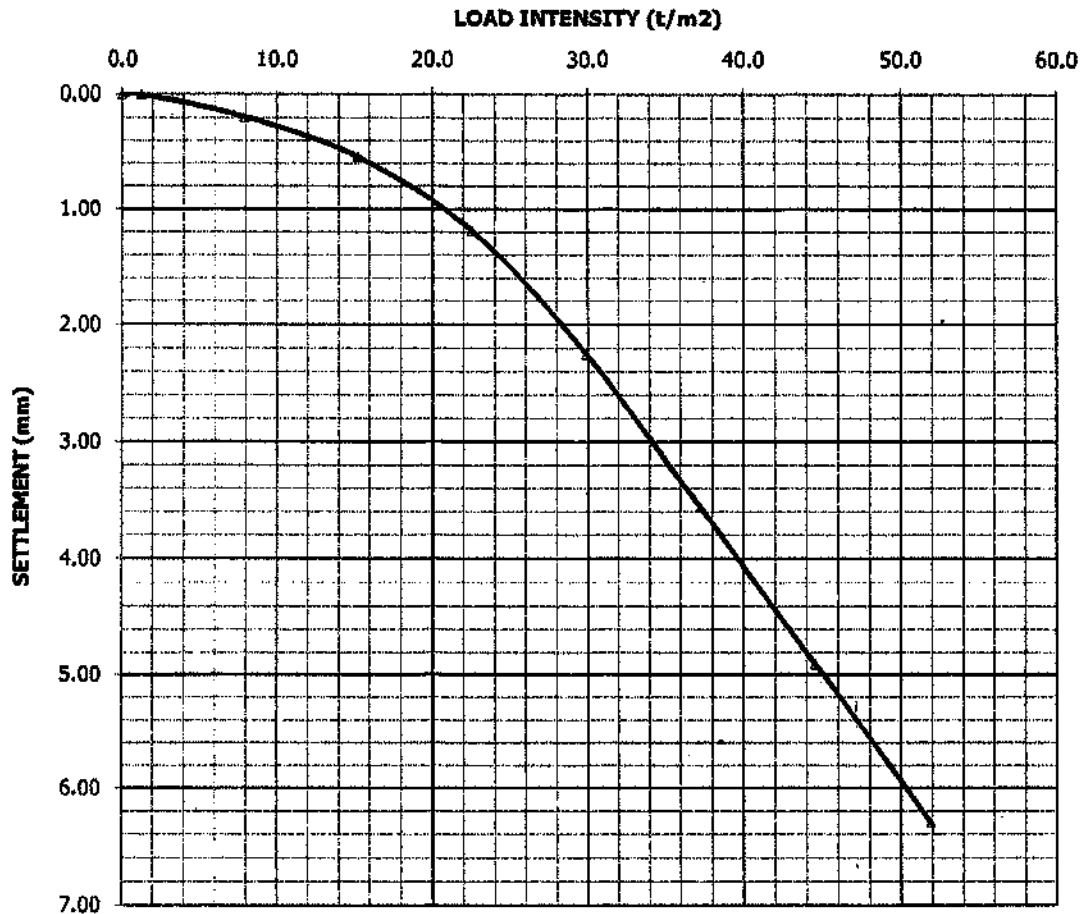
PIT NO-6

TEST NO-6/1

DEPTH-1.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	17	21	19
1320	15.22	48	59	54
1980	22.56	106	132	119
2640	29.89	210	239	225
3300	37.22	340	371	356
3960	44.56	470	512	491

**LOAD INTENSTIY v/s SETTLEMENT PLOT**







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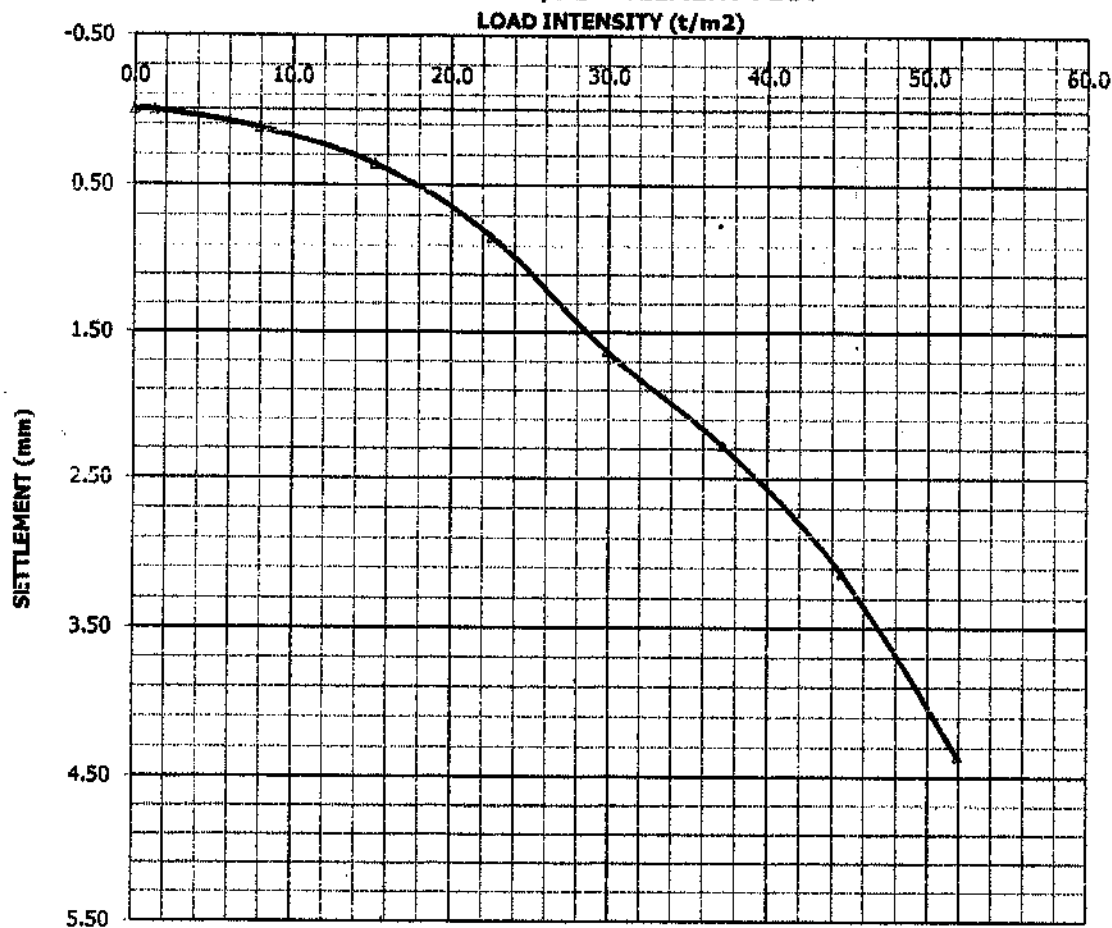
PIT NO-6

TEST NO-6/2

DEPTH-2.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	10	14	12
1320	15.22	32	40	36
1980	22.56	78	89	84
2640	29.89	143	182	163
3300	37.22	212	243	228
3960	44.56	306	319	313
4620	51.89	413	459	436

**LOAD INTENSITY v/s SETTLEMENT PLOT**



GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



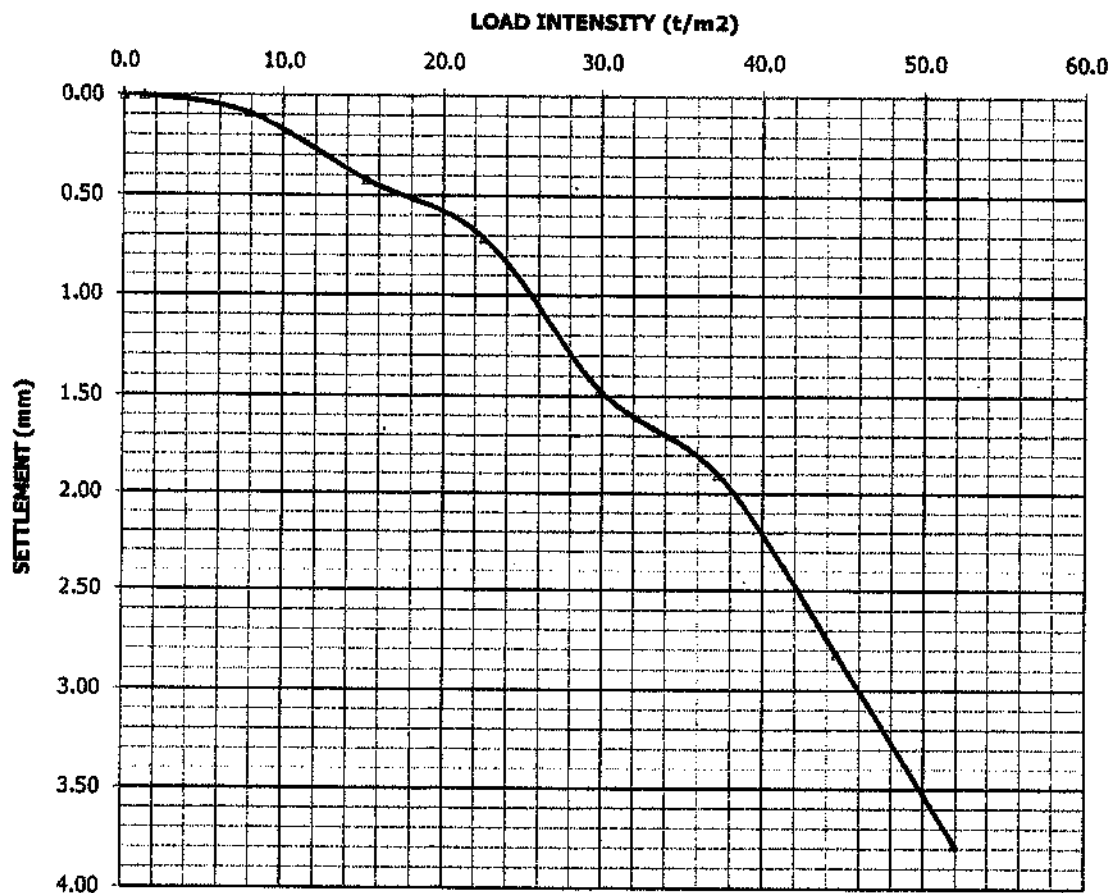
PIT NO-6

TEST NO-6/3

DEPTH-3.5

Load (Kg)	Load Intensity (t/m <sup>2</sup> )	Maximum Settlement of Plate (0.01mm)		
		Dial Gauge - 1	Dial Gauge - 2	Average
0	0	0	0	0
63	1.26	0	0	0
660	7.89	7	11	9
1320	15.22	39	45	42
1980	22.56	70	72	71
2640	29.89	139	155	147
3300	37.22	185	195	190
3960	44.56	265	298	282
4620	51.89	381	374	378

**LOAD INTENSITY v/s SETTLEMENT PLOT**



**ANNEXURE 2****CHEMICAL ANALYSIS OF SOIL SAMPLE**

S.No.	Sample Description	Parameters		
		pH	Sulphates (as SO <sub>4</sub> ), ppm	Chloride (as Cl), ppm
1	BHL-1	7.89	<1.0	<1.0
2	BHL-2	7.77	<1.0	<1.0
3	BHL-3	7.57	<1.0	<1.0
4	BHL-4	8.1	<1.0	<1.0
5	BHL-5	7.48	<1.0	<1.0
6	BHL-6	7.52	<1.0	<1.0
7	BHL-7	7.44	<1.0	<1.0
8	BHL-8	8.15	<1.0	<1.0
9	BHL-9	7.14	<1.0	<1.0
10	BHL-10	7.09	<1.0	<1.0
11	BHL-11	7.19	<1.0	<1.0
12	BHL-12	7.11	<1.0	<1.0
13	BHL-13	7.45	<1.0	<1.0
14	BHL-14	8.12	<1.0	<1.0
15	BHL-15	7.13	<1.0	<1.0
16	BHL-16	6.79	<1.0	<1.0
17	BHL-17	7.1	<1.0	<1.0
18	BHL-18	6.75	<1.0	<1.0
19	BHL-19	8.42	<1.0	<1.0
20	BHL-20	8.1	<1.0	<1.0
21	BHL-21	7.21	<1.0	<1.0
22	BHL-22	7.25	<1.0	<1.0
23	BHL-23	7.12	<1.0	<1.0
24	BHL-24	7.09	<1.0	<1.0
25	BHL-25	8.39	<1.0	<1.0
26	BHL-26	7.17	<1.0	<1.0
27	BHL-27	7.27	<1.0	<1.0
28	BHL-28	7.89	<1.0	<1.0
29	BHL-29	8.09	<1.0	<1.0
30	BHL-30	7.33	<1.0	<1.0
31	BHL-31	7.29	<1.0	<1.0
32	BHL-32	7.22	<1.0	<1.0
33	BHL-33	7.81	<1.0	<1.0

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S.No.	Sample Description	Parameters		
		pH	Sulphates (as SO <sub>4</sub> ), ppm	Chloride (as Cl), ppm
34	BHL-34	7.51	<1.0	<1.0
35	BHL-35	7.19	<1.0	<1.0
36	BHL-36	7.15	<1.0	<1.0
37	BHL-37	8.48	<1.0	<1.0
38	BHL-38	7.21	<1.0	<1.0
39	BHL-39	8.62	<1.0	<1.0
40	BHL-40	8.55	<1.0	<1.0
41	BHL-41	8.77	<1.0	<1.0
42	BHL-42	8.11	<1.0	<1.0
43	BHL-43	8.70	<1.0	<1.0
44	BHL-44	6.72	<1.0	<1.0
45	BHL-45	7.12	<1.0	<1.0
46	BHL-46	7.08	<1.0	<1.0

GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



## ANNEXURE 3

## CHEMICAL ANALYSIS OF WATER SAMPLE

S.No.	Sample Description/Location	Parameters		
		pH	Sulphates (as SO <sub>4</sub> )	Chloride (as Cl)
1	BHL-1	7.13	249 mg/l	85.4 mg/l
2	BHL-2	7.09	253 mg/l	83.8 mg/l
3	BHL-3	7.15	259 mg/l	80.1 mg/l
4	BHL-4	7.11	263 mg/l	78.7 mg/l
5	BHL-5	7.03	248 mg/l	79.2 mg/l
6	BHL-6	7.21	255 mg/l	75.2 mg/l
7	BHL-7	7.19	250 mg/l	74.1 mg/l
8	BHL-8	7.05	252 mg/l	81.2 mg/l
9	BHL-9	7.13	298 mg/l	72.2 mg/l
10	BHL-10	7.18	312 mg/l	73.9 mg/l
11	BHL-11	7.2	338 mg/l	78.0 mg/l
12	BHL-12	7.13	345 mg/l	62.9 mg/l
13	BHL-13	7.1	320 mg/l	68.1 mg/l
14	BHL-14	7.19	311 mg/l	64.2 mg/l
15	BHL-15	7.21	328 mg/l	65.1 mg/l
16	BHL-16	7.15	307 mg/l	64.3 mg/l
17	BHL-17	7.22	299 mg/l	63.9 mg/l
18	BHL-18	7.19	301 mg/l	69.8 mg/l
19	BHL-19	7.11	288 mg/l	73.2 mg/l
20	BHL-20	7.13	321 mg/l	74.1 mg/l
21	BHL-21	7.08	333 mg/l	69.1 mg/l
22	BHL-22	7.14	319 mg/l	71.5 mg/l
23	BHL-23	7.18	322 mg/l	65.2 mg/l
24	BHL-24	7.1	325 mg/l	68.4 mg/l
25	BHL-25	7.2	311 mg/l	69.3 mg/l
26	BHL-26	7.22	309 mg/l	64.2 mg/l
27	BHL-27	7.19	299 mg/l	68.7 mg/l
28	BHL-28	7.27	292 mg/l	74.1 mg/l
29	BHL-29	7.3	285 mg/l	79.2 mg/l
30	BHL-30	7.15	299 mg/l	71.2 mg/l
31	BHL-31	7.11	303 mg/l	68.8 mg/l
32	BHL-32	7.09	288 mg/l	74.3 mg/l
32	BHL-32	7.09	288 mg/l	74.3 mg/l
33	BHL-33	7.12	283 mg/l	70.0 mg/l
34	BHL-34	7.16	281 mg/l	71.2mg/l

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S.No.	Sample Description/Location	Parameters		
		pH	Sulphates (as SO <sub>4</sub> )	Chloride (as Cl)
35	BHL-35	7.1	279 mg/l	72.9 mg/l
36	BHL-36	7.19	282 mg/l	78.2 mg/l
37	BHL-37	7.15	250 mg/l	81.1 mg/l
38	BHL-38	7.11	255 mg/l	82.0 mg/l
39	BHL-39	7.2	252 mg/l	79.8 mg/l
40	BHL-40	7.25	251 mg/l	80.1 mg/l
41	BHL-41	7.30	246 mg/l	85.4 mg/l
42	BHL-42	7.22	254 mg/l	77.4 mg/l
43	BHL-43	7.18	288 mg/l	73.9 mg/l
44	BHL-44	7.27	270 mg/l	72.2 mg/l
45	BHL-45	7.21	310 mg/l	68.9 mg/l
46	BHL-46	7.17	305 mg/l	77.1 mg/l

GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 16.50 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
											0.0	25.0	50.0	75.0	100.0				
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-1/1	2	2	2	4.0								
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 2.80 M	SP		2.05 M	SPT	S-1/2	2	3	4	7.0								
3	3.00					SPT	S-1/3	3	3	5	8.0								
4	4.50					SPT	S-1/4	4	5	7	12.0								
5	6.00	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 14.8 M	SP		12.0 M	SPT	S-1/5	9	9	10	19.0								
6	7.50					SPT	S-1/6	9	10	11	21.0								
7	9.00					SPT	S-1/7	12	12	13	25.0								
8	10.5					SPT	S-1/8	13	15	19	34.0								
9	12.0					SPT	S-1/9	15	22	30	52.0								
10	13.5					SPT	S-1/10	17	27	34	61.0								
11	15.0	VERY STIFF - HARD CONSISTENCY CLAY OF MEDIUM PLASTICITY 14.8 M - 21.7 M	CL		4.70 M	SPT	S-1/11	17	32	40	72.0								
12	16.5					SPT	S-1/12	29.2	35	44	79.0								
13	18.0					SPT	S-1/13	34	40	44	84.0								
14	19.0					SPT	S-1/14	39	42	49	91.0								
15	21.0					SPT	S-1/15	44	48	50	98.0								
16	22.5	HARD CLAY SILT AND SAND MIXTURE 21.7 M - 24.30 M	ML		2.60 M	SPT	S-1/16	47	50	R	R								
17	24.0					SPT	S-1/17	R	R	R	R								



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 16.50 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
											0.0	25.0	50.0	75.0	100.0			
18	25.5	VERY DENSE FINE SAND 24.30 M - 40.0 M	SP		15.7 M	SPT	S-1/18	R	R	R	R							
19	27.0					SPT	S-1/19	R	R	R	R							
20	28.5					SPT	S-1/20	R	R	R	R							
21	30.0					SPT	S-1/21	R	R	R	R							
22	31.5					SPT	S-1/22	R	R	R	R							
23	33.0					SPT	S-1/23	R	R	R	R							
24	34.5					SPT	S-1/24	R	R	R	R							
25	36.0					SPT	S-1/25	R	R	R	R							
26	37.5					SPT	S-1/26	R	R	R	R							
27	39.0					SPT	S-1/27	R	R	R	R							
28	40.0					SPT	S-1/28	R	R	R	R							





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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
												0.0	25.0	50.0	75.0	100.0
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.65 M	CL	[Symbolic Representation]	0.65 M	SPT	S-2/1	2	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.65 M - 2.30 M			1.65 M	SPT	S-2/2	3	5	7	12.0					
3	3.00					SPT	S-2/3	4	6	7	13.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.30 M - 14.0 M	SP		11.7 M	SPT	S-2/4	4	6	6	12.0					
5	6.00					SPT	S-2/5	5	7	6	13.0					
6	7.50					SPT	S-2/6	5	7	9	16.0					
7	9.00					SPT	S-2/7	7	9	12	21.0					
8	10.5					SPT	S-2/8	6	10	13	23.0					
9	12.0					SPT	S-2/9	8	13	16	29.0					
10	13.5					SPT	S-2/10	8	17	15	27.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY 14.0 M - 23.2 M	CL		9.2 M	SPT	S-2/11	11	14	17	31.0					
12	16.5					SPT	S-2/12	14	24	29	53.0					
13	18.0					SPT	S-2/13	17	30	32	62.0					
14	19.0					SPT	S-2/14	19	31	34	65.0					
15	21.0					SPT	S-2/15	20	33	36	69.0					
16	22.5					SPT	S-2/16	21	29	39	68.0					



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE									
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
											0.0	25.0	50.0	75.0	100.0				
17	24.0	HARD CLAY SILT AND SAND MIXTURE	ML		1.80 M	SPT	S-2/17	20	37	42	79.0								
18	25.5	VERY DENSE FINE SAND 25.0 M - 40.0 M	SP		15.0 M	SPT	S-2/18	20	38	44	82.0								
19	27.0					SPT	S-2/19	21	39	46	R								
20	28.5					SPT	S-2/20	22	41	46	R								
21	30.0					SPT	S-2/21	22	42	48	R								
22	31.5					SPT	S-2/22	29	48	50	R								
23	33.0					SPT	S-2/23	35	R	R	R								
24	34.5					SPT	S-2/24	42	R	R	R								
25	36.0					SPT	S-2/25	45	R	R	R								
26	37.5					SPT	S-2/26	45	R	R	R								
27	39.0					SPT	S-2/27	R	R	R	R								
28	40.0					SPT	S-2/28	R	R	R	R								



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE	
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.72 M	CL	0.72 M	SPT	S-3/1	2	2	3	5.0	
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.72 M - 2.80 M	SP	2.08 M	SPT	S-2/2	3	4	6	10.0	
3	3.00				SPT	S-2/3	4	5	7	12.0	
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 14.5 M	SP	11.7 M	SPT	S-2/4	4	5	8	13.0	
5	6.00				SPT	S-2/5	5	6	7	13.0	
6	7.50				SPT	S-2/6	6	8	9	17.0	
7	9.00				SPT	S-2/7	8	9	11	20.0	
8	10.5				SPT	S-2/8	10	12	15	27.0	
9	12.0				SPT	S-2/9	10	14	18	32.0	
10	13.5				SPT	S-2/10	12	16	20	36.0	
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY SOIL WITH MEDIUM PLASTICITY 14.5 M - 24.5 M	CL	10.0 M	SPT	S-2/11	14	18	25	43.0	
12	16.5				SPT	S-2/12	15	21	29	50.0	
13	18.0				SPT	S-2/13	18	25	31	56.0	
14	19.0				SPT	S-2/14	20	30	34	64.0	
15	21.0				SPT	S-2/15	21	34	38	72.0	
16	22.5				SPT	S-2/16	23	37	41	78.0	



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE										
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph									
											00	25.0	50.0	75.0	100.0						
17	24.0	VERY DENSE FINE SAND 24.5 M - 40.0 M	SP	[Symbolic Representation]	15.5 M	SPT	S-2/17	26	39	43	82.0										
18	25.5					SPT	S-2/18	32	42	47	89.0										
19	27.0					SPT	S-2/19	35	46	49	R										
20	28.5					SPT	S-2/20	39	49	R	R										
21	30.0					SPT	S-2/21	45	R	R	R										
22	31.5					SPT	S-2/22	R	R	R	R										
23	33.0					SPT	S-2/23	R	R	R	R										
24	34.5					SPT	S-2/24	R	R	R	R										
25	36.0					SPT	S-2/25	R	R	R	R										
26	37.5					SPT	S-2/26	R	R	R	R										
27	39.0					SPT	S-2/27	R	R	R	R										
28	40.0					SPT	S-2/28	R	R	R	R										



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 17.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.77 M	CL		0.77 M	SPT	S-4/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.77 M - 2.20 M	SP		1.43 M	SPT	S-4/2	3	3	4	7.0					
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.20 M - 13.60 M	SP		11.4 M	SPT	S-4/3	4	4	6	10.0					
4	4.50					SPT	S-4/4	4	7	10	17.0					
5	6.00					SPT	S-4/5	5	12	13	25.0					
6	7.50					SPT	S-4/6	6	13	18	31.0					
7	9.00					SPT	S-4/7	7	12	20	32.0					
8	10.5					SPT	S-4/8	7	14	22	36.0					
9	12.0					SPT	S-4/9	10	17	24	41.0					
10	13.5	HARD CLAY SILT AND SAND MIXTURE 13.60 M -16.0 M	ML		2.50 M	SPT	S-4/10	11	18	30	48.0					
11	15.0					SPT	S-4/11	15	21	34	55.0					
12	16.5	HARD CLAY OF MEDIUM PLASTICITY 16.0 M - 23.0 M	CL		7.0 M	SPT	S-4/12	19	29	39	68.0					
13	18.0					SPT	S-4/13	24	33	44	77.0					
14	19.0					SPT	S-4/14	30	39	46	85.0					
15	21.0					SPT	S-4/15	35	45	45	90.0					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 17.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from E.G.L. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
16	22.5	VERY DENSE FINE SAND 23.0 M - 25.2 M	SM	2.2 M	SPT	S-4/16	40	47	47	94.0						
17	24.0				SPT	S-4/17	43	47	50	97.0						
18	25.5	VERY DENSE FINE SAND 25.2 M - 40.0 M		14.8 M	SPT	S-4/18	47	R	R	R						
19	27.0				SPT	S-4/19	R	R	R	R						
20	28.5				SPT	S-4/20	R	R	R	R						
21	30.0				SPT	S-4/21	R	R	R	R						
22	31.5				SPT	S-4/22	R	R	R	R						
23	33.0				SPT	S-4/23	R	R	R	R						
24	34.5				SPT	S-4/24	R	R	R	R						
25	36.0				SPT	S-4/25	R	R	R	R						
26	37.5				SPT	S-4/26	R	R	R	R						
27	39.0				SPT	S-4/27	R	R	R	R						
28	40.0				SPT	S-4/28	R	R	R	R						



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 18.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-5/1	3	3	4	7.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 2.00 M	SP		1.25 M	SPT	S-5/2	3	4	6	10.0					
3	3.00					SPT	S-5/3	5	6	7	13.0					
4	4.50					SPT	S-5/4	4	7	9	16.0					
5	6.00	MEDIUM DENSE-DENSE FINE SAND 2.00 M - 13.8 M	SP		11.8 M	SPT	S-5/5	5	10	12	22.0					
6	7.50					SPT	S-5/6	7	12	15	27.0					
7	9.00					SPT	S-5/7	7	13	18	31.0					
8	10.5					SPT	S-5/8	7	15	20	35.0					
9	12.0					SPT	S-5/9	9	12	29	41.0					
10	13.5					SPT	S-5/10	11	18	30	48.0					
11	15.0	HARD CLAY SILT AND SAND MIXTURE 13.8 M - 17.30 M	ML		3.50 M	SPT	S-5/11	14	20	32	52.0					
12	16.5					SPT	S-5/12	17	24	35	59.0					
13	18.0	HARD CLAY WITH MEDIUM PLASTICITY 17.30 M - 22.8 M	CL		5.50 M	SPT	S-5/13	22	27	39	66.0					
14	19.0					SPT	S-5/14	29	35	44	79.0					
15	21.0					SPT	S-5/15	32	39	52	R					
16	22.5					SPT	S-5/16	39	42	R	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 18.0 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
17	24.0	VERY DENSE FINE SAND 22.8 M - 31.2 M	SP		8.4 M	SPT	S-5/17	42	R	R	R	0.0					
18	25.5					SPT	S-5/18	49	R	R	R						
19	27.0					SPT	S-5/19	R	R	R	R						
20	28.5					SPT	S-5/20	R	R	R	R						
21	30.0					SPT	S-5/21	R	R	R	R						
22	31.5	HARD CLAY WITH MEDIUM PLASTICITY 31.2 M - 34.1 M	CL		2.90 M	SPT	S-5/22	R	R	R	R						
23	33.0					SPT	S-5/23	R	R	R	R						
24	34.5	VERY DENSE FINE SAND 34.1 M - 40.0 M	SP		5.90 M	SPT	S-5/24	R	R	R	R						
25	36.0					SPT	S-5/25	R	R	R	R						
26	37.5					SPT	S-5/26	R	R	R	R						
27	39.0					SPT	S-5/27	R	R	R	R						
28	40.0					SPT	S-5/28	R	R	R	R						





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.80 M	CL		0.80 M	SPT	S-6/1	2	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.80 M - 4.70 M	SP		3.90 M	SPT	S-6/2	2	2	4	6.0					
3	3.00					SPT	S-6/3	3	3	6	9.0					
4	4.50					SPT	S-6/4	4	4	5	9.0					
5	6.00	MEDIUM DENSE-DENSE FINE SAND 4.70 M - 14.0 M	SP		9.30 M	SPT	S-6/5	6	7	8	15.0					
6	7.50					SPT	S-6/6	7	9	10	19.0					
7	9.00					SPT	S-6/7	8	10	12	22.0					
8	10.5					SPT	S-6/8	11	12	15	27.0					
9	12.0					SPT	S-6/9	13	17	24	41.0					
10	13.5					SPT	S-6/10	15	23	30	53.0					
11	15.0	HARD CLAY SILT AND SAND MIXTURE 14.0 M - 17.6 M	ML		3.6 M	SPT	S-6/11	17	29	36	65.0					
12	16.5					SPT	S-6/12	24	32	40	72.0					
13	18.0	HARD CLAY WITH MEDIUM PLASTICITY 17.6 M - 23.4 M	CL		5.8 M	SPT	S-6/13	26	35	43	78.0					
14	19.0					SPT	S-6/14	31	37	45	82.0					
15	21.0					SPT	S-6/15	35	40	47	87.0					
16	22.5					SPT	S-6/16	39	43	49	92.0					
17	24.0				1.80 M	SPT	S-6/17	43	47	50	97.0					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
18	25.5	VERY DENSE FINE SAND 23.4 M - 40.0 M	SP	16.6 M	SPT	S-6/18	46	49	R	R						
19	27.0				SPT	S-6/19	48	R	R	R						
20	28.5				SPT	S-6/20	R	R	R	R						
21	30.0				SPT	S-6/21	R	R	R	R						
22	31.5				SPT	S-6/22	R	R	R	R						
23	33.0				SPT	S-6/23	R	R	R	R						
24	34.5				SPT	S-6/24	R	R	R	R						
25	36.0				SPT	S-6/25	R	R	R	R						
26	37.5				SPT	S-6/26	R	R	R	R						
27	39.0				SPT	S-6/27	R	R	R	R						
28	40.0				SPT	S-6/28	R	R	R	R						



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.72 M	CL	[Symbolic Representation]	0.72	SPT	S-7/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.72 M - 3.50 M			2.78 M	SPT	S-7/2	2	3	3	6.0					
3	3.00					SPT	S-7/3	3	4	5	9.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.50 M - 15.5 M	SP		12.0 M	SPT	S-7/4	4	6	8	14.0					
5	6.00					SPT	S-7/5	5	10	11	21.0					
6	7.50					SPT	S-7/6	8	12	14	26.0					
7	9.00					SPT	S-7/7	10	14	17	31.0					
8	10.5					SPT	S-7/8	12	16	19	35.0					
9	12.0					SPT	S-7/9	13	19	22	41.0					
10	13.5					SPT	S-7/10	14	20	26	46.0					
11	15.0					VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 15.5 M - 23.5 M	CL		8.0 M	SPT	S-7/11					
12	16.5	SPT	S-7/12	15	24					33	57.0					
13	18.0	SPT	S-7/13	17	28					38	66.0					
14	19.0	SPT	S-7/14	18	31					40	71.0					
15	21.0	SPT	S-7/15	18	33					42	75.0					
16	22.5	SPT	S-7/16	20	37					45	82.0					



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from E.G.L. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
17	24.0	VERY DENSE FINE SAND 23.5 M - 30.8 M	SP		7.3 M	SPT	S-7/17	22	40	47	87.0					
18	25.5					SPT	S-7/18	25	43	49	92.0					
19	27.0					SPT	S-7/19	28	45	50	R					
20	28.5					SPT	S-7/20	31	R	R	R					
21	30.0	HARD CLAY WITH MEDIUM PLASTICITY 30.8 M - 33.8 M	CL		3.0 M	SPT	S-7/21	R	R	R	R					
22	31.5					SPT	S-7/22	R	R	R	R					
23	33.0					SPT	S-7/23	R	R	R	R					
24	34.5	VERY DENSE FINE SAND 33.8 M - 40.0 M	SP		6.2 M	SPT	S-7/24	R	R	R	R					
25	36.0					SPT	S-7/25	R	R	R	R					
26	37.5					SPT	S-7/26	R	R	R	R					
27	39.0					SPT	S-7/27	R	R	R	R					
28	40.0					SPT	S-7/28	R	R	R	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL		0.70 M	SP1	S-8/1	2	3	4	7.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.70 M - 1.80 M	SP		1.10 M	SPT	S-8/2	3	3	5	8.0					
3	3.00	MEDIUM DENSE-DENSE FINE SAND 1.80 M - 15.2 M				SPT	S-8/3	3	5	7	12.0					
4	4.50					SPT	S-8/4	4	6	8	14.0					
5	6.00					SPT	S-8/5	6	8	11	19.0					
6	7.50					SPT	S-8/6	8	9	12	21.0					
7	9.00					SPT	S-8/7	8	12	13	25.0					
8	10.5					SPT	S-8/8	7	14	18	32.0					
9	12.0	SPT				S-8/9	10	17	20	37.0						
10	13.5	SPT	S-8/10	11	18	23	41.0									
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY	CL		2.50 M	SPT	S-8/11	13	20	30	50.0					
12	16.5	VERY DENSE FINE SAND 17.70 M - 21.3 M	SP		3.60 M	SPT	S-8/12	10	21	32	53.0					
13	18.0					SPT	S-8/13	15	22	40	62.0					
14	19.0	SPT	S-8/14	15	24	39	63.0									
15	21.0	SPT	S-8/15	15	27	38	65.0									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 15.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
16	22.5	VERY DENSE FINE SAND AND SILTY CLAY MIXTURE 21.3 M - 30.6 M	SM		9.3 M	SPT	S-8/16	17	29	40	69.0						
17	24.0					SPT	S-8/17	16	28	39	67.0						
18	25.5					SPT	S-8/18	14	29	40	R						
19	27.0					SPT	S-8/19	15	31	41	R						
20	28.5					SPT	S-8/20	17	34	42	R						
21	30.0	VERY DENSE FINE SAND 30.6 M - 40.0 M	SP		9.4 M	SPT	S-8/21	19	38	46	R						
22	31.5					SPT	S-8/22	24	44	R	R						
23	33.0					SPT	S-8/23	27	R	R	R						
24	34.5					SPT	S-8/24	R	R	R	R						
25	36.0					SPT	S-8/25	R	R	R	R						
26	37.5					SPT	S-8/26	R	R	R	R						
27	39.0					SPT	S-8/27	R	R	R	R						
28	40.0					SPT	S-8/28	R	R	R	R						



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 14.70 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph			
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.71 M	CL	[Symbolic Representation]	0.71 M	SPT	S-9/1	2	2	3	5.0				
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.71 M - 2.0 M			1.30 M	SPT	S-9/2	2	3	5	8.0				
3	3.00					SPT	S-9/3	3	4	7	11.0				
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.0 M - 15.4 M	SP		13.4 M	SPT	S-9/4	4	4	8	12.0				
5	6.00					SPT	S-9/5	5	5	9	14.0				
6	7.50					SPT	S-9/6	6	8	11	19.0				
7	9.00					SPT	S-9/7	8	8	12	20.0				
8	10.5					SPT	S-9/8	10	11	14	25.0				
9	12.0					SPT	S-9/9	11	13	17	30.0				
10	13.5					SPT	S-9/10	17	15	19	34.0				
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY 15.4 M - 22.8 M	CL		7.8 M	SPT	S-9/11	14	17	22	39.0				
12	16.5					SPT	S-9/12	17	21	25	46.0				
13	18.0					SPT	S-9/13	18	24	29	53.0				
14	19.0					SPT	S-9/14	20	27	32	R				
15	21.0					SPT	S-9/15	22	30	36	R				
16	22.5					SPT	S-9/16	24	33	39	R				



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.70 M DEPTH	End Date	-
Type of Boring :	MECHANICAL / AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
												0.0	25.0	50.0	75.0	100.0		
17	24.0	VERY DENSE FINE SAND 22.8 M - 37.60 M	SP		14.8 M	SPT	S-9/17	26	37	43	R							
18	25.5					SPT	S-9/18	29	41	46	R							
19	27.0					SPT	S-9/19	31	R	R	R							
20	28.5					SPT	S-9/20	35	R	R	R							
21	30.0					SPT	S-9/21	R	R	R	R							
22	31.5					SPT	S-9/22	R	R	R	R							
23	33.0					SPT	S-9/23	R	R	R	R							
24	34.5					SPT	S-9/24	R	R	R	R							
25	36.0					SPT	S-9/25	R	R	R	R							
26	37.5	HARD CLAY OF MEDIUM CONSISTENCY 37.60 M - 40.0 M	CL		2.4 M	SPT	S-9/26	R	R	R	R							
27	39.0					SPT	S-9/27	R	R	R	R							
28	40.0					SPT	S-9/28	R	R	R	R							





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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.82 M	CL		0.82 M	SPT	S-10/1	3	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.82 M - 2.80 M			1.98 M	SPT	S-10/2	3	4	5	9.0					
3	3.00					SPT	S-10/3	4	4	5	9.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 15.5 M	SP		12.7 M	SPT	S-10/4	4	5	7	12.0					
5	6.00					SPT	S-10/5	5	6	7	13.0					
6	7.50					SPT	S-10/6	6	7	8	15.0					
7	9.00					SPT	S-10/7	8	9	9	18.0					
8	10.5					SPT	S-10/8	10	11	12	23.0					
9	12.0					SPT	S-10/9	11	12	14	26.0					
10	13.5					SPT	S-10/10	17	15	17	32.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY 15.5 M - 23.0 M	CL		7.5 M	SPT	S-10/11	14	17	23	40.0					
12	16.5					SPT	S-10/12	15	20	27	47.0					
13	18.0					SPT	S-10/13	17	22	30	52.0					
14	19.0					SPT	S-10/14	19	24	32	56.0					
15	21.0					SPT	S-10/15	22	27	35	62.0					
16	22.5					SPT	S-10/16	24	32	40	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph 0.0 25.0 50.0 75.0 100.0				
17	24.0	VERY DENSE FINE SAND 23.0 M - 37.8 M	SP	14.8 M	SPT	5-10/17	27	39	43	R					
18	25.5				SPT	5-10/18	30	42	45	R					
19	27.0				SPT	5-10/19	34	45	49	R					
20	28.5				SPT	5-10/20	39	R	R	R					
21	30.0				SPT	5-10/21	R	R	R	R					
22	31.5				SPT	5-10/22	R	R	R	R					
23	33.0				SPT	5-10/23	R	R	R	R					
24	34.5				SPT	5-10/24	R	R	R	R					
25	36.0				SPT	5-10/25	R	R	R	R					
26	37.5				HARD CLAY WITH MEDIUM CONSISTENCY 37.8 M - 40.0 M	CL	2.2 M	SPT	5-10/26	R	R	R	R		
27	39.0	SPT	5-10/27	R				R	R	R					
28	40.0	SPT	5-10/28	R				R	R	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT	S-11/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 2.50 M			1.72 M	SPT	S-11/2	3	4	5	9.0					
3	3.00					SPT	S-11/3	4	5	6	11.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M -31.6 M	SP		28.8 M	SPT	S-11/4	4	5	7	12.0					
5	6.00					SPT	S-11/5	5	6	7	13.0					
6	7.50					SPT	S-11/6	6	8	8	16.0					
7	9.00					SPT	S-11/7	8	9	10	19.0					
8	10.5					SPT	S-11/8	10	11	13	24.0					
9	12.0					SPT	S-11/9	11	13	15	28.0					
10	13.5					SPT	S-11/10	17	15	18	33.0					
11	15.0					SPT	S-11/11	14	17	24	41.0					
12	16.5					SPT	S-11/12	15	20	28	48.0					
13	18.0					SPT	S-11/13	17	22	30	52.0					
14	19.0					SPT	S-11/14	19	25	33	58.0					
15	21.0					SPT	S-11/15	21	29	38	67.0					
16	22.5					SPT	S-11/16	22	36	40	76.0					



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
17	24.0				SPT	S-11/17	26	40	42	R						
18	25.5				SPT	S-11/18	30	42	45	R						
19	27.0				SPT	S-11/19	35	46	49	R						
20	28.5				SPT	S-11/20	40	R	R	R						
21	30.0				SPT	S-11/21	R	R	R	R						
22	31.5				HARD CLAY WITH MEDIUM CONSISTENCY 31.6 - 40.0 M	CL	8.4 M	SPT	S-11/22	R	R	R	R			
23	33.0	SPT	S-11/23	R				R	R	R						
24	34.5	SPT	S-11/24	R				R	R	R						
25	36.0	SPT	S-11/25	R				R	R	R						
26	37.5	SPT	S-11/26	R				R	R	R						
27	39.0	SPT	S-11/27	R				R	R	R						
28	40.0	SPT	S-11/28	R				R	R	R						



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.70 M	SPT	S-12/1	2	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 2.40 M	SP		1.65 M	SPT	S-12/2	3	4	5	9.0					
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.40 M - 32.4 M				SPT	S-12/3	3	5	6	11.0					
4	4.50					SPT	S-12/4	4	6	6	12.0					
5	6.00					SPT	S-12/5	5	6	7	13.0					
6	7.50					SPT	S-12/6	5	7	9	16.0					
7	9.00					SPT	S-12/7	7	9	9	18.0					
8	10.5					SPT	S-12/8	7	10	11	21.0					
9	12.0					SPT	S-12/9	9	12	13	25.0					
10	13.5					SPT	S-12/10	9	13	15	28.0					
11	15.0					SPT	S-12/11	11	14	17	31.0					
12	16.5					SPT	S-12/12	12	18	20	38.0					
13	18.0					SPT	S-12/13	15	22	25	47.0					
14	19.0					SPT	S-12/14	18	27	30	57.0					
15	21.0					SPT	S-12/15	22	31	34	65.0					

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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN COUNCIL OF NORTHERN COUNTRIES, NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Water Level :	AT 11.7 M DEPTH	End Date	-
Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

Depth (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
	Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0
0.5	HARD CLAY WITH MEDIUM PLASTICITY 32.4 M - 40.0 M	CL		7.6 M	SPT	S-12/16	25	33	39	72.0					
1.0					SPT	S-12/17	27	36	40	R					
1.5					SPT	S-12/18	28	40	42	R					
2.0					SPT	S-12/19	29	41	44	R					
2.5					SPT	S-12/20	31	45	48	R					
3.0					SPT	S-12/21	35	R	R	R					
3.5					SPT	S-12/22	R	R	R	R					
4.0					SPT	S-12/23	R	R	R	R					
4.5					SPT	S-12/24	R	R	R	R					
5.0					SPT	S-12/25	R	R	R	R					
5.5					SPT	S-12/26	R	R	R	R					
6.0					SPT	S-12/27	R	R	R	R					
6.5					SPT	S-12/28	R	R	R	R					



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.4 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.80 M	CL		0.80 M	SPT	S-13/1	2	2	3	5.0					
2	1.50	MEDIUM DENSE-DENSE FINE SAND 0.80 M - 31.9 M	SP		31.1 M	SPT	S-13/2	3	5	6	11.0					
3	3.00					SPT	S-13/3	4	5	6	11.0					
4	4.50					SPT	S-13/4	4	6	6	12.0					
5	6.00					SPT	S-13/5	5	6	7	13.0					
6	7.50					SPT	S-13/6	5	7	8	15.0					
7	9.00					SPT	S-13/7	7	8	11	19.0					
8	10.5					SPT	S-13/8	7	10	12	22.0					
9	12.0					SPT	S-13/9	9	12	14	26.0					
10	13.5					SPT	S-13/10	9	13	15	28.0					
11	15.0					SPT	S-13/11	10	13	18	31.0					
12	16.5					SPT	S-13/12	12	22	25	47.0					
13	18.0					SPT	S-13/13	16	25	30	55.0					
14	19.0					SPT	S-13/14	19	30	30	60.0					
15	21.0					SPT	S-13/15	20	32	35	67.0					
16	22.5					SPT	S-13/16	22	33	39	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 11.4 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
												0.0	25.0	50.0	75.0	100.0		
17	24.0					SPT	S-13/17	24	37	41	R							
18	25.5					SPT	S-13/18	27	40	42	R							
19	27.0					SPT	S-13/19	27	42	45	R							
20	28.5					SPT	S-13/20	30	45	50	R							
21	30.0					SPT	S-13/21	38	49	R	R							
22	31.5	HARD CLAY WITH MEDIUM PLASTICITY 31.9 M - 40.0 M	CL	8.1 M		SPT	S-13/22	R	R	R	R							
23	33.0					SPT	S-13/23	R	R	R	R							
24	34.5					SPT	S-13/24	R	R	R	R							
25	36.0					SPT	S-13/25	R	R	R	R							
26	37.5					SPT	S-13/26	R	R	R	R							
27	39.0					SPT	S-13/27	R	R	R	R							
28	40.0					SPT	S-13/28	R	R	R	R							





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.81 M.	CL		0.81 M	SPT	S-14/1	2	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.81 M - 3.20 M	SP		2.39 M	SPT	S-14/2	2	3	4	7.0					
3	3.00					SPT	S-14/3	3	5	5	10.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.20 M - 21.6 M	SP		18.4 M	SPT	S-14/4	4	5	6	11.0					
5	6.00					SPT	S-14/5	5	6	7	13.0					
6	7.50					SPT	S-14/6	6	8	9	17.0					
7	9.00					SPT	S-14/7	7	8	11	19.0					
8	10.5					SPT	S-14/8	8	10	12	22.0					
9	12.0					SPT	S-14/9	9	12	15	27.0					
10	13.5					SPT	S-14/10	11	14	17	31.0					
11	15.0					SPT	S-14/11	12	16	19	35.0					
12	16.5					SPT	S-14/12	14	19	22	41.0					
13	18.0					SPT	S-14/13	17	24	30	54.0					
14	19.0	SPT	S-14/14	19	29	33	62.0									
15	21.0	SPT	S-14/15	25	34	39	R									
16	22.5	SPT	S-14/16	27	37	41	R									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE													
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph											
											0.0	25.0	50.0	75.0	100.0								
17	24.0	HARD CLAY WITH MEDIUM PLASTICITY 21.6 M - 33.4 M	CL		11.8 M	SPT	5-14/17	29	39	44	R												
18	25.5					SPT	5-14/18	33	41	47	R												
19	27.0					SPT	5-14/19	37	45	49	R												
20	28.5					SPT	5-14/20	41	R	R	R												
21	30.0					SPT	5-14/21	R	R	R	R												
22	31.5					SPT	5-14/22	R	R	R	R												
23	33.0	VERY DENSE FINE SAND 33.4 M - 40.0 M	SP		6.6 M	SPT	5-14/23	R	R	R	R												
24	34.5					SPT	5-14/24	R	R	R	R												
25	36.0					SPT	5-14/25	R	R	R	R												
26	37.5					SPT	5-14/26	R	R	R	R												
27	39.0					SPT	5-14/27	R	R	R	R												
28	40.0					SPT	5-14/28	R	R	R	R												



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.9 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
												0.0	25.0	50.0	75.0	100.0			
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.80 M	CL		0.80	SPT	S-15/1	2	2	3	5.0								
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.80 M - 4.20 M			3-40 M	SPT	S-15/2	2	3	3	6.0								
3	3.00					SPT	S-15/3	3	4	5	9.0								
4	4.50	MEDIUM DENSE-DENSE FINE SAND 4.20 M - 32.45 M	SP		28.25 M	SPT	S-15/4	4	5	5	10.0								
5	6.00					SPT	S-15/5	5	6	7	13.0								
6	7.50					SPT	S-15/6	7	9	11	20.0								
7	9.00					SPT	S-15/7	7	9	10	19.0								
8	10.5					SPT	S-15/8	8	11	13	24.0								
9	12.0					SPT	S-15/9	10	12	15	27.0								
10	13.5					SPT	S-15/10	17	16	16	37.0								
11	15.0					SPT	S-15/11	14	19	22	41.0								
12	16.5					SPT	S-15/12	16	21	24	45.0								
13	18.0					SPT	S-15/13	19	25	29	54.0								
14	19.0					SPT	S-15/14	21	30	35	65.0								
15	21.0					SPT	S-15/15	25	36	41	R								
16	22.5					SPT	S-15/16	30	40	45	R								



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.9 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
17	24.0				SPT	S-15/17	35	44	49	R						
18	25.5				SPT	S-15/18	39	48	R	R						
19	27.0				SPT	S-15/19	R	R	R	R						
20	28.5				SPT	S-15/20	R	R	R	R						
21	30.0				SPT	S-15/21	R	R	R	R						
22	31.5				SPT	S-15/22	R	R	R	R						
23	33.0	HARD CLAY WITH MEDIUM PLASTICITY 32.45 M - 40.0 M	CL	7.55 M	SPT	S-15/23	R	R	R	R						
24	34.5				SPT	S-15/24	R	R	R	R						
25	36.0				SPT	S-15/25	R	R	R	R						
26	37.5				SPT	S-15/26	R	R	R	R						
27	39.0				SPT	S-15/27	R	R	R	R						
28	40.0				SPT	S-15/28	R	R	R	R						



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE										
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph								
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL		0.70 M	SPT	S-16/1	2	2	2	4.0									
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.70 M - 2.0 M			1.30 M	SPT	S-16/2	2	3	4	7.0									
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.0 M - 19.5 M	SP		17.5 M	SPT	S-16/3	3	4	5	9.0									
4	4.50					SPT	S-16/4	4	5	7	12.0									
5	6.00					SPT	S-16/5	5	6	7	13.0									
6	7.50					SPT	S-16/6	6	8	8	16.0									
7	9.00					SPT	S-16/7	8	8	10	18.0									
8	10.5					SPT	S-16/8	10	11	12	23.0									
9	12.0					SPT	S-16/9	11	12	14	26.0									
10	13.5					SPT	S-16/10	12	15	17	32.0									
11	15.0					SPT	S-16/11	13	17	22	39.0									
12	16.5					SPT	S-16/12	14	21	25	46.0									
13	18.0	SPT	S-16/13	19	27	33	60.0													
14	19.0	SPT	S-16/14	21	32	38	70.0													
15	21.0	SPT	S-16/15	25	37	41	R													



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 13.2 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
												0.0	25.0	50.0	75.0	100.0		
16	22.5	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 19.5 M - 40.0 M	CL		20.5 M	SPT	S-16/16	29	40	48	R							
17	24.0					SPT	S-16/17	38	45	R	R							
18	25.5					SPT	S-16/18	R	R	R	R							
19	27.0					SPT	S-16/19	R	R	R	R							
20	28.5					SPT	S-16/20	R	R	R	R							
21	30.0					SPT	S-16/21	R	R	R	R							
22	31.5					SPT	S-16/22	R	R	R	R							
23	33.0					SPT	S-16/23	R	R	R	R							
24	34.5					SPT	S-16/24	R	R	R	R							
25	36.0					SPT	S-16/25	R	R	R	R							
26	37.5					SPT	S-16/26	R	R	R	R							
27	39.0					SPT	S-16/27	R	R	R	R							
28	40.0	SPT	S-16/28	R	R	R	R											



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.50 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0		
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-17/1	2	3	3	6.0						
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 1.80 M	SP		1.05 M	SPT	S-17/2	3	3	4	7.0						
3	3.00	MEDIUM DENSE-DENSE FINE SAND 1.80 M - 19.8 M				18.0 M	SPT	S-17/3	5	5	7						12.0
4	4.50						SPT	S-17/4	5	7	9						16.0
5	6.00						SPT	S-17/5	7	12	15						27.0
6	7.50						SPT	S-17/6	10	15	19						34.0
7	9.00						SPT	S-17/7	10	15	20						35.0
8	10.5						SPT	S-17/8	12	17	21						38.0
9	12.0						SPT	S-17/9	13	19	24						43.0
10	13.5						SPT	S-17/10	14	21	31						52.0
11	15.0						SPT	S-17/11	15	23	33						56.0
12	16.5						SPT	S-17/12	15	25	35						60.0
13	18.0	SPT			S-17/13	20	29	40	69.0								
14	19.0	SPT			S-17/14	22	32	43	75.0								
15	21.0	SPT			S-17/15	24	35	46	81.0								



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.50 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
											0.0	25.0	50.0	75.0	100.0			
16	22.5	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 19.8 M - 40.0 M	CL		20.2 M	SPT	S-17/16	27	39	48	R							
17	24.0					SPT	S-17/17	35	43	R	R							
18	25.5					SPT	S-17/18	R	R	R	R							
19	27.0					SPT	S-17/19	R	R	R	R							
20	28.5					SPT	S-17/20	R	R	R	R							
21	30.0					SPT	S-17/21	R	R	R	R							
22	31.5					SPT	S-17/22	R	R	R	R							
23	33.0					SPT	S-17/23	R	R	R	R							
24	34.5					SPT	S-17/24	R	R	R	R							
25	36.0					SPT	S-17/25	R	R	R	R							
26	37.5					SPT	S-17/26	R	R	R	R							
27	39.0					SPT	S-17/27	R	R	R	R							
28	40.0	SPT	S-17/28	R	R	R	R											





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.77 M	CL		0.77 M	SPT	S-18/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.77 M - 2.30 M			1.53 M	SPT	S-18/2	3	3	4	7.0					
3	3.00					SPT	S-18/3	5	5	6	11.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.30 M - 20.0 M	SP		17.7 M	SPT	S-18/4	6	6	7	13.0					
5	6.00					SPT	S-18/5	7	8	9	17.0					
6	7.50					SPT	S-18/6	8	9	10	19.0					
7	9.00					SPT	S-18/7	11	12	12	24.0					
8	10.5					SPT	S-18/8	12	13	15	28.0					
9	12.0					SPT	S-18/9	14	15	17	32.0					
10	13.5					SPT	S-18/10	16	17	19	36.0					
11	15.0					SPT	S-18/11	17	19	24	43.0					
12	16.5					SPT	S-18/12	19	22	27	49.0					
13	18.0					SPT	S-18/13	23	25	32	57.0					
14	19.0	SPT	S-18/14	29	29	35	64.0									
15	21.0	SPT	S-18/15	30	33	39	72.0									
16	22.5	SPT	S-18/16	31	36	42	R									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
										0.0	25.0	50.0	75.0	100.0		
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 20.0 M - 40.0 M	CL		SPT	S-18/17	32	39	46	R						
18	25.5				SPT	S-18/18	37	43	49	R						
19	27.0				SPT	S-18/19	45	47	R	R						
20	28.5				SPT	S-18/20	R	R	R	R						
21	30.0				SPT	S-18/21	R	R	R	R						
22	31.5				SPT	S-18/22	R	R	R	R						
23	33.0				SPT	S-18/23	R	R	R	R						
24	34.5				SPT	S-18/24	R	R	R	R						
25	36.0				SPT	S-18/25	R	R	R	R						
26	37.5				SPT	S-18/26	R	R	R	R						
27	39.0	SPT	S-18/27	R	R	R	R									
28	40.0	SPT	S-18/28	R	R	R	R									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.4 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT	S-19/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 3.20 M			2.42 M	SPT	S-19/2	2	3	4	7.0					
3	3.00					SPT	S-19/3	3	4	5	9.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.20 M - 21.0 M	SP		17.8 M	SPT	S-19/4	4	5	6	11.0					
5	6.00					SPT	S-19/5	5	6	6	12.0					
6	7.50					SPT	S-19/6	6	7	8	15.0					
7	9.00					SPT	S-19/7	8	9	10	19.0					
8	10.5					SPT	S-19/8	10	10	12	22.0					
9	12.0					SPT	S-19/9	12	12	15	27.0					
10	13.5					SPT	S-19/10	13	15	19	34.0					
11	15.0					SPT	S-19/11	15	17	22	39.0					
12	16.5					SPT	S-19/12	17	20	26	46.0					
13	18.0					SPT	S-19/13	20	23	30	53.0					
14	19.0	SPT	S-19/14	22	27	33	60.0									
15	21.0	SPT	S-19/15	24	30	38	68.0									
16	22.5	SPT	S-19/16	25	33	40	R									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.4 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.0 M - 31.8 M	CL		10.8 M	SPT	S-19/17	26	35	42	R					
18	25.5					SPT	S-19/18	26	37	44	R					
19	27.0					SPT	S-19/19	29	41	48	R					
20	28.5					SPT	S-19/20	32	44	50	R					
21	30.0					SPT	S-19/21	35	47	R	R					
22	31.5	VERY DENSE FINE SAND 31.8 M - 40.0 M	SP		8.2 M	SPT	S-19/22	R	R	R	R					
23	33.0					SPT	S-19/23	R	R	R	R					
24	34.5					SPT	S-19/24	R	R	R	R					
25	36.0					SPT	S-19/25	R	R	R	R					
26	37.5					SPT	S-19/26	R	R	R	R					
27	39.0					SPT	S-19/27	R	R	R	R					
28	40.0					SPT	S-19/28	R	R	R	R					



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
											0.0	25.0	50.0	75.0	100.0		
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL	0.70 M	SPT	S-20/1	2	2	3	5.0							
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.70 M - 3.20 M	SP	19.6 M	SPT	S-20/2	2	3	3	6.0							
3	3.00	MEDIUM DENSE-DENSE FINE SAND 3.20 M - 22.8 M			SPT	S-20/3	3	4	5	9.0							
4	4.50				SPT	S-20/4	4	5	6	11.0							
5	6.00				SPT	S-20/5	5	6	8	14.0							
6	7.50				SPT	S-20/6	5	7	9	16.0							
7	9.00				SPT	S-20/7	6	9	11	20.0							
8	10.5				SPT	S-20/8	8	11	12	23.0							
9	12.0				SPT	S-20/9	10	13	15	28.0							
10	13.5				SPT	S-20/10	10	15	19	34.0							
11	15.0				SPT	S-20/11	11	17	22	39.0							
12	16.5				SPT	S-20/12	12	19	25	44.0							
13	18.0				SPT	S-20/13	15	22	29	51.0							
14	19.0				SPT	S-20/14	19	26	33	59.0							
15	21.0				SPT	S-20/15	23	29	38	67.0							



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
16	22.5	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 22.8 M - 31.0 M	CL		8.20 M	SPT	5-20/16	25	33	41	R					
17	24.0					SPT	5-20/17	28	37	44	R					
18	25.5					SPT	5-20/18	31	40	47	R					
19	27.0					SPT	5-20/19	34	44	50	R					
20	28.5					SPT	5-20/20	39	48	R	R					
21	30.0					SPT	5-20/21	R	R	R	R					
22	31.5	VERY DENSE FINE SAND 31.0 M - 40.0 M	SP		9.0 M	SPT	5-20/22	R	R	R	R					
23	33.0					SPT	5-20/23	R	R	R	R					
24	34.5					SPT	5-20/24	R	R	R	R					
25	36.0					SPT	5-20/25	R	R	R	R					
26	37.5					SPT	5-20/26	R	R	R	R					
27	39.0					SPT	5-20/27	R	R	R	R					
28	40.0					SPT	5-20/28	R	R	R	R					



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.3 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.77 M	CL		0.77 M	SPT	S-21/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.77 M - 2.90 M			2.13 M	SPT	S-21/2	2	2	3	5.0					
3	3.00					SPT	S-21/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SANDS 2.90 M - 32.3 M	SP		29.4 M	SPT	S-21/4	3	4	4	8.0					
5	6.00					SPT	S-21/5	4	5	8	13.0					
6	7.50					SPT	S-21/6	4	6	8	14.0					
7	9.00					SPT	S-21/7	6	8	10	18.0					
8	10.5					SPT	S-21/8	8	10	12	22.0					
9	12.0					SPT	S-21/9	10	12	14	26.0					
10	13.5					SPT	S-21/10	10	14	18	32.0					
11	15.0					SPT	S-21/11	12	15	20	35.0					
12	16.5					SPT	S-21/12	14	17	23	40.0					
13	18.0					SPT	S-21/13	17	19	25	44.0					
14	19.0					SPT	S-21/14	20	24	29	53.0					
15	21.0					SPT	S-21/15	22	28	34	62.0					
16	22.5					SPT	S-21/16	25	31	37	R					



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.3 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
												0.0	25.0	50.0	75.0	100.0
17	24.0					SPT 5-21/17	28	35	41	R						
18	25.5					SPT 5-21/18	31	39	45	R						
19	27.0					SPT 5-21/19	33	43	48	R						
20	28.5					SPT 5-21/20	35	49	R	R						
21	30.0					SPT 5-21/21	R	R	R	R						
22	31.5					SPT 5-21/22	R	R	R	R						
23	33.0					SPT 5-21/23	R	R	R	R						
24	34.5					SPT 5-21/24	R	R	R	R						
25	36.0	HARD CLAY WITH MEDIUM PLASTICITY	CL		7.7 M	SPT 5-21/25	R	R	R	R						
26	37.5	32.3 M - 40.0 M				SPT 5-21/26	R	R	R	R						
27	39.0					SPT 5-21/27	R	R	R	R						
28	40.0					SPT 5-21/28	R	R	R	R						




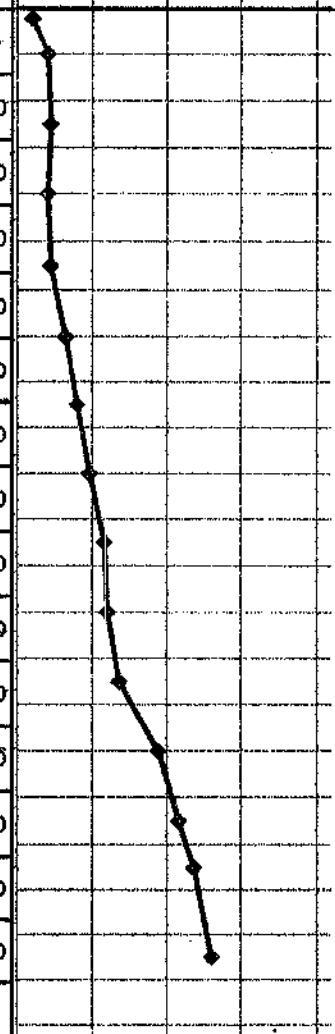


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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.65 M	SPT	S-22/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.65 M - 2.45 M	SP		1.80 M	SPT	S-22/2	2	3	7	10.0					
3	3.00					SPT	S-22/3	3	4	7	11.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 14.8 M	SP		19.15 M	SPT	S-22/4	4	4	6	10.0					
5	6.00					SPT	S-22/5	5	5	6	11.0					
6	7.50					SPT	S-22/6	5	7	9	16.0					
7	9.00					SPT	S-22/7	6	8	12	20.0					
8	10.5					SPT	S-22/8	8	11	13	24.0					
9	12.0					SPT	S-22/9	10	13	16	29.0					
10	13.5					SPT	S-22/10	11	15	15	30.0					
11	15.0					SPT	S-22/11	12	17	17	34.0					
12	16.5					SPT	S-22/12	14	18	29	47.0					
13	18.0					SPT	S-22/13	17	22	32	54.0					
14	19.0	SPT	S-22/14	20	25	34	59.0									
15	21.0	SPT	S-22/15	22	29	36	65.0									
16	22.5	SPT	S-22/16	24	33	39	R									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 13.2 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
												0.0	25.0	50.0	75.0	100.0			
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.6 M - 31.0 M	CL		9.40 M	SPT	S-22/17	27	35	42	R								
18	25.5					SPT	S-22/18	29	39	44	83.0								
19	27.0					SPT	S-22/19	32	42	46	R								
20	28.5					SPT	S-22/20	35	48	46	R								
21	30.0					SPT	S-22/21	R	R	48	R								
22	31.5	VERY DENSE FINE SAND 31.0 M - 40.0 M	SP		9.0 M	SPT	S-22/22	R	R	50	R								
23	33.0					SPT	S-22/23	R	R	R	R								
24	34.5					SPT	S-22/24	R	R	R	R								
25	36.0					SPT	S-22/25	R	R	R	R								
26	37.5					SPT	S-22/26	R	R	R	R								
27	39.0					SPT	S-22/27	R	R	R	R								
28	40.0					SPT	S-22/28	R	R	R	R								



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.76 M	CL		0.76 M	SPT	S-23/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.76 M - 3.40 M			2.64 M	SPT	S-23/2	2	3	4	7.0					
3	3.00					SPT	S-23/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.40 M - 31.7 M	SP		28.3 M	SPT	S-23/4	4	4	5	9.0					
5	6.00					SPT	S-23/5	4	5	6	11.0					
6	7.50					SPT	S-23/6	5	7	8	15.0					
7	9.00					SPT	S-23/7	7	9	10	19.0					
8	10.5					SPT	S-23/8	9	11	12	23.0					
9	12.0					SPT	S-23/9	11	13	14	27.0					
10	13.5					SPT	S-23/10	12	15	17	32.0					
11	15.0					SPT	S-23/11	14	17	20	37.0					
12	16.5					SPT	S-23/12	15	19	22	41.0					
13	18.0					SPT	S-23/13	17	23	26	49.0					
14	19.0	SPT	S-23/14	20	27	31	58.0									
15	21.0	SPT	S-23/15	22	29	33	62.0									
16	22.5	SPT	S-23/16	24	32	35	67.0									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
												0.0	25.0	50.0	75.0	100		
17	24.0					SPT 5-23/17	27	34	39	73.0								
18	25.5					SPT 5-23/18	29	37	42	79.0								
19	27.0					SPT 5-23/19	31	40	45	R								
20	28.5					SPT 5-23/20	33	43	47	R								
21	30.0					SPT 5-23/21	36	45	R	R								
22	31.5	HARD CLAY WITH MEDIUM PLASTICITY 31.7 M - 40.0 M	CL	8.3 M		SPT 5-23/22	R	R	R	R								
23	33.0				SPT 5-23/23	R	R	R	R									
24	34.5				SPT 5-23/24	R	R	R	R									
25	36.0				SPT 5-23/25	R	R	R	R									
26	37.5				SPT 5-23/26	R	R	R	R									
27	39.0				SPT 5-23/27	R	R	R	R									
28	40.0				SPT 5-23/28	R	R	R	R									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.		
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.69 M	CL		0.69 M	SPT	S-24/1	2	2	2	4.0						
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.69 M - 2.0 M	SP		1.31 M	SPT	S-24/2	2	2	3	5.0						
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.0 M - 15.2 M				SPT	S-24/3	2	3	3	6.0						
4	4.50					SPT	S-24/4	3	3	4	7.0						
5	6.00					SPT	S-24/5	4	4	5	9.0						
6	7.50					SPT	S-24/6	5	6	7	13.0						
7	9.00					SPT	S-24/7	5	7	7	14.0						
8	10.5					SPT	S-24/8	7	8	10	18.0						
9	12.0					SPT	S-24/9	9	9	11	20.0						
10	13.5					SPT	S-24/10	10	12	14	26.0						
11	15.0					VERY STIFF-HARD CONSISTENCY CLAY 15.2 M - 23.2 M	CL		8.0 M	SPT	S-24/11						11
12	16.5		SPT	S-24/12	13					15	17						32.0
13	18.0	SPT	S-24/13	15	17					19	36.0						
14	19.0	SPT	S-24/14	17	21					24	45.0						
15	21.0	SPT	S-24/15	19	23					27	50.0						



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.	
16	22.5				SPT	S-24/16	22	25	29	54.0						
17	24.0	VERY DENSE FINE SAND 23.2 M - 37.2 M	SP	14.0 M	SPT	S-24/17	24	29	33	62.0						
18	25.5				SPT	S-24/18	27	32	36	R						
19	27.0				SPT	S-24/19	30	35	39	R						
20	28.5				SPT	S-24/20	33	39	44	R						
21	30.0				SPT	S-24/21	39	43	50	R						
22	31.5				SPT	S-24/22	41	46	R	R						
23	33.0				SPT	S-24/23	R	R	R	R						
24	34.5				SPT	S-24/24	R	R	R	R						
25	36.0	SPT	S-24/25	R	R	R	R									
26	37.5	HARD CLAY WITH MEDIUM PLASTICITY 37.2 M - 40.0 M	CL	2.8 M	SPT	S-24/26	R	R	R	R						
27	39.0				SPT	S-24/27	R	R	R	R						
28	40.0				SPT	S-24/28	R	R	R	R						



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.30 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-25/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 2.80 M			2.05 M	SPT	S-25/2	2	3	3	6.0					
3	3.00					SPT	S-25/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 21.1 M	SP		18.3 M	SPT	S-25/4	3	3	5	8.0					
5	6.00					SPT	S-25/5	3	4	5	9.0					
6	7.50					SPT	S-25/6	4	5	6	11.0					
7	9.00					SPT	S-25/7	5	6	6	12.0					
8	10.5					SPT	S-25/8	6	7	9	16.0					
9	12.0					SPT	S-25/9	8	9	11	20.0					
10	13.5					SPT	S-25/10	10	11	13	24.0					
11	15.0					SPT	S-25/11	12	13	15	28.0					
12	16.5					SPT	S-25/12	13	15	17	32.0					
13	18.0					SPT	S-25/13	15	16	18	34.0					
14	19.0	SPT	S-25/14	17	19	22	41.0									
15	21.0	SPT	S-25/15	18	22	25	47.0									
16	22.5	SPT	S-25/16	21	25	29	R									



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.30 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.1 M - 31.0 M	CL		9.9 M	SPT	S-25/17	23	27	32	R						
18	25.5					SPT	S-25/18	27	31	34	R						
19	27.0					SPT	S-25/19	29	33	38	R						
20	28.5					SPT	S-25/20	33	38	43	R						
21	30.0					SPT	S-25/21	35	40	45	R						
22	31.5	VERY DENSE FINE SAND 31.0 M - 40.0 M	SP		9.0 M	SPT	S-25/22	38	43	49	R						
23	33.0					SPT	S-25/23	41	45	R	R						
24	34.5					SPT	S-25/24	R	R	R	R						
25	36.0					SPT	S-25/25	R	R	R	R						
26	37.5					SPT	S-25/26	R	R	R	R						
27	39.0					SPT	S-25/27	R	R	R	R						
28	40.0					SPT	S-25/28	R	R	R	R						





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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.8 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.65 M	CL		0.65 M	SPT	S-26/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.65 M - 4.30 M	SP		3.65 M	SPT	S-26/2	2	3	3	6.0					
3	3.00					SPT	S-26/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 4.30 M - 21.7 M	SP		17.4 M	SPT	S-26/4	3	4	4	8.0					
5	6.00					SPT	S-26/5	4	5	5	10.0					
6	7.50					SPT	S-26/6	4	7	8	15.0					
7	9.00					SPT	S-26/7	6	9	10	19.0					
8	10.5					SPT	S-26/8	7	11	13	24.0					
9	12.0					SPT	S-26/9	10	12	15	27.0					
10	13.5					SPT	S-26/10	12	14	17	31.0					
11	15.0					SPT	S-26/11	14	15	18	33.0					
12	16.5					SPT	S-26/12	15	19	22	41.0					
13	18.0					SPT	S-26/13	17	23	27	50.0					
14	19.0					SPT	S-26/14	19	26	30	56.0					
15	21.0					SPT	S-26/15	22	29	33	62.0					
16	22.5					SPT	S-26/16	25	33	38	71.0					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.8 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.7 M - 31.8 M	CL	10.1 M	SPT	S-26/17	28	38	41	79.0					
18	25.5				SPT	S-26/18	30	40	44	84.0					
19	27.0				SPT	S-26/19	34	43	48	R					
20	28.5				SPT	S-26/20	37	45	R	R					
21	30.0				SPT	S-26/21	R	R	R	R					
22	31.5	VERY DENSE FINE SAND 31.8 M - 40.0 M	SP	8.2 M	SPT	S-26/22	R	R	R	R					
23	33.0				SPT	S-26/23	R	R	R	R					
24	34.5				SPT	S-26/24	R	R	R	R					
25	36.0				SPT	S-26/25	R	R	R	R					
26	37.5				SPT	S-26/26	R	R	R	R					
27	39.0				SPT	S-26/27	R	R	R	R					
28	40.0				SPT	S-26/28	R	R	R	R					



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT	S-27/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 2.30 M			1.52 M	SPT	S-27/2	2	2	3	5.0					
3	3.00					SPT	S-27/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.30 M - 21.7 M	SP		19.4 M	SPT	S-27/4	3	4	5	9.0					
5	6.00					SPT	S-27/5	3	5	5	10.0					
6	7.50					SPT	S-27/6	4	6	8	14.0					
7	9.00					SPT	S-27/7	5	8	10	18.0					
8	10.5					SPT	S-27/8	7	10	12	22.0					
9	12.0					SPT	S-27/9	9	11	14	25.0					
10	13.5					SPT	S-27/10	10	13	16	29.0					
11	15.0					SPT	S-27/11	13	15	17	32.0					
12	16.5					SPT	S-27/12	14	16	19	35.0					
13	18.0					SPT	S-27/13	16	18	22	40.0					
14	19.0	SPT	S-27/14	17	20	24	44.0									
15	21.0	SPT	S-27/15	20	23	27	50.0									
16	22.5	SPT	S-27/16	22	26	29	55.0									



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE										
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph										
										0.0	25.0	50.0	75.0	100							
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.7 M - 31.5 M	CL	9.8 M	SPT	S-27/17	24	29	34	63.0											
18	25.5				SPT	S-27/18	27	32	37	69.0											
19	27.0				SPT	S-27/19	30	34	39	R											
20	28.5				SPT	S-27/20	32	38	42	R											
21	30.0				SPT	S-27/21	35	41	45	R											
22	31.5	VERY DENSE FINE SAND 31.5 M - 40.0 M	SP	8.5 M	SPT	S-27/22	38	43	49	R											
23	33.0				SPT	S-27/23	41	45	R	R											
24	34.5				SPT	S-27/24	R	R	R	R											
25	36.0				SPT	S-27/25	R	R	R	R											
26	37.5				SPT	S-27/26	R	R	R	R											
27	39.0				SPT	S-27/27	R	R	R	R											
28	40.0				SPT	S-27/28	R	R	R	R											



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL		0.70 M	SPT	S-28/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.70 M - 2.40 M	SP		1.70 M	SPT	S-28/2	2	3	3	6.0					
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.40 M - 21.8 M				SPT	S-28/3	3	4	5	9.0					
4	4.50					SPT	S-28/4	4	4	6	10.0					
5	6.00					SPT	S-28/5	6	6	6	12.0					
6	7.50					SPT	S-28/6	7	7	8	15.0					
7	9.00					SPT	S-28/7	7	9	10	19.0					
8	10.5					SPT	S-28/8	8	10	11	21.0					
9	12.0					SPT	S-28/9	9	11	13	24.0					
10	13.5					SPT	S-28/10	11	13	15	28.0					
11	15.0					SPT	S-28/11	13	15	17	32.0					
12	16.5					SPT	S-28/12	15	17	19	36.0					
13	18.0					SPT	S-28/13	17	19	22	41.0					
14	19.0					SPT	S-28/14	19	22	25	47.0					
15	21.0					SPT	S-28/15	21	24	27	51.0					

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<b>BORE LOG SHEET (as per IS 1892:1979)</b>																
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																
<b>Location :</b>		AS PER LOCATION MAP	<b>Start Date</b>	-												
<b>Ground Water Level :</b>		AT 13.2 M DEPTH	<b>End Date</b>	-												
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.												
<b>Diameter of Boring :</b>		150 mm	<b>Termination Depth</b>	40.0 mtr.												
S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100	
16	22.5	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.8 M - 32.0 M	CL	10.2 M	SPT S-28/16	23	27	30	57.0							
17	24.0				SPT S-28/17	25	29	33	62.0							
18	25.5				SPT S-28/18	27	32	35	R							
19	27.0				SPT S-28/19	29	35	39	R							
20	28.5				SPT S-28/20	31	38	42	R							
21	30.0				SPT S-28/21	32	41	44	R							
22	31.5				SPT S-28/22	35	43	47	R							
23	33.0	VERY DENSE FINE SAND 32.0 M - 40.0 M	SP	8.0 M	SPT S-28/23	40	R	R	R							
24	34.5				SPT S-28/24	R	R	R	R							
25	36.0				SPT S-28/25	R	R	R	R							
26	37.5				SPT S-28/26	R	R	R	R							
27	39.0				SPT S-28/27	R	R	R	R							
28	40.0				SPT S-28/28	R	R	R	R							





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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 213.8 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.80 M	CL		0.80 M	SPT	S-29/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.80 M - 3.80 M	SP		3.0 M	SPT	S-29/2	2	2	3	5.0					
3	3.00					SPT	S-29/3	3	3	4	7.0					
4	4.50					SPT	S-29/4	3	4	5	9.0					
5	6.00	MEDIUM DENSE-DENSE FINE SAND 3.80 M - 20.5 M	SP		16.7 M	SPT	S-29/5	5	5	6	11.0					
6	7.50					SPT	S-29/6	6	7	9	16.0					
7	9.00					SPT	S-29/7	7	8	10	18.0					
8	10.5					SPT	S-29/8	8	10	12	22.0					
9	12.0					SPT	S-29/9	10	12	15	27.0					
10	13.5					SPT	S-29/10	12	14	17	31.0					
11	15.0					SPT	S-29/11	15	16	20	36.0					
12	16.5					SPT	S-29/12	17	19	23	42.0					
13	18.0					SPT	S-29/13	19	22	26	48.0					
14	19.0	VERY DENSE SILTY SAND AND CLAY MIXTURE 20.5 M - 29.3 M	SM		8.8 M	SPT	S-29/14	21	24	29	53.0					
15	21.0					SPT	S-29/15	22	27	32	59.0					
16	22.5					SPT	S-29/16	24	30	34	R					
17	24.0					SPT	S-29/17	25	32	37	R					
18	25.5					SPT	S-29/18	27	35	40	R					
19	27.0					SPT	S-29/19	29	38	43	R					

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<b>BORE LOG SHEET (as per IS 1892:1979)</b>																
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>		-										
<b>Ground Water Level :</b>		AT 14.5 M DEPTH		<b>End Date</b>		-										
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>		E.G.L.										
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>		40.0 mtr.										
S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.65 M	CL		0.65 M	SPT	S-30/1	2	3	3	6.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.65 M - 2.00 M			1.35 M	SPT	S-30/2	2	3	4	7.0					
3	3.00					SPT	S-30/3	3	3	5	8.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 15.5 M	SP		12.7 M	SPT	S-30/4	3	5	5	10.0					
5	6.00					SPT	S-30/5	4	6	7	13.0					
6	7.50					SPT	S-30/6	6	8	10	18.0					
7	9.00					SPT	S-30/7	8	9	11	20.0					
8	10.5					SPT	S-30/8	10	12	14	26.0					
9	12.0					SPT	S-30/9	11	14	17	31.0					
10	13.5					SPT	S-30/10	12	16	19	35.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY 15.5 M - 23.0 M	CL		7.5 M	SPT	S-30/11	15	20	25	45.0					
12	16.5					SPT	S-30/12	17	22	27	49.0					
13	18.0					SPT	S-30/13	20	25	29	54.0					
14	19.0					SPT	S-30/14	23	29	32	61.0					
15	21.0					SPT	S-30/15	27	31	34	65.0					
16	22.5					SPT	S-30/16	30	33	37	70.0					





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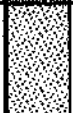
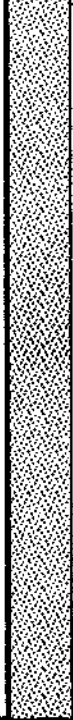
**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.	
17	24.0	VERY DENSE SILTY SAND AND CLAY MIXTURE 23.0 M - 27.85 M	SM		4.85 M	SPT	S-30/17	32	37	40	77.0					
18	25.5					SPT	S-30/18	35	40	43	83.0					
19	27.0	VERY DENSE FINE SAND 27.85 M - 40.0 M	SP		12.15 M	SPT	S-30/19	39	44	50	R					
20	28.5					SPT	S-30/20	42	R	46	R					
21	30.0					SPT	S-30/21	R	R	48	R					
22	31.5					SPT	S-30/22	R	R	50	R					
23	33.0					SPT	S-30/23	R	R	R	R					
24	34.5					SPT	S-30/24	R	R	R	R					
25	36.0					SPT	S-30/25	R	R	R	R					
26	37.5					SPT	S-30/26	R	R	R	R					
27	39.0					SPT	S-30/27	R	R	R	R					
28	40.0					SPT	S-30/28	R	R	R	R					

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<b>BORE LOG SHEET (as per IS 1892:1979)</b>																
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>	-											
<b>Ground Water Level :</b>		AT 11.2 M DEPTH		<b>End Date</b>	-											
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>	E.G.L.											
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>	40.0 mtr.											
S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
												0.0	25.0	50.0	75.0	100
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.72 M	CL		0.72 M	SPT	S-31/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.72 M - 4.20 M			3.48 M	SPT	S-31/2	2	3	3	6.0					
3	3.00					SPT	S-31/3	3	4	4	8.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 4.20 M - 21.8 M	SP		17.6 M	SPT	S-31/4	3	4	5	9.0					
5	6.00					SPT	S-31/5	4	5	6	11.0					
6	7.50					SPT	S-31/6	4	6	7	13.0					
7	9.00					SPT	S-31/7	5	6	9	15.0					
8	10.5					SPT	S-31/8	6	8	11	19.0					
9	12.0					SPT	S-31/9	9	11	13	24.0					
10	13.5					SPT	S-31/10	11	12	15	27.0					
11	15.0					SPT	S-31/11	13	16	19	35.0					
12	16.5					SPT	S-31/12	15	18	22	40.0					
13	18.0					SPT	S-31/13	18	21	25	46.0					
14	19.0					SPT	S-31/14	20	23	28	51.0					
15	21.0					SPT	S-31/15	22	26	31	57.0					
16	22.5	SPT	S-31/16	25	29	34	63.0									



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.	
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.8 M - 32.5 M	CL		10.7 M	SPT	S-31/17	28	32	38	70.0					
18	25.5					SPT	S-31/18	31	35	41	76.0					
19	27.0					SPT	S-31/19	32	37	43	R					
20	28.5					SPT	S-31/20	34	40	45	R					
21	30.0					SPT	S-31/21	38	43	49	R					
22	31.5					SPT	S-31/22	41	47	R	R					
23	33.0	VERY DENSE FINE SAND 32.5 M - 40.0 M	SP		7.5 M	SPT	S-31/23	R	R	R	R					
24	34.5					SPT	S-31/24	R	R	R	R					
25	36.0					SPT	S-31/25	R	R	R	R					
26	37.5					SPT	S-31/26	R	R	R	R					
27	39.0					SPT	S-31/27	R	R	R	R					
28	40.0					SPT	S-31/28	R	R	R	R					



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BORE LOG SHEET (as per IS 1892:1979)

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 10.9 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT	S-32/1	2	2	2	4.0							
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 3.50 M	SP		2.72 M	SPT	S-32/2	3	4	4	8.0							
3	3.00					SPT	S-32/3	4	4	6	10.0							
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.50 M - 21.2 M	SP		17.7 M	SPT	S-32/4	4	4	7	11.0							
5	6.00					SPT	S-32/5	5	6	7	13.0							
6	7.50					SPT	S-32/6	5	7	8	15.0							
7	9.00					SPT	S-32/7	7	7	8	15.0							
8	10.5					SPT	S-32/8	7	8	10	18.0							
9	12.0					SPT	S-32/9	10	10	12	22.0							
10	13.5					SPT	S-32/10	11	12	12	24.0							
11	15.0					SPT	S-32/11	13	14	17	31.0							
12	16.5					SPT	S-32/12	15	16	19	35.0							
13	18.0					SPT	S-32/13	16	20	22	42.0							
14	19.0					SPT	S-32/14	16	21	25	48.0							
15	21.0	SPT	S-32/15	20	25	27	52.0											
16	22.5	SPT	S-32/16	23	30	31	61.0											



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>Location :</b>	AS PER LOCATION MAP	<b>Start Date</b>	-
<b>Ground Water Level :</b>	AT 10.9 M DEPTH	<b>End Date</b>	-
<b>Type of Boring :</b>	MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.
<b>Diameter of Boring :</b>	150 mm	<b>Termination Depth</b>	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type				Sample		Penetration Value				SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph								
												0.0	25.0	50.0	75.0	100.0				
17	24.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.2 M - 32.0 M	CL		10.8 M	SPT	S-32/17	28	31	35	66.0									
18	25.5					SPT	S-32/18	47	R	R	R									
19	27.0					SPT	S-32/19	R	R	R	R									
20	28.5					SPT	S-32/20	R	R	R	R									
21	30.0					SPT	S-32/21	R	R	R	R									
22	31.5					SPT	S-32/22	R	R	R	R									
23	33.0	VERY DENSE FINE SAND 32.0 M - 40.0 M	SP		8.0 M	SPT	S-32/23	R	R	R	R									
24	34.5					SPT	S-32/24	R	R	R	R									
25	36.0					SPT	S-32/25	R	R	R	R									
26	37.5					SPT	S-32/26	R	R	R	R									
27	39.0					SPT	S-32/27	R	R	R	R									
28	40.0					SPT	S-32/28	R	R	R	R									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-33/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 4.60 M  MEDIUM DENSE-DENSE FINE SAND 4.6 M - 15.0 M	SP		3.85 M	SPT	S-33/2	2	3	4	7.0					
3	3.00					SPT	S-33/3	3	4	4	8.0					
4	4.50					SPT	S-33/4	4	5	5	10.0					
5	6.00					SPT	S-33/5	5	6	6	12.0					
6	7.50					SPT	S-33/6	5	6	7	13.0					
7	9.00					SPT	S-33/7	7	8	10	18.0					
8	10.5					SPT	S-33/8	9	11	13	24.0					
9	12.0					SPT	S-33/9	11	14	17	31.0					
10	13.5	SPT	S-33/10	12	16	19	35.0									
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY 15.0 M - 17.7 M	CL		2.70 M	SPT	S-33/11	12	18	21	39.0					
12	16.5					SPT	S-33/12	14	20	25	45.0					
13	18.0	VERY DENSE FINE SAND 17.7 M - 20.0 M	SP		2.30 M	SPT	S-33/13	16	22	29	51.0					
14	19.0					SPT	S-33/14	18	25	33	R					
15	21.0	VERY DENSE SILTY SAND WITH CLAY MIXTURE 20.0 M - 29.2 M	SM		9.2 M	SPT	S-33/15	20	28	37	R					
16	22.5					SPT	S-33/16	20	31	40	R					
17	24.0					SPT	S-33/17	23	33	41	R					
18	25.5					SPT	S-33/18	25	35	43	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.2 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE								
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph							
											0.0	25.0	50.0	75.0	100.0				
19	27.0					SPT	S-33/19	29	38	47	R								
20	28.5					SPT	S-33/20	35	42	50	R								
21	30.0	VERY DENSE FINE SAND 29.20 M - 40.0 M	SP		10.8 M	SPT	S-33/21	40	18	R	R								
22	31.5					SPT	S-33/22	R	R	R	R								
23	33.0					SPT	S-33/23	R	R	R	R								
24	34.5					SPT	S-33/24	R	R	R	R								
25	36.0					SPT	S-33/25	R	R	R	R								
26	37.5					SPT	S-33/26	R	R	R	R								
27	39.0					SPT	S-33/27	R	R	R	R								
28	40.0					SPT	S-33/28	R	R	R	R								



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.65 M	CL		0.65 M	SPT S-34/1	2	3	3	6.0						
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE	SP		1.25 M	SPT S-34/2	3	3	5	8.0						
3	3.00	MEDIUM DENSE-DENSE FINE SAND 1.90 M - 14.0 M			12.1 M	SPT S-34/3	4	5	6	11.0						
4	4.50					SPT S-34/4	6	7	8	15.0						
5	6.00					SPT S-34/5	8	9	12	21.0						
6	7.50					SPT S-34/6	10	12	15	27.0						
7	9.00					SPT S-34/7	11	15	17	32.0						
8	10.5					SPT S-34/8	11	17	17	34.0						
9	12.0					SPT S-34/9	13	19	26	45.0						
10	13.5					SPT S-34/10	16	22	29	51.0						
11	15.0					VERY STIFF-HARD CONSISTENCY CLAY SILT AND SAND MIXTURE	ML		2.8 M	SPT S-34/11		19	26	32	58.0	
12	16.5		SPT S-34/12	22		27	33	60.0								
13	18.0	VERY DENSE FINE SAND	SP		0.8 M	SPT S-34/13	27	29	34	63.0						
14	19.0	HARD CLAY WITH MEDIUM CONSISTENCY	CL		4.4 M	SPT S-34/14	31	31	40	R						
15	21.0					SPT S-34/15	35	40	45	R						
16	22.5	VERY DENSE SAND AND SILTY CLAY	SM		2.2 M	SPT S-34/16	41	R	R	R						





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
17	24.0	VERY DENSE FINE SAND 24.2 M - 30.0 M	SP	5.8 M	SPT	S-34/17	20	37	R	R						
18	25.5				SPT	S-34/18	20	38	R	R						
19	27.0				SPT	S-34/19	21	39	R	R						
20	28.5				SPT	S-34/20	22	41	R	R						
21	30.0	HARD CLAY WITH MEDIUM PLASTICITY 30.0 M - 34.0 M	CL	4.0 M	SPT	S-34/21	22	42	48	R						
22	31.5				SPT	S-34/22	29	48	50	R						
23	33.0				SPT	S-34/23	35	R	R	R						
24	34.5	VERY DENSE FINE SAND 34.0 M - 40.0 M	SP	6.0 M	SPT	S-34/24	42	R	R	R						
25	36.0				SPT	S-34/25	45	R	R	R						
26	37.5				SPT	S-34/26	45	R	R	R						
27	39.0				SPT	S-34/27	R	R	R	R						
28	40.0				SPT	S-34/28	R	R	R	R						



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.4 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL		0.75 M	SPT	S-35/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 4.50 M	SP		3.75 M	SPT	S-35/2	3	2	3	5.0					
3	3.00					SPT	S-35/3	4	3	4	7.0					
4	4.50					SPT	S-35/4	4	5	5	10.0					
5	6.00	MEDIUM DENSE-DENSE FINE SAND 4.50 M - 21.9 M	SP		17.4 M	SPT	S-35/5	5	6	7	13.0					
6	7.50					SPT	S-35/6	7	7	9	15.0					
7	9.00					SPT	S-35/7	8	8	9	17.0					
8	10.5					SPT	S-35/8	9	9	10	19.0					
9	12.0					SPT	S-35/9	10	12	12	24.0					
10	13.5					SPT	S-35/10	12	14	15	29.0					
11	15.0					SPT	S-35/11	13	14	18	32.0					
12	16.5					SPT	S-35/12	15	17	21	38.0					
13	18.0					SPT	S-35/13	16	19	24	43.0					
14	19.0					SPT	S-35/14	20	22	30	52.0					
15	21.0	SPT	S-35/15	23	24	31	55.0									
16	22.5					SPT	S-35/16	25	25	37	62.0					



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
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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.4 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from E.G.L. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
										0.0	25.0	50.0	75.0	100.	
17	24.0	HARD CONSISTENCY CLAY SOIL WITH MEDIUM PLASTICITY 21.9 M - 30.8 M	CL	3.9 M	SPT	S-35/17	25	28	41	69.0					
18	25.5				SPT	S-35/18	32	42	R	R					
19	27.0				SPT	S-35/19	35	46	49	R					
20	28.5				SPT	S-35/20	39	49	R	R					
21	30.0				SPT	S-35/21	45	R	R	R					
22	31.5	VERY DENSE FINE SAND 30.8 M - 40.0 M	SP	9.2 M	SPT	S-35/22	R	R	R	R					
23	33.0				SPT	S-35/23	R	R	R	R					
24	34.5				SPT	S-35/24	R	R	R	R					
25	36.0				SPT	S-35/25	R	R	R	R					
26	37.5				SPT	S-35/26	R	R	R	R					
27	39.0				SPT	S-35/27	R	R	R	R					
28	40.0				SPT	S-35/28	R	R	R	R					

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<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																	
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>	-												
<b>Ground Water Level :</b>		AT 12.7 M DEPTH		<b>End Date</b>	-												
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>	E.G.L.												
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>	40.0 mtr.												
S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0		
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.85 M	CL		0.85 M	SPT	S-36/1	2	2	3	5.0						
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.85 M - 3.80 M	SP		2.95 M	SPT	S-36/2	3	3	4	7.0						
3	3.00	MEDIUM DENSE-DENSE FINE SAND 3.80 M - 22.7 M				18.9 M	SPT	S-36/3	4	3	5	8.0					
4	4.50						SPT	S-36/4	4	5	6	11.0					
5	6.00						SPT	S-36/5	6	6	7	13.0					
6	7.50						SPT	S-36/6	7	8	8	16.0					
7	9.00						SPT	S-36/7	8	9	10	19.0					
8	10.5						SPT	S-36/8	7	10	10	20.0					
9	12.0						SPT	S-36/9	10	11	15	26.0					
10	13.5						SPT	S-36/10	11	12	18	30.0					
11	15.0						SPT	S-36/11	13	15	18	33.0					
12	16.5						SPT	S-36/12	16	16	22	38.0					
13	18.0						SPT	S-36/13	21	20	22	42.0					
14	19.0						SPT	S-36/14	23	26	29	55.0					
15	21.0						SPT	S-36/15	26	28	33	61.0					
16	22.5							SPT	S-36/16	32	32	35	67.0				
17	24.0					SPT	S-36/17	43	47	R	R						



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**BORE LOG SHEET (as per IS 1892:1979)**


**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from E.G.L. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.0	
18	25.5	HARD CLAY WITH MEDIUM PLASTICITY 22.7 M - 32.5 M	CL	9.80 M	SPT	S-36/18	47	R	R	R						
19	27.0				SPT	S-36/19	R	R	R	81.0						
20	28.5				SPT	S-36/20	R	R	R	89.0						
21	30.0				SPT	S-36/21	R	R	R	92.0						
22	31.5				SPT	S-36/22	R	R	R	R						
23	33.0	VERY DENSE FINE SAND 32.5 M - 40.0 M	SP	7.50 M	SPT	S-36/23	R	R	R	R						
24	34.5				SPT	S-36/24	R	R	R	R						
25	36.0				SPT	S-36/25	R	R	R	R						
26	37.5				SPT	S-36/26	R	R	R	R						
27	39.0				SPT	S-36/27	R	R	R	R						
28	40.0				SPT	S-36/28	R	R	R	R						

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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>	-											
<b>Ground Water Level :</b>		AT 14.70 M DEPTH		<b>End Date</b>	-											
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>	E.G.L.											
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>	40.0 mtr.											
S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
												0.0	25.0	50.0	75.0	100.0
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT	S-37/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 3.40 M	SP		2.62 M	SPT	S-37/2	2	3	3	6.0					
3	3.00					SPT	S-37/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 3.40 M - 15.8 M	SP		12.4 M	SPT	S-37/4	4	4	5	9.0					
5	6.00					SPT	S-37/5	4	5	6	11.0					
6	7.50					SPT	S-37/6	5	5	8	13.0					
7	9.00					SPT	S-37/7	5	7	9	16.0					
8	10.5					SPT	S-37/8	7	9	11	20.0					
9	12.0					SPT	S-37/9	9	10	12	22.0					
10	13.5					SPT	S-37/10	11	12	15	27.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 15.8 M - 18.20 M	CL		2.40 M	SPT	S-37/11	12	14	17	31.0					
12	16.5					SPT	S-37/12	14	17	20	37.0					
13	18.0	VERY DENSE FINE SAND 18.20 M - 20.6 M	SP		2.40 M	SPT	S-37/13	14	18	21	39.0					
14	19.0					SPT	S-37/14	16	20	23	43.0					
15	21.0	VERY DENSE SILTY SAND WITH CLAY MIXTURE 20.6 M - 29.4 M	SM		8.8 M	SPT	S-37/15	19	22	28	50.0					
16	22.5					SPT	S-37/16	21	23	31	R					
17	24.0					SPT	S-37/17	23	26	34	R					
18	25.5					SPT	S-37/18	25	28	37	R					

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<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>															
<b>Location :</b>		AS PER LOCATION MAP	<b>Start Date</b>	-											
<b>Ground Water Level :</b>		AT 14.70 M DEPTH	<b>End Date</b>	-											
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING	<b>Starting Depth</b>	E.G.L.											
<b>Diameter of Boring :</b>		150 mm	<b>Termination Depth</b>	40.0 mtr.											
S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE					
		Description of Strata	IS Classification	Synbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
										0.0	25.0	50.0	75.0	100.0	
19	27.0				SPT	S-37/19	28	33	41	R					
20	28.5				SPT	S-37/20	31	37	45	R					
21	30.0	VERY DENSE FINE SAND 29.4 M - 40.0 M	SP	10.6 M	SPT	S-37/21	32	39	48	R					
22	31.5				SPT	S-37/22	39	45	R	R					
23	33.0				SPT	S-37/23	R	R	R	R					
24	34.5				SPT	S-37/24	R	R	R	R					
25	36.0				SPT	S-37/25	R	R	R	R					
26	37.5				SPT	S-37/26	R	R	R	R					
27	39.0				SPT	S-37/27	R	R	R	R					
28	40.0				SPT	S-37/28	R	R	R	R					



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PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.65 M	CL		0.65 M	SPT	S-38/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.65 M - 5.50 M	SP		4.85 M	SPT	S-38/2	2	3	3	6.0					
3	3.00					SPT	S-38/3	3	4	4	8.0					
4	4.50					SPT	S-38/4	4	4	6	10.0					
5	6.00					SPT	S-38/5	5	5	6	11.0					
6	7.50	MEDIUM DENSE-DENSE FINE SAND 5.50 M - 21.8 M	SP		16.3 M	SPT	S-38/6	5	5	8	13.0					
7	9.00					SPT	S-38/7	5	6	9	15.0					
8	10.5					SPT	S-38/8	7	10	11	21.0					
9	12.0					SPT	S-38/9	10	11	12	23.0					
10	13.5					SPT	S-38/10	11	12	16	28.0					
11	15.0					SPT	S-38/11	13	14	17	31.0					
12	16.5					SPT	S-38/12	15	18	19	37.0					
13	18.0					SPT	S-38/13	14	20	22	42.0					
14	19.0					SPT	S-38/14	17	21	23	44.0					
15	21.0					SPT	S-38/15	20	22	29	51.0					
16	22.5	SPT	S-38/16	21	23	31	54.0									





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 11.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from ECL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
17	24.0	HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 21.8 M - 32.8 M	CL		11.0 M	SPT	5-38/17	24	25	34	59.0					
18	25.5					SPT	5-38/18	27	26	37	63.0					
19	27.0					SPT	5-38/19	28	33	41	R					
20	28.5					SPT	5-38/20	31	37	45	R					
21	30.0					SPT	5-38/21	32	39	48	R					
22	31.5					SPT	5-38/22	39	45	R	R					
23	33.0	VERY DENSE FINE SAND 32.8 M - 40.0 M	SP		7.20 M	SPT	5-38/23	R	R	R	R					
24	34.5					SPT	5-38/24	R	R	R	R					
25	36.0					SPT	5-38/25	R	R	R	R					
26	37.5					SPT	5-38/26	R	R	R	R					
27	39.0					SPT	5-38/27	R	R	R	R					
28	40.0					SPT	5-38/28	R	R	R	R					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											00	25.0	50.0	75.0	100.0
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.78 M	CL		0.78 M	SPT S-39/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.78 M - 2.65 M	SM		1.87 M	SPT S-39/2	2	3	4	7.0					
3	3.00					SPT S-39/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.65 M - 14.3 M	SP		11.65 M	SPT S-39/4	4	5	6	11.0					
5	6.00					SPT S-39/5	4	6	6	12.0					
6	7.50					SPT S-39/6	6	8	10	18.0					
7	9.00					SPT S-39/7	7	9	11	20.0					
8	10.5					SPT S-39/8	7	11	12	23.0					
9	12.0					SPT S-39/9	11	13	15	28.0					
10	13.5					SPT S-39/10	12	14	18	32.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 14.3 M - 16.8 M	CL		2.50 M	SPT S-39/11	12	17	21	38.0					
12	16.5					SPT S-39/12	15	20	24	44.0					
13	18.0					SPT S-39/13	18	23	27	50.0					
14	19.0					SPT S-39/14	21	26	29	55.0					
15	21.0					SPT S-39/15	22	28	32	60.0					
16	22.5					SPT S-39/16	22	31	35	66.0					


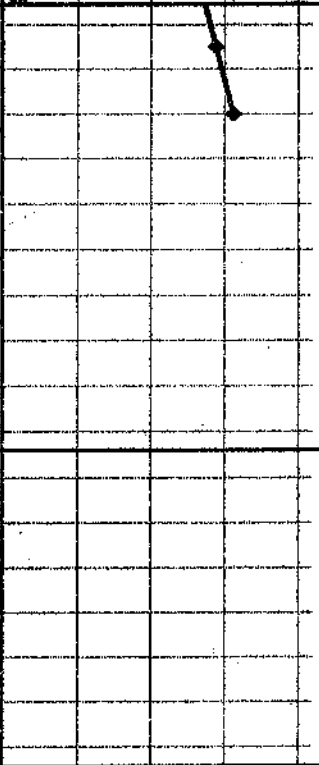
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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from E.G.L. (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
17	24.0	VERY DENSE FINE SAND 16.6 M - 40.0 M	SP		2:1.2 M	SPT	S-39/17	24	33	39	72.0					
18	25.5					SPT	S-39/18	25	37	41	78.0					
19	27.0					SPT	S-39/19	27	40	43	R					
20	28.5					SPT	S-39/20	30	43	46	R					
21	30.0					SPT	S-39/21	35	47	50	R					
22	31.5					SPT	S-39/22	41	R	R	R					
23	33.0					SPT	S-39/23	R	R	R	R					
24	34.5					SPT	S-39/24	R	R	R	R					
25	36.0					SPT	S-39/25	R	R	R	R					
26	37.5					SPT	S-39/26	R	R	R	R					
27	39.0	SPT	S-39/27	R	R	R	R									
28	40.0	SPT	S-39/28	R	R	R	R									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.8 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											00	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL		0.70 M	SPT	S-40/1	2	2	2	4.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.70 M - 2.40 M	SM		1.70 M	SPT	S-40/2	2	2	3	5.0					
3	3.00					SPT	S-40/3	3	3	3	6.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.40 M - 14.8 M	SP		12.40 M	SPT	S-40/4	3	4	5	9.0					
5	6.00					SPT	S-40/5	3	5	6	11.0					
6	7.50					SPT	S-40/6	4	6	7	13.0					
7	9.00					SPT	S-40/7	5	7	10	17.0					
8	10.5					SPT	S-40/8	7	9	11	20.0					
9	12.0					SPT	S-40/9	9	11	13	24.0					
10	13.5					SPT	S-40/10	10	12	15	27.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY	CL		2.50 M	SPT	S-40/11	11	14	16	30.0					
12	16.5					SPT	S-40/12	12	17	21	38.0					
13	18.0					SPT	S-40/13	12	15	20	35.0					
14	19.0					SPT	S-40/14	14	18	23	41.0					
15	21.0					SPT	S-40/15	18	23	29	52.0					
16	22.5					SPT	S-40/16	22	26	32	58.0					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.8 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
17	24.0	VERY DENSE FINE SAND 17.3 M - 40.0 M	SP	[Symbolic Representation]	22.70 M	SPT	5-40/17	24	29	35	64.0					
18	25.5					SPT	5-40/18	27	32	39	71.0					
19	27.0					SPT	5-40/19	30	34	42	76.0					
20	28.5					SPT	5-40/20	32	37	45	82.0					
21	30.0					SPT	5-40/21	34	40	48	R					
22	31.5					SPT	5-40/22	38	45	R	R					
23	33.0					SPT	5-40/23	R	R	R	R					
24	34.5					SPT	5-40/24	R	R	R	R					
25	36.0					SPT	5-40/25	R	R	R	R					
26	37.5					SPT	5-40/26	R	R	R	R					
27	39.0	SPT	5-40/27	R	R	R	R									
28	40.0	SPT	5-40/28	R	R	R	R									



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE.				
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.75 M	CL	0.75 M	SPT	S-41/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.75 M - 2.20 M	SM	1.45 M	SPT	S-41/2	3	3	3	6.0					
3	3.00				SPT	S-41/3	3	3	4	7.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.20 M - 14.5 M	SP	12.3 M	SPT	S-41/4	4	4	5	9.0					
5	6.00				SPT	S-41/5	4	5	5	10.0					
6	7.50				SPT	S-41/6	4	6	6	12.0					
7	9.00				SPT	S-41/7	5	7	8	15.0					
8	10.5				SPT	S-41/8	6	8	10	18.0					
9	12.0				SPT	S-41/9	8	10	12	22.0					
10	13.5				SPT	S-41/10	9	11	14	25.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 14.5 M - 17.65 M	CL	3.15 M	SPT	S-41/11	11	13	16	29.0					
12	16.5				SPT	S-41/12	13	16	19	35.0					
13	18.0				SPT	S-41/13	15	18	22	40.0					
14	19.0				SPT	S-41/14	17	21	25	46.0					
15	21.0				SPT	S-41/15	18	24	29	53.0					
16	22.5				SPT	S-41/16	20	27	32	59.0					
17	24.0				SPT	S-41/17	21	29	35	64.0					



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.6 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
18	25.5	VERY DENSE FINE SAND 17.65 M - 40.0 M	SP	[Symbolic Representation]	22.35 M	SPT	5-41/18	23	32	39	R	0.0 25.0 50.0 75.0 100.0 [Graph Area]					
19	27.0					SPT	5-41/19	27	35	43	R						
20	28.5					SPT	5-41/20	30	39	R	R						
21	30.0					SPT	5-41/21	R	R	R	R						
22	31.5					SPT	5-41/22	R	R	R	R						
23	33.0					SPT	5-41/23	R	R	R	R						
24	34.5					SPT	5-41/24	R	R	R	R						
25	36.0					SPT	5-41/25	R	R	R	R						
26	37.5					SPT	5-41/26	R	R	R	R						
27	39.0					SPT	5-41/27	R	R	R	R						
28	40.0	SPT	5-41/28	R	R	R	R										





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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**



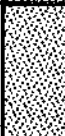

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.7 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0	
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.85 M	CL		0.85 M	SPT	S-42/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.85 M - 4.40 M	SP		3.55 M	SPT	S-42/2	2	3	4	7.0					
3	3.00					SPT	S-42/3	3	4	5	9.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 4.40 M - 14.8 M	SP		10.4 M	SPT	S-42/4	4	5	6	11.0					
5	6.00					SPT	S-42/5	5	6	6	12.0					
6	7.50					SPT	S-42/6	6	7	8	15.0					
7	9.00					SPT	S-42/7	8	9	10	19.0					
8	10.5					SPT	S-42/8	10	10	12	22.0					
9	12.0					SPT	S-42/9	12	12	15	27.0					
10	13.5					SPT	S-42/10	13	15	19	34.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 14.8 M - 23.7 M	CL		8.90 M	SPT	S-42/11	15	17	22	39.0					
12	16.5					SPT	S-42/12	17	20	26	46.0					
13	18.0					SPT	S-42/13	20	23	30	53.0					
14	19.0					SPT	S-42/14	22	27	33	60.0					
15	21.0					SPT	S-42/15	24	30	38	68.0					
16	22.5					SPT	S-42/16	25	30	40	70.0					



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<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																	
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>	-												
<b>Ground Water Level :</b>		AT 14.7 M DEPTH		<b>End Date</b>	-												
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>	E.G.L.												
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>	40.0 mtr.												
S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE							
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value. Graph					
											0.0	25.0	50.0	75.0	100.0		
17	24.0	VERY DENSE SILTY SAND AND CLAY MIXTURE	SM		1.5 M	SPT S-42/17	26	35	42	77.0							
18	25.5	VERY DENSE FINE SAND 25.2 M - 40.0 M	SP		14.8 M	SPT S-42/18	26	37	44	81.0							
19	27.0					SPT S-42/19	29	41	48	R							
20	28.5					SPT S-42/20	34	45	50	R							
21	30.0					SPT S-42/21	40	R	R	R							
22	31.5					SPT S-42/22	R	R	R	R							
23	33.0					SPT S-42/23	R	R	R	R							
24	34.5					SPT S-42/24	R	R	R	R							
25	36.0					SPT S-42/25	R	R	R	R							
26	37.5					SPT S-42/26	R	R	R	R							
27	39.0					SPT S-42/27	R	R	R	R							
28	40.0					SPT S-42/28	R	R	R	R							

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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																
<b>Location :</b>		AS PER LOCATION MAP		<b>Start Date</b>	-											
<b>Ground Water Level :</b>		AT 13.5 M DEPTH		<b>End Date</b>	-											
<b>Type of Boring :</b>		MECHANICAL/AUGER DRILLING		<b>Starting Depth</b>	E.G.L.											
<b>Diameter of Boring :</b>		150 mm		<b>Termination Depth</b>	40.0 mtr.											
S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
												0.0	25.0	50.0	75.0	100.0
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.72 M	CL		0.72 M	SPT	S-43/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.72 M - 2.85 M	SP		2.13 M	SPT	S-43/2	3	3	4	7.0					
3	3.00					SPT	S-43/3	4	5	5	10.0					
4	4.50					SPT	S-43/4	5	6	5	11.0					
5	6.00	MEDIUM DENSE-DENSE FINE SAND 2.85 M - 22.8 M	SP		19.95 M	SPT	S-43/5	6	6	7	13.0					
6	7.50					SPT	S-43/6	7	8	7	15.0					
7	9.00					SPT	S-43/7	8	9	11	20.0					
8	10.5					SPT	S-43/8	10	12	13	25.0					
9	12.0					SPT	S-43/9	11	12	14	26.0					
10	13.5					SPT	S-43/10	13	14	16	30.0					
11	15.0					SPT	S-43/11	15	16	17	33.0					
12	16.5					SPT	S-43/12	16	17	19	36.0					
13	18.0					SPT	S-43/13	18	20	21	41.0					
14	19.0					SPT	S-43/14	21	23	24	47.0					
15	21.0					SPT	S-43/15	25	27	26	53.0					
16	22.5	SPT	S-43/16	27	28	29	57.0									

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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
17	24.0	HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 22.8 M - 32.0 M	CI	[Symbolic Representation]	9.2 M	SPT	S-43/17	30	33	35	68.0						
18	25.5					SPT	S-43/18	36	37	39	76.0						
19	27.0					SPT	S-43/19	37	41	43	R						
20	28.5					SPT	S-43/20	43	45	47	R						
21	30.0					SPT	S-43/21	46	48	49	R						
22	31.5					SPT	S-43/22	49	49	50	R						
23	33.0	VERY DENSE FINE SAND 32.0 M - 40.0 M	SP	[Symbolic Representation]	8.0 M	SPT	S-43/23	50	R	R	R						
24	34.5					SPT	S-43/24	R	R	R	R						
25	36.0					SPT	S-43/25	R	R	R	R						
26	37.5					SPT	S-43/26	R	R	R	R						
27	39.0					SPT	S-43/27	R	R	R	R						
28	40.0					SPT	S-43/28	R	R	R	R						



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.70 M	CL		0.70 M	SPT S-44/1	2	2	3	5.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE	SP		1.30 M	SPT S-44/2	2	3	4	7.0					
3	3.00	MEDIUM DENSE-DENSE FINE SAND 2.0 M - 23.0 M				SPT S-44/3	3	3	5	8.0					
4	4.50					SPT S-44/4	4	4	5	9.0					
5	6.00					SPT S-44/5	5	6	6	12.0					
6	7.50					SPT S-44/6	5	7	9	16.0					
7	9.00					SPT S-44/7	6	9	10	19.0					
8	10.5					SPT S-44/8	9	11	12	23.0					
9	12.0					SPT S-44/9	11	13	15	28.0					
10	13.5		SPT S-44/10	12	14	17	31.0								
11	15.0	SPT S-44/11	14	19	25	44.0									
12	16.5	SPT S-44/12	20	24	31	55.0									
13	18.0	SPT S-44/13	24	29	35	64.0									
14	19.0	SPT S-44/14	29	38	44	82.0									
15	21.0	SPT S-44/15	35	41	48	89.0									
16	22.5	SPT S-44/16	40	R	R	R									



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 12.5 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EQL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph						
											0.0	25.0	50.0	75.0	100		
17	24.0	HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 23.0 M - 33.5 M	CL	10.5 M	SPT	5-44/17	R	R	R	R							
18	25.5				SPT	5-44/18	R	R	R	R							
19	27.0				SPT	5-44/19	R	R	R	R							
20	28.5				SPT	5-44/20	R	R	R	R							
21	30.0				SPT	5-44/21	R	R	R	R							
22	31.5				SPT	5-44/22	R	R	R	R							
23	33.0	VERY DENSE FINE SAND 33.5 M- 40.0 M	SP	6.50 M	SPT	5-44/23	R	R	R	R							
24	34.5				SPT	5-44/24	R	R	R	R							
25	36.0				SPT	5-44/25	R	R	R	R							
26	37.5				SPT	5-44/26	R	R	R	R							
27	39.0				SPT	5-44/27	R	R	R	R							
28	40.0				SPT	5-44/28	R	R	R	R							



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.40 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.71 M	CL		0.71 M	SPT	S-45/1	2	2	2	4.0						
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.71 M - 2.50 M			1.79 M	SPT	S-45/2	3	3	4	7.0						
3	3.00					SPT	S-45/3	4	5	5	10.0						
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.50 M - 13.0 M			10.5 M	SPT	S-45/4	4	4	7	11.0						
5	6.00					SPT	S-45/5	7	7	8	15.0						
6	7.50					SPT	S-45/6	9	10	11	21.0						
7	9.00					SPT	S-45/7	11	11	12	23.0						
8	10.5					SPT	S-45/8	12	14	13	27.0						
9	12.0					SPT	S-45/9	12	16	15	31.0						
10	13.5	DENSE-VERY DENSE FINE SAND 13.0 M - 31.5 M	SP		18.5 M	SPT	S-45/10	15	17	20	37.0						
11	15.0					SPT	S-45/11	19	20	29	49.0						
12	16.5					SPT	S-45/12	19	24	32	56.0						
13	18.0					SPT	S-45/13	22	27	32	59.0						
14	19.0					SPT	S-45/14	24	28	33	61.0						
15	21.0					SPT	S-45/15	31	36	43	79.0						
16	22.5					SPT	S-45/16	47	50	R	R						



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Bore Hole No.

Job No

Page No.

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GT- 1997

**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 13.40 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S. No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE						
		Description of Strata	IS Classification	Symbolic Representation	Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph					
											0.0	25.0	50.0	75.0	100.		
17	24.0					SPT 5-45/17	R	R	R	R							
18	25.5					SPT 5-45/18	R	R	R	R							
19	27.0					SPT 5-45/19	R	R	R	R							
20	28.5					SPT 5-45/20	R	R	R	R							
21	30.0					SPT 5-45/21	R	R	R	R							
22	31.5					HARD CONSISTENCY OF CLAY SOIL 31.5 M - 40.0	CL		8.5 M	SPT 5-45/22	R	R	R	R			
23	33.0	SPT 5-45/23	R	R	R					R							
24	34.5	SPT 5-45/24	R	R	R					R							
25	36.0	SPT 5-45/25	R	R	R					R							
26	37.5	SPT 5-45/26	R	R	R					R							
27	39.0	SPT 5-45/27	R	R	R					R							
28	40.0	SPT 5-45/28	R	R	R					R							



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**BORE LOG SHEET (as per IS 1892:1979)**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value				SPT 'N' PROFILE				
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
											0.0	25.0	50.0	75.0	100.0
1	0.75	SOFT CONSISTENCY CLAY UPTO 0.82 M	CL	0.82 M	SPT	S-46/1	3	4	4	8.0					
2	1.50	LOOSE SILTY SAND WITH CLAY MIXTURE 0.82 M - 2.80 M		1.98 M	SPT	S-46/2	4	5	4	9.0					
3	3.00				SPT	S-46/3	4	5	6	11.0					
4	4.50	MEDIUM DENSE-DENSE FINE SAND 2.80 M - 14.8 M	SP	12.0 M	SPT	S-46/4	6	7	6	13.0					
5	6.00				SPT	S-46/5	7	8	8	16.0					
6	7.50				SPT	S-46/6	7	8	9	17.0					
7	9.00				SPT	S-46/7	9	10	11	21.0					
8	10.5				SPT	S-46/8	11	12	13	25.0					
9	12.0				SPT	S-46/9	12	14	13	27.0					
10	13.5				SPT	S-46/10	14	16	15	31.0					
11	15.0	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 14.8 M - 21.7 M	CL	6.9 M	SPT	S-46/11	15	17	16	33.0					
12	16.5				SPT	S-46/12	17	19	21	40.0					
13	18.0				SPT	S-46/13	23	25	27	52.0					
14	19.0				SPT	S-46/14	26	29	31	60.0					
15	21.0				SPT	S-46/15	30	33	35	68.0					
16	22.5				SPT	S-46/16	34	36	37	73.0					





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**BORE LOG SHEET (as per IS 1892:1979)**


**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Location :	AS PER LOCATION MAP	Start Date	-
Ground Water Level :	AT 14.0 M DEPTH	End Date	-
Type of Boring :	MECHANICAL/AUGER DRILLING	Starting Depth	E.G.L.
Diameter of Boring :	150 mm	Termination Depth	40.0 mtr.

S.No.	Depth from EGL (m)	Soil Type			Sample		Penetration Value			SPT 'N' PROFILE					
		Description of Strata	IS Classification	Symbolic Representation Thickness of Strata	Type	Sample No.	at 15 cm	at 30 cm	at 45 cm	SPT N-VALUE	Depth v/s SPT N-value Graph				
										0.0	25.0	50.0	75.0	100	
17	24.0	VERY DENSE FINE SAND 21.7 M - 37.25 M	SP		15.55 M	SPT S-46/17	37	40	41	81.0					
18	25.5					SPT S-46/18	42	44	43	87.0					
19	27.0					SPT S-46/19	45	46	48	R					
20	28.5					SPT S-46/20	45	47	49	R					
21	30.0					SPT S-46/21	48	49	50	R					
22	31.5					SPT S-46/22	50	R	R	R					
23	33.0					SPT S-46/23	R	R	R	R					
24	34.5					SPT S-46/24	R	R	R	R					
25	36.0					SPT S-46/25	R	R	R	R					
26	37.5	VERY STIFF-HARD CONSISTENCY CLAY WITH MEDIUM PLASTICITY 37.25 M - 40.0 M	CI		2.75 M	SPT S-46/26	R	R	R	R					
27	39.0					SPT S-46/27	R	R	R	R					
28	40.0					SPT S-46/28	R	R	R	R					

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE	LOCATION	JOB NO.	PAGE NO														
						1	N-3161611 E-728359	GT-1997											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH		WATER TABLE DEPTH														
			TERMINATION DEPTH																
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			0.0 M		16.5 M														
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Grain Size Analysis			Atterberg limit			Shear Parameters										
			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Density	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity			
0.75	S-1/1	SPT	0.0	15.0	85.0	.	.	.	.	2.8	.	.	.	.	.	.	.	.	
1.50	S-1/2	SPT	0.0	72.0	28.0	.	.	.	.	3.5	1.63	1.63	23.0	.	.	.	.	2.42	
3.00	S-1/3	SPT	0.0	78.0	22.0	NP	NP	NP	NP	3.9	.	.	.	.	.	.	.	.	
4.50	S-1/4	SPT	.	.	.	NP	NP	NP	NP	.	.	.	25.0	.	.	.	.	.	
6.00	S-1/5	SPT	0.0	93.0	7.0	NP	NP	NP	NP	5.8	1.73	1.64	.	.	.	.	.	2.48	
7.50	S-1/6	SPT	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.	.	.	
9.00	S-1/7	SPT	2.0	91.0	7.0	NP	NP	NP	NP	7.2	1.79	1.67	30.0	.	.	.	.	.	
10.50	S-1/8	SPT	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.	.	.	
12.00	S-1/9	SPT	5.0	89.0	6.0	NP	NP	NP	NP	8.3	.	.	.	.	.	.	.	.	
13.50	S-1/10	SPT	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.	.	.	.

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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																							
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																							
<b>BORE LOG SHEET</b>																							
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				Specific Gravity					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc		Void Ratio, eo				
15.00	S-1/11	SPT	72.0	49.4	CL	0.0	35.0	65.0	28.8	17.8	11.0	1.86	1.68	10.4	12.8	.	0.16	0.81	.	.			
16.50	S-1/12	SPT	79.0	51.7	CL	.	.	.	.	.	.	.	.	13.7	.	.	.	.	.	.	.		
18.00	S-1/13	SPT	84.0	52.6	CL	0.0	5.0	95.0	30.2	19.9	10.3	1.92	1.63	17.9	.	0.18	0.88	2.35	.	.			
19.50	S-1/14	SPT	91.0	54.5	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
21.00	S-1/15	SPT	98.0	56.3	CL	0.0	4.0	96.0	.	.	.	.	.	18.8	.	.	.	.	.	.	.		
22.50	S-1/16	SPT	REFUSAL	REFUSAL	ML	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.35		
24.00	S-1/17	SPT	REFUSAL	REFUSAL	ML	0.0	48.0	52.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
25.50	S-1/18	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.20	1.84	19.6	.	.	.	.	.	.	.	.	
27.00	S-1/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-1/20	SPT	REFUSAL	REFUSAL	SP	4.0	89.0	7.0	NP	NP	NP	.	.	19.4	.	.	.	.	.	.	.	.	.

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1		N-3161611 E-728359		GT-1997		0.0 M		WATER TABLE DEPTH										
		STARTING DEPTH		TERMINATION DEPTH		40.0 M		16.5 M										
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																		
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																		
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-1/21	SPT	REFUSAL		-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
31.50	S-1/15	SPT	REFUSAL		0.0	4.0	96.0	NP	NP	NP	18.8	-	-	-	-	-	-	2.46
33.00	S-1/16	SPT	REFUSAL		-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-1/17	SPT	REFUSAL		0.0	95.0	5.0	NP	NP	NP	19.8	1.90	2.28	-	-	-	-	-
36.00	S-1/18	SPT	REFUSAL		-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-1/19	SPT	REFUSAL		0.0	93.0	7.0	NP	NP	NP	19.2	1.93	2.30	-	-	-	-	2.48
39.00	S-1/20	SPT	REFUSAL		-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-1/21	SPT	REFUSAL		0.0	88.0	12.0	NP	NP	NP	19.6	-	-	-	-	-	-	-

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg Limit			Density		Shear Parameters							
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
0.75	S-2/1	SPT	6.0	10.1	CL	0.0	19.0	81.0	-	-	-	1.67	1.59	3.8	-	-	-	-	-	
1.50	S-2/2	SPT	12.0	17.5	SP	0.0	70.0	30.0	-	-	-	-	-	4.8	1.9	20.0	-	-	2.41	
3.00	S-2/3	SPT	13.0	15.9	SP	0.0	89.0	11.0	NP	NP	NP	-	-	4.9	-	-	-	-	-	
4.50	S-2/4	SPT	12.0	13.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
6.00	S-2/5	SPT	13.0	12.9	SP	0.0	87.0	13.0	NP	NP	NP	-	-	5.1	26.0	-	-	-	-	-
7.50	S-2/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-2/7	SPT	21.0	18.0	SP	0.0	92.0	8.0	NP	NP	NP	1.74	1.63	6.8	28.0	-	-	-	2.46	
10.50	S-2/8	SPT	23.0	18.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-2/9	SPT	29.0	22.1	SP	7.0	84.0	9.0	NP	NP	NP	-	-	7.4	-	-	-	-	-	-
13.50	S-2/10	SPT	27.0	19.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
 CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI


BORE LOG SHEET

BOREHOLE	LOCATION	JOB NO.	PAGE NO
	2	N-3161741 E-728475	GT-1997
STARTING DEPTH		0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH		40.0 M	15.0 M

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						2	N-3161741 E-728475	GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH																
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M	15.0 M																
BORE LOG SHEET																					
Depth (m)	Sample No	Sample Type	Sample			Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>		
15.00	S-2/11	SPT	31.0	21.3	CL	0.0	36.0	64.0	28.6	17.6	11.0	1.83	1.67	9.8	9.8	0.17	0.83	2.33			
16.50	S-2/12	SPT	53.0	34.7	CL	-	-	-	-	-	-	-	-	-	11.2	-	-	-			
18.00	S-2/13	SPT	62.0	38.8	CL	0.0	7.0	93.0	31.6	19.7	11.9	1.88	1.67	14.4	12.6	0.19	0.92	2.35			
19.50	S-2/14	SPT	65.0	38.9	CL	-	-	-	-	-	-	-	-	-	-	-	-	-			
21.00	S-2/15	SPT	69.0	39.6	CL	-	-	-	-	-	-	-	-	-	-	-	-	-			
22.50	S-2/16	SPT	68.0	37.5	CL	0.0	3.0	97.0	-	-	-	-	-	-	14.6	-	-	2.31			
24.00	S-2/17	SPT	REFUSAL	REFUSAL	ML	0.0	49.0	51.0	-	-	-	-	-	-	14.8	-	-	-			
25.50	S-2/18	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	-	-	-	15.2	-	-	-			
27.00	S-2/19	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	2.18	-	-	17.6	-	-	-			
28.50	S-2/20	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-			

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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																			
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																			
<b>BORE LOG SHEET</b>																			
<b>Depth (m)</b>	<b>Sample No</b>	<b>Sample Type</b>	<b>Sample</b>		<b>Grain Size Analysis</b>						<b>Density</b>		<b>Shear Parameters</b>						
			<b>Observed N-Value</b>	<b>Corrected N-Value</b>	<b>Symbolic representation</b>	<b>Gravel (%)</b>	<b>Sand (%)</b>	<b>Silt Clay (%)</b>	<b>Liquid limit (%)</b>	<b>Plastic Limit (%)</b>	<b>Atterberg limit</b>	<b>Bulk Density (gm/cc)</b>	<b>Dry Density (gm/cc)</b>	<b>Moisture Content (%)</b>	<b>Cohesion, c (kN/m<sup>2</sup>)</b>	<b>Angle of internal Friction,</b>	<b>Coefficient of consolidation, Cc</b>	<b>Void Ratio, eo</b>	<b>Specific Gravity</b>
30.00	S-2/21	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	2.44
31.50	S-2/22	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	18.1	.	.	.	.	.	.
33.00	S-2/23	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
34.50	S-2/24	SPT	REFUSAL	REFUSAL	SP	0.0	87.0	13.0	NP	NP	NP	2.34	1.98	18.4	.	.	.	.	.
36.00	S-2/25	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
37.50	S-2/26	SPT	REFUSAL	REFUSAL	SP	0.0	91.0	9.0	NP	NP	NP	.	.	18.6	.	.	.	.	.
39.00	S-2/27	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
40.00	S-2/28	SPT	REFUSAL	REFUSAL	SP	0.0	86.0	14.0	NP	NP	NP	.	.	18.9	.	.	.	.	.



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**BOREHOLE** 3  
**LOCATION** N-3161730  
E-728600  
**JOB NO.** GT-1997  
**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M  
**WATER TABLE DEPTH**  
**TERMINATION DEPTH** 40.0 M  
13.7 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity										
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo													
0.75	S-3/1	SPT	5.0	8.4	CL	0.0	32.0	68.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
1.50	S-3/2	SPT	10.0	14.6	SP	0.0	71.0	29.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
3.00	S-3/3	SPT	12.0	14.7	SP	0.0	83.0	17.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
4.50	S-3/4	SPT	13.0	14.2	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP		
6.00	S-3/5	SPT	13.0	12.9	SP	0.0	86.0	14.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP		
7.50	S-3/6	SPT	17.0	15.6	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	
9.00	S-3/7	SPT	20.0	17.2	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	
10.50	S-3/8	SPT	27.0	21.8	SP	4.0	89.0	7.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	
12.00	S-3/9	SPT	32.0	24.4	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
13.50	S-3/10	SPT	36.0	26.0	SP	0.0	87.0	13.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP





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**BOREHOLE**  
 3

**LOCATION**  
 N-3161730  
 E-728600

**JOB NO.**  
 GT-1997

**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**STARTING DEPTH**  
 0.0 M


**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 13.7 M

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis						Atterberg limit	Plasticity Index	Density		Moisture Content (%)	Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Bulk Density (gm/cc)			Dry Density (gm/cc)	Cohesion, c (t/m <sup>2</sup> )		Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo		
15.00	S-3/11	SPT	43.0	29.5	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.33			
16.50	S-3/12	SPT	50.0	32.7	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
18.00	S-3/13	SPT	56.0	35.0	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
19.50	S-3/14	SPT	64.0	38.3	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
21.00	S-3/15	SPT	72.0	41.3	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
22.50	S-3/16	SPT	78.0	42.9	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
24.00	S-3/17	SPT	82.0	43.4	CL	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
25.50	S-3/18	SPT	89.0	45.3	SP	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
27.00	S-3/19	SPT	95.0	46.6	SP	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			
28.50	S-3/20	SPT	REFUSAL		SP	0.0	10.0	90.0	29.8	16.3	13.5	1.88	1.64	14.6	14.1	0.18	0.90	2.41			

		<b>SONGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com			BOREHOLE	LOCATION	JOB NO.	PAGE NO										
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>					3	N-3161730 E-728600	GT-1997											
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>					STARTING DEPTH		0.0 M	WATER TABLE DEPTH										
					TERMINATION DEPTH		40.0 M	13.7 M										
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-3/21	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
31.50	S-3/22	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	16.1	NP	NP	NP	NP	NP	NP	NP
33.00	S-3/23	SPT	REFUSAL	REFUSAL	0.0	89.0	11.0	NP	NP	NP	16.7	2.15	1.84	NP	NP	NP	NP	NP
34.50	S-3/24	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
36.00	S-3/25	SPT	REFUSAL	REFUSAL	0.0	85.0	15.0	NP	NP	NP	17.9	2.20	1.87	NP	NP	NP	NP	NP
37.50	S-3/26	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
39.00	S-3/27	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
40.00	S-3/28	SPT	REFUSAL	REFUSAL	0.0	0.0	100.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

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	PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		4	N-3161546 E-728239	GT-1997	
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		STARTING DEPTH		WATER TABLE DEPTH		
		TERMINATION DEPTH		40.0 M		17.5 M

BORE LOG SHEET																								
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters								
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m2)	Angle of Internal Friction,	Coefficient of Consolidation, Cc	Void Ratio, eo	Specific Gravity					
0.75	S-4/1	SPT	5.0	8.4	CL	0.0	19.0	81.0	-	-	-	-	-	-	-	-	-	-	-					
1.50	S-4/2	SPT	7.0	10.2	SP	0.0	71.0	29.0	-	-	-	-	-	-	-	-	-	-	-	2.40				
3.00	S-4/3	SPT	10.0	12.3	SP	0.0	83.0	17.0	NP	NP	NP	NP	NP	-	-	-	-	-	-	-				
4.50	S-4/4	SPT	17.0	18.5	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-			
6.00	S-4/5	SPT	25.0	24.8	SP	0.0	91.0	9.0	NP	NP	NP	NP	NP	1.76	1.67	5.2	-	-	-	-	2.46			
7.50	S-4/6	SPT	31.0	28.5	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-		
9.00	S-4/7	SPT	32.0	27.4	SP	6.0	89.0	5.0	NP	NP	NP	NP	NP	1.79	1.68	6.6	-	-	-	-	-	-		
10.50	S-4/8	SPT	36.0	29.0	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	
12.00	S-4/9	SPT	41.0	31.2	SP	8.0	81.0	11.0	NP	NP	NP	NP	NP	-	-	7.6	-	-	-	-	-	-	-	
13.50	S-4/10	SPT	48.0	34.7	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-



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BOREHOLE LOCATION JOB NO. PAGE NO  
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PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo		
15.00	S-4/11	SPT	55.0	37.8	ML	0.0	39.0	61.0	29.5	16.5	13.0	1.86	1.69	9.9	10.2	.	0.18	0.80	.	
16.50	S-4/12	SPT	68.0	44.5	CL	.	.	.	.	.	.	.	.	12.5	.	.	.	.	.	
18.00	S-4/13	SPT	77.0	48.2	CL	0.0	8.0	92.0	31.2	18.5	12.7	1.93	1.68	15.2	.	0.19	0.91	2.31		
19.50	S-4/14	SPT	85.0	50.9	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
21.00	S-4/15	SPT	90.0	51.7	CL	0.0	9.0	91.0	.	.	.	.	.	17.6	.	.	.	.	.	
22.50	S-4/16	SPT	94.0	51.8	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	2.31	
24.00	S-4/17	SPT	97.0	51.4	SM	0.0	52.0	48.0	.	.	.	.	.	18.6	.	.	.	.	.	
25.50	S-4/18	SPT	REFUSAL	REFUSAL	SP	0.0	91.0	9.0	NP	NP	NP	1.99	1.67	19.2	.	.	.	.	.	
27.00	S-4/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	
28.50	S-4/20	SPT	REFUSAL	REFUSAL	SP	6.0	94.0	0.0	NP	NP	NP	.	.	19.4	.	.	.	.	.	

STARTING DEPTH 0.0 M

TERMINATION DEPTH 40.0 M

WATER TABLE DEPTH 17.5 M



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**BOREHOLE**

**LOCATION**

**JOB NO.**

**PAGE NO**

4

N-3161546  
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0.0 M

17.5 M

**STARTING DEPTH**

**TERMINATION DEPTH**

**WATER TABLE DEPTH**

**WATER TABLE DEPTH**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Observed N-Value		Corrected N-Value	Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Shear Parameters											
			Observed N-Value	Corrected N-Value			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (km2)	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity							
30.00	S-4/21	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35	
31.50	S-4/22	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
33.00	S-4/23	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
34.50	S-4/24	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
36.00	S-4/25	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
37.50	S-4/26	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
39.00	S-4/27	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35
40.00	S-4/28	SPT	REFUSAL	REFUSAL		SP	0.0	0.0	0.0	93.0	NP	NP	NP	NP	NP	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.35




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BOREHOLE	LOCATION	JOB NO.	PAGE NO
	5		
STARTING DEPTH		0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH		40.0 M	18.0 M

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
 CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																					
Depth (M)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters							
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction	Coefficient of Consolidation, Cc	Void Ratio, eo	Specific Gravity		
0.75	S-5/1	SPT	7.0	11.8	CL	0.0	13.0	87.0	.	.	.	.	.	.	.	.	.	.	.		
1.50	S-5/2	SPT	10.0	14.6	SP	0.0	68.0	32.0	.	.	.	1.62	1.56	3.6	1.4	20.0	.	.	2.41		
3.00	S-5/3	SPT	13.0	15.9	SP	0.0	86.0	14.0	NP	NP	NP	.	.	3.9	.	.	.	.	.		
4.50	S-5/4	SPT	16.0	17.4	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	
6.00	S-5/5	SPT	22.0	21.9	SP	0.0	93.0	7.0	NP	NP	NP	1.70	1.61	5.9	.	30.0	.	.	2.43		
7.50	S-5/6	SPT	27.0	24.8	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	
9.00	S-5/7	SPT	31.0	26.6	SP	3.0	84.0	13.0	NP	NP	NP	1.72	1.62	6.5	.	.	.	.	.	.	
10.50	S-5/8	SPT	35.0	28.2	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	
12.00	S-5/9	SPT	41.0	31.2	SP	7.0	86.0	7.0	NP	NP	NP	.	.	7.2	.	33.0	.	.	.	.	
13.50	S-5/10	SPT	48.0	34.7	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.

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									5	N-3161502 E-728139	GT-1997								
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		18.0 M													
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg Limit		Plasticity Index	Density		Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)		Plastic Limit (%)	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal Friction,		Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-5/11	SPT	52.0	35.7	ML	0.0	32.0	68.0	28.8	16.6	12.2	1.85	1.68	10.2	.	.	.	.	
16.50	S-5/12	SPT	59.0	38.6	ML	.	.	.	.	.	.	.	.	12.9	.	.	.	.	
18.00	S-5/13	SPT	66.0	41.3	CL	0.0	6.0	94.0	30.2	18.9	11.3	1.99	1.72	15.6	13.5	.	0.18	0.88	2.29
19.50	S-5/14	SPT	79.0	47.3	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
21.00	S-5/15	SPT	91.0	52.3	CL	0.0	11.0	89.0	.	.	.	.	.	16.5	.	.	.	.	.
22.50	S-5/16	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	2.33
24.00	S-5/17	SPT	REFUSAL	REFUSAL	SP	0.0	66.0	34.0	.	.	.	.	.	17.6	.	.	.	.	.
25.50	S-5/18	SPT	REFUSAL	REFUSAL	SP	0.0	88.0	12.0	NP	NP	NP	2.20	1.86	18.2	.	.	.	.	.
27.00	S-5/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
28.50	S-5/20	SPT	REFUSAL	REFUSAL	SP	4.0	92.0	4.0	NP	NP	NP	.	.	18.9	.	.	.	.	.



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<b>BOREHOLE</b>	<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
	5	N-3161502 E-728139	GT-1997	
<b>STARTING DEPTH</b>		<b>WATER TABLE DEPTH</b>		
0.0 M		40.0 M		
<b>TERMINATION DEPTH</b>		18.0 M		
40.0 M				


**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**


**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-5/21	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
31.50	S-5/22	SPT	REFUSAL	REFUSAL	CL	0.0	11.0	89.0	-	-	-	-	-	19.1	-	-	-	-	2.34
33.00	S-5/23	SPT	REFUSAL	REFUSAL	CL	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-5/24	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	2.28	1.91	19.3	-	-	-	-	-
36.00	S-5/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-5/26	SPT	REFUSAL	REFUSAL	SP	0.0	97.0	3.0	NP	NP	NP	2.31	1.93	19.6	-	-	-	-	2.46
39.00	S-5/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-5/28	SPT	REFUSAL	REFUSAL	SP	0.0	86.0	14.0	NP	NP	NP	-	-	19.9	-	-	-	-	-



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		6		N-3161469 E-728206		GT-1997													
		STARTING DEPTH		TERMINATION DEPTH		0.0 M		WATER TABLE DEPTH											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.								15.0 M											
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																			
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Density		Shear Parameters									
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-6/1	SPT	6.0	10.1	CL	0.0	17.0	83.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-6/2	SPT	6.0	8.7	SP	0.0	69.0	31.0	-	-	1.64	1.69	3.2	0.9	22.0	-	-	-	2.42
3.00	S-6/3	SPT	9.0	11.0	SP	0.0	83.0	17.0	NP	NP	-	-	3.9	-	-	-	-	-	-
4.50	S-6/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	-	-	-	-	24.0	-	-	-	-
6.00	S-6/5	SPT	15.0	14.9	SP	0.0	91.0	9.0	NP	NP	1.63	1.73	6.3	-	-	-	-	-	2.45
7.50	S-6/6	SPT	19.0	17.5	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-6/7	SPT	22.0	18.9	SP	6.0	86.0	8.0	NP	NP	1.64	1.75	6.9	-	32.0	-	-	-	-
10.50	S-6/8	SPT	27.0	21.8	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-6/9	SPT	41.0	31.2	SP	9.0	82.0	9.0	NP	NP	-	-	7.6	-	-	-	-	-	-
13.50	S-6/10	SPT	53.0	38.3	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-

		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com			<b>BOREHOLE</b> 6		<b>LOCATION</b> N-3161469 E-728206		<b>JOB NO.</b> GT-1997		<b>PAGE NO.</b>											
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																						
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																						
				<b>STARTING DEPTH</b> 0.0 M		<b>WATER TABLE DEPTH</b> 40.0 M		<b>TERMINATION DEPTH</b> 15.0 M														
<b>BORE LOG SHEET</b>																						
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit		Density				Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity			
15.00	S-6/11	SPT	65.0	44.6	ML	0.0	37.0	63.0	28.9	17.5	11.4	1.82	1.65	10.6	13.8	.	.	.	.	.	.	
16.50	S-6/12	SPT	72.0	47.2	ML	.	.	.	.	.	.	.	.	13.2	.	.	.	.	.	.	.	
18.00	S-6/13	SPT	78.0	48.8	CL	0.0	9.0	91.0	32.2	18.5	13.7	1.94	1.68	15.3	.	.	0.20	0.94	2.31	.	.	
19.50	S-6/14	SPT	82.0	49.1	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
21.00	S-6/15	SPT	87.0	50.0	CL	0.0	13.0	87.0	.	.	.	.	.	16.2	.	.	.	.	.	.	.	.
22.50	S-6/16	SPT	92.0	50.7	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.33	.	.
24.00	S-6/17	SPT	97.0	51.4	SP	0.0	59.0	41.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
25.50	S-6/18	SPT	REFUSAL	REFUSAL	SP	0.0	83.0	17.0	NP	NP	NP	2.18	1.85	18.1	.	.	.	.	.	.	.	.
27.00	S-6/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.
28.50	S-6/20	SPT	REFUSAL	REFUSAL	SP	10.0	82.0	8.0	NP	NP	NP	.	.	18.5	.	.	.	.	.	.	.	.



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
	N-3161469 E-728206		
<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>	<b>0.0 M</b>	<b>15.0 M</b>
	6		
<b>TERMINATION DEPTH</b>			

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-6/21	SPT	REFUSAL		SP	0.0	19.0	81.0	NP	NP	NP	.	.	.	.	.	.	.
31.50	S-6/22	SPT	REFUSAL		SP	0.0	19.0	81.0	NP	NP	NP	.	.	19.1	.	.	.	2.36
33.00	S-6/23	SPT	REFUSAL		SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.
34.50	S-6/24	SPT	REFUSAL		SP	0.0	96.0	4.0	NP	NP	NP	2.21	1.85	19.6	.	.	.	.
36.00	S-6/25	SPT	REFUSAL		SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.
37.50	S-6/26	SPT	REFUSAL		SP	0.0	95.0	5.0	NP	NP	NP	2.33	1.95	19.7	.	.	.	2.46
39.00	S-6/27	SPT	REFUSAL		SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	2.47
40.00	S-6/28	SPT	REFUSAL		SP	0.0	86.0	14.0	NP	NP	NP	.	.	19.8	.	.	.	.




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**BOREHOLE**  
7  
**LOCATION**  
M-3161463  
E-728130  
**JOB NO.**  
GT-1997  
**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**  
**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M **WATER TABLE DEPTH** 14.5 M  
**TERMINATION DEPTH** 40.0 M

BORE LOG SHEET																						
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Shear Parameters									
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Density	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity				
0.75	S-7/1	SPT	4.0	6.8	CL	0.0	20.0	80.0	-	-	-	-	-	-	-	-	-	-	-	-		
1.50	S-7/2	SPT	6.0	8.7	SP	0.0	70.0	30.0	-	-	-	-	-	-	-	-	-	-	-	-	2.40	
3.00	S-7/3	SPT	9.0	11.0	SP	0.0	82.0	18.0	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	
4.50	S-7/4	SPT	14.0	15.3	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-
6.00	S-7/5	SPT	21.0	20.9	SP	0.0	88.0	12.0	NP	NP	NP	NP	NP	1.63	7.3	-	-	-	-	-	-	2.43
7.50	S-7/6	SPT	26.0	23.9	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-7/7	SPT	31.0	26.6	SP	12.0	82.0	6.0	NP	NP	NP	NP	NP	1.63	8.2	-	-	-	-	-	-	-
10.50	S-7/8	SPT	35.0	28.2	SP	14.0	77.0	9.0	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-7/9	SPT	41.0	31.2	SP	-	-	-	NP	NP	NP	NP	NP	-	8.8	-	-	-	-	-	-	-
13.50	S-7/10	SPT	46.0	33.2	SP	11.0	83.0	6.0	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-

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				7	N-3161463 E-728130	GT-1997	
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>				<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>		
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>				0.0 M	14.5 M		
<b>BORE LOG SHEET</b>				<b>TERMINATION DEPTH</b>	40.0 M		

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Shear Parameters				Specific Gravity	
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (k/m2)		Angle of Internal Friction,
15.00	S-7/11	SPT	52.0	35.7	GS	0.0	0.0	83.0	NP	NP	NP	1.66	1.85	11.2	0.18	0.86	2.32
16.50	S-7/12	SPT	57.0	37.3	CL	0.0	17.0	83.0	11.6	17.9	11.6	1.71	1.96	12.3	0.19	0.89	2.34
18.00	S-7/13	SPT	66.0	41.3	CL	0.0	0.0	84.0	NP	NP	NP	1.80	2.11	14.5	0.19	0.89	2.34
19.50	S-7/14	SPT	71.0	42.5	CL	0.0	0.0	84.0	NP	NP	NP	1.80	2.11	15.6	0.19	0.89	2.34
21.00	S-7/15	SPT	75.0	43.1	CL	0.0	16.0	84.0	12.7	17.8	12.7	1.80	2.11	16.9	0.19	0.89	2.34
22.50	S-7/16	SPT	82.0	45.2	CL	0.0	0.0	38.0	NP	NP	NP	1.80	2.11	17.5	0.19	0.89	2.34
24.00	S-7/17	SPT	87.0	46.1	SP	0.0	62.0	38.0	NP	NP	NP	1.80	2.11	17.5	0.19	0.89	2.34
25.50	S-7/18	SPT	92.0	46.9	SP	0.0	89.0	11.0	NP	NP	NP	1.80	2.11	17.5	0.19	0.89	2.34
27.00	S-7/19	SPT	95.0	46.6	SP	0.0	0.0	6.0	NP	NP	NP	1.80	2.11	17.5	0.19	0.89	2.34
28.50	S-7/20	SPT	REFUSAL	REFUSAL	SP	8.0	86.0	6.0	NP	NP	NP	1.80	2.11	18.5	0.19	0.89	2.34

Depth (m)	Sample No	Sample Type	Observed N-Value	Corrected N-Value	Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters											
						Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity									
30.00	S-7/21	SPT	REFUSAL		SP				NP	NP	NP																	
31.50	S-7/22	SPT	REFUSAL		CL	0.0	13.0	87.0																				
33.00	S-7/23	SPT	REFUSAL		CL																							
34.50	S-7/24	SPT	REFUSAL		SP	0.0	92.0	8.0	NP	NP	NP																	
36.00	S-7/25	SPT	REFUSAL		SP				NP	NP	NP																	
37.50	S-7/26	SPT	REFUSAL		SP	0.0	98.0	2.0	NP	NP	NP																	
39.00	S-7/27	SPT	REFUSAL		SP				NP	NP	NP																	
40.00	S-7/28	SPT	REFUSAL		SP	0.0	88.0	12.0	NP	NP	NP																	



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**BOREHOLE**  
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**LOCATION**  
N-3161463  
E-ZZ8130

**JOB NO.**  
GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
0.0 M

**TERMINATION DEPTH**  
40.0 M

**WATER TABLE DEPTH**  
14.5 M

**BORE LOG SHEET**



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
8	N-3162076 E-727943	GT-1997	


**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
0.0 M	
<b>TERMINATION DEPTH</b>	<b>15.0 M</b>

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc		Void Ratio, eo	
0.75	S-8/1	SPT	7.0	11.8	CL	0.0	11.0	89.0	-	-	-	-	-	-	-	-	-	-	-	
1.50	S-8/2	SPT	8.0	11.7	SP	0.0	75.0	25.0	-	-	-	1.65	1.60	3.1	0.7	23.0	-	-	-	2.43
3.00	S-8/3	SPT	12.0	14.7	SP	0.0	91.0	9.0	NP	NP	NP	-	-	3.5	-	-	-	-	-	-
4.50	S-8/4	SPT	14.0	15.3	SP	-	-	-	NP	NP	NP	-	-	-	-	29.0	-	-	-	-
6.00	S-8/5	SPT	19.0	18.9	SP	0.0	93.0	7.0	NP	NP	NP	1.70	1.62	5.2	-	-	-	-	-	2.47
7.50	S-8/6	SPT	21.0	19.3	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-8/7	SPT	25.0	21.4	SP	0.0	95.0	5.0	NP	NP	NP	1.75	1.64	6.8	-	32.0	-	-	-	-
10.50	S-8/8	SPT	32.0	25.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-8/9	SPT	37.0	28.2	SP	0.0	92.0	8.0	NP	NP	NP	-	-	8.7	-	-	-	-	-	-
13.50	S-8/10	SPT	41.0	29.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-

		<b>SONGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com			BOREHOLE	LOCATION	JOB NO.	PAGE NO											
									8	N-3162076 E-727943	GT-1997								
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																			
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																			
STARTING DEPTH				WATER TABLE DEPTH															
0.0 M				15.0 M															
TERMINATION DEPTH				15.0 M															
40.0 M																			
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-8/11	SPT	50.0	34.3	SP	0.0	90.0	10.0	28.8	17.8	11.0	1.81	1.59	13.5	-	-	-	-	-
16.00	S-8/12	SPT	53.0	34.7	CL	5.0	10.0	85.0	-	-	-	-	-	14.9	-	-	-	-	-
18.00	S-8/13	SPT	62.0	38.8	SP	0.0	70.0	30.0	30.2	19.9	10.3	1.89	1.63	16.2	-	-	-	-	2.33
19.50	S-8/14	SPT	63.0	37.7	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-8/15	SPT	65.0	37.3	SP	0.0	60.0	40.0	-	-	-	-	-	18.2	-	-	-	-	-
22.50	S-8/16	SPT	69.0	38.0	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-8/17	SPT	67.0	35.5	SM	0.0	52.0	48.0	-	-	-	-	-	18.8	-	-	-	-	2.40
25.50	S-8/18	SPT	69.0	35.1	SM	-	-	-	-	-	-	2.15	1.81	19.0	-	-	-	-	-
27.00	S-8/19	SPT	72.0	35.3	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-8/20	SPT	76.0	35.9	SM	0.0	58.0	42.0	-	-	-	-	-	19.3	-	-	-	-	-





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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
8	N-3162076 E-727943	GT-1997	

<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		0.0 M	
<b>BORE LOG SHEET</b>		<b>TERMINATION DEPTH</b>	<b>15.0 M</b>

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo			
30.00	S-8/21	SPT	84.0	38.2	SM	0.0	78.0	22.0	NP	NP	NP	2.72	1.89	18.8	.	.	.	.	.	2.45	
31.00	S-8/22	SPT	REFUSAL	REFUSAL	SP	0.0	97.0	3.0	NP	NP	NP	2.27	1.89	19.8	.	.	.	.	.	.	
33.00	S-8/23	SPT	REFUSAL	REFUSAL	SP	0.0	97.0	3.0	NP	NP	NP	2.27	1.89	19.8	.	.	.	.	.	.	
34.50	S-8/24	SPT	REFUSAL	REFUSAL	SP	0.0	97.0	3.0	NP	NP	NP	2.27	1.89	19.8	.	.	.	.	.	.	
36.00	S-8/25	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.31	1.94	19.2	.	.	.	.	.	2.47	
37.50	S-8/26	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.31	1.94	19.2	.	.	.	.	.	.	
39.00	S-8/27	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.31	1.94	19.2	.	.	.	.	.	.	
40.00	S-8/28	SPT	REFUSAL	REFUSAL	SP	0.0	90.0	10.0	NP	NP	NP	2.31	1.94	19.6	.	.	.	.	.	.	



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
9	N-3161416 E-727973	GT-1997	
<b>STARTING DEPTH</b>		<b>0.0 M</b>	<b>WATER TABLE DEPTH</b>
<b>TERMINATION DEPTH</b>		<b>40.0 M</b>	<b>14.7 M</b>

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-9/1	SPT	5.0	8.4	CL	0.0	10.0	90.0	.	.	.	0.00	.	1.9	.	.	.	.	.
1.50	S-9/2	SPT	8.0	11.7	SP	0.0	79.0	21.0	.	.	.	1.69	1.64	2.9	0.6	24.0	.	.	2.40
3.00	S-9/3	SPT	11.0	13.5	SP	0.0	82.0	18.0	NP	NP	NP	.	.	3.6	.	.	.	.	.
4.50	S-9/4	SPT	12.0	13.1	SP	.	.	.	NP	NP	NP	.	.	.	.	25.0	.	.	.
6.00	S-9/5	SPT	14.0	13.9	SP	0.0	86.0	14.0	NP	NP	NP	1.76	1.69	4.2	.	.	.	.	2.43
7.50	S-9/6	SPT	19.0	17.5	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
9.00	S-9/7	SPT	20.0	17.2	SP	0.0	90.0	10.0	NP	NP	NP	1.82	1.73	5.2	.	.	.	.	.
10.50	S-9/8	SPT	25.0	20.2	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
12.00	S-9/9	SPT	30.0	22.8	SP	0.0	96.0	4.0	NP	NP	NP	.	.	7.3	.	35.0	.	.	.
13.50	S-9/10	SPT	34.0	24.5	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.

Depth (m)	Sample No	Sample Type	Observed N-Value	Corrected N-Value	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				
					Gravel (%)	Sand (%)	Silt Clay (%)	Symbolic representation	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
15.00	S-9/11	SPT	39.0	26.8	0.0	98.0	2.0	SP	-	-	-	1.88	1.69	11.3	-	-	-	-	-	-
16.00	S-9/12	SPT	46.0	30.1	0.0	6.0	94.0	CL	-	-	-	-	-	13.5	-	-	-	-	-	-
18.00	S-9/13	SPT	53.0	33.2	-	-	-	CL	31.3	19.7	11.6	1.95	1.68	15.9	-	-	0.19	0.91	2.29	-
19.50	S-9/14	SPT	59.0	35.3	0.0	5.0	95.0	CL	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-9/15	SPT	66.0	37.9	-	-	-	CL	-	-	-	-	-	16.6	-	-	-	-	-	-
22.50	S-9/16	SPT	72.0	39.7	0.0	29.0	71.0	CL	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-9/17	SPT	80.0	42.4	0.0	71.0	29.0	SP	NP	NP	NP	-	-	17.2	-	-	-	-	2.31	-
25.50	S-9/18	SPT	87.0	44.3	-	-	-	SP	NP	NP	NP	2.02	1.71	17.8	-	-	-	-	-	-
27.00	S-9/19	SPT	94.0	46.1	-	-	-	SP	NP	NP	NP	-	-	-	-	-	-	-	-	-
28.50	S-9/20	SPT	REFUSAL	REFUSAL	0.0	82.0	18.0	SP	NP	NP	NP	-	-	18.3	-	-	-	-	-	-

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

BOREHOLE	LOCATION	JOB NO.	PAGE NO
9	N-3161416 E-727973	GT-1997	
STARTING DEPTH		0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH		40.0 M	14.7 M

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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

<b>BOREHOLE</b>		<b>LOCATION</b>		<b>JOB NO.</b>		<b>PAGE NO</b>
9		N-3161416 E-727973		GT-1997		
<b>STARTING DEPTH</b>				<b>WATER TABLE DEPTH</b>		
0.0 M				0.0 M		
<b>TERMINATION DEPTH</b>						14.7 M
40.0 M						

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density			Moisture Content (%)	Shear Parameters				Specific Gravity					
			Observed N-value	Corrected N-value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Cohesion, c (t/m2)		Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo							
30.00	S-9/71	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-		
31.00	S-9/72	SPT	REFUSAL	REFUSAL	SP	0.0	89.0	11.0	NP	NP	NP	2.15	-	-	-	18.8	-	-	-	-	-	-	-	2.45	
33.00	S-9/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	
34.50	S-9/74	SPT	REFUSAL	REFUSAL	SP	0.0	91.0	9.0	NP	NP	NP	2.24	1.88	19.2	-	-	-	-	-	-	-	-	-	-	
36.00	S-9/75	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	
37.50	S-9/76	SPT	REFUSAL	REFUSAL	SP	0.0	93.0	7.0	NP	NP	NP	2.33	1.95	19.5	-	-	-	-	-	-	-	-	-	2.46	
39.00	S-9/77	SPT	REFUSAL	REFUSAL	CL	0.0	21.0	79.0	27.6	18.5	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
40.00	S-9/78	SPT	REFUSAL	REFUSAL	CL	0.0	11.0	89.0	-	-	-	-	-	19.9	-	-	-	-	-	-	-	-	-	-	-



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**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

BOREHOLE		LOCATION		JOB NO.		PAGE NO	
BOREHOLE		LOCATION		JOB NO.		PAGE NO	
10		N-3161324 E-727908		GT-1997			
STARTING DEPTH				WATER TABLE DEPTH			
0.0 M				0.0 M			
TERMINATION DEPTH				13.7 M			
0.0 M				40.0 M			

BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-10/1	SPT	6.0	10.1	CL	0.0	17.0	83.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-10/2	SPT	9.0	13.1	SP	0.0	79.0	21.0	-	-	-	1.68	1.63	3.2	0.8	23.0	-	-	2.39
3.00	S-10/3	SPT	9.0	11.0	SP	0.0	82.0	18.0	NP	NP	NP	-	-	3.9	-	-	-	-	-
4.50	S-10/4	SPT	12.0	13.1	SP	-	-	-	NP	NP	NP	-	-	-	-	26.0	-	-	-
6.00	S-10/5	SPT	13.0	12.9	SP	0.0	93.0	7.0	NP	NP	NP	1.72	1.64	4.8	-	-	-	-	2.42
7.50	S-10/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-10/7	SPT	18.0	15.4	SP	0.0	96.0	4.0	NP	NP	NP	1.80	1.70	5.9	-	-	-	-	-
10.50	S-10/8	SPT	23.0	18.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-10/9	SPT	26.0	19.8	SP	0.0	91.0	9.0	NP	NP	NP	-	-	7.9	-	32.0	-	-	-
13.50	S-10/10	SPT	32.0	23.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-



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BOREHOLE LOCATION BOREHOLE NO. JOB NO. PAGE NO.  
10 N-3161324 E-727908 6T-1997

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of Consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-10/11	SPT	40.0	27.5	SP	0.0	98.0	2.0	.	.	.	1.86	1.68	10.5	.	.	.	.	.
16.00	S-10/12	SPT	47.0	30.8	CL	0.0	3.0	97.0	.	.	.	.	.	12.2	.	.	.	.	.
18.00	S-10/13	SPT	52.0	32.5	CL	.	.	.	31.5	18.9	12.6	1.96	1.71	14.6	.	.	0.19	0.92	2.28
19.50	S-10/14	SPT	56.0	33.5	CL	0.0	9.0	91.0	.	.	.	.	.	.	.	.	.	.	.
21.00	S-10/15	SPT	62.0	35.6	CL	.	.	.	.	.	.	.	.	15.9	.	.	.	.	.
22.50	S-10/16	SPT	72.0	39.7	CL	0.0	21.0	79.0	.	.	.	.	.	.	.	.	.	.	.
24.00	S-10/17	SPT	82.0	43.4	SP	0.0	78.0	22.0	NP	NP	NP	.	.	16.9	.	.	.	.	2.32
25.50	S-10/18	SPT	87.0	44.3	SP	.	.	.	NP	NP	NP	2.05	1.74	17.8	.	.	.	.	.
27.00	S-10/19	SPT	94.0	46.1	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
28.50	S-10/20	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	.	.	18.0	.	.	.	.	.



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BOREHOLE	LOCATION	JOB NO.	PAGE NO
10	N-3161324 E-727908	GT-1997	


PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

STARTING DEPTH	0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH	40.0 M	13.7 M

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity		
30.00	S-10/21	SPT	REFUSAL		SP	0.0	94.0	6.0	NP	NP	NP	NP	2.16								
31.00	S-10/22	SPT	REFUSAL		SP	0.0	94.0	6.0	NP	NP	NP	NP	2.16		18.3				2.46		
33.00	S-10/23	SPT	REFUSAL		SP				NP	NP	NP	NP									
34.50	S-10/24	SPT	REFUSAL		SP	0.0	97.0	3.0	NP	NP	NP	NP	2.22	1.86	19.3						
36.00	S-10/25	SPT	REFUSAL		SP				NP	NP	NP	NP									
37.50	S-10/26	SPT	REFUSAL		SP	0.0	90.0	10.0	NP	NP	NP	NP	2.31	1.93	19.5					2.48	
39.00	S-10/27	SPT	REFUSAL		CL	0.0	29.0	71.0	27.9	18.3	9.6										
40.00	S-10/28	SPT	REFUSAL		CL	0.0	6.0	94.0							19.6						

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						N-3161327 E-727790		GT-1997											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.						STARTING DEPTH		0.0 M		WATER TABLE DEPTH									
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI						TERMINATION DEPTH		40.0 M		13.5 M									
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Observed N-Value		Corrected N-Value	Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters			Specific Gravity		
			Observed	Corrected			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )		Angle of internal friction,	Coefficient of consolidation, C <sub>c</sub>
0.75	S-11/1	SPT	4.0	6.8	CL	0.0	15.0	85.0	-	-	2.6	-	-	-	-	-	-	-	
1.50	S-11/2	SPT	9.0	13.1	SP	0.0	97.0	3.0	NP	NP	3.3	1.64	1.59	-	27.0	-	-	2.41	
3.00	S-11/3	SPT	11.0	13.5	SP	-	-	-	NP	NP	3.9	-	-	-	-	-	-	-	-
4.50	S-11/4	SPT	12.0	13.1	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
6.00	S-11/5	SPT	13.0	12.9	SP	0.0	96.0	4.0	NP	NP	5.5	1.69	1.60	-	28.0	-	-	2.43	
7.50	S-11/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-11/7	SPT	19.0	16.3	SP	0.0	94.0	6.0	NP	NP	6.2	1.72	1.62	-	-	-	-	-	-
10.50	S-11/8	SPT	24.0	19.3	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-11/9	SPT	28.0	21.3	SP	0.0	93.0	7.0	NP	NP	7.6	-	-	-	32.0	-	-	-	-
13.50	S-11/10	SPT	33.0	23.8	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-





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BOREHOLE		LOCATION	JOB NO.	PAGE NO
11		M-3161327 E-727790	GT-1997	
STARTING DEPTH			0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH			40.0 M	13.5 M

BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-11/11	SPT	41.0	28.2	SP	0.0	92.0	8.0	NP	NP	NP	1.88	1.67	12.5	-	-	-	-	
16.00	S-11/12	SPT	48.0	31.4	SP	-	-	-	NP	NP	NP	-	-	14.2	-	-	-	-	
18.00	S-11/13	SPT	52.0	32.5	SP	-	-	-	NP	NP	NP	1.95	1.69	15.3	-	-	-	2.45	
19.50	S-11/14	SPT	58.0	34.7	SP	0.0	95.0	5.0	NP	NP	NP	-	-	-	-	37.0	-	-	
21.00	S-11/15	SPT	67.0	38.5	SP	-	-	-	NP	NP	NP	-	-	17.5	-	-	-	-	
22.50	S-11/16	SPT	76.0	41.9	SP	9.0	83.0	8.0	NP	NP	NP	-	-	-	-	-	-	-	
24.00	S-11/17	SPT	82.0	43.4	SP	16.0	80.0	4.0	NP	NP	NP	-	-	18.2	-	-	-	2.32	
25.50	S-11/18	SPT	88.0	44.8	SP	-	-	-	NP	NP	NP	2.07	1.75	18.6	-	-	-	-	
27.00	S-11/19	SPT	95.0	46.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	
28.50	S-11/20	SPT	REFUSAL	REFUSAL	SP	0.0	93.0	7.0	NP	NP	NP	-	-	19.0	-	-	-	-	



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			12	N-3161238.90 E-727620.68	GT-1997	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																							
Depth (m)	Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis			Atterberg limit			Density	Shear Parameters										
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index		Bulk Density (g/cc)	Dry Density (g/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity			
0.75	S-13/1	SPT	6.0	10.1	CL	0.0	13.0	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.50	S-13/2	SPT	9.0	16.0	SP	0.0	96.0	4.0	NP	NP	NP	1.64	1.57	4.3	-	28.0	-	-	-	-	-	2.41	
3.00	S-13/3	SPT	11.0	13.5	SP	-	-	-	NP	NP	NP	-	-	5.2	-	-	-	-	-	-	-	-	-
4.50	S-13/4	SPT	12.0	13.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
6.00	S-13/5	SPT	13.0	12.9	SP	0.0	92.0	8.0	NP	NP	NP	1.66	1.56	6.3	-	30.0	-	-	-	-	-	-	2.44
7.50	S-13/6	SPT	16.0	13.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
9.00	S-13/7	SPT	18.0	16.3	SP	0.0	98.0	2.0	NP	NP	NP	1.72	1.61	6.9	-	-	-	-	-	-	-	-	-
10.50	S-13/8	SPT	21.0	17.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
12.00	S-13/9	SPT	25.0	19.8	SP	0.0	90.0	10.0	NP	NP	NP	-	-	7.9	-	-	-	-	-	-	-	-	-
13.50	S-13/10	SPT	28.0	20.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-



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**BOREHOLE**  
 12

**LOCATION**  
 N-3161238.90  
 E-727620.68

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOKDA CENTRAL DIVISION CPWD, NEW DELHI**


**STARTING DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 11.7 M

**BORE LOG SHEET**

Depth (m)	Sample No.	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Plasticity Index	Density		Moisture Content (%)	Shear Parameters				Specific Gravity			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Bulk Density (gm/cc)		Dry Density (gm/cc)	Cohesion, c (fm2)		Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo					
15.00	S-13/11	SPT	31.0	21.3	SP	0.0	87.0	13.0	NP	NP	NP	1.83	1.64	11.9	.	.	.	.	.	.	.		
16.00	S-13/12	SPT	38.0	30.8	SP	.	.	.	NP	NP	NP	.	.	12.9	.	.	.	.	.	.	.	.	
18.00	S-13/13	SPT	47.0	34.4	SP	.	.	.	NP	NP	NP	1.64	1.44	13.9	.	.	.	.	.	.	.	2.43	
19.50	S-13/14	SPT	57.0	35.9	SP	0.0	81.0	19.0	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.
21.00	S-13/15	SPT	65.0	38.5	SP	.	.	.	NP	NP	NP	.	.	15.2	.	.	.	.	.	.	.	.	.
22.50	S-13/16	SPT	72.0	39.7	SP	9.0	79.0	12.0	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.
24.00	S-13/17	SPT	76.0	41.3	SP	13.0	83.0	4.0	NP	NP	NP	.	.	15.9	.	.	.	.	.	.	.	.	2.49
25.50	S-13/18	SPT	82.0	41.8	SP	.	.	.	NP	NP	NP	2.06	1.76	16.8	.	.	.	.	.	.	.	.	.
27.00	S-13/19	SPT	85.0	42.7	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-13/20	SPT	93.0	44.9	SP	0.0	86.0	14.0	NP	NP	NP	.	.	17.9	.	.	.	.	.	.	.	.	.

		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MW, Manimajra, Chandigarh email: soigneconsultants@gmail.com			BOREHOLE		LOCATION		JOB NO.		PAGE NO									
					12		N-3161238.90 E-727620.68		GT-1997											
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NORDA.</b>																				
<b>CLIENT :- EXECUTIVE ENGINEER (P) Noida Central Division CPWD, New Delhi</b>																				
<b>BORE LOG SHEET</b>																				
Depth (m)	Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
30.00	S-15/21	SPT	REFUSAL		SP	0.0	90.0	10.0	NP	NP	NP	2.12	1.80	18.0	.	.	.	.	2.32	
31.00	S-15/22	SPT	REFUSAL		SP	0.0	6.0	94.0	NP	NP	12.4	2.22	1.88	18.3	.	.	0.19	0.97	.	
33.00	S-15/23	SPT	REFUSAL		CL	0.0	16.0	84.0	.	.	.	.	.	.	.	.	.	.	.	.
34.50	S-15/24	SPT	REFUSAL		CL	0.0	19.0	81.0	.	.	.	.	.	.	.	.	.	.	.	.
36.00	S-15/25	SPT	REFUSAL		CL	0.0	19.0	81.0	.	.	.	.	.	.	.	.	.	.	.	.
37.50	S-15/26	SPT	REFUSAL		CL	0.0	19.0	81.0	.	.	.	.	.	.	.	.	.	.	.	.
39.00	S-15/27	SPT	REFUSAL		CL	0.0	19.0	81.0	.	.	.	.	.	.	.	.	.	.	.	.
40.00	S-15/28	SPT	REFUSAL		CL	0.0	19.0	81.0	.	.	.	.	.	.	.	.	.	.	.	.



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**BOREHOLE** LOCATION **JOB NO.** **PAGE NO.**  
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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**  
**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
0.75	S-13/1	SPT	5.0	8.5	CL	0.0	11.0	89.0	.	.	1.9	.	.	.	.	.	.	.
1.50	S-13/2	SPT	11.0	15.5	SP	0.0	91.0	9.0	NP	NP	3.9	1.63	1.57	27.0	.	.	2.40	
3.00	S-13/3	SPT	11.0	13.5	SP	.	.	.	NP	NP	4.9	.	.	.	.	.	.	.
4.50	S-13/4	SPT	12.0	13.1	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.
6.00	S-13/5	SPT	13.0	12.9	SP	0.0	93.0	7.0	NP	NP	5.6	1.67	1.58	28.0	.	.	2.42	
7.50	S-13/6	SPT	15.0	13.8	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.
9.00	S-13/7	SPT	19.0	15.4	SP	0.0	96.0	4.0	NP	NP	6.6	1.77	1.66	.	.	.	.	
10.50	S-13/8	SPT	22.0	16.9	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.
12.00	S-13/9	SPT	26.0	19.0	SP	0.0	92.0	8.0	NP	NP	7.4	.	.	32.0	.	.	.	
13.50	S-13/10	SPT	28.0	20.2	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.

**BORE LOG SHEET**

**STARTING DEPTH** **0.0 M**

**WATER TABLE DEPTH**

**TERMINATION DEPTH** **40.0 M**

**11.4 M**



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-13/11	SPT	31.0	21.3	SP	0.0	90.0	10.0	.	.	1.86	1.67	11.6	.	.	.	.	.	
16.00	S-13/12	SPT	47.0	24.9	SP	.	.	.	.	.	.	.	13.9	.	.	.	.	.	
18.00	S-13/13	SPT	55.0	29.4	SP	.	.	.	.	.	1.99	1.73	14.9	.	.	.	.	2.46	
19.50	S-13/14	SPT	60.0	34.1	SP	0.0	88.0	12.0	.	.	.	.	.	.	.	.	.	.	
21.00	S-13/15	SPT	67.0	37.3	SP	.	.	.	.	.	.	.	16.3	.	.	.	.	.	
22.50	S-13/16	SPT	72.0	39.7	SP	5.0	89.0	6.0	.	.	.	.	.	.	.	.	.	.	
24.00	S-13/17	SPT	78.0	40.3	SP	12.0	82.0	6.0	.	.	.	.	16.9	.	.	.	.	2.33	
25.50	S-13/18	SPT	82.0	41.8	SP	.	.	.	NP	NP	2.10	1.78	17.9	.	.	.	.	.	
27.00	S-13/19	SPT	87.0	41.7	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.	
28.50	S-13/20	SPT	95.0	43.9	SP	0.0	89.0	11.0	NP	NP	.	.	18.1	.	.	.	.	.	

**BORE LOG SHEET**

**BOREHOLE**  
13

**LOCATION**  
N-3161359  
E-727613

**JOB NO.**  
GT-1997

**PAGE NO**

**STARTING DEPTH**  
0.0 M

**WATER TABLE DEPTH**  
11.4 M

**TERMINATION DEPTH**  
40.0 M

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				13	N-3161359 E-727613	GT-1997	

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-13/21	SPT	REFUSAL	REFUSAL	SP	0.0	86.0	14.0	NP	NP	NP	2.16	1.83	18.3	.	.	.	.	2.34
31.00	S-13/22	SPT	REFUSAL	REFUSAL	SP	0.0	11.0	89.0	NP	NP	12.0	.	.	.	.	.	.	.	0.88
33.00	S-13/23	SPT	REFUSAL	REFUSAL	CL	0.0	.	.	.	.	.	2.24	1.89	18.6	.	.	.	.	.
34.50	S-13/24	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
36.00	S-13/25	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
37.50	S-13/26	SPT	REFUSAL	REFUSAL	CL	0.0	17.0	83.0	.	.	.	2.35	1.97	19.2	.	.	.	.	2.31
39.00	S-13/27	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40.00	S-13/28	SPT	REFUSAL	REFUSAL	CL	0.0	16.0	84.0	.	.	.	.	.	.	.	.	.	.	.





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**BOREHOLE**  
 14

**LOCATION**  
 N-3161567  
 E-727547

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**


**STARTING DEPTH**  
 0.0 M

**WATER TABLE DEPTH**  
 12.5 M

**TERMINATION DEPTH**  
 40.0 M

**BORE LOG SHEET**

Depth (m)	Sample #	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Shear Parameters							
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-14/1	SPT	6.0	10.1	CL	0.0	4.0	96.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-14/2	SPT	7.0	10.2	SP	0.0	73.0	27.0	NP	NP	NP	1.61	2.9	0.9	22.0	-	-	-	2.42
3.00	S-14/3	SPT	10.0	12.3	SP	0.0	94.0	6.0	NP	NP	NP	-	3.3	-	-	-	-	-	-
4.50	S-14/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-14/5	SPT	13.0	12.9	SP	0.0	95.0	5.0	NP	NP	NP	1.72	4.8	-	27.0	-	-	-	2.48
7.50	S-14/6	SPT	17.0	15.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-14/7	SPT	19.0	16.3	SP	5.0	92.0	3.0	NP	NP	NP	1.77	5.7	-	-	-	-	-	-
10.50	S-14/8	SPT	22.0	17.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-14/9	SPT	27.0	20.6	SP	0.0	95.0	5.0	NP	NP	NP	-	7.5	-	33.0	-	-	-	-
13.50	S-14/10	SPT	31.0	22.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

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					14		GT-1997												
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																			
CLIENT :- EXECUTIVE ENGINEER (P) NORDA CENTRAL DIVISION CPWD, NEW DELHI																			
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-14/11	SPT	35.0	24.0	SP	0.0	93.0	7.0	-	-	1.82	1.61	13.2	-	-	-	-	-	
16.00	S-14/12	SPT	41.0	26.9	SP	0.0	88.0	12.0	-	-	-	-	14.9	-	-	-	-	-	
18.00	S-14/13	SPT	54.0	33.8	SP	-	-	-	-	-	1.90	1.64	15.8	-	37.0	-	-	2.32	
19.50	S-14/14	SPT	62.0	37.1	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	
21.00	S-14/15	SPT	73.0	41.9	SP	0.0	85.0	15.0	-	-	-	-	16.9	-	-	-	-	-	
22.00	S-14/16	SPT	78.0	43.0	CL	0.0	14.0	86.0	-	-	-	-	-	-	-	-	-	-	
24.00	S-14/17	SPT	83.0	44.0	CL	0.0	9.0	91.0	-	-	-	-	18.0	-	-	-	-	2.41	
25.50	S-14/18	SPT	88.0	44.8	CL	-	-	-	31.5	16.8	14.7	2.11	1.77	19.2	-	0.19	0.92	-	
27.00	S-14/19	SPT	94.0	46.1	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	
28.50	S-14/20	SPT	REFUSAL	REFUSAL	CL	0.0	11.0	89.0	-	-	-	-	19.3	-	-	-	-	-	



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BOREHOLE	LOCATION	JOB NO.	PAGE NO
	N-3161567 E-727547		
14	STARTING DEPTH	0.0 M	WATER TABLE DEPTH
	TERMINATION DEPTH	40.0 M	12.5 M

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-14/21	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.50	S-14/22	SPT	REFUSAL	REFUSAL	CL	0.0	18.0	82.0	-	-	-	2.19	-	-	19.4	-	0.20	0.94	2.47
32.50	S-14/23	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.50	S-14/24	SPT	REFUSAL	REFUSAL	SP	10.0	80.0	10.0	NP	NP	NP	2.25	1.88	19.9	-	-	-	-	-
36.00	S-14/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-14/26	SPT	REFUSAL	REFUSAL	SP	11.0	82.0	7.0	NP	NP	NP	2.31	1.93	20.0	-	-	-	-	2.47
39.00	S-14/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-14/28	SPT	REFUSAL	REFUSAL	SP	9.0	80.0	11.0	NP	NP	NP	-	-	20.4	-	-	-	-	-



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**BOREHOLE**  
 15

**LOCATION**  
 N-3161291  
 E-727514

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M **WATER TABLE DEPTH** 12.9 M

**TERMINATION DEPTH** 40.0 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-15/1	SPT	5.0	8.5	0.0	25.0	75.0	.	.	.	.	.	.	.	.	.	.	.
1.50	S-15/2	SPT	6.0	8.8	0.0	84.0	16.0	NP	NP	NP	NP	1.65	1.58	4.6	.	24.0	.	2.41
3.00	S-15/3	SPT	9.0	11.0	.	.	.	NP	NP	NP	NP	.	.	5.8	.	.	.	.
4.50	S-15/4	SPT	10.0	10.9	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.
6.00	S-15/5	SPT	13.0	12.9	0.0	95.0	5.0	NP	NP	NP	NP	1.69	1.59	6.5	.	27.0	.	2.45
7.50	S-15/6	SPT	20.0	18.4	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.
9.00	S-15/7	SPT	19.0	16.3	0.0	92.0	8.0	NP	NP	NP	NP	1.76	1.64	7.3	.	31.0	.	.
10.50	S-15/8	SPT	24.0	19.4	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.
12.00	S-15/9	SPT	27.0	20.6	0.0	90.0	10.0	NP	NP	NP	NP	.	.	8.6	.	.	.	.
13.50	S-15/10	SPT	32.0	23.2	.	.	.	NP	NP	NP	NP	.	.	.	.	.	.	.



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**BOREHOLE** LOCATION **JOB NO.** **PAGE NO.**  
 15 N-3161291 GT-1997

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** **WATER TABLE DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

12.9 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
15.00	S-15/11	SPT	41.0	28.2	SP	0.0	96.0	4.0	NP	NP	NP	1.85	1.68	10.2	.	35.0	.	.	.	
16.00	S-15/12	SPT	43.0	28.2	SP	.	.	.	NP	NP	NP	.	.	11.3	.	.	.	.	2.47	
18.00	S-15/13	SPT	54.0	33.9	SP	.	.	.	NP	NP	NP	1.92	1.70	13.2	.	.	.	.	2.43	
19.50	S-15/14	SPT	65.0	39.1	SP	0.0	88.0	12.0	NP	NP	NP	.	.	.	.	.	.	.	.	
21.00	S-15/15	SPT	77.0	44.4	SP	.	.	.	NP	NP	NP	.	.	15.6	.	.	.	.	.	
22.50	S-15/16	SPT	85.0	47.0	SP	9.0	83.0	8.0	NP	NP	NP	.	.	.	.	.	.	.	.	
24.00	S-15/17	SPT	93.0	49.4	SP	6.0	89.0	5.0	NP	NP	NP	.	.	16.6	.	.	.	.	2.50	
25.50	S-15/18	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	2.11	1.80	17.5	.	.	.	.	.	
27.00	S-15/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	
28.50	S-15/20	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	.	.	18.5	.	.	.	.	.	



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BOREHOLE LOCATION JOB NO. PAGE NO  
15 N-3161291 E-727514 GT-1997

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.


CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

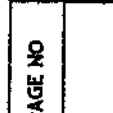
STARTING DEPTH WATER TABLE DEPTH  
0.0 M 12.9 M

TERMINATION DEPTH  
40.0 M

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity		
30.00	S-15/21	SPT	REFUSAL	REFUSAL	SP	0.0	89.0	11.0	NP	NP	NP	NP	2.13	1.79	18.9	.	.	.	.	2.31	
31.00	S-15/22	SPT	REFUSAL	REFUSAL	SP	0.0	89.0	11.0	NP	NP	NP	NP	2.13	1.79	18.9	.	.	.	.	2.31	
33.00	S-15/23	SPT	REFUSAL	REFUSAL	CL	0.0	10.0	90.0	31.2	19.2	12.0	.	2.18	1.82	19.6	.	.	0.19	.	.	2.33
34.50	S-15/24	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	2.18	1.82	19.6	.	.	.	.	.	.
36.00	S-15/25	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
37.50	S-15/26	SPT	REFUSAL	REFUSAL	CL	0.0	19.0	81.0	.	.	.	.	2.32	1.95	19.2	.	.	.	.	.	2.33
39.00	S-15/27	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	19.9	.	.	.	.	.	.
40.00	S-15/28	SPT	REFUSAL	REFUSAL	CL	0.0	13.0	87.0	.	.	.	.	.	.	19.6	.	.	.	.	.	.

		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com				<b>BOREHOLE</b> 16		<b>LOCATION</b> N-3161503 E-727378		<b>JOB NO.</b> GT-1997		<b>PAGE NO.</b>							
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																			
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>																			
<b>STARTING DEPTH</b> 0.0 M						<b>WATER TABLE DEPTH</b> 13.2 M													
<b>TERMINATION DEPTH</b> 40.0 M																			
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit		Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of Consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-16/1	SPT	4.0	6.8	CL	0.0	10.0	90.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-16/2	SPT	7.0	10.2	SP	0.0	71.0	29.0	NP	NP	NP	1.61	1.56	3.3	0.7	21.0	-	-	2.42
3.00	S-16/3	SPT	9.0	11.0	SP	0.0	95.0	5.0	NP	NP	NP	-	-	3.6	-	-	-	-	-
4.50	S-16/4	SPT	12.0	13.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-16/5	SPT	13.0	12.9	SP	9.0	85.0	6.0	NP	NP	NP	1.64	1.57	4.5	-	27.0	-	-	2.45
7.50	S-16/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-16/7	SPT	18.0	15.5	SP	11.0	83.0	6.0	NP	NP	NP	1.72	1.64	4.9	-	-	-	-	-
10.50	S-16/8	SPT	23.0	18.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-16/9	SPT	26.0	19.8	SP	7.0	83.0	10.0	NP	NP	NP	-	-	7.6	-	33.0	-	-	-
13.50	S-16/10	SPT	32.0	23.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-



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**BOREHOLE**  
 16

**LOCATION**  
 N-3161503  
 E-727378

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M **WATER TABLE DEPTH**

**TERMINATION DEPTH** 40.0 M **13.2 M**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity		
15.00	S-16/11	SPT	39.0	26.9	SP	13.0	82.0	5.0	NP	NP	NP	1.76	1.56	12.5	-	-	-	-	-		
16.00	S-16/12	SPT	46.0	30.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	
18.00	S-16/13	SPT	60.0	37.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	
19.50	S-16/14	SPT	70.0	42.1	SP	0.0	95.0	5.0	NP	NP	NP	1.92	1.66	15.6	-	-	-	-	-	2.40	
21.00	S-16/15	SPT	88.0	50.7	CL	0.0	15.0	85.0	30.2	19.9	10.3	-	-	16.5	-	-	0.18	0.88	-	-	
22.50	S-16/16	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24.00	S-16/17	SPT	REFUSAL	REFUSAL	CL	0.0	13.0	87.0	30.9	19.5	11.4	-	-	-	-	-	0.19	0.90	2.35	-	
25.50	S-16/18	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	2.01	1.70	18.3	-	-	-	-	-	-	-
27.00	S-16/19	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-16/20	SPT	REFUSAL	REFUSAL	CL	0.0	9.0	91.0	31.6	19.6	12.0	-	-	18.8	-	-	0.19	0.92	-	-	-



SIL		SOGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com			BOREHOLE	LOCATION	JOB NO.	PAGE NO										
		PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			16	N-3161503 E-727378	GT-1997											
		CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			STARTING DEPTH		0.0 M	WATER TABLE DEPTH										
		BORE LOG SHEET			TERMINATION DEPTH		40.0 M	13.2 M										
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (v/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-16/21	SPT	REFUSAL	REFUSAL	CL	0.0	97.0	32.5	19.1	13.4	2.06	1.73	19.4	.	.	.	.	2.30
31.00	S-16/22	SPT	REFUSAL	REFUSAL	CL	0.0	97.0	32.5	19.1	13.4	2.06	1.73	19.4	.	.	.	.	2.30
33.00	S-16/23	SPT	REFUSAL	REFUSAL	CL	0.0	97.0	32.5	19.1	13.4	2.06	1.73	19.4	.	.	.	.	2.30
34.50	S-16/24	SPT	REFUSAL	REFUSAL	CL	0.0	91.0	32.9	19.8	13.1	2.17	1.81	19.6	.	.	0.21	0.96	.
36.00	S-16/25	SPT	REFUSAL	REFUSAL	CL	0.0	91.0	32.9	19.8	13.1	2.17	1.81	19.6	.	.	.	.	.
37.50	S-16/26	SPT	REFUSAL	REFUSAL	CL	0.0	81.0	32.9	19.8	13.1	2.29	1.91	19.9	.	.	.	.	2.29
39.00	S-16/27	SPT	REFUSAL	REFUSAL	CL	0.0	81.0	32.9	19.8	13.1	2.29	1.91	19.9	.	.	.	.	.
40.00	S-16/28	SPT	REFUSAL	REFUSAL	CL	0.0	85.0	32.9	19.8	13.1	2.29	1.91	20.2	.	.	.	.	.



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

BOREHOLE		LOCATION		JOB NO.		PAGE NO													
17		N-3161237 E-727376		GT-1997															
STARTING DEPTH				0.0 M		WATER TABLE DEPTH													
TERMINATION DEPTH				40.0 M		12.5 M													
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (Nm <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-17/1	SPT	6.0	10.1	CL	0.0	11.0	89.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-17/2	SPT	7.0	10.2	SP	0.0	79.0	21.0	NP	NP	1.62	1.58	2.5	0.7	24.0	-	-	-	2.40
3.00	S-17/3	SPT	12.0	14.7	SP	0.0	96.0	4.0	NP	NP	-	-	3.7	-	-	-	-	-	-
4.50	S-17/4	SPT	16.0	17.5	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
6.00	S-17/5	SPT	27.0	26.9	SP	9.0	86.0	5.0	NP	NP	1.62	1.55	4.6	-	33.0	-	-	-	2.42
7.50	S-17/6	SPT	34.0	31.3	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-17/7	SPT	35.0	30.1	SP	10.0	82.0	8.0	NP	NP	1.73	1.65	4.9	-	-	-	-	-	-
10.50	S-17/8	SPT	38.0	30.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-17/9	SPT	43.0	32.8	SP	8.0	88.0	4.0	NP	NP	-	-	7.2	-	35.8	-	-	-	-
13.50	S-17/10	SPT	52.0	37.6	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
17	N-3161237 E-727376	GT-1997	

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC HOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
0.0 M	
<b>TERMINATION DEPTH</b>	
40.0 M	12.5 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (Nm <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo				
15.00	S-17/11	SPT	56.0	38.6	SP	11.0	83.0	6.0	NP	NP	NP	1.83	1.62	12.8	.	.	.	.	.			
16.00	S-17/12	SPT	60.0	39.4	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.		
18.00	S-17/13	SPT	69.0	43.3	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	
19.50	S-17/14	SPT	75.0	45.1	SP	0.0	84.0	16.0	NP	NP	NP	1.91	1.67	14.6	.	36.00	.	.	.	2.44		
21.00	S-17/15	SPT	81.0	46.7	CL	0.0	15.0	85.0	31.3	19.7	11.6	.	.	15.6	.	.	.	.	.	.	.	
22.50	S-17/16	SPT	87.0	48.1	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
24.00	S-17/17	SPT	REFUSAL		CL	0.0	9.0	91.0	31.6	17.9	13.7	.	.	.	.	.	0.19	.	.	0.95	2.33	
25.50	S-17/18	SPT	REFUSAL		CL	.	.	.	.	.	.	2.00	1.71	17.0	.	.	.	.	.	.	.	.
27.00	S-17/19	SPT	REFUSAL		CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-17/20	SPT	REFUSAL		CL	0.0	5.0	95.0	32.1	18.9	13.2	.	.	18.3	.	.	.	.	.	.	.	.

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		JOB NO. GT-1997		PAGE NO.															
BOREHOLE 17		LOCATION N-3161237 E-72376		WATER TABLE DEPTH 0.0 M															
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		STARTING DEPTH TERMINATION DEPTH		WATER TABLE DEPTH 12.5 M															
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		BORE LOG SHEET																	
Depth (M)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (Nm <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-17/21	SPT	REFUSAL	REFUSAL	CL	0.0	10.0	90.0	31.6	18.7	12.9	2.11	1.77	19.1	.	.	0.19	0.92	2.31
31.00	S-17/22	SPT	REFUSAL	REFUSAL	CL	0.0	6.0	94.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	.	.	.
33.00	S-17/23	SPT	REFUSAL	REFUSAL	CL	0.0	0.0	100.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	.	.	.
34.50	S-17/24	SPT	REFUSAL	REFUSAL	CL	0.0	6.0	94.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	.	.	.
36.00	S-17/25	SPT	REFUSAL	REFUSAL	CL	0.0	0.0	100.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	0.20	0.94	.
37.50	S-17/26	SPT	REFUSAL	REFUSAL	CL	0.0	19.0	81.0	31.2	19.5	11.7	2.31	1.93	19.6	.	.	.	.	2.33
39.00	S-17/27	SPT	REFUSAL	REFUSAL	CL	0.0	0.0	100.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	.	.	.
40.00	S-17/28	SPT	REFUSAL	REFUSAL	CL	0.0	16.0	84.0	31.2	19.5	11.7	2.21	1.85	19.3	.	.	.	.	.

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO												
		17		N-3161321 E-727209		GT-1997														
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																				
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																				
BORE LOG SHEET																				
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo		
0.75	S-18/1	SPT	5.0	8.5	CL	0.0	13.0	87.0	-	-	1.9	-	-	-	-	-	-	-	-	-
1.50	S-18/2	SPT	7.0	10.2	SP	0.0	82.0	18.0	NP	NP	2.9	1.61	0.5	24.0	-	-	-	-	-	2.41
3.00	S-18/3	SPT	11.0	13.5	SP	0.0	89.0	11.0	NP	NP	3.3	-	-	-	-	-	-	-	-	-
4.50	S-18/4	SPT	13.0	14.2	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
6.00	S-18/5	SPT	17.0	16.9	SP	9.0	82.0	9.0	NP	NP	5.2	1.61	-	29.0	-	-	-	-	-	2.46
7.50	S-18/6	SPT	19.0	17.5	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
9.00	S-18/7	SPT	24.0	20.6	SP	11.0	83.0	6.0	NP	NP	5.9	1.66	-	-	-	-	-	-	-	-
10.50	S-18/8	SPT	28.0	22.6	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
12.00	S-18/9	SPT	32.0	24.4	SP	13.0	80.0	7.0	NP	NP	7.6	-	-	34.0	-	-	-	-	-	-
13.50	S-18/10	SPT	36.0	26.1	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-




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BOREHOLE	LOCATION	JOB NO.	PAGE NO
17	N-3161321 E-727209	GT-1997	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		STARTING DEPTH	WATER TABLE DEPTH
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		0.0 M	
BORE LOG SHEET		TERMINATION DEPTH	12.7 M

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-18/11	SPT	43.0	29.6	SP	11.0	86.0	3.0	NP	NP	NP	1.86	1.66	11.9	-	-	-	-
16.00	S-18/12	SPT	49.0	32.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
18.00	S-18/13	SPT	57.0	35.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
19.50	S-18/14	SPT	64.0	38.5	SP	0.0	87.0	13.0	NP	NP	NP	1.89	1.67	13.5	-	-	-	2.41
21.00	S-18/15	SPT	72.0	41.5	CL	0.0	19.0	81.0	31.6	19.5	12.1	-	-	14.6	-	0.19	0.92	-
22.50	S-18/16	SPT	78.0	43.1	CL	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-18/17	SPT	85.0	45.2	CL	0.0	16.0	84.0	32.0	17.9	14.1	-	-	-	-	0.20	0.93	2.31
25.50	S-18/18	SPT	92.0	47.0	CL	-	-	-	-	-	-	1.94	1.67	16.5	-	-	-	-
27.00	S-18/19	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-18/20	SPT	REFUSAL	REFUSAL	CL	0.0	9.0	91.0	32.6	18.5	14.1	-	-	17.6	-	-	-	-

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	17		N-3161321 E-727209		GT-1997		0.0 M		WATER TABLE DEPTH		12.7 M												
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																							
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																							
BORE LOG SHEET																							
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo					
30.00	S-18/21	SPT	REFUSAL		CL	0.0	11.0	89.0	32.2	18.2	14.0	2.06	1.75	17.9	.	.	.	.	.	.	.	.	2.29
31.00	S-18/22	SPT	REFUSAL		CL	0.0	4.0	96.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
33.00	S-18/23	SPT	REFUSAL		CL	0.0	0.0	100.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
34.50	S-18/24	SPT	REFUSAL		CL	0.0	4.0	96.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
36.00	S-18/25	SPT	REFUSAL		CL	0.0	0.0	100.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
37.50	S-18/26	SPT	REFUSAL		CL	0.0	15.0	85.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
39.00	S-18/27	SPT	REFUSAL		CL	0.0	0.0	100.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95
40.00	S-18/28	SPT	REFUSAL		CL	0.0	13.0	87.0	32.6	19.5	13.1	2.78	1.93	18.3	.	.	.	.	.	.	.	.	0.95



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BOREHOLE LOCATION

JOB NO. PAGE NO

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BOREHOLE LOCATION: 19 N-3161706 E-727650

JOB NO.: GT-1997

PAGE NO:

STARTING DEPTH: 0.0 M

WATER TABLE DEPTH:

TERMINATION DEPTH: 40.0 M

13.4 M

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-19/1	SPT	5.0	8.5	CL	0.0	6.0	94.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-19/2	SPT	7.0	10.2	SP	0.0	70.0	30.0	NP	NP	NP	1.68	1.63	3.3	0.6	23.0	-	-	2.41
3.00	S-19/3	SPT	9.0	11.0	SP	0.0	90.0	10.0	NP	NP	NP	-	-	4.6	-	-	-	-	-
4.50	S-19/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-19/5	SPT	12.0	11.9	SP	0.0	93.0	7.0	NP	NP	NP	1.70	1.61	5.9	-	27.0	-	-	2.44
7.50	S-19/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-19/7	SPT	19.0	16.3	SP	3.0	91.0	6.0	NP	NP	NP	1.75	1.64	6.6	-	-	-	-	-
10.50	S-19/8	SPT	22.0	17.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-19/9	SPT	27.0	20.6	SP	0.0	93.0	7.0	NP	NP	NP	-	-	7.2	-	33.0	-	-	-
13.50	S-19/10	SPT	34.0	24.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-





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**PAGE NO**

**JOB NO.**

**LOCATION**

**BOREHOLE**

**STARTING DEPTH**

**TERMINATION DEPTH**

**WATER TABLE DEPTH**

**0.0 M**

**40.0 M**

**13.4 M**

**GT-1997**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters										
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity								
15.00	S-19/11	SPT	39.0	26.9	GS	0.0	86.0	14.0	NP	NP	NP	NP	NP	1.84	1.65	11.8	-	-	-	-	-	-	-	-	-	-	-
16.00	S-19/12	SPT	46.0	30.2	SP	0.0	83.0	17.0	NP	NP	NP	NP	NP	-	-	13.5	-	-	-	-	-	-	-	-	-	-	-
18.00	S-19/13	SPT	53.0	33.3	SP	-	-	-	NP	NP	NP	NP	NP	1.89	1.65	14.5	-	-	-	-	-	-	-	-	-	-	2.31
19.50	S-19/14	SPT	60.0	36.1	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-19/15	SPT	68.0	39.2	SP	0.0	81.0	19.0	NP	NP	NP	NP	NP	-	-	15.6	-	-	-	-	-	-	-	-	-	-	-
22.00	S-19/16	SPT	73.0	40.4	CL	0.0	17.0	83.0	28.6	16.2	12.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-19/17	SPT	77.0	40.9	CL	0.0	11.0	89.0	-	-	-	-	-	-	-	17.8	-	-	-	-	-	-	-	-	-	-	2.33
25.50	S-19/18	SPT	81.0	41.4	CL	-	-	-	-	-	-	-	-	2.06	1.74	18.3	-	-	-	-	-	-	-	-	-	-	-
27.00	S-19/19	SPT	89.0	43.8	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-19/20	SPT	94.0	46.5	CL	0.0	13.0	87.0	-	-	-	-	-	-	-	18.6	-	-	-	-	-	-	-	-	-	-	-

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	19	N-3161706 E-77/650				GT-1997									
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH										
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M	13.4 M										
BORE LOG SHEET															
Depth (m)	Sample No	Sample Type	Grain Size Analysis			Symbolic representation	Atterberg limit			Moisture Content (%)	Shear Parameters				
			Gravel (%)	Sand (%)	Silt Clay (%)		Liquid limit (%)	Plastic Limit (%)	Plasticity Index		Bulk Density (gm/cc)	Density	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc
30.00	S-19/21	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
31.50	S-19/22	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
32.50	S-19/23	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
34.50	S-19/24	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
36.00	S-19/25	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
37.50	S-19/26	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
39.00	S-19/27	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46
40.00	S-19/28	SPT	0.0	20.0	80.0	30.5	17.3	13.2	19.6	2.15	1.80	0.19	0.89	2.46	2.46



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**BOREHOLE**  
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**LOCATION**  
 N-3161606  
 E-727696

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M **WATER TABLE DEPTH**

**TERMINATION DEPTH** 40.0 M **13.2 M**


**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Shear Parameters							
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-20/1	SPT	5.0	8.5	CL	0.0	7.0	93.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-20/2	SPT	6.0	8.8	SP	0.0	71.0	29.0	NP	NP	NP	1.67	1.61	3.9	0.8	20.0	-	-	2.40
3.00	S-20/3	SPT	9.0	11.0	SP	0.0	89.0	11.0	NP	NP	NP	-	-	3.9	-	-	-	-	-
4.50	S-20/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-20/5	SPT	14.0	13.9	SP	0.0	92.0	8.0	NP	NP	NP	1.72	1.62	6.3	-	29.0	-	-	2.43
7.50	S-20/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-20/7	SPT	20.0	17.2	SP	4.0	93.0	3.0	NP	NP	NP	1.79	1.66	7.6	-	-	-	-	-
10.50	S-20/8	SPT	23.0	18.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-20/9	SPT	28.0	21.4	SP	0.0	91.0	9.0	NP	NP	NP	-	-	7.9	-	-	-	-	-
13.50	S-20/10	SPT	34.0	24.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		20		N-3161606 E-727696		GT-1997													
		STARTING DEPTH		0.0 M		WATER TABLE DEPTH		13.2 M											
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		TERMINATION DEPTH		40.0 M															
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (v/m2)	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	
15.00	S-20/11	SPT	39.0	26.9	SP	0.0	86.0	14.0	NP	NP	NP	1.88	1.67	12.5	.	.	.	.	.
16.00	S-20/12	SPT	44.0	28.9	SP	0.0	82.0	18.0	NP	NP	NP	.	.	14.6	.	.	.	.	.
18.00	S-20/13	SPT	51.0	32.0	SP	.	.	.	NP	NP	NP	1.98	1.70	16.6	.	.	.	.	2.29
19.50	S-20/14	SPT	59.0	35.5	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
21.00	S-20/15	SPT	67.0	38.6	SP	0.0	83.0	17.0	NP	NP	NP	.	.	17.3	.	.	.	.	.
22.00	S-20/16	SPT	74.0	40.9	SP	0.0	89.0	11.0	NP	NP	NP	.	.	.	.	.	.	.	.
24.00	S-20/17	SPT	81.0	43.1	CL	0.0	13.0	87.0	29.6	18.5	11.1	.	.	18.2	.	0.18	0.86	2.34	.
25.50	S-20/18	SPT	87.0	44.5	CL	.	.	.	.	.	.	2.09	1.76	18.6	.	.	.	.	.
27.00	S-20/19	SPT	94.0	46.3	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-20/20	SPT	REFUSAL	REFUSAL	CL	0.0	21.0	79.0	.	.	.	.	.	19.1	.	.	.	.	.



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		20		N-3161606 E-727696		GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		STARTING DEPTH		WATER TABLE DEPTH															
		0.0 M		0.0 M															
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		TERMINATION DEPTH		13.2 M															
		40.0 M																	
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit		Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-20/21	SPT	REFUSAL		CL														
31.50	S-20/22	SPT	REFUSAL		CL	0.0	19.0	81.0	31.2	18.3	12.9	2.19	1.84	19.3		0.19	0.91		2.44
32.50	S-20/23	SPT	REFUSAL		SP				NP	NP	NP								
34.50	S-20/24	SPT	REFUSAL		SP	6.0	83.0	11.0	NP	NP	NP	2.27	1.90	19.5					
36.00	S-20/25	SPT	REFUSAL		SP				NP	NP	NP								
37.50	S-20/26	SPT	REFUSAL		SP	5.0	81.0	14.0	NP	NP	NP	2.31	1.93	19.9					2.46
39.00	S-20/27	SPT	REFUSAL		SP														
40.00	S-20/28	SPT	REFUSAL		SP	8.0	81.0	11.0						20.1					

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			21	N-3161431 E-727774	GT-1997	
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH	
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M		13.3 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-21/1	SPT	4.0	6.8	CL	0.0	21.0	79.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-21/2	SPT	5.0	7.3	SP	0.0	83.0	17.0	NP	NP	NP	1.66	1.60	3.6	24.0	-	-	-	2.44
3.00	S-21/3	SPT	7.0	8.6	SP	-	-	-	NP	NP	NP	-	-	6.5	-	-	-	-	-
4.50	S-21/4	SPT	8.0	8.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-21/5	SPT	13.0	12.9	SP	0.0	97.0	3.0	NP	NP	NP	1.69	1.58	6.9	28.0	-	-	-	2.47
7.50	S-21/6	SPT	14.0	12.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-21/7	SPT	18.0	15.5	SP	0.0	93.0	7.0	NP	NP	NP	1.76	1.63	7.9	-	-	-	-	-
10.50	S-21/8	SPT	22.0	17.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-21/9	SPT	26.0	19.8	SP	0.0	88.0	12.0	NP	NP	NP	-	-	8.2	-	-	-	-	-
13.50	S-21/10	SPT	32.0	23.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
	N-3161431 E-727774		

<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		0.0 M	
<b>BORE LOG SHEET</b>		<b>TERMINATION DEPTH</b>	13.3 M

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis						Atterberg limit			Density				Shear Parameters				Void Ratio, eo	Specific Gravity								
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc														
15.00	S-21/11	SPT	35.0	24.1	SP	0.0	93.0	7.0	-	-	-	1.98	1.80	9.8	-	34.0	-	-	-	-	-	-	-	-	-	-	-	-			
16.00	S-21/12	SPT	40.0	26.3	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.45		
18.00	S-21/13	SPT	44.0	27.6	SP	-	-	-	-	-	-	1.94	1.71	13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.47		
19.50	S-21/14	SPT	53.0	31.9	SP	0.0	83.0	17.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21.00	S-21/15	SPT	62.0	35.7	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22.50	S-21/16	SPT	68.0	37.6	SP	13.0	79.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-21/17	SPT	76.0	40.4	SP	19.0	78.0	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.52
25.50	S-21/18	SPT	84.0	43.0	SP	-	-	-	-	-	-	2.06	1.76	17.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.00	S-21/19	SPT	91.0	44.8	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-21/20	SPT	REFUSAL	REFUSAL	SP	0.0	93.0	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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**BOREHOLE**  
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**LOCATION**  
 N-3161431  
 E-727774

**JOB NO.**  
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**PAGE NO.**

**GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF PUBLIC NOIDA.**

**STARTING DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 13.3 M

**EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
		Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
11/21	SPT	REFUSAL		SP				NP	NP	NP								
11/22	SPT	REFUSAL		SP	0.0	85.0	15.0	NP	NP	NP	17.9	1.82						
11/23	SPT	REFUSAL		CL	0.0	15.0	85.0	30.6	18.8	11.8						0.19	0.89	2.32
11/24	SPT	REFUSAL		CL								1.85						
11/25	SPT	REFUSAL		CL														
11/26	SPT	REFUSAL		CL	0.0	21.0	79.0				19.1	1.91						2.34
11/27	SPT	REFUSAL		CL							19.3							
11/28	SPT	REFUSAL		CL	0.0	6.0	94.0				19.7							





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**BOREHOLE** 22  
**LOCATION** N-3161547  
 E-727685  
**JOB NO.** GT-1997  
**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**  
**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-22/1	SPT	5.0	8.5	CL	0.0	11.0	89.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-22/2	SPT	7.0	10.2	SP	0.0	76.0	24.0	NP	NP	NP	1.65	1.59	3.9	0.4	23.0	-	-	2.40
3.00	S-22/3	SPT	9.0	11.0	SP	0.0	92.0	8.0	NP	NP	NP	-	-	4.1	-	-	-	-	-
4.50	S-22/4	SPT	10.0	10.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-22/5	SPT	12.0	11.9	SP	0.0	96.0	4.0	NP	NP	NP	1.69	1.60	5.9	-	28.0	-	-	2.42
7.50	S-22/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-22/7	SPT	18.0	15.5	SP	3.0	89.0	8.0	NP	NP	NP	1.73	1.62	6.9	-	-	-	-	-
10.50	S-22/8	SPT	25.0	20.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-22/9	SPT	28.0	21.4	SP	0.0	91.0	9.0	NP	NP	NP	-	-	7.6	-	32.0	-	-	-
13.50	S-22/10	SPT	32.0	23.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

**BORE LOG SHEET**

**STARTING DEPTH** 0.0 M  
**TERMINATION DEPTH** 40.0 M  
**WATER TABLE DEPTH** 13.2 M



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JOB NO.		PAGE NO.																	
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ZZ		N-3161547 E-727685																	
STARTING DEPTH		WATER TABLE DEPTH																	
0.0 M		13.2 M																	
TERMINATION DEPTH																			
40.0 M																			
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-22/11	SPT	37.0	25.5	SP	0.0	87.0	13.0	NP	NP	NP	1.81	1.64	10.6	-	-	-	-	-
16.00	S-22/12	SPT	40.0	26.3	SP	0.0	86.0	14.0	NP	NP	NP	-	-	12.6	33.0	-	-	-	-
18.00	S-22/13	SPT	51.0	32.0	SP	-	-	-	NP	NP	NP	1.88	1.65	13.6	-	-	-	-	2.29
19.50	S-22/14	SPT	58.0	34.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
21.00	S-22/15	SPT	67.0	38.6	SP	0.0	79.0	21.0	NP	NP	NP	-	-	14.6	-	-	-	-	-
22.00	S-22/16	SPT	74.0	40.9	CL	0.0	19.0	81.0	30.6	17.9	12.7	-	-	-	-	-	0.19	0.89	-
24.00	S-22/17	SPT	79.0	42.0	CL	0.0	9.0	91.0	-	-	-	-	-	16.5	-	-	-	-	2.31
25.50	S-22/18	SPT	86.0	44.0	CL	-	-	-	-	-	-	2.09	1.77	18.3	-	-	-	-	-
27.00	S-22/19	SPT	92.0	45.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-22/20	SPT	REFUSAL	REFUSAL	CL	0.0	10.0	90.0	-	-	-	-	-	18.0	-	-	-	-	-

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Moisture Content (%)	Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Cohesion, c (t/m <sup>2</sup> )		Angle of internal friction,	Coefficient of consolidation, Cc	Void Ratio, eo				
30.00	S-22/721	SPT	REFUSAL	REFUSAL	CL	0.0	15.0	85.0	29.5	18.6	10.9	2.14	-	-	19.6	-	-	-	-	-	-	2.45
31.50	S-22/722	SPT	REFUSAL	REFUSAL	CL	0.0	15.0	85.0	29.5	18.6	10.9	2.14	-	-	19.6	-	-	-	-	-	-	2.45
32.50	S-22/723	SPT	REFUSAL	REFUSAL	SP	0.0	15.0	85.0	29.5	18.6	10.9	2.14	-	-	19.6	-	-	-	-	-	-	2.45
34.50	S-22/724	SPT	REFUSAL	REFUSAL	SP	10.0	82.0	8.0	NP	NP	NP	2.23	1.86	19.6	-	-	-	-	-	-	-	2.47
36.00	S-22/725	SPT	REFUSAL	REFUSAL	SP	0.0	15.0	85.0	29.5	18.6	10.9	2.14	-	-	19.6	-	-	-	-	-	-	2.47
37.50	S-22/726	SPT	REFUSAL	REFUSAL	SP	15.0	78.0	7.0	NP	NP	NP	2.29	1.91	19.7	-	-	-	-	-	-	-	2.47
39.00	S-22/727	SPT	REFUSAL	REFUSAL	SP	0.0	15.0	85.0	29.5	18.6	10.9	2.14	-	-	19.6	-	-	-	-	-	-	2.47
40.00	S-22/728	SPT	REFUSAL	REFUSAL	SP	11.0	82.0	7.0	NP	NP	NP	2.29	1.91	19.8	-	-	-	-	-	-	-	2.47

BORE LOG SHEET

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI


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BOREHOLE LOCATION  
22 N-3161547  
E-727685

JOB NO. LOCATION  
GT-1997

STARTING DEPTH TERMINATION DEPTH  
0.0 M 40.0 M

WATER TABLE DEPTH  
13.2 M

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			23	N-3161498.53 E-727846.52	GT-1997	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																									
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density			Moisture Content (%)	Shear Parameters			Specific Gravity							
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)		Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc		Void Ratio, eo						
0.75	S-23/1	SPT	5.0	8.4	CL	0.0	16.0	84.0	.	.	.	.	1.7	.	.	.	.	.	.	.	.				
1.50	S-23/2	SPT	7.0	10.2	SP	0.0	89.0	11.0	NP	NP	1.64	1.59	3.1	.	.	.	.	.	.	.	2.41				
3.00	S-23/3	SPT	7.0	8.6	SP	.	.	.	NP	NP	.	.	5.3	.	.	.	.	.	.	.	.	.			
4.50	S-23/4	SPT	9.0	9.8	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.			
6.00	S-23/5	SPT	11.0	10.9	SP	0.0	97.0	3.0	NP	NP	1.68	1.58	6.1	.	.	.	.	.	.	.	.	2.45			
7.50	S-23/6	SPT	15.0	13.8	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.	.		
9.00	S-23/7	SPT	19.0	16.3	SP	0.0	96.0	4.0	NP	NP	1.79	1.67	7.1	.	.	.	.	.	.	.	.	.	.		
10.50	S-23/8	SPT	23.0	18.5	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
12.00	S-23/9	SPT	27.0	20.6	SP	0.0	87.0	13.0	NP	NP	.	.	8.8	.	.	.	.	.	.	.	.	.	.	.	
13.50	S-23/10	SPT	32.0	23.1	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		<b>BOREHOLE</b> 23		<b>LOCATION</b> N-3161498.53 E-727846.52		<b>JOB NO.</b> GT-1997		<b>PAGE NO.</b>										
												<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b> 0.0 M		<b>WATER TABLE DEPTH</b> 13.7 M				
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		<b>BORE LOG SHEET</b>																		
<b>Depth (m)</b>	<b>Sample No</b>	<b>Sample Type</b>	<b>Sample</b>		<b>Grain Size Analysis</b>						<b>Density</b>		<b>Shear Parameters</b>							
			<b>Observed N-Value</b>	<b>Corrected N-Value</b>	<b>Symbolic representation</b>	<b>Gravel (%)</b>	<b>Sand (%)</b>	<b>Silt Clay (%)</b>	<b>Liquid limit (%)</b>	<b>Plastic Limit (%)</b>	<b>Atterberg limit</b>	<b>Plasticity Index</b>	<b>Bulk Density (gm/cc)</b>	<b>Dry Density (gm/cc)</b>	<b>Moisture Content (%)</b>	<b>Cohesion, c (kN/m<sup>2</sup>)</b>	<b>Angle of Internal Friction,</b>	<b>Coefficient of consolidation, Cc</b>	<b>Void Ratio, eo</b>	<b>Specific Gravity</b>
15.00	S-25/11	SPT	37.0	25.4	SP	0.0	94.0	6.0	-	-	-	1.88	1.72	9.4	-	-	-	-	-	-
16.00	S-25/12	SPT	41.0	26.9	SP	-	-	-	-	-	-	-	-	11.6	-	-	-	-	-	2.47
18.00	S-25/13	SPT	49.0	30.7	SP	-	-	-	-	-	-	1.96	1.74	12.6	-	-	-	-	-	2.48
19.50	S-25/14	SPT	58.0	34.7	SP	0.0	86.0	14.0	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-25/15	SPT	62.0	35.6	SP	-	-	-	-	-	-	-	-	-	14.5	-	-	-	-	-
22.50	S-25/16	SPT	67.0	36.9	SP	11.0	81.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-25/17	SPT	73.0	38.7	SP	16.0	78.0	6.0	-	-	-	-	-	15.6	-	-	-	-	-	2.54
25.50	S-25/18	SPT	79.0	40.2	SP	-	-	-	NP	NP	NP	2.00	1.72	16.6	-	-	-	-	-	-
27.00	S-25/19	SPT	85.0	41.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
28.50	S-25/20	SPT	90.0	42.5	SP	0.0	96.0	4.0	NP	NP	NP	-	-	17.2	-	-	-	-	-	-



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**BOREHOLE LOCATION**  
 N-3161498.53  
 E-727846.52

**JOB NO.**  
 GT-1997

**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NORDA CENTRAL DIVISION CPWD, NEW DELHI**

**BOREHOLE**  
 23

**STARTING DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 13.7 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density	Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index		Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (V/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-23/21	SPT	95.0	43.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
31.00	S-23/22	SPT	REFUSAL	REFUSAL	SP	0.0	89.0	11.0	NP	NP	NP	2.01	1.71	17.5	-	-	-	-	2.29
33.00	S-23/23	SPT	REFUSAL	REFUSAL	CL	0.0	11.0	89.0	30.6	18.8	11.8	-	-	-	-	-	0.19	-	-
34.50	S-23/24	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	2.11	1.79	17.9	-	-	-	-	-
36.00	S-23/25	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.50	S-23/26	SPT	REFUSAL	REFUSAL	CL	0.0	26.0	74.0	-	-	-	2.24	1.90	18.2	-	-	-	-	2.31
39.00	S-23/27	SPT	REFUSAL	REFUSAL	CL	-	-	-	-	-	-	-	-	18.5	-	-	-	-	-
40.00	S-23/28	SPT	REFUSAL	REFUSAL	CL	0.0	9.0	91.0	-	-	-	-	-	18.9	-	-	-	-	-

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, e <sub>0</sub>	Specific Gravity	
0.75	S-23/1	SPT	4.0	6.8	CL	0.0	20.0	80.0	-	-	-	-	-	-	-	-	-	-	-	
1.50	S-23/2	SPT	5.0	7.3	SP	0.0	81.0	19.0	-	-	-	-	-	-	-	-	-	-	-	
3.00	S-23/3	SPT	6.0	7.4	SP	0.0	90.0	10.0	-	-	-	-	-	-	-	-	-	-	-	
4.50	S-23/4	SPT	7.0	7.6	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6.00	S-23/5	SPT	9.0	8.9	SP	0.0	96.0	4.0	-	-	-	-	-	-	-	-	-	-	-	
7.50	S-23/6	SPT	13.0	11.9	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.00	S-23/7	SPT	14.0	12.0	SP	0.0	93.0	7.0	-	-	-	-	-	-	-	-	-	-	-	
10.50	S-23/8	SPT	18.0	14.5	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12.00	S-23/9	SPT	20.0	15.2	SP	2.0	89.0	9.0	-	-	-	-	-	-	-	-	-	-	-	
13.50	S-23/10	SPT	26.0	18.8	SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



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PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

BOREHOLE	LOCATION	JOB NO.	PAGE NO
24	N-3161562 E-727830	GT-1997	
STARTING DEPTH		0.0 M	WATER TABLE DEPTH
TERMINATION DEPTH		40.0 M	13.5 M



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**BOREHOLE** 24  
**LOCATION** N-3161562  
E-727830  
**JOB NO.** GT-1997  
**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M  
**WATER TABLE DEPTH**

**TERMINATION DEPTH** 40.0 M  
**13.5 M**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
15.00	S-23/11	SPT	27.0	18.5	SP	0.0	81.0	19.0	-	-	-	1.88	1.68	11.9	-	-	-	-	
16.00	S-23/12	SPT	32.0	21.0	CL	0.0	9.0	91.0	-	-	-	-	-	13.6	-	-	-	-	
18.00	S-23/13	SPT	36.0	22.5	CL	-	-	-	31.2	17.2	14.0	1.97	1.70	16.2	-	-	0.19	0.91	2.31
19.50	S-23/14	SPT	45.0	27.0	CL	0.0	16.0	84.0	-	-	-	-	-	-	-	-	-	-	-
21.00	S-23/15	SPT	50.0	28.7	CL	-	-	-	-	-	-	-	-	16.8	-	-	-	-	-
22.50	S-23/16	SPT	54.0	29.8	CL	0.0	23.0	77.0	-	-	-	-	-	-	-	-	0.21	0.92	2.34
24.00	S-23/17	SPT	62.0	32.8	SP	0.0	88.0	12.0	NP	NP	NP	-	-	16.9	-	-	-	-	2.43
25.50	S-23/18	SPT	68.0	34.6	SP	-	-	-	NP	NP	NP	2.05	1.75	17.3	-	-	-	-	-
27.00	S-23/19	SPT	74.0	36.3	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
28.50	S-23/20	SPT	83.0	39.2	SP	0.0	92.0	8.0	NP	NP	NP	-	-	17.5	-	-	-	-	-







<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com	<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
	25	N-33161639 E-727775	GT-1997	

<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		0.0 M	
		<b>TERMINATION DEPTH</b>	<b>13.3 M</b>

BORE LOG SHEET																							
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters									
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity				
0.75	S-25/1	SPT	5.0	8.5	CL	0.0	9.0	91.0	.	.	.	.	.	.	.	.	.	.	.				
1.50	S-25/2	SPT	6.0	8.8	SP	0.0	77.0	23.0	NP	NP	NP	1.63	1.57	3.9	0.6	22.0	.	.	2.42				
3.00	S-25/3	SPT	7.0	8.6	SP	0.0	93.0	7.0	NP	NP	NP	.	.	4.9	.	.	.	.	.	.			
4.50	S-25/4	SPT	8.0	8.7	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.		
6.00	S-25/5	SPT	9.0	9.0	SP	0.0	91.0	9.0	NP	NP	NP	1.69	1.59	6.1	.	27.0	.	.	.	2.43			
7.50	S-25/6	SPT	11.0	10.1	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.		
9.00	S-25/7	SPT	12.0	10.3	SP	7.0	88.0	5.0	NP	NP	NP	1.72	1.62	6.5	.	.	.	.	.	.	.		
10.50	S-25/8	SPT	16.0	12.9	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	
12.00	S-25/9	SPT	20.0	15.3	SP	0.0	87.0	13.0	NP	NP	NP	.	.	7.8	.	29.0	.	.	.	.	.	.	
13.50	S-25/10	SPT	24.0	17.4	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.	.

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density		Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	
15.00	S-25/11	SPT	28.0	19.3	SP	0.0	84.0	16.0	NP	NP	NP	1.81	1.61	12.6	.	.	.	.
16.00	S-25/12	SPT	32.0	21.0	SP	0.0	81.0	19.0	NP	NP	NP	.	.	13.9	.	.	.	.
18.00	S-25/13	SPT	34.0	21.3	SP	.	.	.	NP	NP	NP	1.82	1.57	16.1	.	.	.	2.33
19.50	S-25/14	SPT	41.0	24.6	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.
21.00	S-25/15	SPT	47.0	27.1	SP	0.0	86.0	14.0	NP	NP	NP	.	.	17.2	.	.	.	.
22.00	S-25/16	SPT	54.0	29.9	CL	0.0	11.0	89.0	29.6	17.9	11.7	.	.	.	.	0.18	0.86	.
24.00	S-25/17	SPT	59.0	31.4	CL	0.0	9.0	91.0	.	.	.	.	.	17.8	.	.	.	2.35
25.50	S-25/18	SPT	65.0	33.2	CL	.	.	.	.	.	.	2.01	1.70	18.0	.	.	.	.
27.00	S-25/19	SPT	71.0	34.9	CL	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-25/20	SPT	81.0	46.5	CL	0.0	10.0	90.0	.	.	.	.	.	18.2	.	.	.	.

**BORE LOG SHEET**



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**BOREHOLE**  
 25  
**LOCATION**  
 M-3161639  
 E-727775  
**JOB NO.**  
 GT-1997  
**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**  
**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
 0.0 M  
**WATER TABLE DEPTH**  
 40.0 M  
**TERMINATION DEPTH**  
 13.3 M



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BOREHOLE		LOCATION	JOB NO.	PAGE NO																	
25		N-3161639 E-727775	GT-1997																		
STARTING DEPTH		TERMINATION DEPTH	WATER TABLE DEPTH																		
0.0 M		40.0 M	13.3 M																		
<b>BORE LOG SHEET</b>																					
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Plasticity Index	Density		Shear Parameters									
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)		Liquid Limit (%)	Plastic Limit (%)	Atterberg limit	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
30.00	S-25/21	SPT	85.0	44.3	CL																
31.50	S-25/22	SPT	92.0	40.5	CL	0.0	16.0	84.0	29.6	18.9	10.7	2.11	1.78	18.8		0.18	0.87	2.47			
32.50	S-25/23	SPT	REFUSAL		SP				NP	NP	NP										
34.50	S-25/24	SPT	REFUSAL		SP	6.0	80.0	14.0	NP	NP	NP	2.25	1.89	19.0							
36.00	S-25/25	SPT	REFUSAL		SP				NP	NP	NP										
37.50	S-25/26	SPT	REFUSAL		SP	5.0	78.0	17.0	NP	NP	NP	2.31	1.94	19.2							2.48
39.00	S-25/27	SPT	REFUSAL		SP				NP	NP	NP										
40.00	S-25/28	SPT	REFUSAL		SP	8.0	76.0	16.0	NP	NP	NP			19.5							



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**BOREHOLE**  
 26

**LOCATION**  
 N-3161465  
 E-727936

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
 0.0 M

**WATER TABLE DEPTH**  
 13.8 M

**TERMINATION DEPTH**  
 40.0 M

**SORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Moisture Content (%)	Shear Parameters				Specific Gravity				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Cohesion, c (km <sup>2</sup> )		Angle of internal friction,	Coefficient of consolidation, Cc	Void Ratio, eo						
0.75	S-26/1	SPT	4.0	6.8	CL	0.0	14.0	86.0	-	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	
1.50	S-26/2	SPT	6.0	8.8	SP	0.0	79.0	21.0	NP	NP	NP	NP	1.65	1.60	3.2	0.8	21.0	-	-	-	-	-	2.41	
3.00	S-26/3	SPT	7.0	8.6	SP	0.0	96.0	4.0	NP	NP	NP	NP	-	-	4.3	-	-	-	-	-	-	-	-	-
4.50	S-26/4	SPT	8.0	8.7	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
6.00	S-26/5	SPT	10.0	10.0	SP	0.0	94.0	6.0	NP	NP	NP	NP	1.70	1.61	5.6	-	26.0	-	-	-	-	-	-	2.44
7.50	S-26/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
9.00	S-26/7	SPT	19.0	16.3	SP	4.0	86.0	10.0	NP	NP	NP	NP	1.71	1.61	6.2	-	-	-	-	-	-	-	-	-
10.50	S-26/8	SPT	24.0	19.4	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
12.00	S-26/9	SPT	27.0	20.6	SP	0.0	92.0	8.0	NP	NP	NP	NP	-	-	7.3	-	28.0	-	-	-	-	-	-	-
13.50	S-26/10	SPT	31.0	22.4	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO										
		26		N-3161465 E-727936		GT-1997												
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC, NOIDA.				STARTING DEPTH		WATER TABLE DEPTH												
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		40.0 M		13.8 M										
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-26/11	SPT	33.0	22.7	SP	0.0	89.0	11.0	NP	NP	1.62	1.81	11.5	.	.	.	.	.
16.00	S-26/12	SPT	41.0	26.9	SP	0.0	85.0	15.0	NP	NP	.	.	12.9	30.0	.	.	.	.
18.00	S-26/13	SPT	50.0	31.4	SP	.	.	.	NP	NP	1.60	1.84	15.3	.	.	.	2.42	.
19.50	S-26/14	SPT	56.0	33.7	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.
21.00	S-26/15	SPT	62.0	35.7	SP	0.0	82.0	18.0	NP	NP	.	.	16.5	.	.	.	.	.
22.00	S-26/16	SPT	71.0	39.3	CL	0.0	8.0	92.0	31.2	13.0	.	.	.	.	.	0.19	0.91	.
24.00	S-26/17	SPT	79.0	42.0	CL	0.0	11.0	89.0	.	.	.	.	17.5	.	.	.	.	2.36
25.50	S-26/18	SPT	84.0	43.0	CL	.	.	.	.	.	1.71	2.02	18.3	.	.	.	.	.
27.00	S-26/19	SPT	91.0	44.8	CL	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-26/20	SPT	REFUSAL		CL	0.0	6.0	94.0	.	.	.	.	18.6	.	.	.	.	.

Depth (m)	Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Water Table Depth						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>v</sub>	Specific Gravity								
30.00	S-26/21	SPT	REFUSAL		CL																						
31.50	S-26/22	SPT	REFUSAL		CL	0.0	19.0	81.0	28.9	17.5	11.4	2.09	1.76	18.8			0.17	0.84									2.45
32.50	S-26/23	SPT	REFUSAL		SP				NP	NP	NP																
34.50	S-26/24	SPT	REFUSAL		SP	4.0	86.0	10.0	NP	NP	NP	2.14	1.80	19.2													
36.00	S-26/25	SPT	REFUSAL		SP				NP	NP	NP																
37.50	S-26/26	SPT	REFUSAL		SP	10.0	81.0	9.0	NP	NP	NP	2.24	1.87	19.6													
39.00	S-26/27	SPT	REFUSAL		SP				NP	NP	NP																
40.00	S-26/28	SPT	REFUSAL		SP	5.0	83.0	12.0	NP	NP	NP			19.9													

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

BOREHOLE LOCATION

26 N-3161465 E-727936

STARTING DEPTH 0.0 M

TERMINATION DEPTH 40.0 M

WATER TABLE DEPTH 13.8 M

JOB NO. GT-1997

PAGE NO.

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SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		JOB NO.		PAGE NO												
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		LOCATION		JOB NO.		PAGE NO												
		N-3161565 E-727925		GT-1997														
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		STARTING DEPTH		0.0 M		WATER TABLE DEPTH												
		TERMINATION DEPTH		40.0 M		13.5 M												
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample			Grain Size Analysis			Atterberg limit			Density			Shear Parameters			Specific Gravity
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	
0.75	S-27/1	SPT	4.0	6.8	CL	0.0	11.0	89.0	-	-	-	2.1	-	-	-	-	-	-
1.50	S-27/2	SPT	5.0	7.3	SP	0.0	80.0	20.0	NP	NP	NP	3.3	1.66	1.61	21.0	-	-	2.41
3.00	S-27/3	SPT	7.0	8.6	SP	0.0	89.0	11.0	NP	NP	NP	4.1	-	-	-	-	-	-
4.50	S-27/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
6.00	S-27/5	SPT	10.0	10.0	SP	0.0	96.0	4.0	NP	NP	NP	6.8	1.68	1.57	27.0	-	-	2.45
7.50	S-27/6	SPT	14.0	12.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
9.00	S-27/7	SPT	18.0	15.5	SP	7.0	94.0	1.0	NP	NP	NP	7.1	1.73	1.62	-	-	-	-
10.50	S-27/8	SPT	22.0	17.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
12.00	S-27/9	SPT	25.0	19.1	SP	0.0	89.0	11.0	NP	NP	NP	7.6	-	-	32.0	-	-	-
13.50	S-27/10	SPT	29.0	21.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-



Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
			Starting Depth	Termination Depth		Starting Depth	Termination Depth	Starting Depth	Termination Depth	Starting Depth	Termination Depth	Starting Depth	Termination Depth	Starting Depth	Termination Depth	Starting Depth	Termination Depth			
15.00	S-27/11	SPT	32.0	22.0	SP	0.0	86.0	14.0	NP	NP	NP	1.79	1.62	10.3	.	.	.	.		
16.00	S-27/12	SPT	35.0	23.0	SP	0.0	83.0	17.0	NP	NP	NP	.	.	12.2	.	.	.	.		
18.00	S-27/13	SPT	40.0	25.1	SP	.	.	.	NP	NP	NP	1.81	1.57	15.2	.	.	.	2.45		
19.50	S-27/14	SPT	44.0	26.4	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.		
21.00	S-27/15	SPT	50.0	28.8	SP	0.0	89.0	11.0	NP	NP	NP	.	.	16.1	.	.	.	.		
22.00	S-27/16	SPT	55.0	30.4	CL	0.0	6.0	94.0	32.2	18.6	13.6	.	.	.	.	0.20	0.94	.		
24.00	S-27/17	SPT	63.0	33.5	CL	0.0	11.0	89.0	.	.	.	.	.	16.6	.	.	.	2.33		
25.50	S-27/18	SPT	69.0	35.3	CL	.	.	.	.	.	.	2.03	1.73	17.5	.	.	.	.		
27.00	S-27/19	SPT	73.0	35.9	CL	.	.	.	.	.	.	.	.	.	.	.	.	.		
28.50	S-27/20	SPT	80.0	46.5	CL	0.0	13.0	87.0	.	.	.	.	.	17.9	.	0.16	0.80	.		

**BORE LOG SHEET**




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**JOB NO.** GT-1997  
**LOCATION** N-3161565  
 E-727925

**BOREHOLE** 27  
**STARTING DEPTH** 0.0 M  
**TERMINATION DEPTH** 40.0 M  
**WATER TABLE DEPTH** 13.5 M

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

	<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE 27	LOCATION N-3161565 E-727925	JOB NO. GT-1997	PAGE NO
	<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>					
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>			TERMINATION DEPTH 40.0 M		13.5 M	

BORE LOG SHEET																				
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (v/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
30.00	S-27/21	SPT	86.0	44.3	CL	.	.	.	28.6	17.9	10.7	2.06	1.74	18.5	.	.	.	.	.	2.35
31.50	S-27/22	SPT	92.0	40.5	CL	0.0	19.0	81.0	NP	NP	NP	.	.	.	.	.	.	.	.	.
32.50	S-27/23	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
34.50	S-27/24	SPT	REFUSAL	REFUSAL	SP	9.0	78.0	13.0	NP	NP	NP	2.15	1.81	18.9	.	.	.	.	.	.
36.00	S-27/25	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
37.50	S-27/26	SPT	REFUSAL	REFUSAL	SP	11.0	86.0	3.0	NP	NP	NP	2.24	1.88	19.0	.	.	.	.	.	2.44
39.00	S-27/27	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
40.00	S-27/28	SPT	REFUSAL	REFUSAL	SP	13.0	78.0	9.0	NP	NP	NP	.	.	19.3	.	.	.	.	.	.

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			28	N-3161696 E-727817	GT-1997	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M	13.2 M

SORE LOG SHEET																																		
Depth (m)	Sample #	Sample Type	Observed N-Value		Corrected N-Value	Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters				Specific Gravity													
			Observed N-Value	Corrected N-Value			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo															
0.75	S-28/1	SPT	5.0	8.5	CL		0.0	19.0	81.0																									
1.50	S-28/2	SPT	6.0	8.8	SP		0.0	71.0	29.0		NP	NP	NP	1.69	1.63	4.0	0.8	20.0													2-40			
3.00	S-28/3	SPT	9.0	11.0	SP		0.0	94.0	6.0		NP	NP	NP			5.0																		
4.50	S-28/4	SPT	10.0	10.9	SP						NP	NP	NP																					
6.00	S-28/5	SPT	12.0	11.9	SP		0.0	96.0	4.0		NP	NP	NP	1.78	1.68	5.8		27.0													2-42			
7.50	S-28/6	SPT	15.0	13.8	SP						NP	NP	NP																					
9.00	S-28/7	SPT	19.0	16.3	SP		7.0	90.0	3.0		NP	NP	NP	1.83	1.70	7.5																		
10.50	S-28/8	SPT	21.0	17.0	SP						NP	NP	NP																					
12.00	S-28/9	SPT	24.0	18.3	SP		0.0	81.0	19.0		NP	NP	NP			8.1		29.0																
13.50	S-28/10	SPT	28.0	20.3	SP						NP	NP	NP																					



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**BOREHOLE**  
28  
N-3161696  
E-727817

**JOB NO.**  
GT-1997

**LOCATION**  
N-3161696  
E-727817

**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
0.0 M

**TERMINATION DEPTH**  
40.0 M

**WATER TABLE DEPTH**  
13.2 M

**BORE LOG SHEET**

Depth (m)	Sample No.	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
15.00	S-28/11	SPT	32.0	22.0	GS	0.0	86.0	14.0	NP	NP	NP	1.88	1.69	11.2	-	-	-	-	-	
16.00	S-28/12	SPT	36.0	23.6	GS	0.0	89.0	11.0	NP	NP	NP	-	-	12.6	32.0	-	-	-	-	
18.00	S-28/13	SPT	41.0	25.7	SP	-	-	-	NP	NP	NP	1.96	1.71	14.5	-	-	-	-	2.46	
19.50	S-28/14	SPT	47.0	28.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	
21.00	S-28/15	SPT	51.0	29.4	SP	0.0	93.0	7.0	NP	NP	NP	-	-	16.9	-	-	-	-	-	
22.00	S-28/16	SPT	57.0	31.5	CL	0.0	6.0	94.0	31.2	18.2	13.0	-	-	-	-	-	0.19	0.91	-	
24.00	S-28/17	SPT	62.0	33.0	CL	0.0	19.0	81.0	-	-	-	-	-	17.2	-	-	-	-	2.31	
25.50	S-28/18	SPT	67.0	34.3	CL	-	-	-	-	-	-	2.07	1.76	17.9	-	-	-	-	-	
27.00	S-28/19	SPT	74.0	36.4	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28.50	S-28/20	SPT	80.0	46.5	CL	0.0	15.0	85.0	-	-	-	-	-	18.3	-	-	-	-	-	

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						28	N-3161696 E-727817	GT-1997										
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		STARTING DEPTH		0.0 M	WATER TABLE DEPTH													
		TERMINATION DEPTH		40.0 M	13.2 M													
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																		
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-28/21	SPT	85.0	44.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-
31.50	S-28/22	SPT	90.0	39.7	CL	0.0	18.0	82.0	28.5	17.6	10.9	2.16	1.82	18.6	-	0.17	0.83	2.43
32.50	S-28/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
34.50	S-28/24	SPT	REFUSAL	REFUSAL	SP	9.0	81.0	10.0	NP	NP	NP	2.21	1.85	19.2	-	-	-	-
36.00	S-28/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
37.50	S-28/26	SPT	REFUSAL	REFUSAL	SP	7.0	82.0	11.0	NP	NP	NP	2.29	1.92	19.5	-	-	-	2.48
39.00	S-28/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
40.00	S-28/28	SPT	REFUSAL	REFUSAL	SP	10.0	79.0	11.0	NP	NP	NP	-	-	19.6	-	-	-	-



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**BOREHOLE**

29

**LOCATION**

N-3161789.46  
E-727689.29

**JOB NO.**

GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**STARTING DEPTH**  
0.0 M

**WATER TABLE DEPTH**

13.8 M

**CLIENT :-EXECUTIVE ENGINEER (P) NORDA CENTRAL DIVISION CPWD, NEW DELHI**

**TERMINATION DEPTH**

40.0 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-29/1	SPT	4.0	6.8	CL	0.0	13.0	87.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-29/2	SPT	5.0	7.3	SP	0.0	72.0	28.0	NP	NP	NP	1.67	1.62	3.3	0.6	21.0	-	-	2.41
3.00	S-29/3	SPT	7.0	8.6	SP	0.0	90.0	10.0	NP	NP	NP	-	-	3.9	-	-	-	-	-
4.50	S-29/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-29/5	SPT	11.0	10.9	SP	0.0	94.0	6.0	NP	NP	NP	1.71	1.62	5.5	-	28.0	-	-	2.45
7.50	S-29/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-29/7	SPT	18.0	15.5	SP	0.0	96.0	4.0	NP	NP	NP	1.73	1.63	6.3	-	-	-	-	-
10.50	S-29/8	SPT	22.0	17.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-29/9	SPT	27.0	20.6	SP	0.0	91.0	9.0	NP	NP	NP	-	-	8.6	-	31.0	-	-	-
13.50	S-29/10	SPT	31.0	22.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

Depth (m)	Sample No	Sample Type	Observed N-Value		Corrected N-Value	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Void Ratio, eo	Specific Gravity		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (V/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc							
15.00	S-29/11	SPT	36.0	24.8	45	0.0	89.0	11.0	NP	NP	NP	1.79	1.59	12.6	-	-	-	-	-	-	-	-	-	-
16.00	S-29/12	SPT	42.0	27.6	55	8.0	12.0	80.0	NP	NP	NP	-	-	13.6	-	-	-	-	-	-	-	-	-	-
18.00	S-29/13	SPT	48.0	30.1	55	0.0	82.0	18.0	NP	NP	NP	1.82	1.56	16.3	-	-	-	-	-	-	-	-	-	2.32
19.50	S-29/14	SPT	53.0	31.9	55	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-29/15	SPT	59.0	34.0	55	0.0	42.0	58.0	-	-	-	-	-	17.6	-	-	-	-	-	-	-	-	-	-
22.50	S-29/16	SPT	64.0	35.4	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-29/17	SPT	69.0	36.7	55	0.0	54.0	46.0	-	-	-	-	-	17.8	-	-	-	-	-	-	-	-	-	2.43
25.50	S-29/18	SPT	75.0	38.3	55	-	-	-	-	-	-	2.11	1.78	18.6	-	-	-	-	-	-	-	-	-	-
27.00	S-29/19	SPT	81.0	39.9	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-29/20	SPT	85.0	46.5	55	0.0	52.0	48.0	-	-	-	-	-	19.4	-	-	-	-	-	-	-	-	-	-

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

BOREHOLE LOCATION STARTING DEPTH 0.0 M WATER TABLE DEPTH 13.8 M

TERMINATION DEPTH 40.0 M

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29 N-3161789.46 E-727689.29

GT-1997

JOB NO. PAGE NO

BOREHOLE LOCATION STARTING DEPTH 0.0 M WATER TABLE DEPTH 13.8 M

TERMINATION DEPTH 40.0 M

Grain Size Analysis

Atterberg limit

Density

Shear Parameters

Gravel (%) Sand (%) Silt Clay (%) Liquid limit (%) Plastic Limit (%) Plasticity Index Bulk Density (gm/cc) Dry Density (gm/cc) Moisture Content (%) Cohesion, c (V/m<sup>2</sup>) Angle of Internal Friction, Coefficient of consolidation, Cc Void Ratio, eo Specific Gravity



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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BOREHOLE** 29

**LOCATION** N-3161789.46  
E-727689.29

**JOB NO.** GT-1997

**PAGE NO.**

**STARTING DEPTH** 0.0 M

**WATER TABLE DEPTH** 13.8 M

**TERMINATION DEPTH** 40.0 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Observed N-Value		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-29/21	SPT	93.0	44.3	SP	0.0	92.0	8.0	NP	NP	NP	2.18	1.82	19.5	.	.	.	.	2.46
31.00	S-29/22	SPT	REFUSAL	REFUSAL	SP	0.0	98.0	2.0	NP	NP	NP	2.25	1.88	19.8	.	.	.	.	.
33.00	S-29/23	SPT	REFUSAL	REFUSAL	SP	0.0	98.0	2.0	NP	NP	NP	2.25	1.88	19.8	.	.	.	.	.
34.50	S-29/24	SPT	REFUSAL	REFUSAL	SP	0.0	98.0	2.0	NP	NP	NP	2.25	1.88	19.8	.	.	.	.	.
36.00	S-29/25	SPT	REFUSAL	REFUSAL	SP	0.0	98.0	2.0	NP	NP	NP	2.25	1.88	19.8	.	.	.	.	.
37.50	S-29/26	SPT	REFUSAL	REFUSAL	SP	0.0	96.0	4.0	NP	NP	NP	2.33	1.94	19.9	.	.	.	.	2.47
39.00	S-29/27	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	2.33	1.94	19.9	.	.	.	.	.
40.00	S-29/28	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	2.33	1.94	19.9	.	.	.	.	.





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<b>BOREHOLE</b>	<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
	30	N-3161551.09 E-728015.0	GT-1997	

<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		0.0 M	
<b>BORE LOG SHEET</b>		<b>TERMINATION DEPTH</b>	14.5 M

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limits (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (vmz)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity		
0.75	S-30/1	SPT	6.0	10.1	CL	0.0	19.0	81.0	-	-	-	-	-	-	-	-	-	-	-		
1.50	S-30/2	SPT	7.0	10.2	SP	0.0	62.0	38.0	-	-	-	-	-	-	-	-	-	-	-	2.40	
3.00	S-30/3	SPT	8.0	9.8	SP	0.0	97.0	3.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-	
4.50	S-30/4	SPT	10.0	10.9	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-
6.00	S-30/5	SPT	13.0	12.9	SP	0.0	95.0	5.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	2.44
7.50	S-30/6	SPT	18.0	16.6	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-
9.00	S-30/7	SPT	20.0	17.2	SP	0.0	93.0	7.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-
10.50	S-30/8	SPT	26.0	21.0	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-
12.00	S-30/9	SPT	31.0	23.7	SP	0.0	95.0	5.0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-
13.50	S-30/10	SPT	35.0	25.3	SP	-	-	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	-



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**BOREHOLE**  
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**LOCATION**  
N-3161551.09  
E-728015.0

**JOB NO.**  
GT-1997

**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOKDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOKDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH** 0.0 M **WATER TABLE DEPTH**

**TERMINATION DEPTH** 40.0 M **14.5 M**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (k/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-30/11	SPT	45.0	31.0	SP	0.0	90.0	10.0	NP	NP	11.6	1.76	1.58	-	-	-	-	-
16.00	S-30/12	SPT	49.0	32.2	CL	0.0	12.0	88.0	29.9	18.2	14.2	-	-	-	-	0.18	0.87	-
18.00	S-30/13	SPT	54.0	33.9	CL	0.0	18.0	82.0	-	-	15.6	1.84	1.59	-	-	-	-	2.30
19.50	S-30/14	SPT	61.0	36.7	CL	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-30/15	SPT	65.0	37.5	CL	0.0	22.0	78.0	28.9	17.2	16.6	-	-	-	-	0.17	0.84	-
22.50	S-30/16	SPT	70.0	38.7	CL	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-30/17	SPT	77.0	40.9	SM	0.0	64.0	36.0	-	-	17.9	-	-	-	-	-	-	2.36
25.50	S-30/18	SPT	83.0	42.4	SM	-	-	-	-	-	18.2	2.01	1.70	-	-	-	-	-
27.00	S-30/19	SPT	94.0	46.3	SM	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-30/20	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	-	-	18.9	-	-	-	-	-	-	-



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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>			30	N-3161551.09 E-728015.0	GT-1997	
			<b>STARTING DEPTH</b>		0.0 M	<b>WATER TABLE DEPTH</b>
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		<b>TERMINATION DEPTH</b>		40.0 M	14.5 M	

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Observed N-Value	Corrected N-Value	Grain Size Analysis					Atterberg limit	Density			Moisture Content (%)	Shear Parameters				Specific Gravity														
					Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)		Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)		Cohesion, c (v/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo															
30.00	S-30/21	SPT	REFUSAL		0	0	0	0	0	NP	NP	NP																					
31.00	S-30/22	SPT	REFUSAL		0.0	96.0	4.0	NP	NP	NP	NP		2.14	1.80		19.0															2.45		
33.00	S-30/23	SPT	REFUSAL		0	0	0	0	0	NP	NP	NP																					
34.50	S-30/24	SPT	REFUSAL		0.0	97.0	3.0	NP	NP	NP	NP		2.22	1.86		19.6																	
36.00	S-30/25	SPT	REFUSAL		0	0	0	0	0	NP	NP	NP																					
37.50	S-30/26	SPT	REFUSAL		0.0	91.0	9.0	NP	NP	NP	NP		2.31	1.93		19.9																	2.46
39.00	S-30/27	SPT	REFUSAL		0	0	0	0	0	NP	NP	NP																					
40.00	S-30/28	SPT	REFUSAL		0.0	96.0	4.0	NP	NP	NP	NP					19.9																	



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Borehole	JOB NO.		LOCATION	BOREROLE	STARTING DEPTH	TERMINATION DEPTH	WATER TABLE DEPTH	PAGE NO.											
	31	GT-1997							0.0 M	40.0 M	11.2 M								
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																			
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																			
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit		Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (k/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>0</sub>	
0.75	S-31/1	SPT	5.0	8.5	CL	0.0	15.0	85.0	-	-	-	2.5	-	-	-	-	-	-	-
1.50	S-31/2	SPT	6.0	8.8	SP	0.0	78.0	22.0	NP	NP	NP	4.2	1.67	1.60	0.7	22.0	-	-	2.40
3.00	S-31/3	SPT	8.0	9.8	SP	0.0	91.0	9.0	NP	NP	NP	5.5	-	-	-	-	-	-	-
4.50	S-31/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-31/5	SPT	11.0	10.9	SP	0.0	90.0	10.0	NP	NP	NP	5.6	1.77	1.68	-	28.0	-	-	2.41
7.50	S-31/6	SPT	13.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-31/7	SPT	15.0	12.9	SP	7.0	82.0	11.0	NP	NP	NP	7.1	1.82	1.70	-	-	-	-	-
10.50	S-31/8	SPT	19.0	15.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-31/9	SPT	24.0	18.3	SP	0.0	89.0	11.0	NP	NP	NP	8.3	-	-	-	32.0	-	-	-
13.50	S-31/10	SPT	27.0	19.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-



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**BOREHOLE**  
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**LOCATION**  
 N-3161625.17  
 E-727934.64

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
 0.0 M

**WATER TABLE DEPTH**  
 11.2 M

**TERMINATION DEPTH**  
 40.0 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters									
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity				
15.00	S-31/11	SPT	35.0	24.1	SP	0.0	88.0	12.0	NP	NP	NP	1.84	1.65	11.4	.	.	.	.	.				
16.00	S-31/12	SPT	40.0	26.3	SP	0.0	91.0	9.0	NP	NP	NP	.	.	12.3	.	36.0	.	.	.	.			
18.00	S-31/13	SPT	46.0	28.9	SP	.	.	.	NP	NP	NP	1.95	1.71	14.0	.	.	.	.	.	2.45			
19.50	S-31/14	SPT	51.0	30.7	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.		
21.00	S-31/15	SPT	57.0	32.8	SP	0.0	93.0	7.0	NP	NP	NP	.	.	15.2	.	.	.	.	.	.	.		
22.50	S-31/16	SPT	63.0	34.8	CL	0.0	8.0	92.0	31.5	17.6	13.9	.	.	.	.	.	0.19	0.92	.	.	.		
24.00	S-31/17	SPT	70.0	37.2	CL	0.0	15.0	85.0	.	.	.	.	.	16.7	.	.	.	.	.	.	2.32	.	
25.50	S-31/18	SPT	76.0	38.9	CL	.	.	.	.	.	.	2.06	1.76	17.2	.	.	.	.	.	.	.	.	.
27.00	S-31/19	SPT	80.0	39.4	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-31/20	SPT	85.0	46.5	CL	0.0	20.0	80.0	.	.	.	.	.	18.3	.	.	.	.	.	.	.	.	.



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PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA. CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		31		N-3161625.17 E-727934.64		GT-1997															
		STARTING DEPTH		TERMINATION DEPTH		0.0 M		WATER TABLE DEPTH													
								11.2 M													
BORE LOG SHEET																					
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit		Density				Shear Parameters				Specific Gravity	
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo			
30.00	S-31/21	SPT	92.0	44.3	CL																
31.00	S-31/22	SPT	REFUSAL	REFUSAL	CL	0.0	11.0	89.0	29.2	17.5	11.7	2.15	1.81	18.5			0.17	0.85		2.43	
33.00	S-31/23	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP										
34.50	S-31/24	SPT	REFUSAL	REFUSAL	SP	5.0	85.0	10.0	NP	NP	NP	2.21	1.85	19.2							
36.00	S-31/25	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP										
37.50	S-31/26	SPT	REFUSAL	REFUSAL	SP	7.0	88.0	5.0	NP	NP	NP			19.4						2.50	
39.00	S-31/27	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP										
40.00	S-31/28	SPT	REFUSAL	REFUSAL	SP	8.0	81.0	11.0	NP	NP	NP			19.8							



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	<b>STARTING DEPTH</b> 0.0 M				<b>WATER TABLE DEPTH</b> 10.9 M			

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																							
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Shear Parameters										
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Density	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity				
0.75	S-32/1	SPT	4.0	6.8	CL	0.0	13.0	87.0	-	-	-	-	-	-	-	-	-	-	-				
1.50	S-32/2	SPT	8.0	11.7	SP	0.0	77.0	23.0	NP	NP	NP	NP	1.64	1.57	4.4	0.5	24.0	-	-	2.40			
3.00	S-32/3	SPT	10.0	12.3	SP	0.0	88.0	12.0	NP	NP	NP	NP	-	-	5.2	-	-	-	-	-	-		
4.50	S-32/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	
6.00	S-32/5	SPT	13.0	12.9	SP	0.0	81.0	19.0	NP	NP	NP	NP	1.73	1.64	5.5	-	25.0	-	-	-	2.41		
7.50	S-32/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	
9.00	S-32/7	SPT	15.0	12.9	SP	5.0	79.0	16.0	NP	NP	NP	NP	1.82	1.70	7.2	-	-	-	-	-	-	-	
10.50	S-32/8	SPT	18.0	14.5	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-
12.00	S-32/9	SPT	22.0	16.8	SP	0.0	84.0	16.0	NP	NP	NP	NP	-	-	8.5	-	31.0	-	-	-	-	-	-
13.50	S-32/10	SPT	24.0	17.4	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-



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**BOREHOLE**

32

**LOCATION**

N-3161686  
E-727879

**JOB NO.**

GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**STARTING DEPTH**

0.0 M

**TERMINATION DEPTH**

40.0 M

**WATER TABLE DEPTH**

10.9 M

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density				Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo		
15.00	S-32/11	SPT	31.0	21.4	SP	0.0	89.0	11.0	NP	NP	NP	1.82	1.64	11.1	-	-	-	-	-	-
16.00	S-32/12	SPT	35.0	23.0	SP	0.0	88.0	12.0	NP	NP	NP	-	-	12.6	-	33.0	-	-	-	-
18.00	S-32/13	SPT	42.0	26.4	SP	-	-	-	NP	NP	NP	1.94	1.71	13.7	-	-	-	-	-	2.45
19.50	S-32/14	SPT	48.0	28.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
21.00	S-32/15	SPT	52.0	30.0	SP	0.0	91.0	9.0	NP	NP	NP	-	-	15.0	-	-	-	-	-	-
22.50	S-32/16	SPT	61.0	33.7	CL	0.0	7.0	93.0	31.5	17.6	13.9	-	-	-	-	-	0.19	0.92	-	-
24.00	S-32/17	SPT	66.0	35.1	CL	0.0	12.0	88.0	-	-	-	-	-	16.2	-	-	-	-	-	2.32
25.50	S-32/18	SPT	72.0	36.8	CL	-	-	-	-	-	-	2.06	1.76	17.1	-	-	-	-	-	-
27.00	S-32/19	SPT	78.0	38.4	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-32/20	SPT	82.0	46.5	CL	0.0	21.0	79.0	-	-	-	-	-	17.9	-	-	-	-	-	-





<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigniconsultants@gmail.com	<b>BOREHOLE</b> 32		<b>LOCATION</b> N-3161686 E-727879	<b>JOB NO.</b> GT-1997	<b>PAGE NO.</b>
	<b>STARTING DEPTH</b> 0.0 M		<b>WATER TABLE DEPTH</b> 10.9 M		

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC Noida.**  
**CLIENT :- EXECUTIVE ENGINEER (P) Noida CENTRAL DIVISION CPWD, NEW DELHI**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit		Density				Shear Parameters				Specific Gravity			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo					
30.00	S-32/21	SPT	88.0	44.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
31.00	S-32/22	SPT	REFUSAL	REFUSAL	CL	0.0	12.0	88.0	29.2	17.5	11.7	2.13	1.80	18.2	-	-	0.17	0.85	-	-	-	2.43	
33.00	S-32/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	
34.50	S-32/24	SPT	REFUSAL	REFUSAL	SP	6.0	87.0	7.0	NP	NP	NP	2.20	1.85	18.8	-	-	-	-	-	-	-	-	
36.00	S-32/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	
37.50	S-32/26	SPT	REFUSAL	REFUSAL	SP	8.0	89.0	3.0	NP	NP	NP	-	-	19.2	-	-	-	-	-	-	-	2.50	
39.00	S-32/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	
40.00	S-32/28	SPT	REFUSAL	REFUSAL	SP	8.0	85.0	7.0	NP	NP	NP	-	-	19.5	-	-	-	-	-	-	-	-	-

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-33/1	SPT	5.0	8.5	CL	0.0	15.0	85.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-33/2	SPT	7.0	10.2	SP	0.0	75.0	25.0	-	-	-	1.67	1.62	3.3	0.6	22.0	-	-	2.40
3.00	S-33/3	SPT	8.0	9.8	SP	0.0	91.0	9.0	NP	NP	NP	-	-	4.9	-	-	-	-	-
4.50	S-33/4	SPT	10.0	10.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-33/5	SPT	12.0	11.9	SP	0.0	93.0	7.0	NP	NP	NP	1.70	1.61	5.5	-	27.0	-	-	2.41
7.50	S-33/6	SPT	13.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-33/7	SPT	18.0	15.5	SP	0.0	95.0	5.0	NP	NP	NP	1.73	1.62	6.9	-	-	-	-	-
10.50	S-33/8	SPT	24.0	19.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-33/9	SPT	31.0	23.7	SP	0.0	91.0	9.0	NP	NP	NP	-	-	8.1	-	-	-	-	-
13.50	S-33/10	SPT	35.0	25.3	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

BORE LOG SHEET

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**BOREHOLE**  
 33

**LOCATION**  
 N-3161860  
 E-727767

**JOB NO.**  
 GT-1997

**STARTING DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 14.2 M

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NORDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>v</sub>	Void Ratio, e <sub>0</sub>	Specific Gravity	
15.00	S-35/11	SPT	39.0	26.9	SP	0.0	84.0	16.0	-	-	-	1.79	1.61	10.9	-	-	-	-	-	
16.00	S-35/12	SPT	45.0	29.6	CL	9.0	13.0	78.0	30.5	18.2	12.3	-	-	12.9	-	-	-	-	-	
18.00	S-35/13	SPT	51.0	32.0	SP	0.0	86.0	14.0	NP	NP	NP	1.80	1.58	14.2	-	-	-	-	2.30	
19.50	S-35/14	SPT	58.0	34.9	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	
21.00	S-35/15	SPT	63.0	36.3	SM	0.0	56.0	44.0	-	-	-	-	-	15.9	-	-	-	-	-	
22.50	S-35/16	SPT	71.0	39.3	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24.00	S-35/17	SPT	74.0	39.3	SM	0.0	60.0	40.0	-	-	-	-	-	16.9	-	-	-	-	2.43	
25.50	S-35/18	SPT	78.0	39.9	SM	-	-	-	-	-	-	2.13	1.81	17.8	-	-	-	-	-	
27.00	S-35/19	SPT	85.0	41.8	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28.50	S-35/20	SPT	92.0	46.5	SM	0.0	52.0	48.0	-	-	-	-	-	18.1	-	-	-	-	-	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

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BOREHOLE LOCATION JOB NO. PAGE NO  
33 N-3161860 GT-1997

STARTING DEPTH WATER TABLE DEPTH  
0.0 M

TERMINATION DEPTH  
40.0 M

14.2 M

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION	JOB NO.	PAGE NO																		
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		33		N-3161860 E-727767	GT-1997																			
CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			STARTING DEPTH		0.0 M	WATER TABLE DEPTH																		
			TERMINATION DEPTH		40.0 M	14.2 M																		
BORE LOG SHEET																								
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit				Density				Shear Parameters				Specific Gravity			
			Observed N-Value	Corrected N-Value	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo							
30.00	S-33/21	SPT	REFUSAL	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
31.00	S-33/22	SPT	REFUSAL	50	-	-	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.45	
33.00	S-33/23	SPT	REFUSAL	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.50	S-33/24	SPT	REFUSAL	50	-	-	94.0	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36.00	S-33/25	SPT	REFUSAL	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.50	S-33/26	SPT	REFUSAL	50	-	-	90.0	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39.00	S-33/27	SPT	REFUSAL	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40.00	S-33/28	SPT	REFUSAL	50	-	-	98.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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**BOREHOLE**

34

**LOCATION**

N-3161525.85  
E-728098.04

**JOB NO.**

GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC INOIDA.**

**STARTING DEPTH**  
0.0 M

**WATER TABLE DEPTH**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**


**TERMINATION DEPTH**

40.0 M

**12.6 M**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Shear Parameters								
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Density	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity		
0.75	S-34/1	SPT	6.0	10.1	CL	0.0	13.0	87.0	-	-	-	-	-	-	-	-	-	-		
1.50	S-34/2	SPT	8.0	11.7	SP	0.0	69.0	31.0	-	-	-	-	-	-	-	-	-	-	2.42	
3.00	S-34/3	SPT	11.0	13.5	SP	0.0	84.0	16.0	NP	NP	NP	NP	NP	-	-	-	-	-	-	
4.50	S-34/4	SPT	15.0	16.4	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-
6.00	S-34/5	SPT	21.0	20.9	SP	0.0	89.0	11.0	NP	NP	NP	NP	NP	1.71	1.62	-	28.0	-	-	2.43
7.50	S-34/6	SPT	27.0	24.9	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-
9.00	S-34/7	SPT	32.0	27.5	SP	2.0	90.0	8.0	NP	NP	NP	NP	NP	1.72	1.62	-	-	-	-	-
10.50	S-34/8	SPT	34.0	27.5	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-
12.00	S-34/9	SPT	45.0	34.4	SP	5.0	82.0	13.0	NP	NP	NP	NP	NP	-	-	-	33.0	-	-	-
13.50	S-34/10	SPT	51.0	36.9	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-


		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		<b>BOREHOLE</b> 34		<b>LOCATION</b> N-3161525.85 E-728098.04		<b>JOB NO.</b> GT-1997		<b>PAGE NO.</b>							
												<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		<b>STARTING DEPTH</b> 0.0 M		<b>WATER TABLE DEPTH</b>	
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>		<b>TERMINATION DEPTH</b> 40.0 M		<b>TERMINATION DEPTH</b> 12.6 M													
<b>BORE LOG SHEET</b>																	
<b>Depth (m)</b>	<b>Sample No</b>	<b>Sample Type</b>	<b>Sample</b>		<b>Grain Size Analysis</b>				<b>Atterberg limit</b>		<b>Density</b>		<b>Shear Parameters</b>				
			<b>Observed N-Value</b>	<b>Corrected N-Value</b>	<b>Gravel (%)</b>	<b>Sand (%)</b>	<b>Silt Clay (%)</b>	<b>Liquid limit (%)</b>	<b>Plastic Limit (%)</b>	<b>Plasticity Index</b>	<b>Bulk Density (gm/cc)</b>	<b>Dry Density (gm/cc)</b>	<b>Moisture Content (%)</b>	<b>Cohesion, c (v/m<sup>2</sup>)</b>	<b>Angle of Internal Friction,</b>	<b>Coefficient of consolidation, Cc</b>	<b>Void Ratio, eo</b>
15.00	S-34/11	SPT	58.0	39.9	0.0	33.0	67.0	28.8	16.6	12.2	1.84	1.67	10.4	-	-	-	-
16.00	S-34/12	SPT	60.0	39.4	-	-	-	-	-	-	-	-	12.0	-	-	-	-
18.00	S-34/13	SPT	63.0	39.6	0.0	9.0	91.0	30.2	18.9	11.3	1.98	1.72	15.3	13.5	0.18	0.88	2.28
19.50	S-34/14	SPT	71.0	42.7	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-34/15	SPT	85.0	49.0	0.0	12.0	88.0	-	-	-	-	-	16.2	-	-	-	-
22.50	S-34/16	SPT	REFUSAL	REFUSAL	-	-	-	-	-	-	-	-	-	-	-	-	2.32
24.00	S-34/17	SPT	REFUSAL	REFUSAL	0.0	65.0	35.0	-	-	-	-	-	17.6	-	-	-	-
25.50	S-34/18	SPT	REFUSAL	REFUSAL	0.0	88.0	12.0	NP	NP	NP	2.19	1.85	18.1	-	-	-	-
27.00	S-34/19	SPT	REFUSAL	REFUSAL	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
28.50	S-34/20	SPT	REFUSAL	REFUSAL	4.0	94.0	2.0	NP	NP	NP	-	-	18.5	-	-	-	-

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis	Atterberg limit			Density		Shear Parameters				Water Table Depth	Page No		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)			Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.																		
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																		
BORE LOG SHEET																		
BOREHOLE																		
SOIGNE ENGINEERING CONSULTANTS																		
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LOCATION																		
N-3161525.85																		
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JOB NO.																		
GT-1997																		
STARTING DEPTH																		
0.0 M																		
TERMINATION DEPTH																		
40.0 M																		
12.6 M																		
30.00	S-34/21	SPT	REFUSAL															
31.00	S-34/22	SPT	REFUSAL		0.0	15.0	85.0				19.2					0.19	0.92	2.34
33.00	S-34/23	SPT	REFUSAL															
34.50	S-34/24	SPT	REFUSAL		0.0	94.0	6.0	NP	NP	NP	19.5							
36.00	S-34/25	SPT	REFUSAL					NP	NP	NP								
37.50	S-34/26	SPT	REFUSAL		0.0	96.0	4.0	NP	NP	NP	19.7							2.45
39.00	S-34/27	SPT	REFUSAL					NP	NP	NP								
40.00	S-34/28	SPT	REFUSAL		0.0	88.0	12.0	NP	NP	NP	19.9							



SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO												
		35		N-3161626 E-728035		GT-1997		35												
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH														
				0.0 M		0.0 M														
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		40.0 M		11.4 M												
				TERMINATION DEPTH		40.0 M		11.4 M												
BORE LOG SHEET																				
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density				Shear Parameters				Specific Gravity	
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo		
0.75	S-35/1	SPT	4.0	6.8	CL	0.0	12.0	88.0	-	-	2.6	-	-	-	-	-	-	-	-	-
1.50	S-35/2	SPT	5.0	7.3	SP	0.0	72.0	28.0	NP	NP	4.0	1.66	1.60	0.8	20.0	-	-	-	-	2.41
3.00	S-35/3	SPT	7.0	8.6	SP	0.0	89.0	11.0	NP	NP	5.2	-	-	-	-	-	-	-	-	-
4.50	S-35/4	SPT	10.0	10.9	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
6.00	S-35/5	SPT	13.0	12.9	SP	0.0	92.0	8.0	NP	NP	5.5	1.75	1.66	-	27.0	-	-	-	-	2.43
7.50	S-35/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
9.00	S-35/7	SPT	17.0	14.6	SP	4.0	85.0	11.0	NP	NP	7.6	1.80	1.67	-	-	-	-	-	-	-
10.50	S-35/8	SPT	19.0	15.4	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-
12.00	S-35/9	SPT	24.0	18.3	SP	0.0	88.0	12.0	NP	NP	8.3	-	-	-	30.0	-	-	-	-	-
13.50	S-35/10	SPT	29.0	21.0	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-




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					35	N-3161626 E-728035	GT-1997	35	
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NORDA.</b>								<b>STARTING DEPTH</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>								0.0 M	
<b>BORE LOG SHEET</b>								<b>TERMINATION DEPTH</b>	11.4 M

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Plasticity Index	Density		Moisture Content (%)	Shear Parameters				Specific Gravity					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Gravel (%)	Sand (%)		Silt Clay (%)	Bulk Density (gm/cc)		Dry Density (gm/cc)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc		Void Ratio, eo				
15.00	S-35/11	SPT	32.0	22.0	SP	0.0	94.0	6.0	NP	NP	NP	NP	NP	1.83	1.64	11.3	-	-	-	-	-	-	-	-		
16.00	S-35/12	SPT	38.0	25.0	SP	0.0	93.0	7.0	NP	NP	NP	NP	NP	-	-	12.6	-	34.0	-	-	-	-	-	-	-	
18.00	S-35/13	SPT	43.0	27.0	SP	-	-	-	NP	NP	NP	NP	NP	1.94	1.71	13.5	-	-	-	-	-	-	-	-	2.45	
19.50	S-35/14	SPT	52.0	31.3	SP	-	-	-	NP	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	
21.00	S-35/15	SPT	55.0	31.7	SP	0.0	94.0	6.0	NP	NP	NP	NP	NP	-	-	15.2	-	-	-	-	-	-	-	-	-	
22.50	S-35/16	SPT	62.0	34.3	CL	0.0	9.0	91.0	31.5	17.6	13.9	13.9	-	-	-	-	-	-	-	-	-	-	-	-	0.92	
24.00	S-35/17	SPT	69.0	36.7	CL	0.0	11.0	89.0	-	-	-	-	-	-	-	16.3	-	-	-	-	-	-	-	-	-	2.32
25.50	S-35/18	SPT	72.0	36.8	CL	-	-	-	-	-	-	-	-	2.05	1.74	17.5	-	-	-	-	-	-	-	-	-	-
27.00	S-35/19	SPT	81.0	39.9	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-35/20	SPT	88.0	46.5	CL	0.0	16.0	84.0	-	-	-	-	-	-	-	18.1	-	-	-	-	-	-	-	-	-	-



SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO											
		35		N-3161626 E-728035		GT-1997		35											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI <td colspan="2">TERMINATION DEPTH <td colspan="2">40.0 M <td colspan="2">11.4 M </td></td></td>				TERMINATION DEPTH <td colspan="2">40.0 M <td colspan="2">11.4 M </td></td>		40.0 M <td colspan="2">11.4 M </td>		11.4 M											
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Density		Shear Parameters									
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity
30.00	S-35/21	SPT	95.0	44.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.00	S-35/22	SPT	REFUSAL	REFUSAL	CL	0.0	16.0	84.0	29.2	17.5	11.7	2.12	1.79	18.5	-	-	0.17	0.85	2.43
33.00	S-35/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-35/24	SPT	REFUSAL	REFUSAL	SP	6.0	86.0	8.0	NP	NP	NP	2.20	1.84	19.5	-	-	-	-	-
36.00	S-35/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-35/26	SPT	REFUSAL	REFUSAL	SP	6.0	89.0	5.0	NP	NP	NP	-	-	19.6	-	-	-	-	2.50
39.00	S-35/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-35/28	SPT	REFUSAL	REFUSAL	SP	8.0	85.0	7.0	NP	NP	NP	-	-	19.8	-	-	-	-	-

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			36		GT-1997					
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>						<b>STARTING DEPTH</b>		<b>WATER TABLE DEPTH</b>		
						0.0 M		12.7 M		
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>						<b>TERMINATION DEPTH</b>				
						40.0 M				

<b>BORE LOG SHEET</b>																									
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters								
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (Vm2)	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity						
0.75	S-36/1	SPT	5.0	8.5	CL	0.0	16.0	84.0	-	-	2.5	-	-	-	-	-	-	-	-	-					
1.50	S-36/2	SPT	7.0	10.2	SP	0.0	80.0	20.0	NP	NP	3.8	1.67	1.61	25.0	-	-	-	-	-	-	2.40				
3.00	S-36/3	SPT	8.0	9.8	SP	0.0	90.0	10.0	NP	NP	5.1	-	-	-	-	-	-	-	-	-	-	-			
4.50	S-36/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-		
6.00	S-36/5	SPT	13.0	12.9	SP	0.0	95.0	5.0	NP	NP	5.6	1.74	1.65	27.0	-	-	-	-	-	-	-	-	2.42		
7.50	S-36/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.00	S-36/7	SPT	19.0	16.3	SP	7.0	82.0	11.0	NP	NP	7.3	1.81	1.69	-	-	-	-	-	-	-	-	-	-	-	
10.50	S-36/8	SPT	20.0	16.2	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.00	S-36/9	SPT	26.0	19.8	SP	0.0	87.0	13.0	NP	NP	8.3	-	-	30.0	-	-	-	-	-	-	-	-	-	-	-
13.50	S-36/10	SPT	30.0	21.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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<b>BOREHOLE</b>	36	<b>LOCATION</b>	N-3161592 E-728038	<b>JOB NO.</b>	GT-1997	<b>PAGE NO</b>	
<b>STARTING DEPTH</b>		0.0 M		<b>WATER TABLE DEPTH</b>		12.7 M	
<b>TERMINATION DEPTH</b>		40.0 M					

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	
15.00	S-36/11	SPT	33.0	22.7	SP	0.0	94.0	6.0	NP	NP	NP	1.84	1.65	11.3	-	-	-	-	-	
16.00	S-36/12	SPT	38.0	25.0	SP	0.0	96.0	4.0	NP	NP	NP	-	-	12.2	34.0	-	-	-	-	
18.00	S-36/13	SPT	42.0	26.4	SP	-	-	-	NP	NP	NP	1.93	1.70	13.8	-	-	-	-	2.45	
19.50	S-36/14	SPT	55.0	33.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	
21.00	S-36/15	SPT	61.0	35.2	SP	0.0	94.0	6.0	NP	NP	NP	-	-	15.9	-	-	-	-	-	
22.50	S-36/16	SPT	67.0	37.1	CL	0.0	11.0	89.0	31.5	17.6	13.9	-	-	-	-	-	0.19	0.92	-	
24.00	S-36/17	SPT	74.0	39.3	CL	0.0	16.0	84.0	-	-	-	-	-	16.2	-	-	-	-	2.31	
25.50	S-36/18	SPT	76.0	38.9	CL	-	-	-	-	-	-	2.06	1.75	17.6	-	-	-	-	-	
27.00	S-36/19	SPT	81.0	39.9	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28.50	S-36/20	SPT	89.0	46.5	CL	0.0	20.0	80.0	-	-	-	-	-	18.5	-	-	0.20	0.91	-	

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	<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>										<b>STARTING DEPTH</b> 0.0 M		<b>WATER TABLE DEPTH</b> 12.7 M
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>										<b>TERMINATION DEPTH</b> 40.0 M			

BORE LOG SHEET																									
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters									
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity						
30.00	S-36/21	SPT	92.0	44.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31.00	S-36/22	SPT	REFUSAL	REFUSAL	CL	0.0	14.0	86.0	29.6	17.7	11.9	2.10	1.77	18.9	-	-	-	-	-	-	-	-	-	-	2.44
33.00	S-36/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.50	S-36/24	SPT	REFUSAL	REFUSAL	SP	8.0	82.0	10.0	NP	NP	NP	2.18	1.83	19.2	-	-	-	-	-	-	-	-	-	-	-
36.00	S-36/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.50	S-36/26	SPT	REFUSAL	REFUSAL	SP	4.0	85.0	11.0	NP	NP	NP	-	-	19.6	-	-	-	-	-	-	-	-	-	-	2.51
39.00	S-36/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40.00	S-36/28	SPT	REFUSAL	REFUSAL	SP	7.0	82.0	11.0	NP	NP	NP	-	-	19.9	-	-	-	-	-	-	-	-	-	-	-

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		37		N-3161976.27 E-727783.15		GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
				TERMINATION DEPTH		0.0 M		40.0 M		14.7 M									
CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																			
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit		Density				Shear Parameters				Specific Gravity	
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc		Void Ratio, eo
0.75	S-37/1	SPT	5.0	8.5	CL	0.0	16.0	84.0	-	-	-	2.5	-	-	-	-	-	-	-
1.50	S-37/2	SPT	6.0	8.8	SP	0.0	72.0	28.0	-	-	-	3.2	1.62	0.7	22.0	-	-	-	2.40
3.00	S-37/3	SPT	7.0	8.6	SP	0.0	92.0	8.0	NP	NP	NP	4.4	-	-	-	-	-	-	-
4.50	S-37/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-37/5	SPT	11.0	10.9	SP	0.0	91.0	9.0	NP	NP	NP	5.0	1.62	-	27.0	-	-	-	2.42
7.50	S-37/6	SPT	13.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-37/7	SPT	16.0	13.8	SP	0.0	94.0	6.0	NP	NP	NP	6.2	1.62	-	-	-	-	-	-
10.50	S-37/8	SPT	20.0	16.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-37/9	SPT	22.0	16.8	SP	0.0	95.0	5.0	NP	NP	NP	7.3	-	-	33.0	-	-	-	-
13.50	S-37/10	SPT	27.0	19.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-



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**PAGE NO**

**JOB NO.**

**LOCATION**

**BOREHOLE**

**STARTING DEPTH**

**WATER TABLE DEPTH**

**TERMINATION DEPTH**

**0.0 M**

**40.0 M**

**14.7 M**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity
15.00	S-37/11	SPT	31.0	21.4	GS	0.0	88.0	12.0	NP	NP	NP	1.75	1.60	9.1	-	-	-	-	-
16.00	S-37/12	SPT	37.0	24.3	CL	5.0	14.0	81.0	30.9	18.4	12.5	-	-	11.4	-	-	0.19	0.90	-
18.00	S-37/13	SPT	39.0	24.5	SP	0.0	88.0	12.0	NP	NP	NP	1.83	1.59	15.3	-	-	-	-	2.30
19.50	S-37/14	SPT	43.0	25.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
21.00	S-37/15	SPT	50.0	28.8	SM	0.0	53.0	47.0	-	-	-	-	-	17.2	-	-	-	-	-
22.50	S-37/16	SPT	54.0	29.9	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-37/17	SPT	60.0	31.9	SM	0.0	61.0	39.0	-	-	-	-	-	17.5	-	-	-	-	2.41
25.50	S-37/18	SPT	65.0	33.2	SM	-	-	-	-	-	-	2.10	1.77	18.5	-	-	-	-	-
27.00	S-37/19	SPT	74.0	36.4	SM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-37/20	SPT	82.0	46.5	SM	0.0	58.0	42.0	-	-	-	-	-	19.1	-	-	-	-	-



SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO											
		37		N-3161976.27 E-727783.15		GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
				0.0 M		40.0 M		14.7 M											
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI																			
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-37/21	SPT	87.0	44.3	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
31.00	S-37/22	SPT	REFUSAL	REFUSAL	SP	0.0	82.0	18.0	NP	NP	NP	2.15	-	-	19.5	-	-	-	2.47
33.00	S-37/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-37/24	SPT	REFUSAL	REFUSAL	SP	0.0	91.0	9.0	NP	NP	NP	2.25	1.88	-	19.7	-	-	-	-
36.00	S-37/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-37/26	SPT	REFUSAL	REFUSAL	SP	0.0	93.0	7.0	NP	NP	NP	2.28	1.90	-	19.8	-	-	-	2.48
39.00	S-37/27	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-37/28	SPT	REFUSAL	REFUSAL	SP	0.0	96.0	4.0	NP	NP	NP	-	-	-	-	-	-	-	-





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BOREHOLE	LOCATION	JOB NO.	PAGE NO
	N-3161673 E-728080		
38	STARTING DEPTH	0.0 M	WATER TABLE DEPTH
	TERMINATION DEPTH	40.0 M	11.5 M

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (g/cc)	Dry Density (g/cc)	Moisture Content (%)	Cohesion, c (V/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
0.75	S-38/1	SPT	4.0	6.8	CL	0.0	15.0	85.0	-	-	2.8	-	-	-	-	-	-	-
1.50	S-38/2	SPT	6.0	8.8	SP	0.0	79.0	21.0	NP	NP	4.0	1.65	1.59	0.8	24.0	-	-	2.42
3.00	S-38/3	SPT	8.0	9.8	SP	0.0	88.0	12.0	NP	NP	5.5	-	-	-	-	-	-	-
4.50	S-38/4	SPT	10.0	10.9	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
6.00	S-38/5	SPT	11.0	10.9	SP	0.0	89.0	11.0	NP	NP	5.8	1.74	1.64	-	26.0	-	-	2.44
7.50	S-38/6	SPT	13.0	12.0	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
9.00	S-38/7	SPT	15.0	12.9	SP	6.0	86.0	8.0	NP	NP	7.3	1.82	1.70	-	-	-	-	-
10.50	S-38/8	SPT	21.0	17.0	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
12.00	S-38/9	SPT	23.0	17.6	SP	0.0	88.0	12.0	NP	NP	8.3	-	-	-	31.0	-	-	-
13.50	S-38/10	SPT	28.0	20.3	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit			Density		Shear Parameters				Water Table Depth	Page No	
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>v</sub>			Void Ratio, e <sub>o</sub>
15.00	S-38/11	SPT	31.0	21.4	SP	0.0	92.0	8.0	NP	NP	NP	1.85	1.67	11.1	-	-	-	-	-	-
16.00	S-38/12	SPT	37.0	24.3	SP	0.0	95.0	5.0	NP	NP	NP	-	-	12.3	-	33.0	-	-	-	-
18.00	S-38/13	SPT	42.0	26.4	SP	-	-	-	NP	NP	NP	1.94	1.71	13.5	-	-	-	-	-	2.45
19.50	S-38/14	SPT	44.0	26.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-
21.00	S-38/15	SPT	51.0	29.4	SP	0.0	96.0	4.0	NP	NP	NP	-	-	15.1	-	-	-	-	-	-
22.50	S-38/16	SPT	59.0	32.6	CL	0.0	12.0	88.0	31.5	17.6	13.9	-	-	-	-	-	0.19	0.92	-	-
24.00	S-38/17	SPT	63.0	33.5	CL	0.0	16.0	84.0	-	-	-	-	-	16.2	-	-	-	-	-	2.31
25.50	S-38/18	SPT	78.0	39.9	CL	-	-	-	-	-	-	2.06	1.75	17.5	-	-	-	-	-	-
27.00	S-38/19	SPT	84.0	41.3	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-38/20	SPT	89.0	46.5	CL	0.0	18.0	82.0	-	-	-	-	-	18.5	-	-	-	-	-	-

**BORE LOG SHEET**


CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI




**SOIGNE ENGINEERING CONSULTANTS**  
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**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**BOREHOLE** 38  
**LOCATION** N-3161673  
 E-728080  
**STARTING DEPTH** 0.0 M  
**TERMINATION DEPTH** 40.0 M  
**WATER TABLE DEPTH** 11.5 M

	SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE	LOCATION	JOB NO.	PAGE NO
			38	N-3161673 E-728080	GT-1997	
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH	
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M		11.5 M

BORE LOG SHEET																				
Depth (m)	Sample No	Sample Type	Observed N-Value		Corrected N-Value	Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value			Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-38/21	SPT	94.0	44.3	CL	CL	0.0	12.0	88.0	29.8	17.5	12.3	2.16	1.81	19.2	-	-	0.18	0.86	2.42
31.00	S-38/22	SPT	REFUSAL	REFUSAL	CL	CL	0.0	12.0	88.0	29.8	17.5	12.3	2.16	1.81	19.2	-	-	0.18	0.86	2.42
33.00	S-38/23	SPT	REFUSAL	REFUSAL	SP	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-38/24	SPT	REFUSAL	REFUSAL	SP	SP	6.0	88.0	6.0	NP	NP	NP	2.21	1.85	19.3	-	-	-	-	-
36.00	S-38/25	SPT	REFUSAL	REFUSAL	SP	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-38/26	SPT	REFUSAL	REFUSAL	SP	SP	5.0	90.0	5.0	NP	NP	NP	-	-	19.5	-	-	-	-	2.52
39.00	S-38/27	SPT	REFUSAL	REFUSAL	SP	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-38/28	SPT	REFUSAL	REFUSAL	SP	SP	6.0	88.0	6.0	NP	NP	NP	-	-	19.8	-	-	-	-	-

		<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE	LOCATION	JOB NO.	PAGE NO												
								39	N-3161819.5 E-728173	GT-1997									
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>				STARTING DEPTH		WATER TABLE DEPTH													
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>				TERMINATION DEPTH		14.6 M													
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit		Density		Shear Parameters							
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-39/1	SPT	5.0	8.5	CL	0.0	29.0	71.0	-	-	-	3.6	-	-	-	-	-	-	-
1.50	S-39/2	SPT	7.0	10.2	SP	0.0	75.0	25.0	-	-	1.64	1.57	4.2	0.9	22.0	-	-	-	2.39
3.00	S-39/3	SPT	7.0	8.6	SP	0.0	88.0	12.0	NP	NP	-	-	-	-	-	-	-	-	-
4.50	S-39/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	-	-	9.2	-	-	-	-	-	-
6.00	S-39/5	SPT	12.0	11.9	SP	0.0	94.0	6.0	NP	NP	1.69	1.53	10.1	-	28.0	-	-	-	2.42
7.50	S-39/6	SPT	18.0	16.6	SP	-	-	-	NP	NP	-	-	12.5	-	-	-	-	-	-
9.00	S-39/7	SPT	20.0	17.2	SP	0.0	91.0	9.0	NP	NP	1.73	1.52	13.8	-	-	-	-	-	-
10.50	S-39/8	SPT	23.0	18.6	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-39/9	SPT	25.0	19.1	SP	0.0	93.0	7.0	NP	NP	-	-	15.8	-	32.0	-	-	-	-
13.50	S-39/10	SPT	28.0	20.3	SP	-	-	-	NP	NP	-	-	16.4	-	-	-	-	-	-



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BOREHOLE LOCATION

JOB NO. PAGE NO.  
GT-1997

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

STARTING DEPTH WATER TABLE DEPTH  
0.0 M

TERMINATION DEPTH 40.0 M 14.6 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density			Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>0</sub>
15.00	S-39/11	SPT	32.0	22.0	SP	0.0	89.0	11.0	NP	NP	NP	-	-	-	-	-	-	-
16.00	S-39/12	SPT	38.0	25.0	CL	0.0	28.0	72.0	30.8	17.5	13.3	-	-	-	-	-	0.89	-
18.00	S-39/13	SPT	44.0	27.6	SP	0.0	77.0	23.0	NP	NP	NP	1.89	1.62	17.0	-	-	-	2.31
19.50	S-39/14	SPT	50.0	30.1	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
21.00	S-39/15	SPT	55.0	31.7	SP	0.0	88.0	12.0	NP	NP	NP	-	-	17.5	-	-	-	-
22.50	S-39/16	SPT	60.0	33.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
24.00	S-39/17	SPT	66.0	35.1	SP	0.0	89.0	11.0	NP	NP	NP	-	-	-	-	-	-	2.45
25.50	S-39/18	SPT	72.0	36.8	SP	-	-	-	NP	NP	NP	2.05	1.74	17.9	-	-	-	-
27.00	S-39/19	SPT	78.0	38.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
28.50	S-39/20	SPT	83.0	46.5	SP	0.0	92.0	8.0	NP	NP	NP	-	-	17.4	-	-	-	-



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**JOB NO.**  
GT-1997

**LOCATION**  
N-3161819.5  
E-728123

**BOREHOLE**  
39

**STARTING DEPTH**  
0.0 M

**TERMINATION DEPTH**  
40.0 M

**WATER TABLE DEPTH**  
14.6 M

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis	Atterberg limit				Density		Shear Parameters													
			Observed N-Value	Corrected N-Value		Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (k/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity					
30.00	S-39/21	SPT	89.0	44.3	SP				NP	NP	NP														
31.00	S-39/22	SPT	97.0	42.7	SP	0.0	89.0	11.0	NP	NP	NP	2.16	1.83	17.9										2.47	
33.00	S-39/23	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP														
34.50	S-39/24	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.20	1.86	18.3											
36.00	S-39/25	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP														
37.50	S-39/26	SPT	REFUSAL	REFUSAL	SP	0.0	96.0	4.0	NP	NP	NP	2.32	1.94	19.6											
39.00	S-39/27	SPT	REFUSAL	REFUSAL	SP				NP	NP	NP														
40.00	S-39/28	SPT	REFUSAL	REFUSAL	SP	0.0	97.0	3.0	NP	NP	NP			20.2											



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<b>BOREHOLE</b>	<b>LOCATION</b>	<b>JOB NO.</b>	<b>PAGE NO</b>
40	N-3162036 E-72/845	GT-1997	

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
0.0 M

**WATER TABLE DEPTH**

14.8 M

**TERMINATION DEPTH**  
40.0 M

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis	Atterberg limit			Density		Shear Parameters													
			Observed N-Value	Corrected N-Value		Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity				
0.75	S-40/1	SPT	4.0	6.8	CL	0.0	11.0	89.0	-	-	-	-	2.8	-	-	-	-	-	-	-	-	-		
1.50	S-40/2	SPT	5.0	7.3	SP	0.0	69.0	31.0	-	-	-	1.63	1.57	3.9	0.6	20.0	-	-	-	-	-	-	2.40	
3.00	S-40/3	SPT	6.0	7.4	SP	0.0	93.0	7.0	NP	NP	NP	-	-	4.6	-	-	-	-	-	-	-	-	-	
4.50	S-40/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	
6.00	S-40/5	SPT	11.0	10.9	SP	0.0	91.0	9.0	NP	NP	NP	1.69	1.60	5.9	-	25.0	-	-	-	-	-	-	-	2.43
7.50	S-40/6	SPT	13.0	12.0	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-
9.00	S-40/7	SPT	17.0	14.6	SP	0.0	97.0	3.0	NP	NP	NP	1.71	1.60	6.9	-	-	-	-	-	-	-	-	-	-
10.50	S-40/8	SPT	20.0	16.2	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-
12.00	S-40/9	SPT	24.0	18.3	SP	0.0	95.0	5.0	NP	NP	NP	-	-	8.5	-	32.0	-	-	-	-	-	-	-	-
13.50	S-40/10	SPT	27.0	19.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-	-



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BOREHOLE LOCATION JOB NO. PAGE NO.  
40 N-3162036 GT-1997

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

STARTING DEPTH 0.0 M WATER TABLE DEPTH 14.8 M  
TERMINATION DEPTH 40.0 M

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-40/11	SPT	30.0	20.7	SP	0.0	87.0	13.0	NP	NP	NP	1.76	1.57	11.9	-	-	-	-
16.00	S-40/12	SPT	38.0	25.0	CL	8.0	13.0	79.0	12.1	18.4	30.5	-	-	12.5	-	0.18	0.89	-
18.00	S-40/13	SPT	35.0	22.0	SP	0.0	81.0	19.0	NP	NP	NP	1.81	1.56	15.9	-	-	-	2.29
19.50	S-40/14	SPT	41.0	24.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
21.00	S-40/15	SPT	52.0	30.0	SM	0.0	47.0	53.0	-	-	-	-	-	16.9	-	-	-	-
22.50	S-40/16	SPT	58.0	32.1	SM	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00	S-40/17	SPT	64.0	34.0	SM	0.0	59.0	41.0	-	-	-	-	-	17.6	-	-	-	2.41
25.50	S-40/18	SPT	71.0	36.3	SM	-	-	-	-	-	-	2.09	1.76	18.6	-	-	-	-
27.00	S-40/19	SPT	76.0	37.4	SM	-	-	-	-	-	-	-	-	-	-	-	-	-
28.50	S-40/20	SPT	82.0	46.5	SM	0.0	56.0	44.0	-	-	-	-	-	18.9	-	-	-	-



SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO											
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		40		N-3162036 E-727845		GT-1997													
		STARTING DEPTH		TERMINATION DEPTH		0.0 M		14.8 M											
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		BORE LOG SHEET		STARTING DEPTH		TERMINATION DEPTH		0.0 M											
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Density		Shear Parameters									
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Atterberg limit	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-40/21	SPT	88.0	44.3	SP	0.0	90.0	10.0	NP	NP	NP	2.14	1.80	19.1	.	.	.	.	2.48
31.00	S-40/22	SPT	REFUSAL	REFUSAL	SP	0.0	90.0	10.0	NP	NP	NP	2.24	1.87	19.5	.	.	.	.	.
33.00	S-40/23	SPT	REFUSAL	REFUSAL	SP	0.0	96.0	4.0	NP	NP	NP	.	.	.	.	.	.	.	.
34.50	S-40/24	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	2.29	1.91	19.6	.	.	.	.	2.49
36.00	S-40/25	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	.	.	.	.	.	.	.	.
37.50	S-40/26	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	.	.	.	.	.	.	.	.
39.00	S-40/27	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	.	.	.	.	.	.	.	.
40.00	S-40/28	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	.	.	.	.	.	.	.	.



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		41		N-3162087 E-727870		GT-1997			
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>				STARTING DEPTH		WATER TABLE DEPTH			
				0.0 M					
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>				TERMINATION DEPTH		40.0 M		14.6 M	

**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters							
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Particle Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of Consolidation, Cc	Void Ratio, eo	Specific Gravity		
0.75	S-41/1	SPT	5.0	8.5	CL	0.0	40.0	60.0	-	-	-	-	-	-	-	-	-	-	-		
1.50	S-41/2	SPT	6.0	8.8	SP	0.0	66.0	34.0	-	-	-	1.66	1.58	4.8	1.2	18.0	-	-	-	2.40	
3.00	S-41/3	SPT	7.0	8.6	SP	0.0	92.0	8.0	NP	NP	NP	-	-	-	-	-	-	-	-	-	
4.50	S-41/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	9.6	-	-	-	-	-	-	-
6.00	S-41/5	SPT	10.0	10.0	SP	0.0	96.0	4.0	NP	NP	NP	1.68	1.52	10.6	-	28.0	-	-	-	2.43	
7.50	S-41/6	SPT	12.0	11.0	SP	-	-	-	NP	NP	NP	-	-	12.6	-	-	-	-	-	-	-
9.00	S-41/7	SPT	15.0	12.9	SP	0.0	96.0	4.0	NP	NP	NP	1.74	1.53	13.6	-	-	-	-	-	-	-
10.50	S-41/8	SPT	18.0	14.5	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-	-	-
12.00	S-41/9	SPT	22.0	16.8	SP	0.0	95.0	5.0	NP	NP	NP	-	-	15.8	-	31.0	-	-	-	-	-
13.50	S-41/10	SPT	25.0	18.1	SP	-	-	-	NP	NP	NP	-	-	16.3	-	-	-	-	-	-	-

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					41	N-3162087 E-727870	GT-1997												
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>		STARTING DEPTH			0.0 M	WATER TABLE DEPTH													
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI.</b>		TERMINATION DEPTH			40.0 M				14.6 M										
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Symbolic representation			Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>0</sub>	Specific Gravity
15.00	S-41/11	SPT	29.0	20.0	SP	0.0	93.0	7.0	NP	NP									
16.00	S-41/12	SPT	35.0	23.0	CL	0.0	30.0	70.0	31.6	18.2	13.4	1.76	1.53	14.8	8.3		0.19	0.92	
18.00	S-41/13	SPT	40.0	25.1	SP	0.0	80.0	20.0	NP	NP	NP	1.88	1.61	16.8					2.30
19.50	S-41/14	SPT	46.0	27.6	SP				NP	NP	NP								
21.00	S-41/15	SPT	53.0	30.5	SP	0.0	84.0	16.0	NP	NP	NP			17.3		34.7			
22.50	S-41/16	SPT	59.0	32.6	SP				NP	NP	NP								
24.00	S-41/17	SPT	64.0	34.0	SP	0.0	86.0	14.0	NP	NP	NP			17.6					2.46
25.50	S-41/18	SPT	71.0	36.3	SP				NP	NP	NP	2.08	1.77	17.7					
27.00	S-41/19	SPT	78.0	38.4	SP				NP	NP	NP								
28.50	S-41/20	SPT	REFUSAL		SP	0.0	89.0	11.0	NP	NP	NP			17.4					




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BOREHOLE LOCATION JOB NO. PAGE NO  
41 N-3162087 GT-1997

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET																						
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity			
30.00	S-41/21	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	
31.00	S-41/22	SPT	REFUSAL	REFUSAL	SP	0.0	90.0	10.0	NP	NP	NP	2.16	1.83	18.3	.	.	.	.	.	.	2.45	
33.00	S-41/23	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.
34.50	S-41/24	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.72	1.87	18.9	.	.	.	.	.	.	.	.
36.00	S-41/25	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	19.1	.	.	.	.	.	.	.	.
37.50	S-41/26	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	2.35	1.97	19.3	.	.	.	.	.	.	.	2.47
39.00	S-41/27	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.	.	.
40.00	S-41/28	SPT	REFUSAL	REFUSAL	SP	0.0	96.0	4.0	NP	NP	NP	.	.	20.6	.	.	.	.	.	.	.	.

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<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>				<b>STARTING DEPTH</b>	<b>0.0 M</b>	<b>WATER TABLE DEPTH</b>
<b>CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>				<b>TERMINATION DEPTH</b>	<b>40.0 M</b>	<b>14.7 M</b>
<b>BORE LOG SHEET</b>						

Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis						Atterberg limit		Density		Shear Parameters				Specific Gravity				
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (Nm2)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo					
0.75	S-42/1	SPT	5.0	8.5	CL	0.0	19.0	81.0	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.50	S-42/2	SPT	7.0	10.2	SP	0.0	79.0	21.0	NP	NP	NP	NP	1.68	1.63	3.3	0.5	23.0	-	-	-	-	2.41	
3.00	S-42/3	SPT	9.0	11.0	SP	0.0	89.0	11.0	NP	NP	NP	NP	-	-	4.6	-	-	-	-	-	-	-	-
4.50	S-42/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-
6.00	S-42/5	SPT	12.0	11.9	SP	0.0	90.0	10.0	NP	NP	NP	NP	1.71	1.61	6.3	-	26.0	-	-	-	-	-	2.43
7.50	S-42/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-
9.00	S-42/7	SPT	19.0	16.3	SP	6.0	86.0	8.0	NP	NP	NP	NP	1.74	1.62	7.6	-	-	-	-	-	-	-	-
10.50	S-42/8	SPT	22.0	17.8	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-
12.00	S-42/9	SPT	27.0	20.6	SP	11.0	82.0	7.0	NP	NP	NP	NP	-	-	8.3	-	30.00	-	-	-	-	-	-
13.50	S-42/10	SPT	34.0	24.6	SP	-	-	-	NP	NP	NP	NP	-	-	-	-	-	-	-	-	-	-	-

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			42	N-3161638.06 E-728551.58	GT-1997	

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NORDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

STARTING DEPTH 0.0 M WATER TABLE DEPTH 14.7 M

TERMINATION DEPTH 40.0 M

BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (v/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity
15.00	S-42/11	SPT	39.0	26.9	CL	0.0	39.0	61.0	29.1	18.2	10.9	1.85	1.67	10.9	-	-	0.17	0.84	-
16.50	S-42/12	SPT	46.0	30.2	CL	-	-	-	-	-	12.9	-	-	-	-	-	-	-	-
18.00	S-42/13	SPT	53.0	33.3	CL	0.0	9.0	91.0	31.5	17.8	13.7	1.95	1.67	16.5	-	-	0.19	0.92	2.34
19.50	S-42/14	SPT	60.0	36.1	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00	S-42/15	SPT	68.0	39.2	CL	0.0	16.0	84.0	-	-	-	-	-	17.9	-	-	-	-	-
22.50	S-42/16	SPT	70.0	38.7	CL	-	-	-	-	-	-	-	-	-	-	-	-	-	2.30
24.00	S-42/17	SPT	77.0	40.9	SM	0.0	56.0	44.0	-	-	-	-	-	18.2	-	-	-	-	-
25.50	S-42/18	SPT	81.0	41.4	SP	0.0	91.0	9.0	NP	NP	NP	2.16	1.82	18.8	-	-	-	-	-
27.00	S-42/19	SPT	89.0	43.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
28.50	S-42/20	SPT	95.0	46.5	SP	4.0	90.0	6.0	NP	NP	NP	-	-	19.2	-	-	-	-	-



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42		GT-1997																	
LOCATION		STARTING DEPTH		WATER TABLE DEPTH															
N-3161638.06 E-728551.58		0.0 M		14.7 M															
TERMINATION DEPTH		TERMINATION DEPTH		TERMINATION DEPTH															
40.0 M		40.0 M		40.0 M															
<b>BORE LOG SHEET</b>																			
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-42/21	SPT	REFUSAL		4S	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
31.50	S-42/22	SPT	REFUSAL		SP	0.0	6.0	94.0	NP	NP	NP	-	-	19.6	-	-	-	-	2.45
33.00	S-42/23	SPT	REFUSAL		SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
34.50	S-42/24	SPT	REFUSAL		SP	0.0	91.0	9.0	NP	NP	NP	2.25	1.88	19.8	-	-	-	-	-
36.00	S-42/25	SPT	REFUSAL		SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
37.50	S-42/26	SPT	REFUSAL		SP	0.0	90.0	10.0	NP	NP	NP	2.31	1.93	19.9	-	-	-	-	2.47
39.00	S-42/27	SPT	REFUSAL		SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
40.00	S-42/28	SPT	REFUSAL		SP	0.0	85.0	15.0	NP	NP	NP	-	-	19.9	-	-	-	-	-



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		43		N-3161687.86 E-727542.46		GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		0.0 M		13.5 M											
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis				Atterberg limit		Density				Shear Parameters				
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-43/1	SPT	5.0	8.5	CL	0.0	4.0	96.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-43/2	SPT	7.0	10.2	SP	0.0	83.0	17.0	NP	NP	1.68	1.62	3.6	0.8	22.0	-	-	-	2.42
3.00	S-43/3	SPT	10.0	12.3	SP	0.0	88.0	12.0	NP	NP	-	-	4.7	-	-	-	-	-	-
4.50	S-43/4	SPT	11.0	12.0	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
6.00	S-43/5	SPT	13.0	12.9	SP	0.0	95.0	5.0	NP	NP	1.70	1.60	6.0	-	29.0	-	-	-	2.45
7.50	S-43/6	SPT	15.0	13.8	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
9.00	S-43/7	SPT	20.0	17.2	SP	5.0	93.0	2.0	NP	NP	1.75	1.64	6.8	-	-	-	-	-	-
10.50	S-43/8	SPT	25.0	20.2	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-
12.00	S-43/9	SPT	26.0	19.8	SP	0.0	91.0	9.0	NP	NP	-	-	7.5	-	34.0	-	-	-	-
13.50	S-43/10	SPT	30.0	21.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-



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	43		N-3161687.86 E-727542.46		GT-1997													
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH												
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		13.5 M												
BORE LOG SHEET																		
Depth (m)	Sample No	Sample type	Sample		Grain Size Analysis				Atterberg limit		Density		Shear Parameters					
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-43/11	SPT	33.0	22.7	SP	0.0	88.0	12.0	NP	NP	1.84	1.64	11.9	.	.	.	.	.
16.00	S-43/12	SPT	36.0	23.6	SP	0.0	85.0	15.0	NP	NP	.	.	13.2	.	.	.	.	.
18.00	S-43/13	SPT	41.0	25.7	SP	.	.	.	NP	NP	1.89	1.65	14.6	.	.	.	.	2.32
19.50	S-43/14	SPT	47.0	28.2	SP	.	.	.	NP	NP	.	.	.	.	.	.	.	.
21.00	S-43/15	SPT	53.0	30.5	SP	0.0	83.0	17.0	NP	NP	.	.	15.5	.	.	.	.	.
22.00	S-43/16	SPT	57.0	31.5	CL	0.0	19.0	81.0	29.3	12.8	.	.	.	.	.	0.17	0.85	.
24.00	S-43/17	SPT	68.0	36.1	CL	0.0	16.0	84.0	.	.	.	.	17.7	.	.	.	.	2.34
25.50	S-43/18	SPT	76.0	38.9	CL	.	.	.	.	.	2.06	1.74	18.6	.	.	.	.	.
27.00	S-43/19	SPT	84.0	41.3	CL	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-43/20	SPT	92.0	46.5	CL	0.0	17.0	83.0	.	.	.	.	18.9	.	.	.	.	.



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**BOREHOLE**  
 43

**LOCATION**  
 N-3161687.86  
 E-727542.46

**JOB NO.**  
 GT-1997

**PAGE NO**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

**STARTING DEPTH**  
 0.0 M

**TERMINATION DEPTH**  
 40.0 M

**WATER TABLE DEPTH**  
 13.5 M


**BORE LOG SHEET**

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Moisture Content (%)	Shear Parameters				Specific Gravity
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)		Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	
30.00	S-43/21	SPT	REFUSAL	REFUSAL	CL	0.0	23.0	77.0	31.2	17.1	14.1	2.15	1.80	19.2	.	.	.	.	2.45
31.50	S-43/22	SPT	REFUSAL	REFUSAL	CL	0.0	23.0	77.0	31.2	17.1	14.1	2.15	1.80	19.2	.	.	.	.	2.45
32.50	S-43/23	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
34.50	S-43/24	SPT	REFUSAL	REFUSAL	SP	6.0	86.0	8.0	NP	NP	NP	2.22	1.86	19.5	.	.	.	.	.
36.00	S-43/25	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
37.50	S-43/26	SPT	REFUSAL	REFUSAL	SP	10.0	84.0	6.0	NP	NP	NP	2.28	1.90	19.7	.	.	.	.	2.47
39.00	S-43/27	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
40.00	S-43/28	SPT	REFUSAL	REFUSAL	SP	13.0	78.0	9.0	NP	NP	NP	.	.	19.8	.	.	.	.	.



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SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		BOREHOLE	LOCATION	JOB NO.	PAGE NO														
		44	N-3161424.43 E-727233.20	GT-1997															
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.			STARTING DEPTH	0.0 M	WATER TABLE DEPTH														
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI			TERMINATION DEPTH	40.0 M	12.5 M														
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample			Grain Size Analysis				Atterberg limit		Density				Shear Parameters			
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
0.75	S-44/1	SPT	5.0	8.5	CL	0.0	40.0	60.0	-	-	-	-	-	-	-	-	-	-	-
1.50	S-44/2	SPT	7.0	10.2	SP	0.0	90.0	10.0	NP	NP	NP	1.61	1.66	3.2	26.00	-	-	-	2.42
3.00	S-44/3	SPT	8.0	9.8	SP	0.0	93.0	7.0	NP	NP	NP	-	-	4.5	-	-	-	-	-
4.50	S-44/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
6.00	S-44/5	SPT	12.0	11.9	SP	0.0	97.0	3.0	NP	NP	NP	1.62	1.71	5.6	29.00	-	-	-	2.45
7.50	S-44/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
9.00	S-44/7	SPT	19.0	16.3	SP	0.0	96.0	4.0	NP	NP	NP	1.67	1.78	6.8	-	-	-	-	-
10.50	S-44/8	SPT	23.0	18.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-
12.00	S-44/9	SPT	28.0	21.4	SP	0.0	97.0	3.0	NP	NP	NP	-	-	7.9	-	-	-	-	-
13.50	S-44/10	SPT	31.0	22.4	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-	-

	<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		<b>BOREHOLE</b> 44	<b>LOCATION</b> N-3161424.43 E-727233.20	<b>JOB NO.</b> GT-1997	<b>PAGE NO</b>

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :-EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

STARTING DEPTH 0.0 M WATER TABLE DEPTH 12.5 M

TERMINATION DEPTH 40.0 M

BORE LOG SHEET																				
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters						
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, e <sub>o</sub>	Specific Gravity	
15.00	S-44/11	SPT	44.0	30.3	SP	0.0	94.0	6.0	NP	NP	NP	1.86	1.67	11.6	.	36.00	.	.	.	
16.00	S-44/12	SPT	55.0	36.1	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
18.00	S-44/13	SPT	64.0	40.2	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
19.50	S-44/14	SPT	82.0	49.3	SP	0.0	97.0	3.0	NP	NP	NP	1.93	1.68	14.6	.	.	.	.	2.41	
21.00	S-44/15	SPT	89.0	51.3	SP	0.0	95.0	5.0	NP	NP	NP	.	.	16.6	.	.	.	.	.	.
22.50	S-44/16	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.	.
24.00	S-44/17	SPT	REFUSAL	REFUSAL	CL	0.0	12.0	88.0	30.2	19.9	10.3	.	.	.	.	.	0.18	0.88	2.31	
25.50	S-44/18	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	1.99	1.69	17.6	.	.	.	.	.	.
27.00	S-44/19	SPT	REFUSAL	REFUSAL	CL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
28.50	S-44/20	SPT	REFUSAL	REFUSAL	CL	0.0	16.0	84.0	32.2	18.6	13.6	.	.	18.6	.	.	0.20	0.94	.	.



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DEPTH (m)		Sample No	Sample Type	Observed N-Value	Corrected N-Value	Symbolic representation	Grain Size Analysis				Atterberg limit			Density				Shear Parameters				WATER TABLE DEPTH					
							Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of internal friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity	STARTING DEPTH	TERMINATION DEPTH	0.0 M	40.0 M	12.5 M		
30.00	5-44/21	SPT	REFUSAL	REFUSAL	CL		0.0	22.0	78.0																		
31.00	5-44/22	SPT	REFUSAL	REFUSAL	CL		0.0	22.0	78.0				2.06	1.73	18.9												2.32
33.00	5-44/23	SPT	REFUSAL	REFUSAL	CL																						
34.50	5-44/24	SPT	REFUSAL	REFUSAL	SP		0.0	83.0	17.0				2.13	1.79	19.0												
36.00	5-44/25	SPT	REFUSAL	REFUSAL	SP																						
37.50	5-44/26	SPT	REFUSAL	REFUSAL	SP		0.0	87.0	13.0	28.9	17.6	11.3	2.29	1.91	19.6												2.35
39.00	5-44/27	SPT	REFUSAL	REFUSAL	SP																						
40.00	5-44/28	SPT	REFUSAL	REFUSAL	SP		0.0	86.0	14.0						19.9												

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.  
 CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

**BORE LOG SHEET**

SOIGNE ENGINEERING CONSULTANTS SCF 23, MM, Manimajra, Chandigarh email: soignecconsultants@gmail.com		BOREHOLE		LOCATION		JOB NO.		PAGE NO										
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.		45		N-3161260.14 E-727492.92		GT-1997												
		STARTING DEPTH		TERMINATION DEPTH		0.0 M		WATER TABLE DEPTH										
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI		40.0 M		13.4 M														
BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit		Density				Shear Parameters			
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (N/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
0.75	S-45/1	SPT	5.0	8.5	CL	0.0	25.0	75.0	-	-	2.8	-	-	-	-	-	-	-
1.50	S-45/2	SPT	7.0	10.2	SP	0.0	84.0	16.0	NP	NP	4.8	1.65	1.57	25.0	-	-	-	2.42
3.00	S-45/3	SPT	8.0	9.8	SP	-	-	-	NP	NP	5.9	-	-	-	-	-	-	-
4.50	S-45/4	SPT	9.0	9.8	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
6.00	S-45/5	SPT	12.0	11.9	SP	0.0	95.0	5.0	NP	NP	6.2	1.71	1.61	29.0	-	-	-	2.44
7.50	S-45/6	SPT	16.0	14.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
9.00	S-45/7	SPT	19.0	16.3	SP	0.0	92.0	8.0	NP	NP	7.9	1.74	1.61	32.0	-	-	-	-
10.50	S-45/8	SPT	23.0	18.6	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-
12.00	S-45/9	SPT	28.0	21.4	SP	0.0	90.0	10.0	NP	NP	8.6	-	-	-	-	-	-	-
13.50	S-45/10	SPT	31.0	22.4	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-



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BOREHOLE LOCATION  
 45 N-3161260.14  
 E-727492.92

JOB NO. GT-1997

WATER TABLE DEPTH  
 0.0 M

PAGE NO.

PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.

CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI

BORE LOG SHEET

Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters					
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of Consolidation, C <sub>c</sub>	Void Ratio, e <sub>o</sub>	Specific Gravity
15.00	S-45/11	SPT	44.0	30.3	SP	0.0	96.0	4.0	NP	NP	NP	1.82	1.65	10.1	.	35.0	.	.	.
16.00	S-45/12	SPT	55.0	36.1	SP	.	.	.	NP	NP	NP	.	.	11.8	.	.	.	.	2.46
18.00	S-45/13	SPT	64.0	40.2	SP	.	.	.	NP	NP	NP	1.91	1.68	13.7	.	.	.	.	.
19.50	S-45/14	SPT	82.0	49.3	SP	0.0	88.0	12.0	NP	NP	NP	.	.	.	.	.	.	.	.
21.00	S-45/15	SPT	89.0	51.3	SP	.	.	.	NP	NP	NP	.	.	15.5	.	.	.	.	.
22.50	S-45/16	SPT	REFUSAL	REFUSAL	SP	9.0	83.0	8.0	NP	NP	NP	.	.	.	.	.	.	.	.
24.00	S-45/17	SPT	REFUSAL	REFUSAL	SP	6.0	89.0	5.0	NP	NP	NP	.	.	16.9	.	.	.	.	2.51
25.50	S-45/18	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	2.10	1.79	17.2	.	.	.	.	.
27.00	S-45/19	SPT	REFUSAL	REFUSAL	SP	.	.	.	NP	NP	NP	.	.	.	.	.	.	.	.
28.50	S-45/20	SPT	REFUSAL	REFUSAL	SP	0.0	92.0	8.0	NP	NP	NP	.	.	18.5	.	.	.	.	.



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BOREHOLE		LOCATION		JOB NO.		PAGE NO													
45		N-3161260.14 E-727497.92		GT-1997															
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH													
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				0.0 M		13.4 M													
BORE LOG SHEET																			
Depth (m)	Sample No	Sample Type	Sample		Grain Size Analysis			Atterberg limit		Density		Shear Parameters							
			Observed N-Value	Corrected N-Value	Symbolic representation	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (V/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo	Specific Gravity
30.00	S-45/21	SPT	REFUSAL		SP	0.0	89.0	11.0	NP	NP	NP	18.9							
31.00	S-45/22	SPT	REFUSAL		SP	0.0	89.0	11.0	NP	NP	NP	18.9							
33.00	S-45/23	SPT	REFUSAL		CL	0.0	10.0	90.0	32.1	18.8	13.3						0.20	0.93	
34.50	S-45/24	SPT	REFUSAL		CL							19.3							
36.00	S-45/25	SPT	REFUSAL		CL														
37.50	S-45/26	SPT	REFUSAL		CL	0.0	19.0	81.0				19.6							
39.00	S-45/27	SPT	REFUSAL		CL														
40.00	S-45/28	SPT	REFUSAL		CL	0.0	13.0	87.0				19.8							



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		46		N-3161379.55 E-727896.81		GT-1997																
PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.				STARTING DEPTH		WATER TABLE DEPTH																
CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI				TERMINATION DEPTH		40.0 M		14.0 M														
BORE LOG SHEET																						
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density				Shear Parameters				Specific Gravity		
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (kN/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo				
0.75	S-46/1	SPT	8.0	13.5	CL	0.0	8.0	92.0	-	-	2.2	-	-	-	-	-	-	-	-	-		
1.50	S-46/2	SPT	9.0	13.1	SP	0.0	73.0	27.0	NP	NP	2.8	1.61	1.66	0.6	24.0	-	-	-	-	-	2.42	
3.00	S-46/3	SPT	11.0	13.5	SP	0.0	94.0	6.0	NP	NP	3.2	-	-	-	-	-	-	-	-	-	-	
4.50	S-46/4	SPT	13.0	14.2	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	
6.00	S-46/5	SPT	16.0	15.5	SP	0.0	95.0	5.0	NP	NP	4.8	1.64	1.72	0.6	29.0	-	-	-	-	-	-	2.48
7.50	S-46/6	SPT	17.0	15.3	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
9.00	S-46/7	SPT	21.0	16.5	SP	0.0	94.0	6.0	NP	NP	5.9	1.67	1.77	0.6	-	-	-	-	-	-	-	-
10.50	S-46/8	SPT	24.0	17.2	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-
12.00	S-46/9	SPT	27.0	17.8	SP	0.0	93.0	7.0	NP	NP	7.5	-	-	-	32.0	-	-	-	-	-	-	-
13.50	S-46/10	SPT	31.0	18.7	SP	-	-	-	NP	NP	-	-	-	-	-	-	-	-	-	-	-	-



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**BOREHOLE** 46

**LOCATION** N-3161379.55  
E-727896.81

**JOB NO.** GT-1997

**PAGE NO.**

**PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.**

**CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI**

BORE LOG SHEET																		
Depth (m)	Sample No	Sample Type	Sample		Symbolic representation	Grain Size Analysis			Atterberg limit			Density		Shear Parameters				
			Observed N-Value	Corrected N-Value		Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)	Moisture Content (%)	Cohesion, c (t/m <sup>2</sup> )	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
15.00	S-46/11	SPT	33.0	18.9	SP	0.0	91.0	9.0	NP	NP	NP	1.85	1.63	13.8	-	-	-	-
16.00	S-46/12	SPT	40.0	20.6	CL	0.0	7.0	93.0	-	-	-	-	-	14.9	-	-	-	-
18.00	S-46/13	SPT	42.0	20.7	CL	-	-	-	30.2	19.9	10.3	1.92	1.66	15.8	-	0.18	0.88	2.32
19.50	S-46/14	SPT	50.0	22.5	CL	0.0	3.0	97.0	-	-	-	-	-	-	-	-	-	-
21.00	S-46/15	SPT	68.0	27.1	CL	-	-	-	-	-	-	-	-	16.9	-	-	-	-
22.50	S-46/16	SPT	73.0	27.7	CL	0.0	21.0	79.0	-	-	-	-	-	-	-	0.20	0.92	-
24.00	S-46/17	SPT	81.0	29.0	SP	0.0	82.0	18.0	-	-	-	-	-	18.0	-	-	-	2.41
25.50	S-46/18	SPT	87.0	29.7	SP	-	-	-	NP	NP	NP	2.13	1.79	19.2	-	-	-	-
27.00	S-46/19	SPT	94.0	30.6	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	-
28.50	S-46/20	SPT	96.0	30.7	SP	0.0	89.0	11.0	NP	NP	NP	-	-	19.3	-	-	-	-



			<b>SOIGNE ENGINEERING CONSULTANTS</b> SCF 23, MM, Manimajra, Chandigarh email: soigneconsultants@gmail.com		<b>BOREHOLE</b>		<b>LOCATION</b>		<b>JOB NO.</b>		<b>PAGE NO</b>							
				46		N-3161379.55 E-727896.81		GT-1997										
<b>PROJECT :- GEOTECHNICAL INVESTIGATION REPORT FOR REDEVELOPMENT OF BOTANICAL GARDEN OF INDIAN REPUBLIC NOIDA.</b>																		
<b>CLIENT :- EXECUTIVE ENGINEER (P) NOIDA CENTRAL DIVISION CPWD, NEW DELHI</b>						<b>STARTING DEPTH</b>			<b>WATER TABLE DEPTH</b>									
						0.0 M			14.0 M									
<b>BORE LOG SHEET</b>																		
Depth (m)	Sample			Symbolic representation	Grain Size Analysis				Atterberg limit			Density		Moisture Content (%)	Shear Parameters			
	Sample No	Sample Type	Observed N-Value		Corrected N-Value	Gravel (%)	Sand (%)	Silt Clay (%)	Liquid limit (%)	Plastic Limit (%)	Plasticity Index	Bulk Density (gm/cc)	Dry Density (gm/cc)		Cohesion, c (kN/m2)	Angle of Internal Friction,	Coefficient of consolidation, Cc	Void Ratio, eo
30.00	S-46/21	SPT	99.0	29.7	SP	0.0	93.0	7.0	NP	NP	NP	-	-	-	-	-	-	
31.00	S-46/22	SPT	REFUSAL	REFUSAL	SP	0.0	93.0	7.0	NP	NP	NP	2.18	-	-	-	19.4	2.47	
33.00	S-46/23	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	
34.50	S-46/24	SPT	REFUSAL	REFUSAL	SP	0.0	95.0	5.0	NP	NP	NP	2.22	1.85	-	-	19.9	-	
36.00	S-46/25	SPT	REFUSAL	REFUSAL	SP	-	-	-	NP	NP	NP	-	-	-	-	-	-	
37.50	S-46/26	SPT	REFUSAL	REFUSAL	SP	0.0	94.0	6.0	NP	NP	NP	2.28	1.90	-	-	20.0	2.47	
39.00	S-46/27	SPT	REFUSAL	REFUSAL	CL	0.0	19.0	81.0	-	-	-	-	-	-	-	-	-	
40.00	S-46/28	SPT	REFUSAL	REFUSAL	CL	0.0	15.0	85.0	-	-	-	-	-	-	-	20.4	-	