SUB-SOIL INVESTIGATION REPORT *(Draft)*

for

Proposed 10MW Solar Power Plant in Bashanchar Island

Location: **Bashanchar Island, Hatiya, Noakhali.**

Client: **Bangladesh Power Development Board (BPDB)**

October 2025

Project Information

Document Type	**:**	Sub-soil Investigation Report
Project Name	**:**	Sub-soil Investigation Report for Proposed Construction of 10MW Solar Power Plant at Bhasanchar.
Client	**:**	**Bangladesh Power Development Board.**

Executive Summary

Site Location : Bashanchar, Hatiya, Noakhali.

Investigation Date : 29/09/2025 – 06/10/2025

Key Observations :

a) Borehole locations were considered based on the reconnaissance survey, practical considerations, and the client's requirements.

b) Samples (Disturbed and Undisturbed in an appropriate case) were extracted at every 1.5m interval for all borehole locations.

c) Allowable bearing capacity of soils for the shallow and deep foundations of different sizes was determined analytically.

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1. GENERAL

Bangladesh Power Development Board (BPDB) has conducted the sub-soil investigation for the solar power plant project located in Bashanchar, Hatiya, Noakhali. The in-situ investigation carried out by drilling and field tests and, subsequently, laboratory testing (in a particular case) of soil samples collected at the site to determine the soil index and engineering properties is the primary motive of this investigation. The subsequent sections briefly discuss the field procedure, laboratory analysis (if conducted), facts, and findings of the sub-soil investigation conducted for the mentioned project.

2. SCOPE OF THE INVESTIGATION

In line with the preceding introduction, the following is the specific scope of the sub-soil investigation:

a) Drilling to the desired depth by wash boring technique.
b) To record field N value at 1.5m intervals using the Standard Penetration Test (SPT).
c) Collect disturbed and undisturbed (in appropriate cases) soil samples for visual classification and laboratory testing.
d) Interpretation of basic soil parameters as obtained from in-situ tests, laboratory tests (in a particular case), and engineering judgment for the substantial variation that exists in soil formation that is mostly heterogeneous in nature.
e) Estimation of soil capacity for evaluating different foundation types for the proposed project in accordance with BNBC 2020 and other codes of practice.
f) Provide a generic recommendation about sub-soil conditions.

3. OUTLINE OF THE WORK

The sub-soil investigation road map is shown in Fig.1 below:

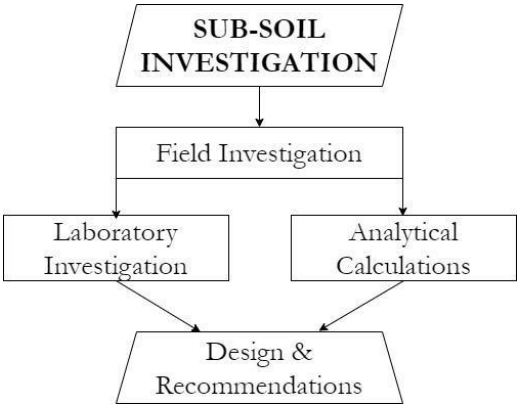


Fig. 1: Outline of Sub-soil Investigation

Firstly, the field execution, which includes drilling, sample collection, and SPT, was done under the direct supervision of an experienced supervisor. Later, samples were collected in a separate plastic bag with appropriate identification marks and preserved at the site prior to transferring to the laboratory for necessary testing. Based on the soil properties, the bearing capacity for a shallow foundation and axial pile capacity were determined.

4. GENERAL SITE DESCRIPTION & BORING DETAILS

The accurate stratification of the concerned area is not available. As part of the sub-soil investigation, the client chose twenty-five drilling locations. Drilling was continued up to the desired depth as specified by the client, and corresponding SPT was conducted together at every 1.5m interval. The disturbed and undisturbed samples (in an appropriate case) were collected by proper extraction methods for visual classification and then recorded and preserved for the necessary laboratory investigation as appropriate. The location of the site is outlined in the following figure:

Fig. 2: Location of boreholes on Google Earth

The boring log at the site can be identified using the following information given here:

No	Date of Boring	Depth (m)	Latitude	Longitude
BH-01	29/09/2025	31.5	22.373309	91.380119
BH-02	29/09/2025	19.5	22.373220	91.380726
BH-03	29/09/2025	19.5	22.373439	91.380872
BH-04	30/09/2025	19.5	22.3737604	91.3805752
BH-05	30/09/2025	33	22.3732934	91.3818569
BH-06	1/10/2025	19.5	22.3737340	91.3818697
BH-07	30/09/2025	19.5	22.3741828	91.3818731
BH-08	1/10/2025	19.5	22.3732262	91.3826375
BH-09	1/10/2025	19.5	22.3738268	91.3826467
BH-10	1/10/2025	19.5	22.3745303	91.3826534
BH-11	03/10/2025	18	22.3730804	91.3836217
BH-12	03/10/2025	19.5	22.3735863	91.3836313
BH-13	02/10/2025	19.5	22.3741056	91.3836343
BH-14	02/10/2025	33	22.3745764	91.3836509
BH-15	03/10/2025	33	22.3729689	91.3842988
BH-16	03/10/2025	19.5	22.3734717	91.3844231
BH-17	04/10/2025	19.5	22.3739869	91.3845496
BH-18	04/10/2025	19.5	22.3744170	91.3846725
BH-19	05/10/2025	19.5	22.3728458	91.3849458
BH-20	05/10/2025	19.5	22.3732720	91.3851875
BH-21	05/10/2025	19.5	22.3737019	91.3854307
BH-22	04/10/2025	33	22.3741697	91.3857008
BH-23	05/10/2025	19.5	22.3729882	91.3856946
BH-24	06/10/2025	19.5	22.3736791	91.3859773
BH-25	06/10/2025	33	22.3730831	91.3863187

5. METHODOLOGY

5.1 Field Investigation

Generally, holes are created at fixed locations up to the desired depth by a suitable method, aiming to minimize the disturbance to the soil for a better approximation of parameters. There is a set of options available for drilling. Among several drilling methods, wash boring of 100mm diameter using a standard hammer weight operated manually was used for this project. Water was pumped to the bottom of the borehole, and the soil slurry was returned to the surface. A drill bit was rotated and dropped to produce a

chopping action to advance to the desired depth. A schematic of the wash boring technique is shown in Fig. 3.

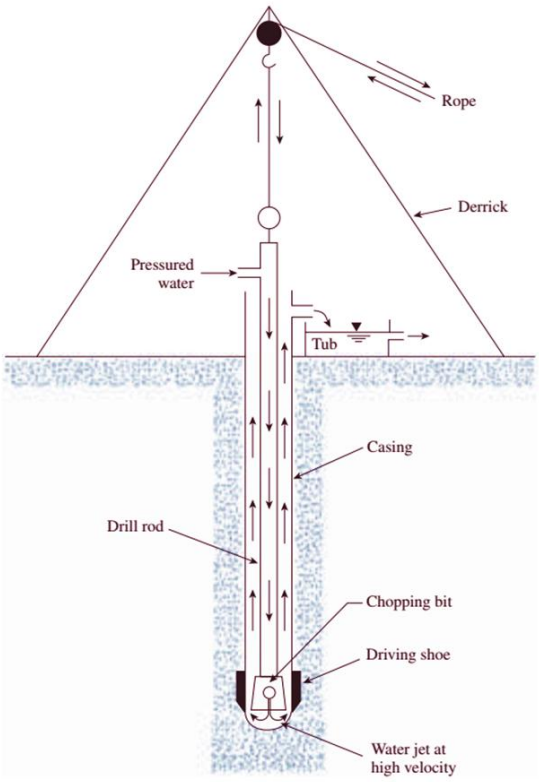


Fig. 3: Outline of Wash Boring (Ref: Geotechnical Engineering by B M Das)

Standard Penetration Test

Simultaneously with the drilling, a *Standard Penetration Test (SPT)* was conducted to record the Field N value at designated intervals up to the end of the drilling. The SPT was performed by driving a standard split spoon sampler into the ground by blows from a drop hammer of mass 63.5kg falling from 760mm as per ASTM D1586. The sampler was driven 152mm into the soil at the bottom of a borehole, and the number of blows (N) required to drive it an additional 304mm was counted. The number of blows required for the last two penetration of 152mm each is regarded as the *Standard Penetration Number* or, simply, the N value. The following figure shows the outline of SPT.

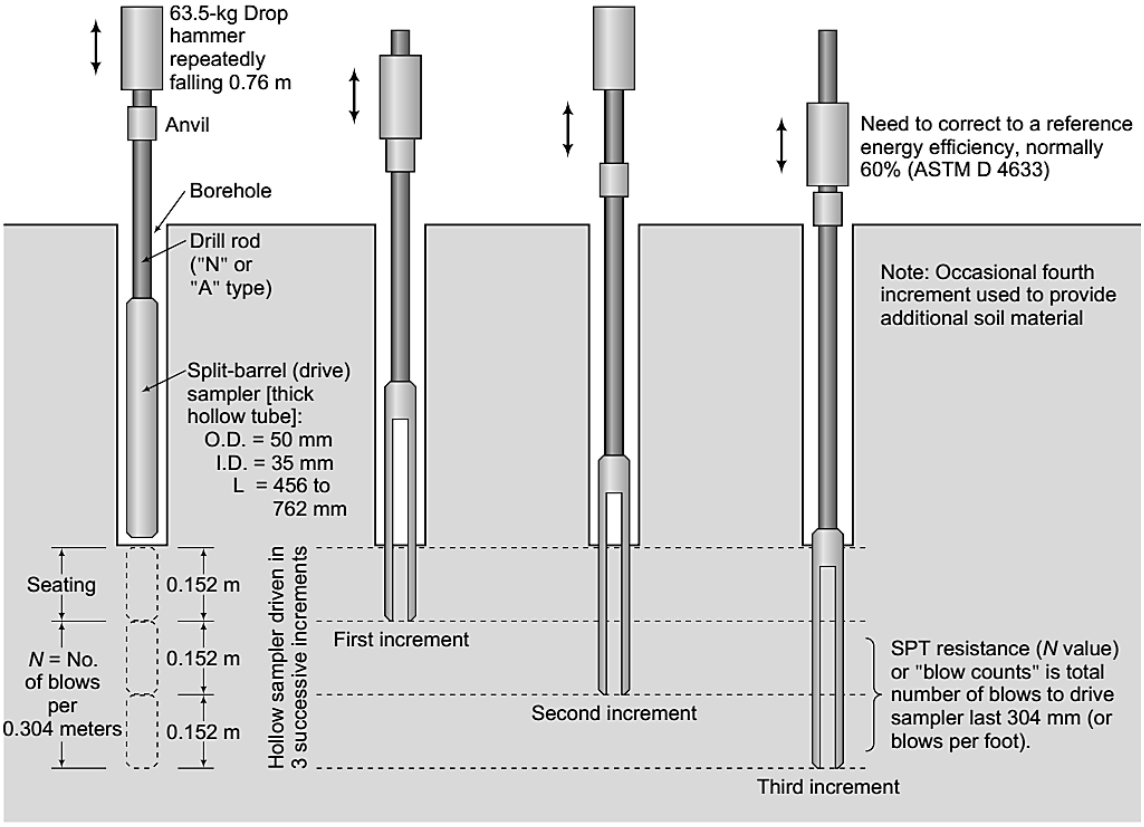


Fig. 4: Outline of Standard Penetration Test (Ref: Soil Mechanics by Muni Budhu)

After the SPT, samples were taken from the split spoon sampler and preserved in a controlled manner to keep their original moisture content and texture. A field bore log depicting the site condition with visual classification and signed by the concerned officials present at the site.

5.2 Analytical Calculation

The recommendation of foundation/support types mostly depends on the superimposed load, ground condition, instability criteria, and practical considerations. Bearing capacities for shallow and deep foundations are to be estimated in this report. The input parameters for calculating the bearing capacity of shallow and deep foundations require engineering properties of soils, which can be determined either by laboratory tests or by empirical equations. In the absence of adequate experimental data sets, the correlation between SPT, N, and related parameters is used, and some useful correlations are found in the BNBC 2020. Furthermore, the seismic hazard analysis requires the site class, which depends on average shear wave velocity and N values over the first 30m strata. The exact estimation of shear wave velocity requires the MASW test, which may not be available all the time and is out of the scope of the present investigation. Hence, simplified correlations are used to estimate shear wave velocities to determine the site class of the project. The detailed calculation procedure is given in Annex A.

6. RESULTS AND DISCUSSIONS

6.1 Soil capacity for shallow and deep foundation

Both static bearing capacity equations and correlations were considered to estimate the allowable capacity for shallow and deep foundations. Detailed calculations for shallow and deep foundations are given for each borehole.

6.2 Site classification

The shear wave velocities were calculated using empirical formulas and given in the bore log. Assuming the same N values in the case of drilling less than 30m, the worst scenario has been analyzed for the site classification. The site class is not provided in case the drilling was terminated before 30m.

6.3 Seismicity of the site

According to the BNBC (2020), the following are the seismic zone and zone coefficient of this project:

Seismic Zone	Seismic Intensity	Seismic Zone Coefficient, Z
Zone-2	**Moderate**	**0.20**

7. GENERAL OBSERVATIONS & RECOMMENDATIONS

The specific observation based on the sub-soil investigation report is summarized below:

a) Soft, clayey soils were found at shallow depths at almost all drilling locations; afterward, low-plastic silts with trace to some clay contents lie over the entire drilling depths at all locations.

b) Drilling was continued up to 33.0m at five borehole locations (BH-05, BH-14, BH-15, BH-22, BH-25), where dense stratum (SPT, N>40) was found after 30.0m.

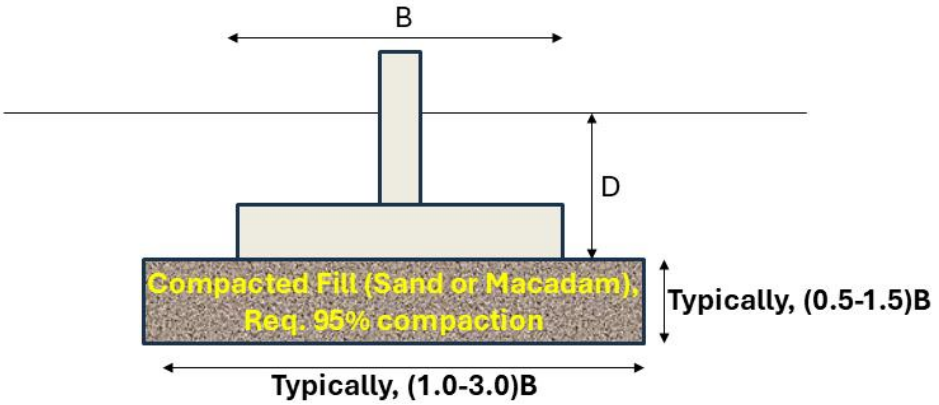
c) Mostly, the soil contains low plastic silts; in addition, alteration of soil stiffness and composition substantiated the alluvial soil formation at the concerned location.

d) Visually, the soil is inorganic. However, only some samples can be tested to check the organic content of the soils.

e) The recommendation about foundation type mainly depends on the maximum anticipated load, which is beyond the scope of this report. However, generally, a shallow foundation over improved ground may be considered for proposed structures up to five stories. In case of ground improvement, a necessary number of plate-bearing tests shall be conducted to confirm the estimated design pressure. Alternatively, a deep foundation (bored pile) may be considered based on estimated axial pile capacity. In the case of pile foundation, a static pile load test as per ASTM D1143-07 shall be conducted to confirm the design pile capacity.

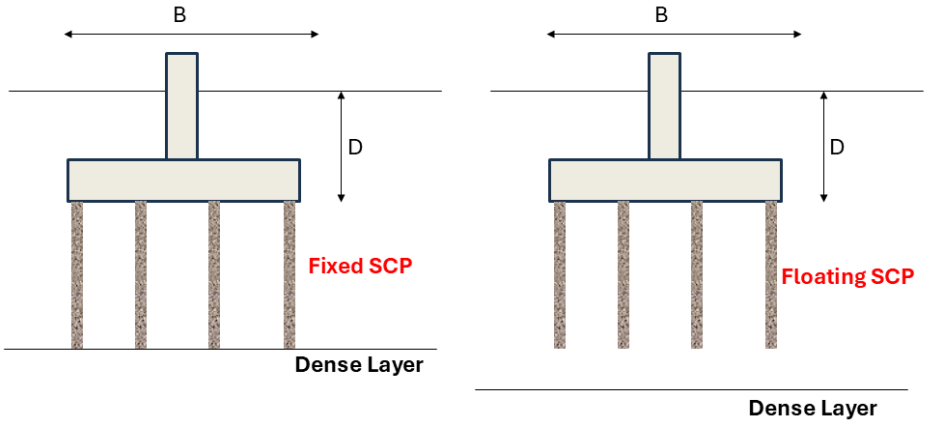
f) Typical Guideline for Ground Improvement

Regarding the ground improvement option, the commonly used **replacement** of existing soft soils by compacted sand (95% compaction) or by a macadam layer (sand mixed with brick chips) may be chosen. In such replacement, several failure criteria shall be checked analytically (Ref: Nongrouting Techniques, Section 6A by Lawton), or **at least multiple plate-bearing tests shall be conducted to confirm the estimated design pressure**. The following figure shows a typical outline of ground improvement by replacement:



The typical thickness of the replaced layer is shown in the above figure; however, the precise thickness estimation requires analysis of bearing capacity, considering multiple failure criteria such as failure of the distributed zone, punching failure of the entire replaced zone, general punching failure, etc. As a common perspective, the improvement may increase the bearing capacity at least twice the estimated pressure without replacement.

Another plausible approach may be using the **Sand Compaction Pile (SCP)/Sand Pile**. The compacted sand is injected by drilling holes with/without casing that allows sufficient drainage for clayey ground and compact loose sand, eventually contributing to the increment of bearing capacity. Both fixed or floating SCP can be used; however, for deep deposition of soft ground, the floating SCP alone may not provide sufficient resistance; hence, a strip or mat foundation is recommended over the SCP-improved ground.



For SCP, it is desirable to use well-graded sand for better drainage and strength development. The exact diameter of SCP and spacing depends on the maximum anticipated pressure, which is beyond the scope of this report. However, the conventional pattern used in many projects is outlined below as an initial assumption of the section:

Typical Shape	Diameter (mm)	Pattern	Spacing	Recommended Test
Circular	**300 ~500**	**Triangular**	**1.0-1.2**	**Plate Bearing Test/SPT after at least 28 days of improvement**

Material requirements for SCP are outlined below:

Suitability Number	**0-10**	**10-20**	**20-30**	**30-40**	**>50**
Rating	Excellent	Good	Fair	Poor	Unsuitable

$$S_N = 1.7\sqrt{\frac{3}{(D_{50})^2}+\frac{1}{(D_{20})^2}+\frac{1}{(D_{10})^2}}$$

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CORRECTIONS TO SPT, N

It is desirable to standardize the field SPT as a function of the input driving energy and its dissipation around the sampler. The variations in testing procedures may be at least partially compensated by converting the field N to N_{60} as follows:

$$N_{60} = \frac{E_H C_B C_S C_R N}{0.60} \quad (1)$$

Where, E_H is the Hammer efficiency, C_B is Borehole diameter correction, C_S is Sampler correction, C_R is Rod length correction, N is the field SPT.

The tables provided in the BNBC-2020 is used to get the correction factors:

Table-1: Correction factor for Hammer efficiency (Ref: BNBC 2020)

Hammer Type	Hammer Release Mechanism	Efficiency, E_H
Automatic	Trip	0.70
Donut	Hand dropped	0.60
Donut	Cathead + 2 turns	0.50
Safety	Cathead + 2turns	0.55-0.60
Drop/ Pin	Hand dropped	0.45

Table-2: Correction factors for SPT, N (Ref: BNBC 2020)

Factor	Equipment Variables	Correction Factor
Borehole Diameter Factor, C_B	65 mm – 115 mm	1.00
	150 mm	1.05
	200 mm	1.15
Sampling Method Factor, C_S	Standard sampler	1.00
	Sampler without liner	1.20
Rod Length Factor, C_R	3 m – 4 m	0.75
	4 m – 6 m	0.85
	6 m – 10 m	0.95
	> 10 m	1.00

For cohesionless soils, overburden correction factor has been applied as per following equations:

$$C_N = 0.77 \log\left(\frac{2000}{\sigma'}\right) \quad (2)$$

The above correction factor is multiplied to the N_{60} to consider the overburden stress. In addition, dilatancy correction has been used for sandy soils.

BEARING CAPACITY FOR SHALLOW FOUNDATION

Generally, there are several methods available for the estimation of bearing capacity for shallow foundation. No specific guideline is given for different soil and foundation types. To date, the earliest and mostly used method is Terzaghi's bearing capacity equation. This method has proven to be useful in many practical cases, therefore, used in the current report for estimation of bearing capacity. In addition, in-situ SPT, N value driven bearing capacity is calculated. Finally, these two-bearing capacity are averaged (weighted) to recommend safe bearing capacity for shallow foundation. The following equation depict the Terzaghi's bearing capacity for shallow foundation:

$$q_u = cN_c + q'N_q + \frac{1}{2}\gamma B N_\gamma \quad (3)$$

Where, symbols carry their usual meaning.

The bearing capacity factors are function of soil friction angle, the following chart is used to get the factors:

Table-3: Terzaghi's bearing capacity factors (Ref: Principles of Foundation Engineering by B M Das)

ϕ'	N_c	N_q	N_γ^a	ϕ'	N_c	N_q	N_γ^a
0	5.70	1.00	0.00	26	27.09	14.21	9.84
1	6.00	1.10	0.01	27	29.24	15.90	11.60
2	6.30	1.22	0.04	28	31.61	17.81	13.70
3	6.62	1.35	0.06	29	34.24	19.98	16.18
4	6.97	1.49	0.10	30	37.16	22.46	19.13
5	7.34	1.64	0.14	31	40.41	25.28	22.65
6	7.73	1.81	0.20	32	44.04	28.52	26.87
7	8.15	2.00	0.27	33	48.09	32.23	31.94
8	8.60	2.21	0.35	34	52.64	36.50	38.04
9	9.09	2.44	0.44	35	57.75	41.44	45.41
10	9.61	2.69	0.56	36	63.53	47.16	54.36
11	10.16	2.98	0.69	37	70.01	53.80	65.27
12	10.76	3.29	0.85	38	77.50	61.55	78.61
13	11.41	3.63	1.04	39	85.97	70.61	95.03
14	12.11	4.02	1.26	40	95.66	81.27	115.31
15	12.86	4.45	1.52	41	106.81	93.85	140.51
16	13.68	4.92	1.82	42	119.67	108.75	171.99
17	14.60	5.45	2.18	43	134.58	126.50	211.56
18	15.12	6.04	2.59	44	151.95	147.74	261.60
19	16.56	6.70	3.07	45	172.28	173.28	325.34
20	17.69	7.44	3.64	46	196.22	204.19	407.11
21	18.92	8.26	4.31	47	224.55	241.80	512.84
22	20.27	9.19	5.09	48	258.28	287.85	650.67
23	21.75	10.23	6.00	49	298.71	344.63	831.99
24	23.36	11.40	7.08	50	347.50	415.14	1072.80
25	25.13	12.72	8.34				

However, the Terzaghi's method do not consider the shape, depth and inclination factor. Therefore, an updated general bearing capacity equation has been proposed by Meyerhof, which is now commonly used in many practical applications. The general bearing capacity equation given by Meyerhof is written below:

$$q_u = cN_c s_c d_c i_c + q'N_q s_q d_q i_q + \frac{1}{2}\gamma B N_\gamma s_\gamma d_\gamma i_\gamma \quad (4)$$

Where, the bearing capacity factors are estimated by the following equations:

$$N_q = tan^2\left(45 + \frac{\phi'}{2}\right) e^{\pi \tan \phi'} \quad (5)$$

$$N_c = \left(N_q - 1\right) \cot \phi' \quad (6)$$

$$N_\gamma = \left(N_q - 1\right) \tan 1.4\phi' \quad (7)$$

Shape and depth factors are estimated by the following equations:

$$s_c = \begin{cases} 1 + 0.2\frac{B}{L} & ; \quad if \phi = 0 \\ 1 + 0.2\frac{B}{L} tan^2\left(45 + \frac{\phi'}{2}\right) & ; \quad if\ \phi \geq 10 \end{cases} \quad (8)$$

$$s_q = s_\gamma = \begin{cases} 1 & ; \quad if \phi = 0 \\ 1 + 0.1\frac{B}{L} tan^2\left(45 + \frac{\phi'}{2}\right) & ; \quad if\ \phi \geq 10 \end{cases} \quad (9)$$

$$d_c = \begin{cases} 1 + 0.2\frac{D}{B} & ; \quad if \phi = 0 \\ 1 + 0.2\frac{D}{B} \tan\left(45 + \frac{\phi'}{2}\right) & ; \quad if\ \phi \geq 10 \end{cases} \quad (10)$$

$$d_q = d_\gamma = \begin{cases} 1 & ; \quad if \phi = 0 \\ 1 + 0.1\frac{D}{B} \tan\left(45 + \frac{\phi'}{2}\right) & ; \quad if\ \phi \geq 10 \end{cases} \quad (11)$$

To estimate bearing capacity using SPT, N; the equation proposed by Bowels (1977) used in this report. The equation is given below:

$$q_{net} = \begin{cases} \frac{N_{60}}{2.5} F_d \frac{S_e}{25} & if\ B \leq 1.22m \\ \frac{N_{60}}{0.08} F_d \left(\frac{B + 0.3}{B}\right)^2 \frac{S_e}{25} & if\ B > 1.22m \end{cases} \quad (12)$$

Where, $S_e$is the design settlement for the foundation

$$F_d = 1 + 0.33\frac{D}{B} \quad (13)$$

AXIAL CAPACITY FOR PILE FOUNDATION

Axial capacity for pile foundation can be estimated by using any of the following three methods:

1. Axial capacity by standard bearing capacity equation
2. Axial capacity by load test
3. Axial capacity by in-situ correlations (using SPT, N)

The ultimate pile capacity is the summation of end bearing and skin friction, which is depicted in the following equation:

$$Q_u = Q_b + Q_s = f_b A_b + \sum_{i=1}^{n} f_{s_i} A_{s_i} \quad (14)$$

The following equations are used for estimation of end bearing and skin friction.

Table-4: Equations for estimation of pile capacity

Method	Sand	Clay
Static Bearing Capacity (Meyerhof)	$f_b = q' N_q^* \leq 0.5 P_a N_q^* \tan\varphi$ $f_s = K\sigma_0' \tan\delta$ [up to L'] $L' = 15D$ $K = 1.4(1-\sin\varphi)$	$f_b = 9c_u$ $f_s = \alpha c_u$ $\alpha = \begin{cases} 1.0 & c_u \leq 25kPa \\ 0.5 & c_u \geq 70kPa \\ 1 - \frac{c_u - 25}{70} & 25 < c_u < 70 \end{cases}$
BNBC 2020 (SPT Based)	$f_b = 40N_{60}\frac{L}{D} \leq 400N_{60} \leq 11000$ $f_s = 2N_{60} \leq 60$	$f_b = 45N_{60} \leq 4000$ $f_s = 1.8N_{60} \leq 70$

ESTIMATION OF SHEAR WAVE VELOCITIES AND SITE CLASSIFICATION

Site is classified as SA, SB, SC, SD, SE, S1 and S2 based o the provisions of the Bangladesh National Building Code (2020). For the classifications, average shear wave velocities and average SPT, N values of upper 30.0m of the site profiles has been used. The following equations are used to estimate the average shear wave velocity and average SPT, N.

$$\overline{V_s} = \frac{\sum_{i=1}^{n} d_i}{\sum_{i=1}^{n} \frac{d_i}{V_{si}}} \quad (15)$$

$$\overline{N} = \frac{\sum_{i=1}^{n} d_i}{\sum_{i=1}^{n} \frac{d_i}{N_i}} \quad (16)$$

Where, d_i is the thickness of each layer, V_{si} is the shear wave velocity of each layer, N_i is the uncorrected SPT, N of each layer. SPT, N values has been used to estimate shear wave velocities of entire strata. The following generalized equations are used to estimate shear wave velocity:

$$V_s = \begin{cases} 97.3062N^{0.3393} & for\ all\ soils \\ 82.01N^{0.3829} & for\ sand \\ 100.58N^{0.3410} & for\ clay \end{cases} \quad (17)$$

The following table is used to define site class of the proposed project:

Site Class	Description of soil profile up to 30 meters depth	Average Soil Properties in top 30 meters		
		Shear wave velocity, $\overline{V}_s$ (m/s)	SPT Value, $\overline{N}$ (blows/30cm)	Undrained shear strength, $\overline{S}_u$ (kPa)
SA	Rock or other rock-like geological formation, including at most 5 m of weaker material at the surface.	> 800	--	--
SB	Deposits of very dense sand, gravel, or very stiff clay, at least several tens of metres in thickness, characterised by a gradual increase of mechanical properties with depth.	360 – 800	> 50	> 250
SC	Deep deposits of dense or medium dense sand, gravel or stiff clay with thickness from several tens to many hundreds of metres.	180 – 360	15 - 50	70 - 250
SD	Deposits of loose-to-medium cohesionless soil (with or without some soft cohesive layers), or of predominantly soft-to-firm cohesive soil.	< 180	< 15	< 70
SE	A soil profile consisting of a surface alluvium layer with V_s values of type SC or SD and thickness varying between about 5 m and 20 m, underlain by stiffer material with V_s > 800 m/s.	--	--	--
S_1	Deposits consisting, or containing a layer at least 10 m thick, of soft clays/silts with a high plasticity index (PI > 40) and high water content	< 100 (indicative)	--	10 - 20
S_2	Deposits of liquefiable soils, of sensitive clays, or any other soil profile not included in types SA to SE or S_1	--	--	--

ESTIMATION OF LIQUEFACTION SEVERITY

Generally, soil liquefaction occurs when saturated soils loses its strength due to the excess pore water during an intense shake. Liquefaction is responsible for damages of many structures during past earthquakes. Normally, liquefaction severity is estimated by determining the factor of safety against liquefaction. The soil is considered to be safe against liquefaction if factor of safety value is greater than one. The factor of safety is estimated as the ratio of cyclic resistance by cyclic stress. The cyclic resistance is estimated using the in-situ SPT, N values, while the probable maximum earthquake magnitude and seismic acceleration are used to estimate cyclic stress. Among several available methods, the updated version of the Seed's estimation procedure has been used in this report. The following flow chart provides necessary equations used to estimate the liquefaction severity.

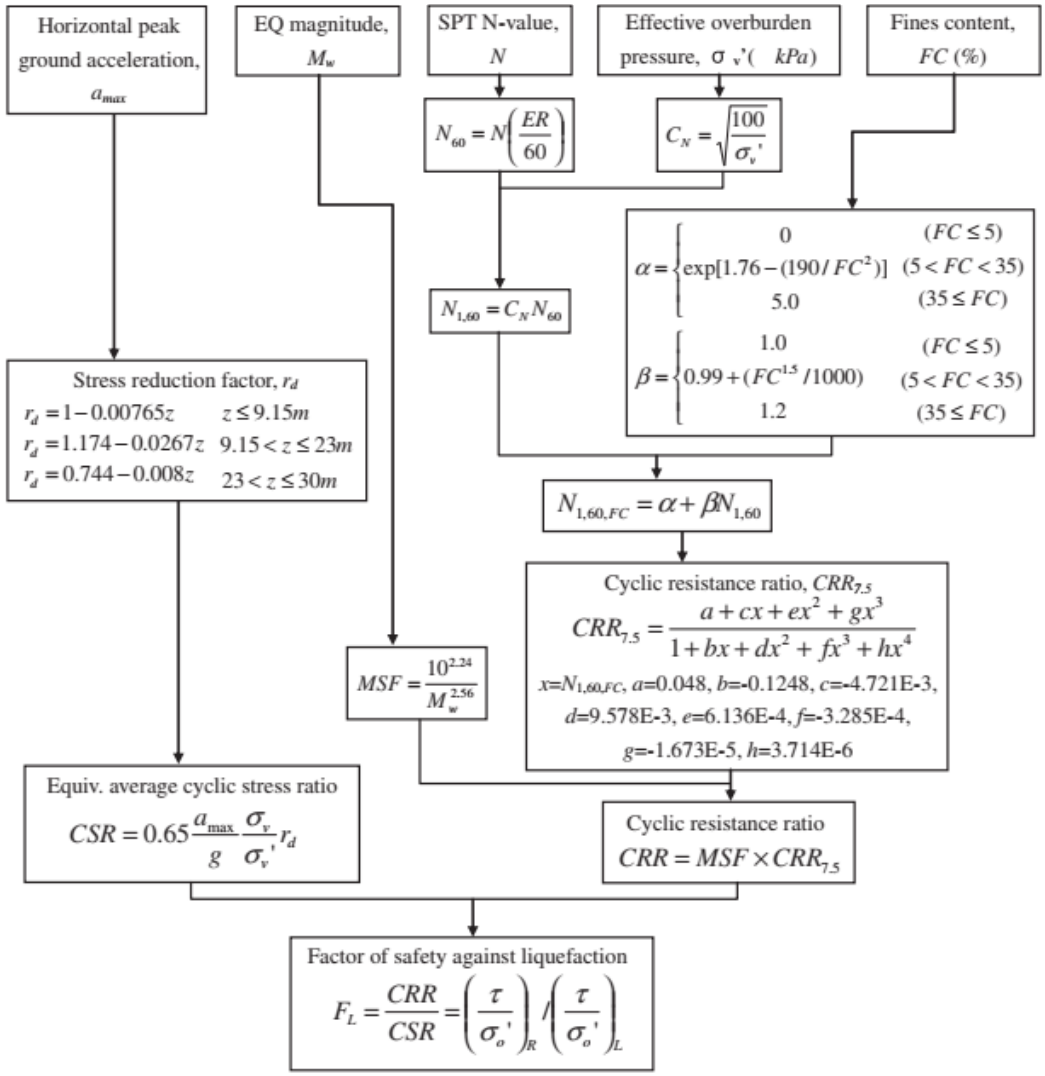


Fig.1: Flow-chart for estimation of liquefaction severity

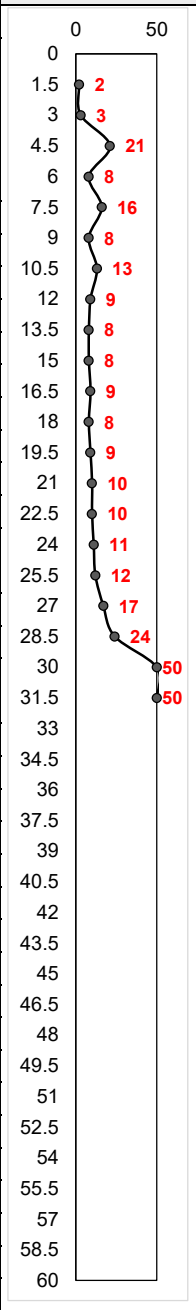
Annex-B: **Borelog**

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-01
Date of Boring: 2025-09-29
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.50
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**2**		2
-3.0	3.0	D	Clay			----	----	----	**3**		3
-4.5	4.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**21**		18
-6.0	6.0	D	Clay	Clay with Some Silt	Medium Stiff	----	----	----	**8**		7
-7.5	7.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**16**		14
-9.0	9.0	D	Silt	Silt	Loose	----	----	----	**8**		7
-10.5	10.5	D	Silt		Medium Dense	----	----	----	**13**		11
-12.0	12.0	D	Silt		Loose	----	----	----	**9**		8
-13.5	13.5	D	Silt			----	----	----	**8**		7
-15.0	15.0	D	Silt			----	----	----	**8**		7
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**9**		8
-21.0	21.0	D	Silt			----	----	----	**10**		9
-22.5	22.5	D	Silt			----	----	----	**10**		9
-24.0	24.0	D	Silt			----	----	----	**11**		9
-25.5	25.5	D	Silt		Medium Dense	----	----	----	**12**		10
-27.0	27.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**17**		14
-28.5	28.5	D	Sand			----	----	----	**24**		20
-30.0	30.0	D	Sand		Dense	----	----	----	**50**		43
-31.5	31.5	D	Sand			----	----	----	**50**		43
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

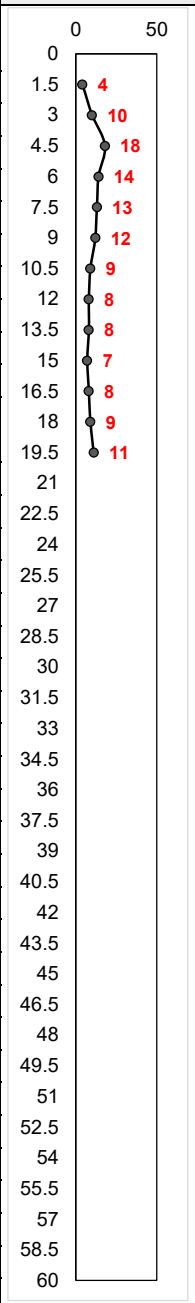
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-02
Date of Boring: 2025-09-29
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.50
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Silt		Loose	----	----	----	**10**		9
-4.5	4.5	D	Silt			----	----	----	**18**		15
-6.0	6.0	D	Silt		Medium Dense	----	----	----	**14**		12
-7.5	7.5	D	Silt			----	----	----	**13**		11
-9.0	9.0	D	Silt			----	----	----	**12**		10
-10.5	10.5	D	Silt	Silt		----	----	----	**9**		8
-12.0	12.0	D	Silt			----	----	----	**8**		7
-13.5	13.5	D	Silt			----	----	----	**8**		7
-15.0	15.0	D	Silt		Loose	----	----	----	**7**		6
-16.5	16.5	D	Silt			----	----	----	**8**		7
-18.0	18.0	D	Silt			----	----	----	**9**		8
-19.5	19.5	D	Silt			----	----	----	**11**		9
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

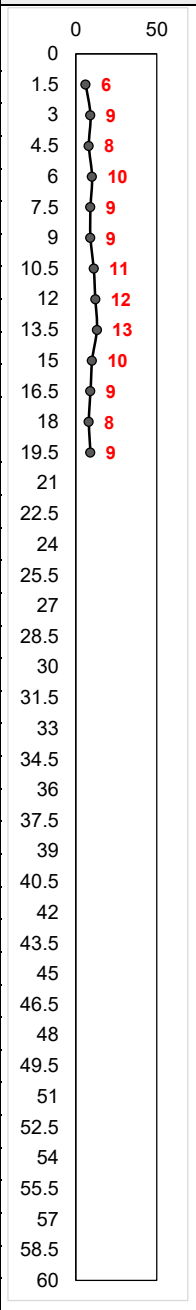
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-03
Date of Boring: 2025-09-29
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.70
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Medium Stiff	----	----	----	**6**		5
-3.0	3.0	D	Silt	Silt	Loose	----	----	----	**9**		8
-4.5	4.5	D	Silt			----	----	----	**8**		7
-6.0	6.0	D	Silt			----	----	----	**10**		9
-7.5	7.5	D	Silt			----	----	----	**9**		8
-9.0	9.0	D	Silt			----	----	----	**9**		8
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**10**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**9**		8
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

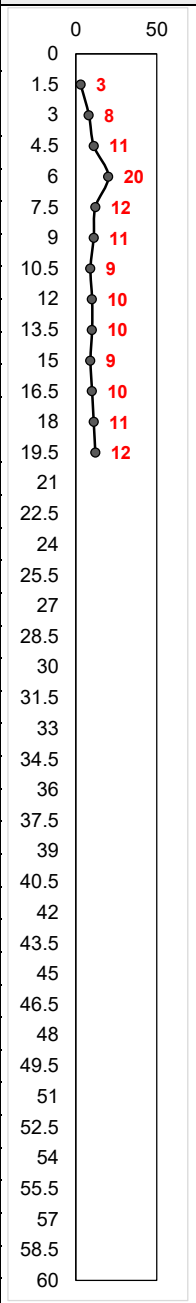
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-04
Date of Boring: 2025-09-30
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.80
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**3**		3
-3.0	3.0	D	Clay	Clay with Some Silt and Sand	Medium Stiff	----	----	----	**8**		7
-4.5	4.5	D	Clay			----	----	----	**11**		9
-6.0	6.0	D	Silt	Silt	Medium Dense	----	----	----	**20**		17
-7.5	7.5	D	Silt			----	----	----	**12**		10
-9.0	9.0	D	Silt		Loose	----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**9**		8
-12.0	12.0	D	Silt			----	----	----	**10**		9
-13.5	13.5	D	Silt			----	----	----	**10**		9
-15.0	15.0	D	Silt			----	----	----	**9**		8
-16.5	16.5	D	Silt			----	----	----	**10**		9
-18.0	18.0	D	Silt			----	----	----	**11**		9
-19.5	19.5	D	Silt		Medium Dense	----	----	----	**12**		10
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

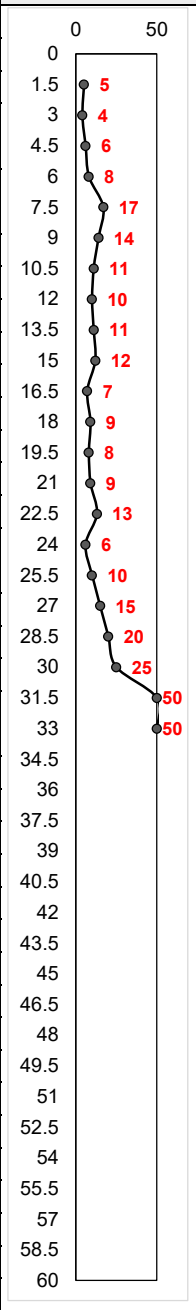
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-05
Date of Boring: 2026-09-30
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.90
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**5**		4
-3.0	3.0	D	Clay			----	----	----	**4**		3
-4.5	4.5	D	Clay		Medium Stiff	----	----	----	**6**		5
-6.0	6.0	D	Clay			----	----	----	**8**		7
-7.5	7.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**17**		14
-9.0	9.0	D	Sand			----	----	----	**14**		12
-10.5	10.5	D	Silt	Silt	Loose	----	----	----	**11**		9
-12.0	12.0	D	Silt			----	----	----	**10**		9
-13.5	13.5	D	Silt			----	----	----	**11**		9
-15.0	15.0	D	Silt		Medium Dense	----	----	----	**12**		10
-16.5	16.5	D	Silt		Loose	----	----	----	**7**		6
-18.0	18.0	D	Silt			----	----	----	**9**		8
-19.5	19.5	D	Silt			----	----	----	**8**		7
-21.0	21.0	D	Silt			----	----	----	**9**		8
-22.5	22.5	D	Silt		Medium Dense	----	----	----	**13**		11
-24.0	24.0	D	Silt		Loose	----	----	----	**6**		5
-25.5	25.5	D	Silt			----	----	----	**10**		9
-27.0	27.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**15**		13
-28.5	28.5	D	Sand			----	----	----	**20**		17
-30.0	30.0	D	Sand			----	----	----	**25**		21
-31.5	31.5	D	Sand		Dense	----	----	----	**50**		43
-33.0	33.0	D	Sand			----	----	----	**50**		43
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

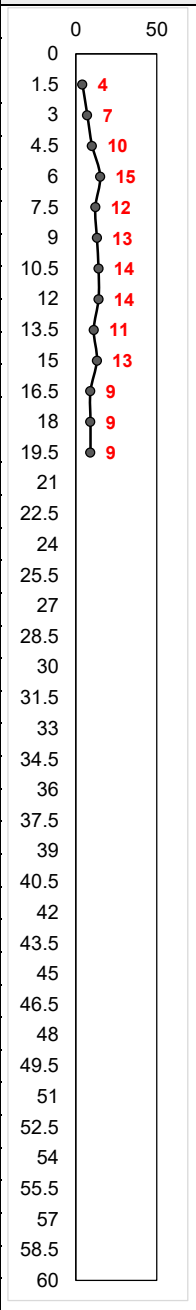
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-06
Date of Boring: 2025-10-01
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.90
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**7**		6
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**10**		9
-6.0	6.0	D	Silt		Medium Dense	----	----	----	**15**		13
-7.5	7.5	D	Silt			----	----	----	**12**		10
-9.0	9.0	D	Silt			----	----	----	**13**		11
-10.5	10.5	D	Silt			----	----	----	**14**		12
-12.0	12.0	D	Silt			----	----	----	**14**		12
-13.5	13.5	D	Silt		Loose	----	----	----	**11**		9
-15.0	15.0	D	Silt		Medium Dense	----	----	----	**13**		11
-16.5	16.5	D	Silt		Loose	----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**9**		8
-19.5	19.5	D	Silt			----	----	----	**9**		8
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

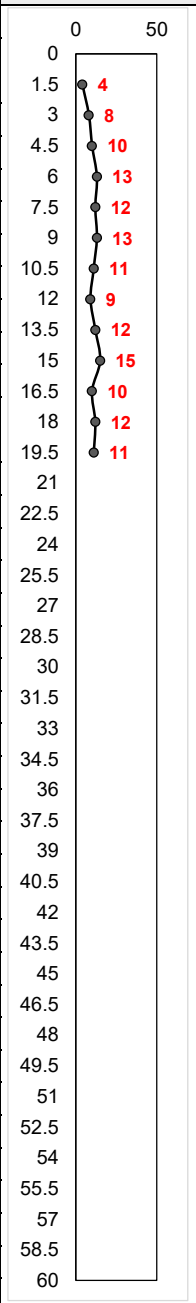
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-07
Date of Boring: 2025-09-30
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.10
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**8**		7
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**10**		9
-6.0	6.0	D	Silt		Medium Dense	----	----	----	**13**		11
-7.5	7.5	D	Silt			----	----	----	**12**		10
-9.0	9.0	D	Silt			----	----	----	**13**		11
-10.5	10.5	D	Silt		Loose	----	----	----	**11**		9
-12.0	12.0	D	Silt			----	----	----	**9**		8
-13.5	13.5	D	Silt		Medium Dense	----	----	----	**12**		10
-15.0	15.0	D	Silt			----	----	----	**15**		13
-16.5	16.5	D	Silt		Loose	----	----	----	**10**		9
-18.0	18.0	D	Silt		Medium Dense	----	----	----	**12**		10
-19.5	19.5	D	Silt		Loose	----	----	----	**11**		9
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



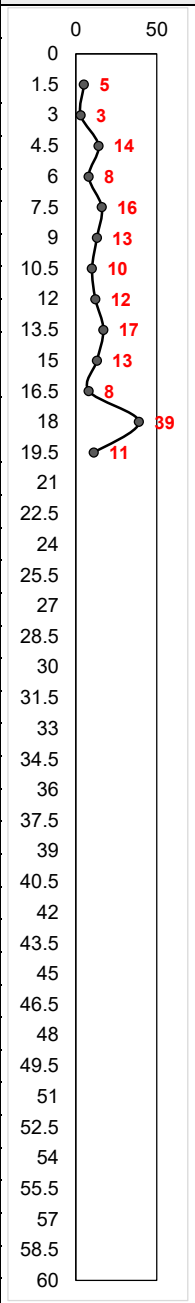
Sand Silt Clay Shale
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-08
Date of Boring: 2025-10-01
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.20
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**5**		4
-3.0	3.0	D	Clay			----	----	----	**3**		3
-4.5	4.5	D	Silt	Silt	Medium Dense	----	----	----	**14**		12
-6.0	6.0	D	Silt		Loose	----	----	----	**8**		7
-7.5	7.5	D	Silt		Medium Dense	----	----	----	**16**		14
-9.0	9.0	D	Silt			----	----	----	**13**		11
-10.5	10.5	D	Silt		Loose	----	----	----	**10**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**17**		14
-15.0	15.0	D	Silt			----	----	----	**13**		11
-16.5	16.5	D	Silt		Loose	----	----	----	**8**		7
-18.0	18.0	D	Sand	Sand with Silt	Dense	----	----	----	**39**		33
-19.5	19.5	D	Sand		Loose	----	----	----	**11**		9
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

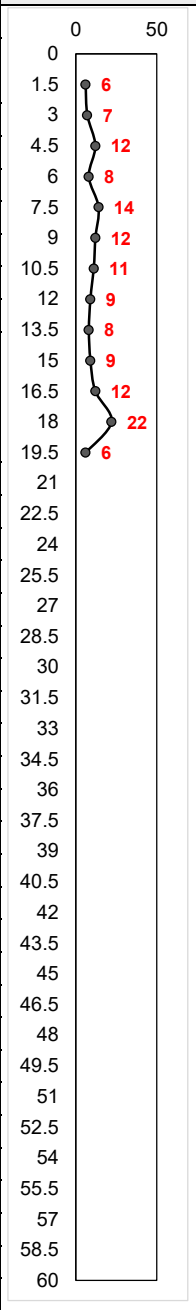
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-09
Date of Boring: 2025-10-01
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.90
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Medium Stiff	----	----	----	**6**		5
-3.0	3.0	D	Clay			----	----	----	**7**		6
-4.5	4.5	D	Silt	Silt	Medium Dense	----	----	----	**12**		10
-6.0	6.0	D	Silt		Loose	----	----	----	**8**		7
-7.5	7.5	D	Silt		Medium Dense	----	----	----	**14**		12
-9.0	9.0	D	Silt			----	----	----	**12**		10
-10.5	10.5	D	Silt		Loose	----	----	----	**11**		9
-12.0	12.0	D	Silt			----	----	----	**9**		8
-13.5	13.5	D	Silt			----	----	----	**8**		7
-15.0	15.0	D	Silt			----	----	----	**9**		8
-16.5	16.5	D	Silt		Medium Dense	----	----	----	**12**		10
-18.0	18.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**22**		19
-19.5	19.5	D	Silt	Silt	Loose	----	----	----	**6**		5
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

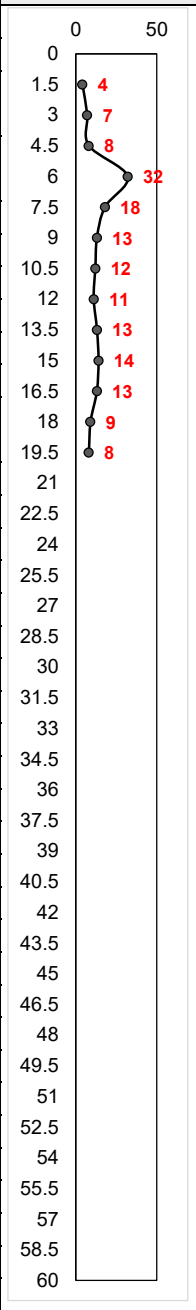
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-10
Date of Boring: 2025-10-01
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.20
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**7**		6
-4.5	4.5	D	Clay			----	----	----	**8**		7
-6.0	6.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**32**		27
-7.5	7.5	D	Sand			----	----	----	**18**		15
-9.0	9.0	D	Silt	Silt	Medium Dense	----	----	----	**13**		11
-10.5	10.5	D	Silt			----	----	----	**12**		10
-12.0	12.0	D	Silt		Loose	----	----	----	**11**		9
-13.5	13.5	D	Silt		Medium Dense	----	----	----	**13**		11
-15.0	15.0	D	Silt			----	----	----	**14**		12
-16.5	16.5	D	Silt			----	----	----	**13**		11
-18.0	18.0	D	Silt		Loose	----	----	----	**9**		8
-19.5	19.5	D	Silt			----	----	----	**8**		7
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

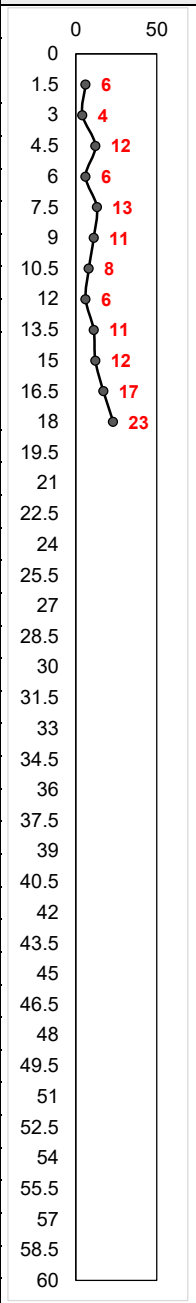
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-11
Date of Boring: 2025-10-03
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.10
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Medium Stiff	----	----	----	**6**		5
-3.0	3.0	D	Clay		Soft	----	----	----	**4**		3
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**12**		10
-6.0	6.0	D	Silt			----	----	----	**6**		5
-7.5	7.5	D	Silt		Medium Dense	----	----	----	**13**		11
-9.0	9.0	D	Silt		Loose	----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**8**		7
-12.0	12.0	D	Silt			----	----	----	**6**		5
-13.5	13.5	D	Silt			----	----	----	**11**		9
-15.0	15.0	D	Silt		Medium Dense	----	----	----	**12**		10
-16.5	16.5	D	Silt			----	----	----	**17**		14
-18.0	18.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**23**		20
-19.5	19.5					----	----	----			----
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

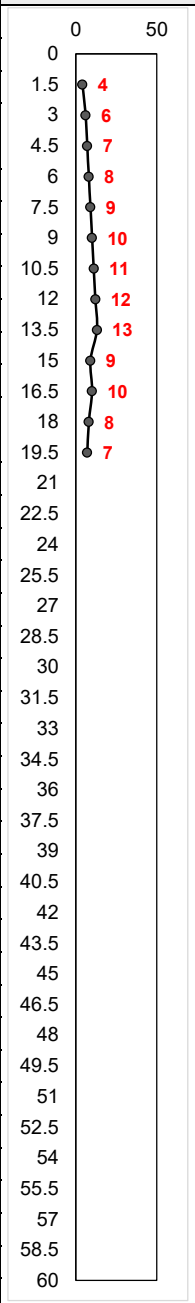
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-12
Date of Boring: 2025-10-03
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.70
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**6**		5
-4.5	4.5	D	Clay			----	----	----	**7**		6
-6.0	6.0	D	Clay			----	----	----	**8**		7
-7.5	7.5	D	Silt	Silt	Loose	----	----	----	**9**		8
-9.0	9.0	D	Silt			----	----	----	**10**		9
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**9**		8
-16.5	16.5	D	Silt			----	----	----	**10**		9
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**7**		6
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

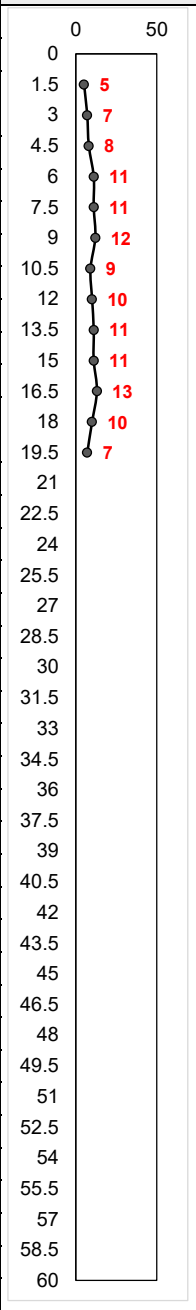
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-13
Date of Boring: 2025-10-02
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.20
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**5**		4
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**7**		6
-4.5	4.5	D	Clay			----	----	----	**8**		7
-6.0	6.0	D	Silt	Silt	Loose	----	----	----	**11**		9
-7.5	7.5	D	Silt			----	----	----	**11**		9
-9.0	9.0	D	Silt		Medium Dense	----	----	----	**12**		10
-10.5	10.5	D	Silt		Loose	----	----	----	**9**		8
-12.0	12.0	D	Silt			----	----	----	**10**		9
-13.5	13.5	D	Silt			----	----	----	**11**		9
-15.0	15.0	D	Silt			----	----	----	**11**		9
-16.5	16.5	D	Silt		Medium Dense	----	----	----	**13**		11
-18.0	18.0	D	Silt		Loose	----	----	----	**10**		9
-19.5	19.5	D	Silt			----	----	----	**7**		6
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

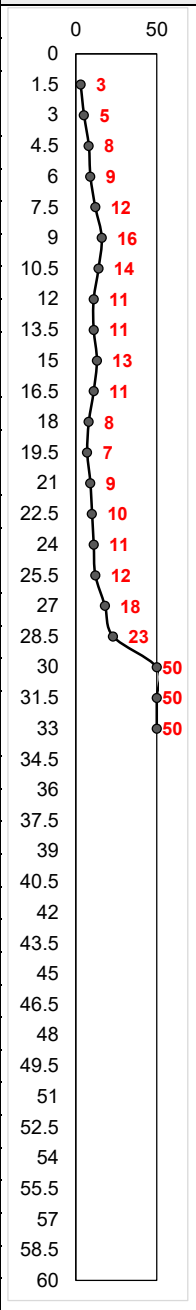
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-14
Date of Boring: 2025-10-02
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 1.10
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**3**		3
-3.0	3.0	D	Clay			----	----	----	**5**		4
-4.5	4.5	D	Clay		Medium Stiff	----	----	----	**8**		7
-6.0	6.0	D	Silt	Silt	Loose	----	----	----	**9**		8
-7.5	7.5	D	Silt		Medium Dense	----	----	----	**12**		10
-9.0	9.0	D	Silt			----	----	----	**16**		14
-10.5	10.5	D	Silt			----	----	----	**14**		12
-12.0	12.0	D	Silt		Loose	----	----	----	**11**		9
-13.5	13.5	D	Silt			----	----	----	**11**		9
-15.0	15.0	D	Silt		Medium Dense	----	----	----	**13**		11
-16.5	16.5	D	Silt		Loose	----	----	----	**11**		9
-18.0	18.0	D	Clay	Clay with Some Silt and Sand	Medium Stiff	----	----	----	**8**		7
-19.5	19.5	D	Clay			----	----	----	**7**		6
-21.0	21.0	D	Clay			----	----	----	**9**		8
-22.5	22.5	D	Silt	Silt	Loose	----	----	----	**10**		9
-24.0	24.0	D	Silt			----	----	----	**11**		9
-25.5	25.5	D	Silt		Medium Dense	----	----	----	**12**		10
-27.0	27.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**18**		15
-28.5	28.5	D	Sand			----	----	----	**23**		20
-30.0	30.0	D	Sand		Dense	----	----	----	**50**		43
-31.5	31.5	D	Sand			----	----	----	**50**		43
-33.0	33.0	D	Sand			----	----	----	**50**		43
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

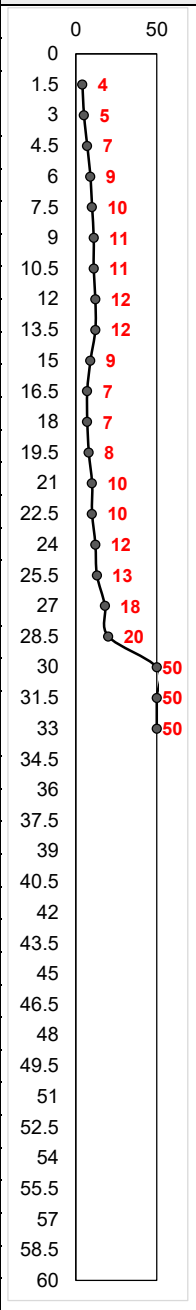
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-15
Date of Boring: 2025-10-03
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.50
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay			----	----	----	**5**		4
-4.5	4.5	D	Clay		Medium Stiff	----	----	----	**7**		6
-6.0	6.0	D	Silt	Silt	Loose	----	----	----	**9**		8
-7.5	7.5	D	Silt			----	----	----	**10**		9
-9.0	9.0	D	Silt			----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**12**		10
-15.0	15.0	D	Silt		Loose	----	----	----	**9**		8
-16.5	16.5	D	Silt			----	----	----	**7**		6
-18.0	18.0	D	Silt			----	----	----	**7**		6
-19.5	19.5	D	Silt			----	----	----	**8**		7
-21.0	21.0	D	Silt			----	----	----	**10**		9
-22.5	22.5	D	Silt			----	----	----	**10**		9
-24.0	24.0	D	Silt		Medium Dense	----	----	----	**12**		10
-25.5	25.5	D	Silt			----	----	----	**13**		11
-27.0	27.0	D	Silt			----	----	----	**18**		15
-28.5	28.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**20**		17
-30.0	30.0	D	Sand		Dense	----	----	----	**50**		43
-31.5	31.5	D	Sand			----	----	----	**50**		43
-33.0	33.0	D	Sand			----	----	----	**50**		43
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

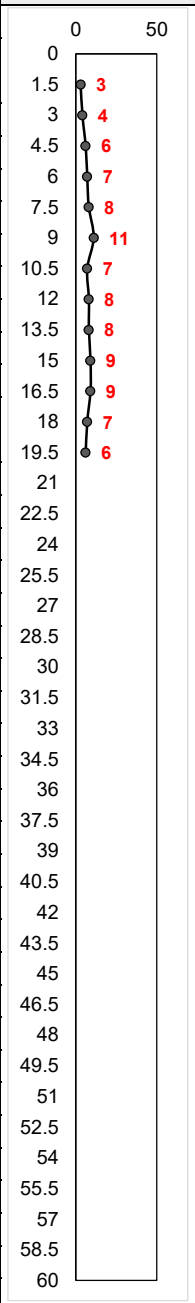
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-16
Date of Boring: 2025-10-03
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.70
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**3**		3
-3.0	3.0	D	Clay			----	----	----	**4**		3
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**6**		5
-6.0	6.0	D	Silt			----	----	----	**7**		6
-7.5	7.5	D	Silt			----	----	----	**8**		7
-9.0	9.0	D	Silt			----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**7**		6
-12.0	12.0	D	Silt			----	----	----	**8**		7
-13.5	13.5	D	Silt			----	----	----	**8**		7
-15.0	15.0	D	Silt			----	----	----	**9**		8
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**7**		6
-19.5	19.5	D	Silt			----	----	----	**6**		5
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

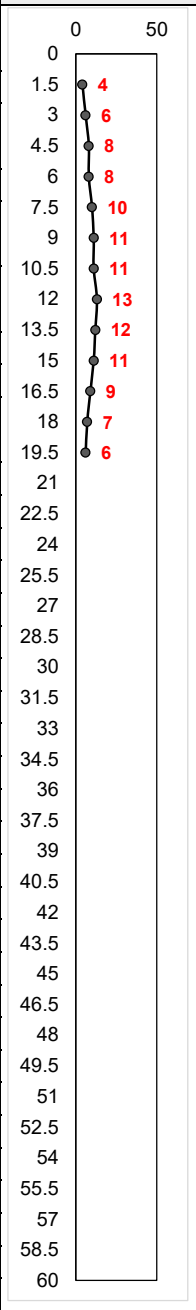
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-17
Date of Boring: 2025-10-04
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.60
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay	Clay with Some Silt and Sand	Medium Stiff	----	----	----	**6**		5
-4.5	4.5	D	Clay			----	----	----	**8**		7
-6.0	6.0	D	Clay			----	----	----	**8**		7
-7.5	7.5	D	Silt	Silt	Loose	----	----	----	**10**		9
-9.0	9.0	D	Silt			----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Sand	Sand with Silt	Medium Dense	----	----	----	**13**		11
-13.5	13.5	D	Sand			----	----	----	**12**		10
-15.0	15.0	D	Silt	Silt	Loose	----	----	----	**11**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**7**		6
-19.5	19.5	D	Silt			----	----	----	**6**		5
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

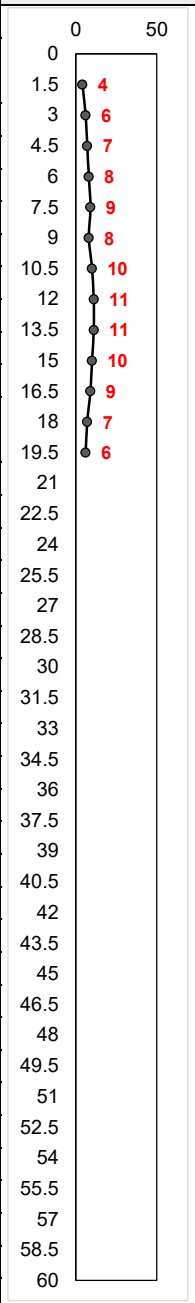
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-18
Date of Boring: 2025-10-04
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.80
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**6**		5
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**7**		6
-6.0	6.0	D	Silt			----	----	----	**8**		7
-7.5	7.5	D	Silt			----	----	----	**9**		8
-9.0	9.0	D	Silt			----	----	----	**8**		7
-10.5	10.5	D	Silt			----	----	----	**10**		9
-12.0	12.0	D	Silt			----	----	----	**11**		9
-13.5	13.5	D	Silt			----	----	----	**11**		9
-15.0	15.0	D	Silt			----	----	----	**10**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**7**		6
-19.5	19.5	D	Silt			----	----	----	**6**		5
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

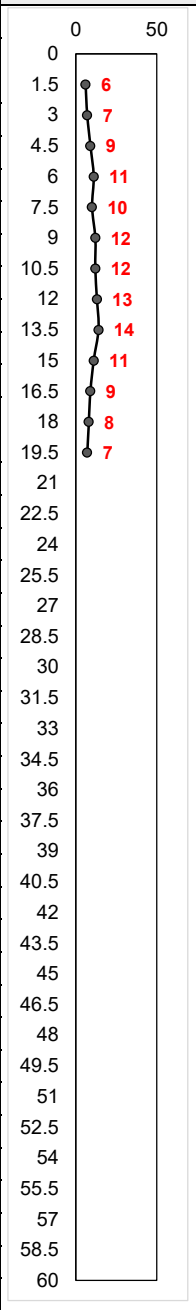
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-19
Date of Boring: 2025-10-05
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.90
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt and Sand	Medium Stiff	----	----	----	**6**		5
-3.0	3.0	D	Clay			----	----	----	**7**		6
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**9**		8
-6.0	6.0	D	Silt			----	----	----	**11**		9
-7.5	7.5	D	Silt			----	----	----	**10**		9
-9.0	9.0	D	Silt		Medium Dense	----	----	----	**12**		10
-10.5	10.5	D	Silt			----	----	----	**12**		10
-12.0	12.0	D	Silt			----	----	----	**13**		11
-13.5	13.5	D	Silt			----	----	----	**14**		12
-15.0	15.0	D	Silt		Loose	----	----	----	**11**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**7**		6
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

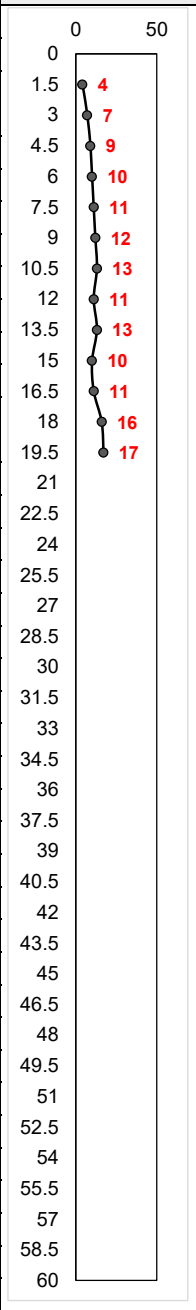
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-20
Date of Boring: 2025-10-05
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.60
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**7**		6
-4.5	4.5	D	Clay			----	----	----	**9**		8
-6.0	6.0	D	Silt	Silt	Loose	----	----	----	**10**		9
-7.5	7.5	D	Silt			----	----	----	**11**		9
-9.0	9.0	D	Silt		Medium Dense	----	----	----	**12**		10
-10.5	10.5	D	Silt			----	----	----	**13**		11
-12.0	12.0	D	Silt		Loose	----	----	----	**11**		9
-13.5	13.5	D	Silt		Medium Dense	----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**10**		9
-16.5	16.5	D	Silt			----	----	----	**11**		9
-18.0	18.0	D	Silt		Medium Dense	----	----	----	**16**		14
-19.5	19.5	D	Silt			----	----	----	**17**		14
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

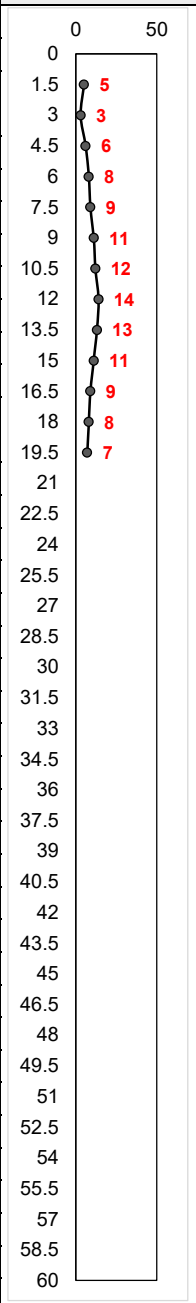
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-21
Date of Boring: 2025-10-05
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.50
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**5**		4
-3.0	3.0	D	Clay			----	----	----	**3**		3
-4.5	4.5	D	Clay		Medium Stiff	----	----	----	**6**		5
-6.0	6.0	D	Silt	Silt	Loose	----	----	----	**8**		7
-7.5	7.5	D	Silt			----	----	----	**9**		8
-9.0	9.0	D	Silt			----	----	----	**11**		9
-10.5	10.5	D	Silt		Medium Dense	----	----	----	**12**		10
-12.0	12.0	D	Silt			----	----	----	**14**		12
-13.5	13.5	D	Silt			----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**11**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**7**		6
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



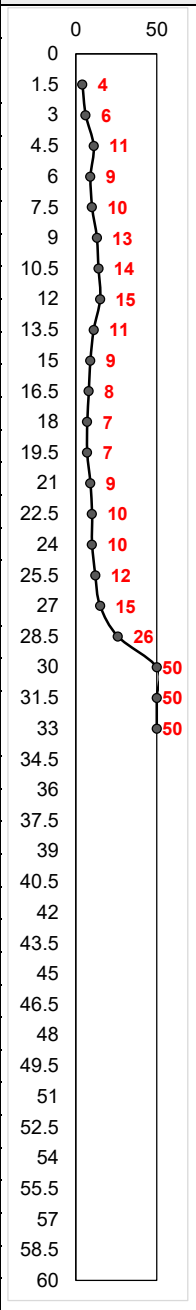
Sand Silt Clay Shale
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-22
Date of Boring: 2025-10-04
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.50
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**6**		5
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**11**		9
-6.0	6.0	D	Silt			----	----	----	**9**		8
-7.5	7.5	D	Silt			----	----	----	**10**		9
-9.0	9.0	D	Silt		Medium Dense	----	----	----	**13**		11
-10.5	10.5	D	Silt			----	----	----	**14**		12
-12.0	12.0	D	Silt			----	----	----	**15**		13
-13.5	13.5	D	Silt		Loose	----	----	----	**11**		9
-15.0	15.0	D	Silt			----	----	----	**9**		8
-16.5	16.5	D	Silt			----	----	----	**8**		7
-18.0	18.0	D	Silt			----	----	----	**7**		6
-19.5	19.5	D	Silt			----	----	----	**7**		6
-21.0	21.0	D	Silt			----	----	----	**9**		8
-22.5	22.5	D	Silt			----	----	----	**10**		9
-24.0	24.0	D	Silt			----	----	----	**10**		9
-25.5	25.5	D	Silt		Medium Dense	----	----	----	**12**		10
-27.0	27.0	D	Silt			----	----	----	**15**		13
-28.5	28.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**26**		22
-30.0	30.0	D	Sand		Dense	----	----	----	**50**		43
-31.5	31.5	D	Sand			----	----	----	**50**		43
-33.0	33.0	D	Sand			----	----	----	**50**		43
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



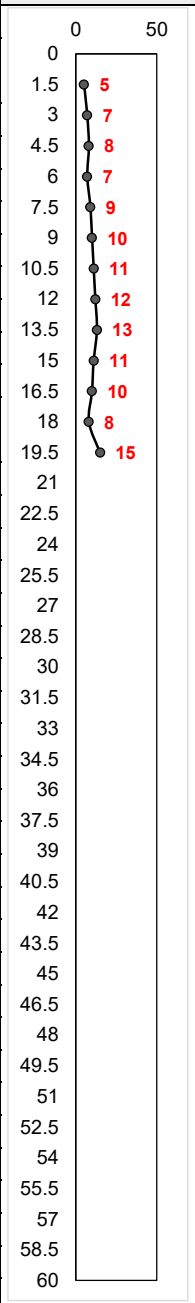
Sand Silt Clay Shale
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-23
Date of Boring: 2025-10-05
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.70
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**5**		4
-3.0	3.0	D	Clay		Medium Stiff	----	----	----	**7**		6
-4.5	4.5	D	Silt	Silt	Loose	----	----	----	**8**		7
-6.0	6.0	D	Silt			----	----	----	**7**		6
-7.5	7.5	D	Silt			----	----	----	**9**		8
-9.0	9.0	D	Silt			----	----	----	**10**		9
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**11**		9
-16.5	16.5	D	Silt			----	----	----	**10**		9
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt		Medium Dense	----	----	----	**15**		13
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

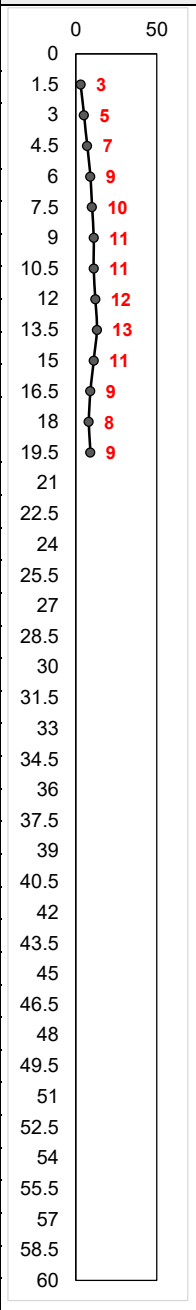
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-24
Date of Boring: 2025-10-05
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.80
Site Class: N/A Note *Drilling depth was less than 30m.*
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**3**		3
-3.0	3.0	D	Clay	Clay with Some Silt and Sand	Medium Stiff	----	----	----	**5**		4
-4.5	4.5	D	Clay			----	----	----	**7**		6
-6.0	6.0	D	Clay			----	----	----	**9**		8
-7.5	7.5	D	Silt	Silt	Loose	----	----	----	**10**		9
-9.0	9.0	D	Silt			----	----	----	**11**		9
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt		Medium Dense	----	----	----	**12**		10
-13.5	13.5	D	Silt			----	----	----	**13**		11
-15.0	15.0	D	Silt		Loose	----	----	----	**11**		9
-16.5	16.5	D	Silt			----	----	----	**9**		8
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**9**		8
-21.0	21.0					----	----	----			----
-22.5	22.5					----	----	----			----
-24.0	24.0					----	----	----			----
-25.5	25.5					----	----	----			----
-27.0	27.0					----	----	----			----
-28.5	28.5					----	----	----			----
-30.0	30.0					----	----	----			----
-31.5	31.5					----	----	----			----
-33.0	33.0					----	----	----			----
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

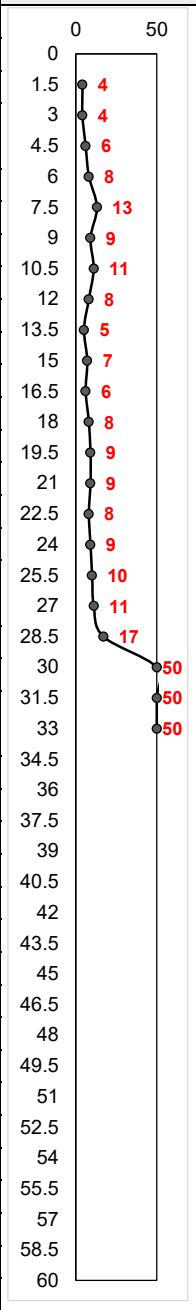
D = Disturbed Sample U = Undisturbed Sample

Bore Log

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Borehole No: BH-25
Date of Boring: 2025-10-06
Drilling Details: Drilling Method: Wash; Drilling Type: Manual; Borehole Dia (mm): 100
Correction Factors: Hammer efficiency=0.60; Borehole Dia=1.00; Standard Sampler=1.0; Rod Length=0.85
Reference: *Bangladesh National Building Code (BNBC - 2020)*

RL at EGL (m): 0 Note *RL was approximated at ground level*
Depth of Water Table (m): 0.90
Site Class: SC Note
Seismic Zone: **Zone-2, Moderate, Z=0.20**

Elevation (m)	Depth (m)	Sample Type	Soil Type	Visual Description of the Strata	Consistency / Compactness	Standard Penetration Test (SPT) 15 cm	15 cm	15cm	SPT, N	Variation of SPT, N	N_{60}
-1.5	1.5	D	Clay	Clay with Some Silt	Soft	----	----	----	**4**		3
-3.0	3.0	D	Clay			----	----	----	**4**		3
-4.5	4.5	D	Clay		Medium Stiff	----	----	----	**6**		5
-6.0	6.0	D	Clay			----	----	----	**8**		7
-7.5	7.5	D	Silt	Silt	Medium Dense	----	----	----	**13**		11
-9.0	9.0	D	Silt		Loose	----	----	----	**9**		8
-10.5	10.5	D	Silt			----	----	----	**11**		9
-12.0	12.0	D	Silt			----	----	----	**8**		7
-13.5	13.5	D	Silt			----	----	----	**5**		4
-15.0	15.0	D	Silt			----	----	----	**7**		6
-16.5	16.5	D	Silt			----	----	----	**6**		5
-18.0	18.0	D	Silt			----	----	----	**8**		7
-19.5	19.5	D	Silt			----	----	----	**9**		8
-21.0	21.0	D	Silt			----	----	----	**9**		8
-22.5	22.5	D	Silt			----	----	----	**8**		7
-24.0	24.0	D	Silt			----	----	----	**9**		8
-25.5	25.5	D	Silt			----	----	----	**10**		9
-27.0	27.0	D	Silt			----	----	----	**11**		9
-28.5	28.5	D	Sand	Sand with Silt	Medium Dense	----	----	----	**17**		14
-30.0	30.0	D	Sand		Dense	----	----	----	**50**		43
-31.5	31.5	D	Sand			----	----	----	**50**		43
-33.0	33.0	D	Sand			----	----	----	**50**		43
-34.5	34.5					----	----	----			----
-36.0	36.0					----	----	----			----
-37.5	37.5					----	----	----			----
-39.0	39.0					----	----	----			----
-40.5	40.5					----	----	----			----
-42.0	42.0					----	----	----			----
-43.5	43.5					----	----	----			----
-45.0	45.0					----	----	----			----
-46.5	46.5					----	----	----			----
-48.0	48.0					----	----	----			----
-49.5	49.5					----	----	----			----
-51.0	51.0					----	----	----			----
-52.5	52.5					----	----	----			----
-54.0	54.0					----	----	----			----
-55.5	55.5					----	----	----			----
-57.0	57.0					----	----	----			----
-58.5	58.5					----	----	----			----
-60.0	60.0					----	----	----			----



Sand Silt Clay Shale

D = Disturbed Sample U = Undisturbed Sample

Annex-C:

Summary of Pile Capacity

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:	Type of Pile	**Bored**	Size	**Dia:600mm**

Depth (m)	Axial Capacity (kN)									
	BH-01	**BH-02**	**BH-03**	**BH-04**	**BH-05**	**BH-06**	**BH-07**	**BH-08**	**BH-09**	**BH-10**
1.5	17	25	41	25	34	25	25	34	41	25
3	32	84	88	62	45	57	62	45	69	57
4.5	157	146	113	98	71	140	147	154	150	88
6	79	170	157	240	104	196	184	155	166	359
7.5	233	186	171	231	264	208	214	230	233	306
9	208	217	199	262	297	243	249	242	246	281
10.5	254	219	240	264	284	290	270	262	268	304
12	255	239	266	310	309	319	273	290	272	329
13.5	277	264	295	337	336	318	324	349	294	361
15	302	288	319	342	366	352	384	350	322	419
16.5	332	317	325	395	366	354	384	350	377	423
18	359	348	353	426	399	384	418	737	528	427
19.5	391	405	384	461	428	415	450	464	412	458
21	449	----	----	----	462	----	----	----	----	----
22.5	484	----	----	----	527	----	----	----	----	----
24	522	----	----	----	528	----	----	----	----	----
25.5	562	----	----	----	600	----	----	----	----	----
27	654	----	----	----	692	----	----	----	----	----
28.5	788	----	----	----	784	----	----	----	----	----
30	1063	----	----	----	886	----	----	----	----	----
31.5	1136	----	----	----	1170	----	----	----	----	----
33	----	----	----	----	1236	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:600mm**

Depth (m)	Axial Capacity (kN)									
	BH-11	**BH-12**	**BH-13**	**BH-14**	**BH-15**	**BH-16**	**BH-17**	**BH-18**	**BH-19**	**BH-20**
1.5	41	25	34	25	25	25	25	25	41	25
3	52	51	64	45	45	39	51	51	69	57
4.5	144	79	94	80	75	110	84	120	138	91
6	155	109	199	173	160	138	112	149	180	187
7.5	209	212	230	220	203	167	230	178	211	217
9	238	260	264	281	235	217	262	205	245	252
10.5	239	283	265	304	257	216	284	248	268	276
12	258	310	311	304	283	240	323	273	296	297
13.5	311	338	338	330	310	265	347	299	346	328
15	341	340	366	364	314	293	364	328	348	353
16.5	404	391	400	391	337	320	370	333	354	382
18	531	396	429	244	366	346	396	359	381	448
19.5	----	425	431	261	397	373	423	387	410	484
21	----	----	----	291	457	----	----	----	----	----
22.5	----	----	----	516	492	----	----	----	----	----
24	----	----	----	555	531	----	----	----	----	----
25.5	----	----	----	596	572	----	----	----	----	----
27	----	----	----	729	684	----	----	----	----	----
28.5	----	----	----	833	752	----	----	----	----	----
30	----	----	----	1121	1069	----	----	----	----	----
31.5	----	----	----	1194	1141	----	----	----	----	----
33	----	----	----	1251	1207	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:600mm**

Depth (m)	Axial Capacity (kN)									
	BH-21	BH-22	BH-23	BH-24	BH-25	BH-26	BH-27	BH-28	BH-29	BH-30
1.5	34	25	34	25	25	----	----	----	----	----
3	45	51	64	45	39	----	----	----	----	----
4.5	71	128	126	75	65	----	----	----	----	----
6	154	148	152	110	97	----	----	----	----	----
7.5	182	190	182	228	227	----	----	----	----	----
9	229	226	229	259	236	----	----	----	----	----
10.5	253	272	251	283	279	----	----	----	----	----
12	302	300	277	310	280	----	----	----	----	----
13.5	306	299	306	339	281	----	----	----	----	----
15	330	305	330	363	328	----	----	----	----	----
16.5	337	330	358	369	353	----	----	----	----	----
18	364	357	364	397	387	----	----	----	----	----
19.5	392	388	454	430	419	----	----	----	----	----
21	----	423	----	----	452	----	----	----	----	----
22.5	----	484	----	----	484	----	----	----	----	----
24	----	521	----	----	522	----	----	----	----	----
25.5	----	562	----	----	588	----	----	----	----	----
27	----	639	----	----	629	----	----	----	----	----
28.5	----	836	----	----	726	----	----	----	----	----
30	----	1066	----	----	1096	----	----	----	----	----
31.5	----	1139	----	----	1169	----	----	----	----	----
33	----	1203	----	----	1234	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:	Type of Pile	**Bored**	Size	**Dia:750mm**

Depth (m)	Axial Capacity (kN)									
	BH-01	**BH-02**	**BH-03**	**BH-04**	**BH-05**	**BH-06**	**BH-07**	**BH-08**	**BH-09**	**BH-10**
1.5	22	32	52	32	43	32	32	43	52	32
3	40	105	109	78	55	72	78	55	86	72
4.5	194	185	140	122	87	174	183	193	186	108
6	98	213	196	299	127	244	228	192	204	451
7.5	287	232	212	286	324	259	266	287	291	380
9	257	271	248	326	367	303	311	302	306	348
10.5	330	284	315	338	367	382	352	342	348	392
12	339	322	361	413	412	435	363	391	360	437
13.5	365	350	393	444	443	424	430	468	386	474
15	394	378	421	441	477	461	509	459	418	551
16.5	428	412	420	511	470	456	499	452	489	546
18	460	448	452	547	508	491	538	1034	696	541
19.5	496	521	489	588	542	528	576	590	523	578
21	572	----	----	----	582	----	----	----	----	----
22.5	613	----	----	----	665	----	----	----	----	----
24	657	----	----	----	659	----	----	----	----	----
25.5	705	----	----	----	750	----	----	----	----	----
27	818	----	----	----	864	----	----	----	----	----
28.5	996	----	----	----	981	----	----	----	----	----
30	1399	----	----	----	1112	----	----	----	----	----
31.5	1482	----	----	----	1529	----	----	----	----	----
33	----	----	----	----	1606	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:750mm**

Depth (m)	Axial Capacity (kN)									
	BH-11	**BH-12**	**BH-13**	**BH-14**	**BH-15**	**BH-16**	**BH-17**	**BH-18**	**BH-19**	**BH-20**
1.5	52	32	43	32	32	32	32	32	52	32
3	63	64	79	56	56	48	64	64	86	72
4.5	178	97	116	99	92	138	103	149	169	113
6	193	134	246	213	197	173	137	185	223	231
7.5	259	261	285	273	251	209	284	221	262	269
9	298	323	328	351	292	272	324	255	305	312
10.5	309	365	340	398	334	281	366	324	348	357
12	345	413	414	408	380	323	426	370	396	399
13.5	414	444	446	439	411	351	453	400	464	434
15	448	438	478	476	407	383	475	432	456	462
16.5	530	506	517	508	434	415	473	430	455	496
18	699	504	550	296	468	445	504	461	487	581
19.5	----	537	546	317	504	478	536	494	521	622
21	----	----	----	353	581	----	----	----	----	----
22.5	----	----	----	653	623	----	----	----	----	----
24	----	----	----	699	668	----	----	----	----	----
25.5	----	----	----	748	716	----	----	----	----	----
27	----	----	----	920	865	----	----	----	----	----
28.5	----	----	----	1053	942	----	----	----	----	----
30	----	----	----	1478	1405	----	----	----	----	----
31.5	----	----	----	1562	1489	----	----	----	----	----
33	----	----	----	1632	1566	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:750mm**

Depth (m)	Axial Capacity (kN)									
	BH-21	**BH-22**	**BH-23**	**BH-24**	**BH-25**	**BH-26**	**BH-27**	**BH-28**	**BH-29**	**BH-30**
1.5	43	32	43	32	32	----	----	----	----	----
3	55	64	79	56	48	----	----	----	----	----
4.5	87	160	155	92	80	----	----	----	----	----
6	190	182	188	135	119	----	----	----	----	----
7.5	224	237	224	281	280	----	----	----	----	----
9	285	281	285	322	291	----	----	----	----	----
10.5	328	358	327	365	361	----	----	----	----	----
12	411	411	373	412	370	----	----	----	----	----
13.5	406	400	406	445	364	----	----	----	----	----
15	434	398	434	474	425	----	----	----	----	----
16.5	433	428	467	472	456	----	----	----	----	----
18	465	459	465	505	494	----	----	----	----	----
19.5	498	495	586	543	532	----	----	----	----	----
21	----	536	----	----	569	----	----	----	----	----
22.5	----	614	----	----	607	----	----	----	----	----
24	----	658	----	----	652	----	----	----	----	----
25.5	----	706	----	----	737	----	----	----	----	----
27	----	804	----	----	785	----	----	----	----	----
28.5	----	1069	----	----	905	----	----	----	----	----
30	----	1406	----	----	1443	----	----	----	----	----
31.5	----	1491	----	----	1527	----	----	----	----	----
33	----	1566	----	----	1604	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:900mm**

Depth (m)	Axial Capacity (kN)									
	BH-01	**BH-02**	**BH-03**	**BH-04**	**BH-05**	**BH-06**	**BH-07**	**BH-08**	**BH-09**	**BH-10**
1.5	31	47	77	47	63	47	47	63	77	47
3	57	167	167	114	77	102	114	77	121	102
4.5	306	293	218	173	122	271	283	302	282	152
6	138	337	304	458	177	380	354	300	311	698
7.5	460	373	334	443	510	410	420	460	458	603
9	406	441	395	510	587	485	497	485	485	550
10.5	525	453	501	525	572	610	557	544	547	614
12	531	510	573	643	641	690	568	618	560	682
13.5	590	573	649	715	712	693	701	776	620	764
15	635	614	689	701	766	752	834	750	669	892
16.5	687	665	677	816	740	729	803	723	788	873
18	732	720	723	870	799	781	864	1756	1160	851
19.5	789	842	780	932	848	835	918	948	821	901
21	912	----	----	----	907	----	----	----	----	----
22.5	973	----	----	----	1047	----	----	----	----	----
24	1036	----	----	----	1015	----	----	----	----	----
25.5	1106	----	----	----	1166	----	----	----	----	----
27	1303	----	----	----	1362	----	----	----	----	----
28.5	1614	----	----	----	1561	----	----	----	----	----
30	2317	----	----	----	1780	----	----	----	----	----
31.5	2441	----	----	----	2505	----	----	----	----	----
33	----	----	----	----	2609	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:900mm**

Depth (m)	Axial Capacity (kN)									
	BH-11	**BH-12**	**BH-13**	**BH-14**	**BH-15**	**BH-16**	**BH-17**	**BH-18**	**BH-19**	**BH-20**
1.5	77	47	63	47	47	47	47	47	77	47
3	86	91	113	80	80	68	91	91	121	102
4.5	277	135	162	140	130	216	146	230	256	161
6	298	184	374	325	299	271	188	287	343	351
7.5	410	398	441	427	394	330	435	347	409	418
9	474	503	515	563	462	438	504	405	482	491
10.5	485	568	527	633	527	446	569	517	548	561
12	537	640	645	639	599	510	669	585	622	622
13.5	674	717	716	711	670	572	735	656	763	702
15	728	696	767	770	653	622	760	704	737	743
16.5	868	808	828	815	692	670	746	692	725	795
18	1169	792	875	390	741	711	789	733	772	941
19.5	----	840	852	415	797	759	835	781	820	1004
21	----	----	----	467	924	----	----	----	----	----
22.5	----	----	----	1032	985	----	----	----	----	----
24	----	----	----	1098	1052	----	----	----	----	----
25.5	----	----	----	1170	1123	----	----	----	----	----
27	----	----	----	1473	1379	----	----	----	----	----
28.5	----	----	----	1699	1506	----	----	----	----	----
30	----	----	----	2435	2327	----	----	----	----	----
31.5	----	----	----	2560	2451	----	----	----	----	----
33	----	----	----	2647	2559	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:900mm**

Depth (m)	Axial Capacity (kN)									
	BH-21	**BH-22**	**BH-23**	**BH-24**	**BH-25**	**BH-26**	**BH-27**	**BH-28**	**BH-29**	**BH-30**
1.5	63	47	63	47	47	----	----	----	----	----
3	77	91	113	80	68	----	----	----	----	----
4.5	122	248	236	130	111	----	----	----	----	----
6	289	281	287	188	166	----	----	----	----	----
7.5	349	376	349	434	437	----	----	----	----	----
9	450	453	452	503	456	----	----	----	----	----
10.5	519	574	517	568	566	----	----	----	----	----
12	651	657	588	642	574	----	----	----	----	----
13.5	665	657	664	718	573	----	----	----	----	----
15	705	643	705	760	676	----	----	----	----	----
16.5	693	687	756	746	720	----	----	----	----	----
18	739	733	740	793	778	----	----	----	----	----
19.5	786	784	951	850	835	----	----	----	----	----
21	----	848	----	----	890	----	----	----	----	----
22.5	----	977	----	----	944	----	----	----	----	----
24	----	1040	----	----	1008	----	----	----	----	----
25.5	----	1110	----	----	1147	----	----	----	----	----
27	----	1274	----	----	1216	----	----	----	----	----
28.5	----	1750	----	----	1425	----	----	----	----	----
30	----	2334	----	----	2376	----	----	----	----	----
31.5	----	2459	----	----	2501	----	----	----	----	----
33	----	2562	----	----	2606	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:1000mm**

Depth (m)	Axial Capacity (kN)									
	BH-01	**BH-02**	**BH-03**	**BH-04**	**BH-05**	**BH-06**	**BH-07**	**BH-08**	**BH-09**	**BH-10**
1.5	37	55	92	55	73	55	55	73	92	55
3	66	201	199	133	89	120	133	89	142	120
4.5	366	354	260	202	141	324	338	363	335	176
6	161	405	364	546	204	454	422	358	368	835
7.5	546	447	398	525	604	489	502	550	546	718
9	484	527	471	605	696	578	593	578	577	652
10.5	631	545	603	626	684	736	669	654	656	736
12	636	612	690	769	766	830	680	743	668	815
13.5	705	687	780	854	850	829	841	934	738	912
15	782	759	857	859	943	929	1038	930	822	1104
16.5	843	819	833	1001	902	893	990	888	968	1071
18	895	883	886	1065	972	953	1060	2237	1444	1034
19.5	960	1033	952	1137	1027	1016	1122	1160	996	1092
21	1113	----	----	----	1097	----	----	----	----	----
22.5	1184	----	----	----	1269	----	----	----	----	----
24	1257	----	----	----	1220	----	----	----	----	----
25.5	1337	----	----	----	1405	----	----	----	----	----
27	1580	----	----	----	1648	----	----	----	----	----
28.5	1971	----	----	----	1892	----	----	----	----	----
30	2878	----	----	----	2164	----	----	----	----	----
31.5	3022	----	----	----	3100	----	----	----	----	----
33	----	----	----	----	3219	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

Type of Pile	**Bored**	Size	**Dia:1000mm**

Depth (m)	Axial Capacity (kN)									
	BH-11	**BH-12**	**BH-13**	**BH-14**	**BH-15**	**BH-16**	**BH-17**	**BH-18**	**BH-19**	**BH-20**
1.5	92	55	73	55	55	55	55	55	92	55
3	99	106	132	93	93	78	106	106	142	120
4.5	330	157	187	164	151	259	170	275	303	187
6	355	212	443	386	355	325	216	343	407	417
7.5	489	470	523	509	468	395	515	415	487	495
9	565	596	611	672	549	525	596	482	573	583
10.5	581	678	628	761	632	536	680	621	657	672
12	642	765	771	765	717	611	800	703	745	744
13.5	808	856	855	850	802	686	878	787	917	839
15	901	852	944	951	803	768	935	874	912	918
16.5	1075	992	1016	1003	848	824	911	850	888	978
18	1457	963	1069	443	905	871	958	898	941	1159
19.5	----	1018	1034	469	970	926	1012	952	996	1233
21	----	----	----	529	1128	----	----	----	----	----
22.5	----	----	----	1254	1198	----	----	----	----	----
24	----	----	----	1329	1276	----	----	----	----	----
25.5	----	----	----	1412	1358	----	----	----	----	----
27	----	----	----	1793	1681	----	----	----	----	----
28.5	----	----	----	2072	1831	----	----	----	----	----
30	----	----	----	3022	2892	----	----	----	----	----
31.5	----	----	----	3167	3037	----	----	----	----	----
33	----	----	----	3264	3160	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Summary of Pile Capacity**

Input Data:

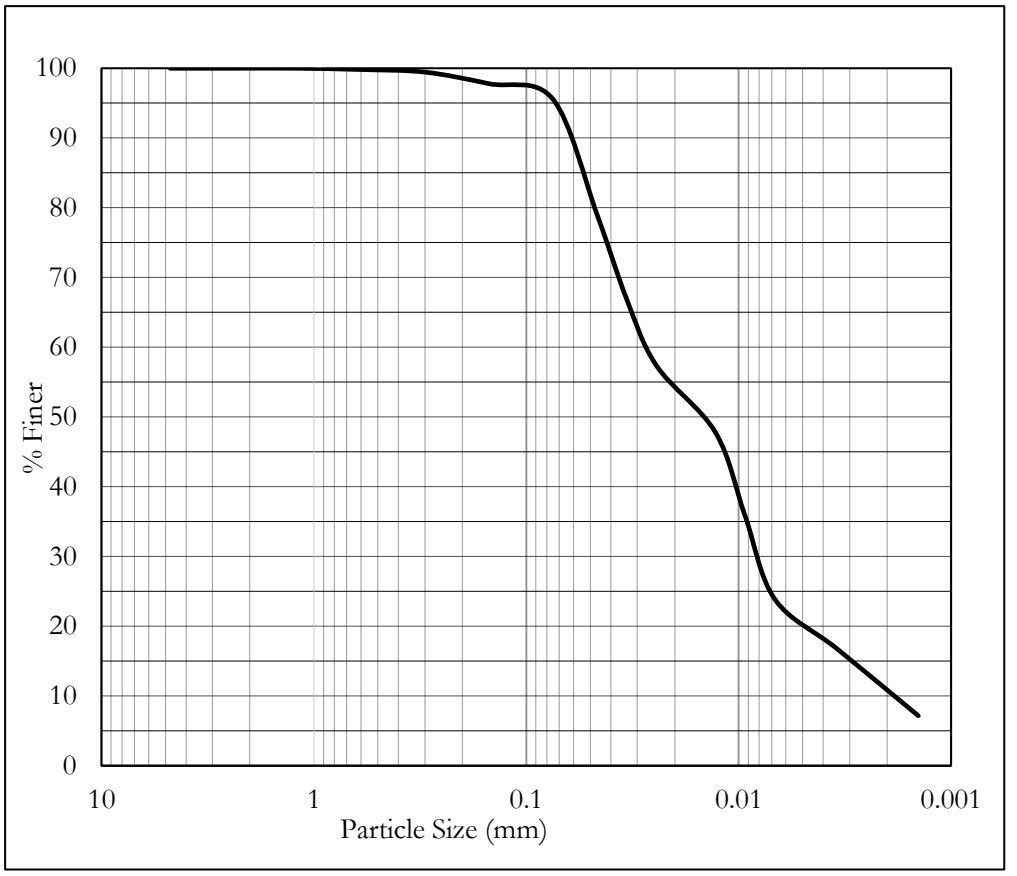
Type of Pile	**Bored**	Size	**Dia:1000mm**

Depth (m)	Axial Capacity (kN)									
	BH-21	**BH-22**	**BH-23**	**BH-24**	**BH-25**	**BH-26**	**BH-27**	**BH-28**	**BH-29**	**BH-30**
1.5	73	55	73	55	55	----	----	----	----	----
3	89	106	132	93	78	----	----	----	----	----
4.5	141	296	280	151	129	----	----	----	----	----
6	342	335	341	217	192	----	----	----	----	----
7.5	414	449	415	515	519	----	----	----	----	----
9	536	540	538	597	541	----	----	----	----	----
10.5	624	692	620	680	678	----	----	----	----	----
12	783	791	706	767	684	----	----	----	----	----
13.5	796	788	796	857	680	----	----	----	----	----
15	874	793	874	937	828	----	----	----	----	----
16.5	851	844	932	912	878	----	----	----	----	----
18	903	896	904	965	946	----	----	----	----	----
19.5	958	956	1172	1031	1013	----	----	----	----	----
21	----	1030	----	----	1077	----	----	----	----	----
22.5	----	1189	----	----	1137	----	----	----	----	----
24	----	1262	----	----	1212	----	----	----	----	----
25.5	----	1344	----	----	1383	----	----	----	----	----
27	----	1545	----	----	1462	----	----	----	----	----
28.5	----	2150	----	----	1718	----	----	----	----	----
30	----	2902	----	----	2944	----	----	----	----	----
31.5	----	3047	----	----	3088	----	----	----	----	----
33	----	3164	----	----	3209	----	----	----	----	----
34.5	----	----	----	----	----	----	----	----	----	----
36	----	----	----	----	----	----	----	----	----	----
37.5	----	----	----	----	----	----	----	----	----	----
39	----	----	----	----	----	----	----	----	----	----
40.5	----	----	----	----	----	----	----	----	----	----
42	----	----	----	----	----	----	----	----	----	----
43.5	----	----	----	----	----	----	----	----	----	----
45	----	----	----	----	----	----	----	----	----	----
46.5	----	----	----	----	----	----	----	----	----	----
48	----	----	----	----	----	----	----	----	----	----
49.5	----	----	----	----	----	----	----	----	----	----
51	----	----	----	----	----	----	----	----	----	----
52.5	----	----	----	----	----	----	----	----	----	----
54	----	----	----	----	----	----	----	----	----	----
55.5	----	----	----	----	----	----	----	----	----	----
57	----	----	----	----	----	----	----	----	----	----
58.5	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-01**
Sample Type	Disturbed	Depth (m):	**1.5**

Grain Size Analysis



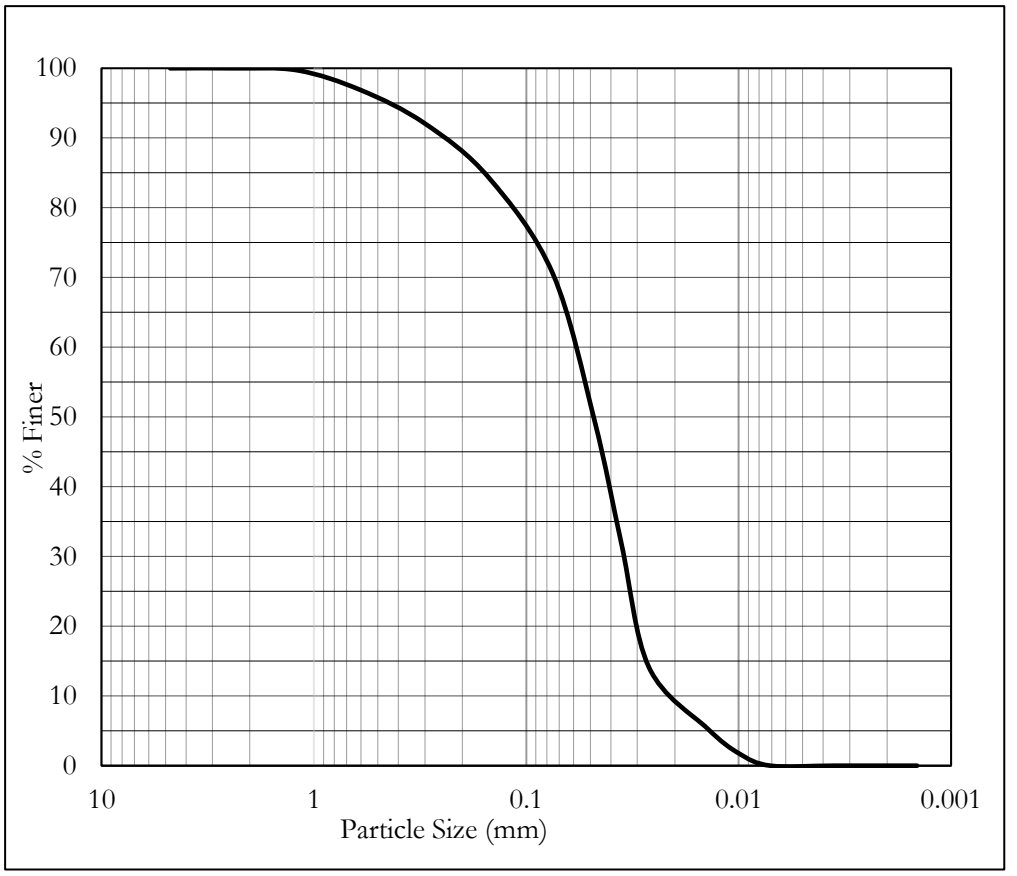
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.816
0.300	99.449
0.150	97.794
0.075	95.588
0.046	78.855
0.034	66.907
0.024	57.349
0.013	47.791
0.009	35.843
0.007	23.895
0.003	16.727
0.001	7.169

Soil Type	Unit	Value	Remarks
Sand	%	4.41	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	4.41	
Fines	%	95.59	
Silt	%	85.59	
Clay	%	10.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-01**
Sample Type	Disturbed	Depth (m):	**12**

Grain Size Analysis



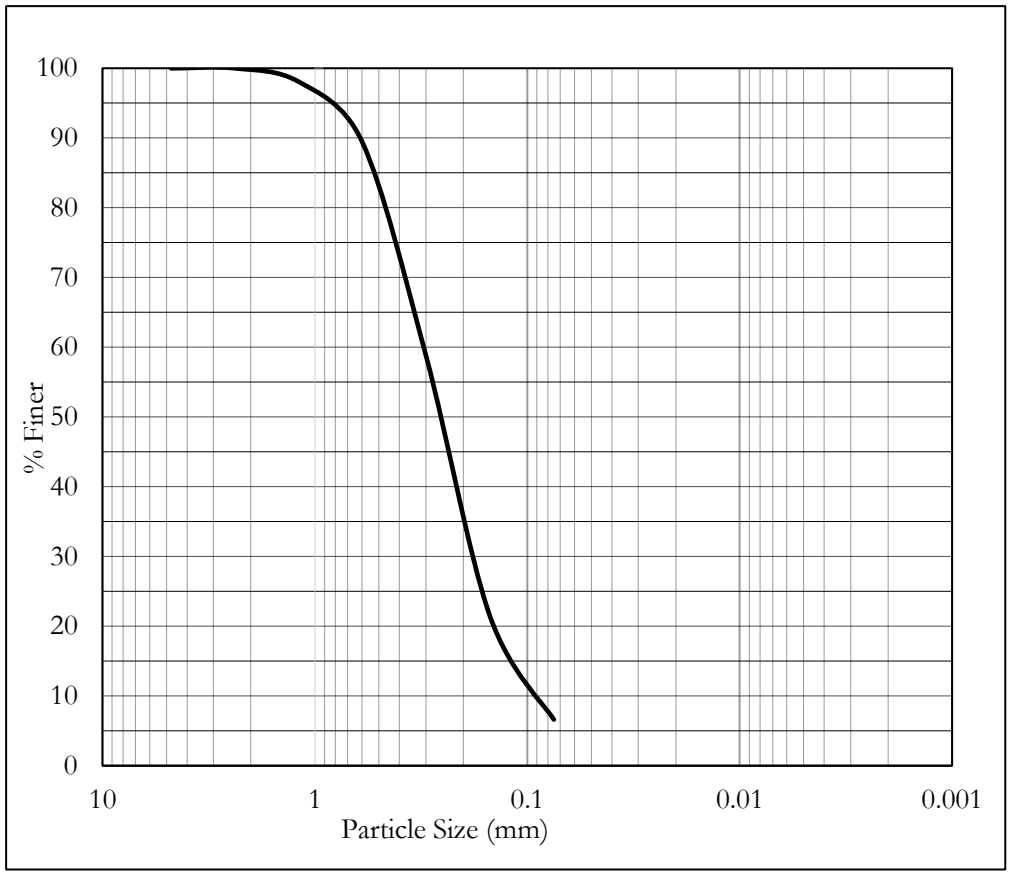
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.701
0.600	96.861
0.300	92.078
0.150	84.305
0.075	70.553
0.048	49.384
0.036	31.747
0.026	14.110
0.014	5.291
0.010	1.764
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	29.45	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	29.45	
Fines	%	70.55	
Silt	%	70.55	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.060	Ref: ASTM D2487-11
D_{30}	%	0.035	
D_{10}	%	0.020	
C_u	%	3.000	
C_c	%	1.021	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-01**
Sample Type	Disturbed	Depth (m):	**12**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	98.062
0.600	89.503
0.300	58.818
0.150	21.479
0.075	6.621
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000

Soil Type	Unit	Value	Remarks
Sand	%	93.38	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	93.38	
Fines	%	6.62	
Silt	%	6.62	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.300	Ref: ASTM D2487-11
D_{30}	%	0.190	
D_{10}	%	0.090	
C_u	%	3.333	
C_c	%	1.337	

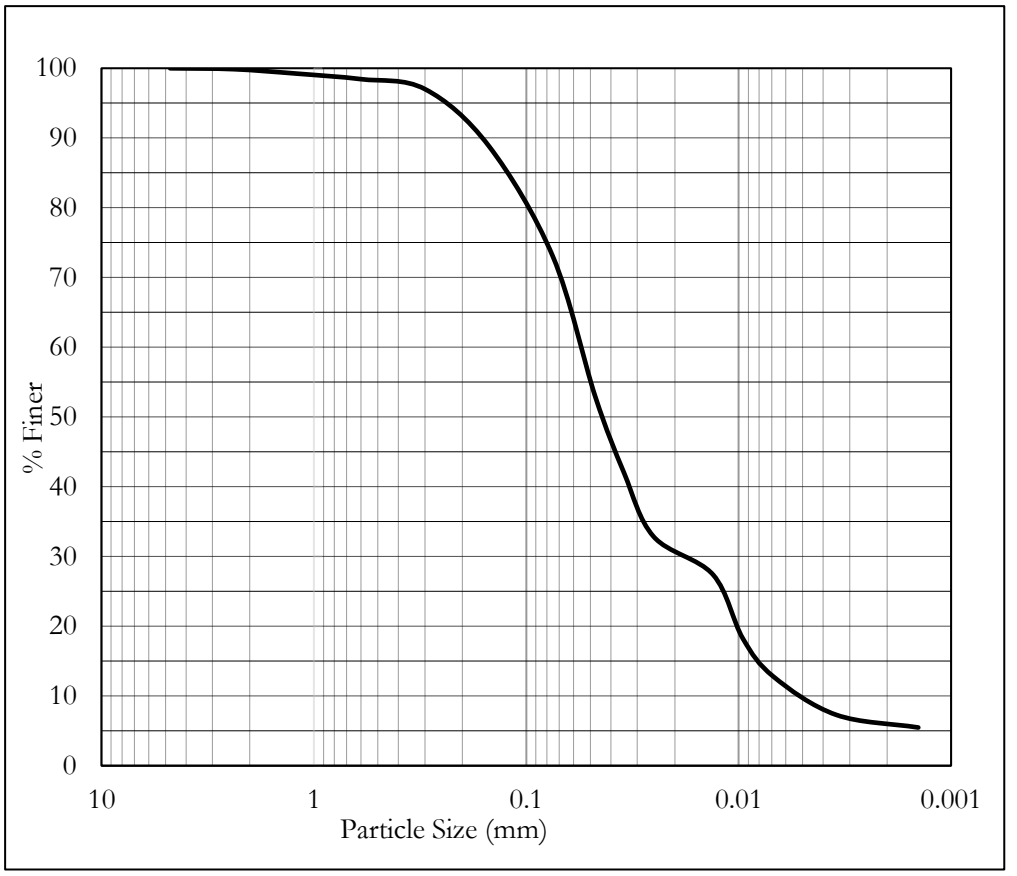
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	29-Sep-2025
Sample Type	Disturbed

Borehole No : **BH-02**

Depth (m): **1.5**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	99.870
1.190	99.222
0.600	98.444
0.300	97.018
0.150	88.849
0.075	73.029
0.047	52.943
0.035	41.989
0.025	32.861
0.013	27.384
0.010	18.256
0.007	12.779
0.003	7.302
0.001	5.477

Soil Type	Unit	Value	Remarks
Sand	%	26.97	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	26.97	
Fines	%	73.03	
Silt	%	67.03	
Clay	%	6.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

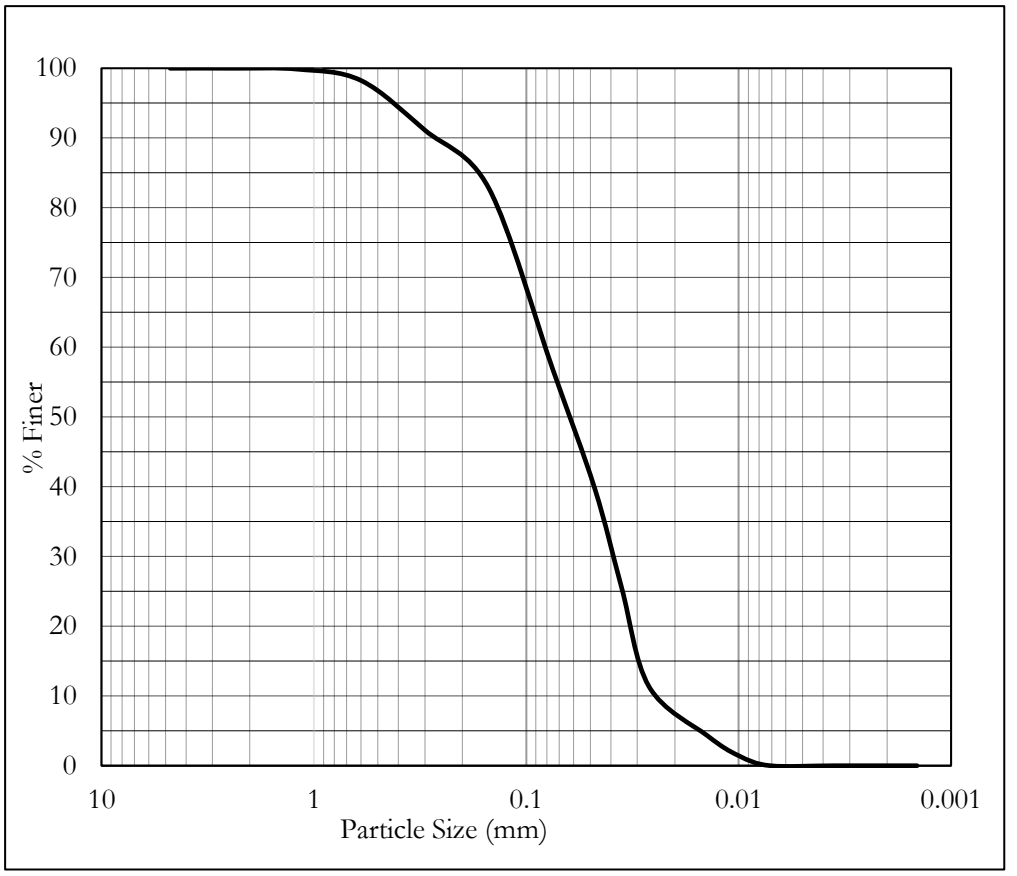
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	29-Sep-2025
Sample Type	Disturbed

Borehole No : **BH-02**

Depth (m): **6**

Grain Size Analysis



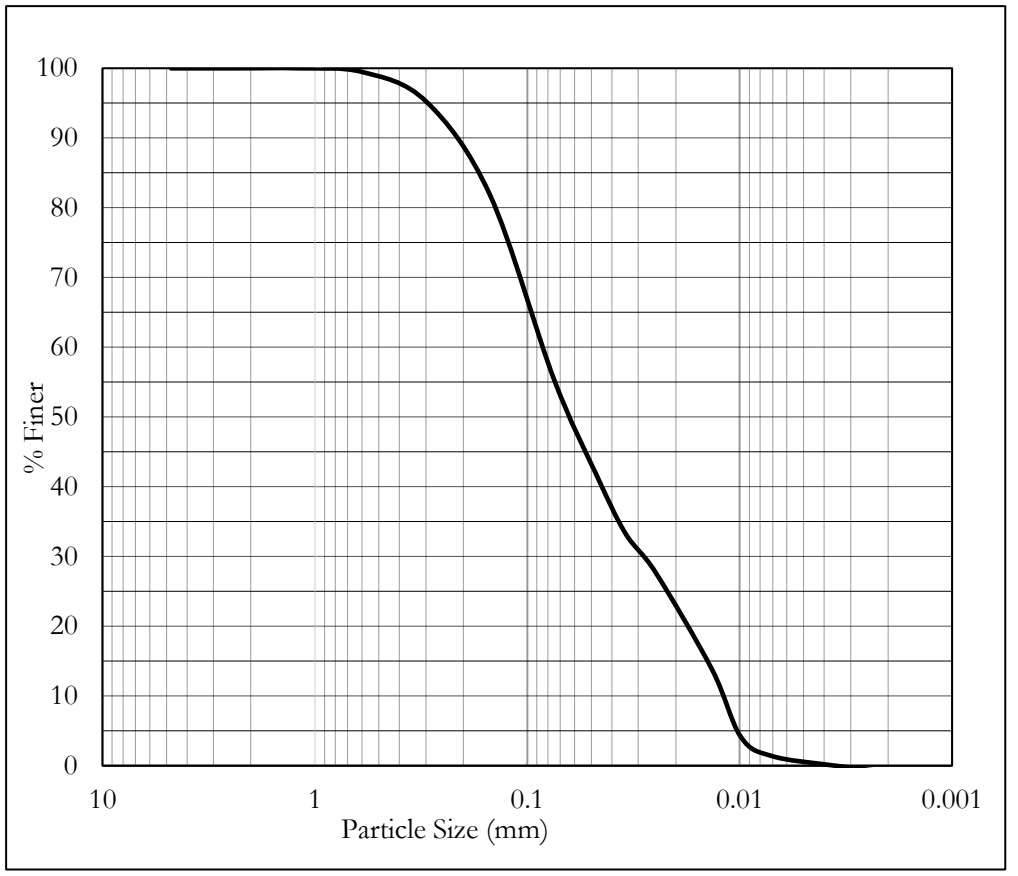
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.865
0.600	98.251
0.300	91.121
0.150	82.779
0.075	56.814
0.048	39.767
0.036	25.565
0.026	11.362
0.014	4.261
0.010	1.420
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	43.19	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	43.19	
Fines	%	56.81	
Silt	%	56.81	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.085	Ref: ASTM D2487-11
D_{30}	%	0.040	
D_{10}	%	0.025	
C_u	%	3.400	
C_c	%	0.753	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-02**
Sample Type	Disturbed	Depth (m):	**15**

Grain Size Analysis



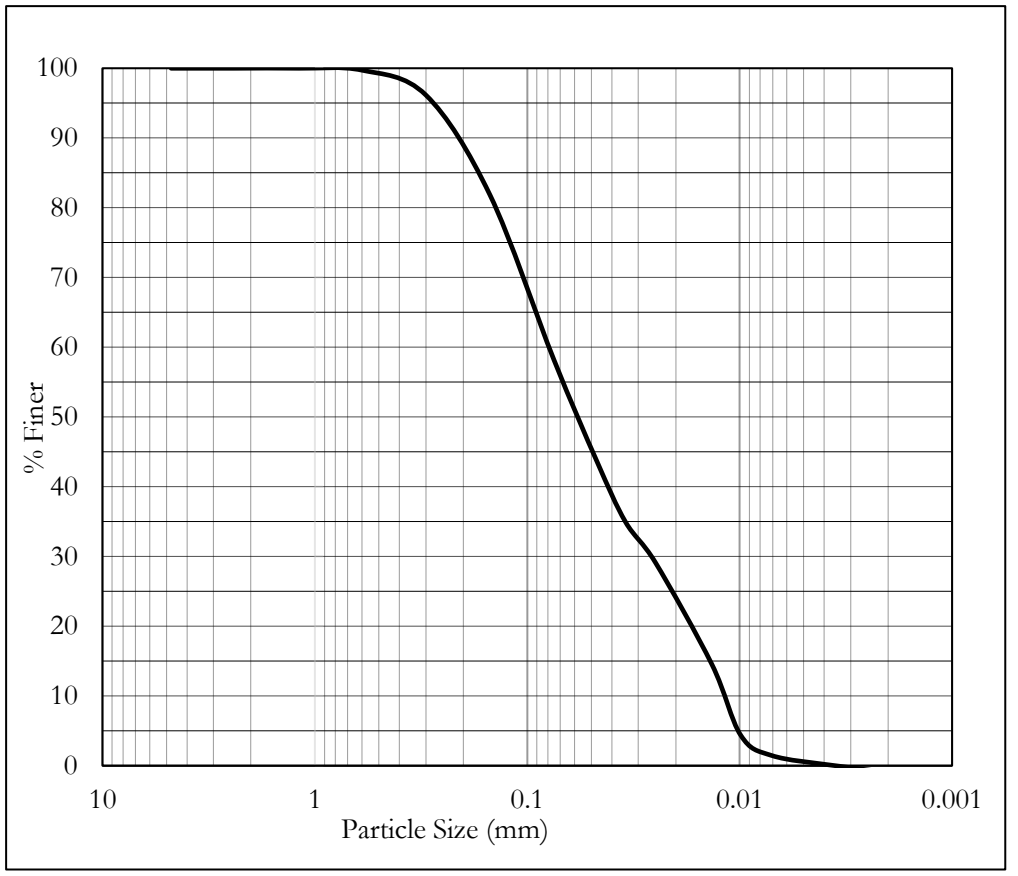
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.475
0.300	95.271
0.150	81.873
0.075	55.471
0.047	41.600
0.034	33.280
0.025	27.734
0.014	13.867
0.010	4.160
0.007	1.387
0.004	0.000
0.001	-1.387

Soil Type	Unit	Value	Remarks
Sand	%	44.53	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	44.53	
Fines	%	55.47	
Silt	%	55.47	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.085	Ref: ASTM D2487-11
D_{30}	%	0.030	
D_{10}	%	0.012	
C_u	%	7.083	
C_c	%	0.882	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-03**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



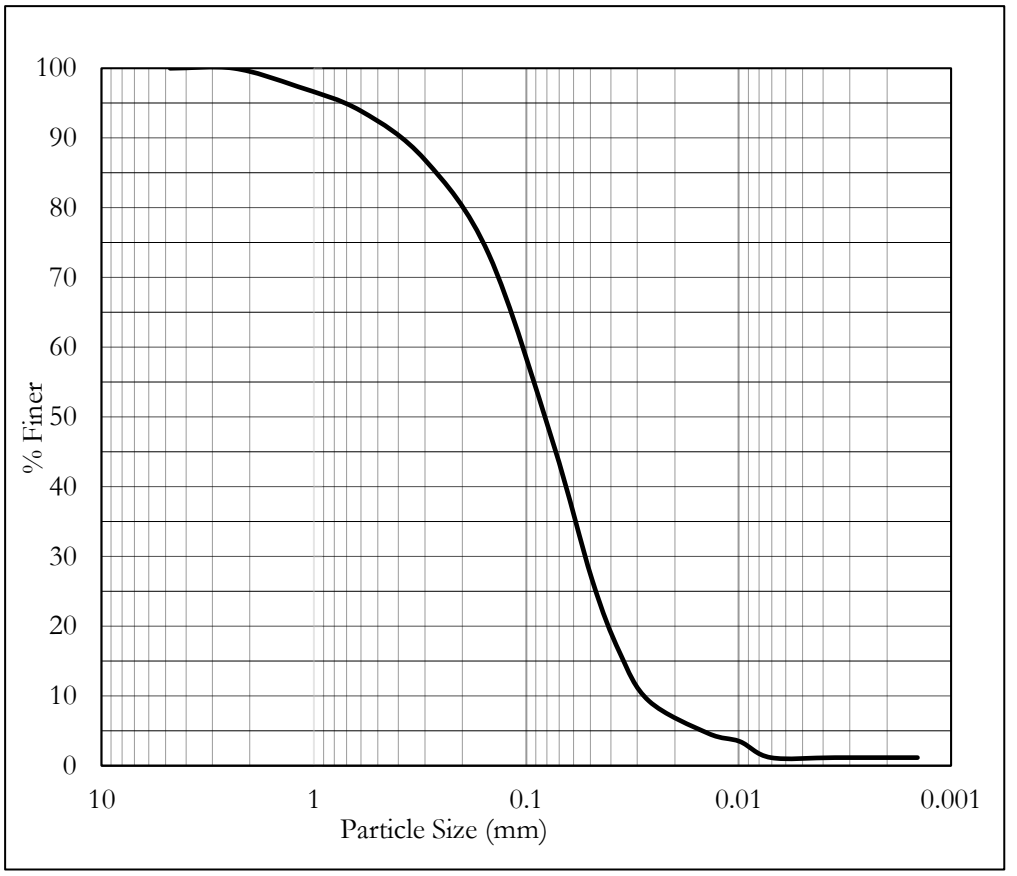
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.725
0.300	96.154
0.150	81.868
0.075	58.242
0.047	43.678
0.034	34.943
0.025	29.119
0.014	14.559
0.010	4.368
0.007	1.456
0.004	0.000
0.001	-1.456

Soil Type	Unit	Value	Remarks
Sand	%	41.76	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	41.76	
Fines	%	58.24	
Silt	%	58.24	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.080	Ref: ASTM D2487-11
D_{30}	%	0.027	
D_{10}	%	0.013	
C_u	%	6.154	
C_c	%	0.701	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-03**
Sample Type	Disturbed	Depth (m):	**12**

Grain Size Analysis



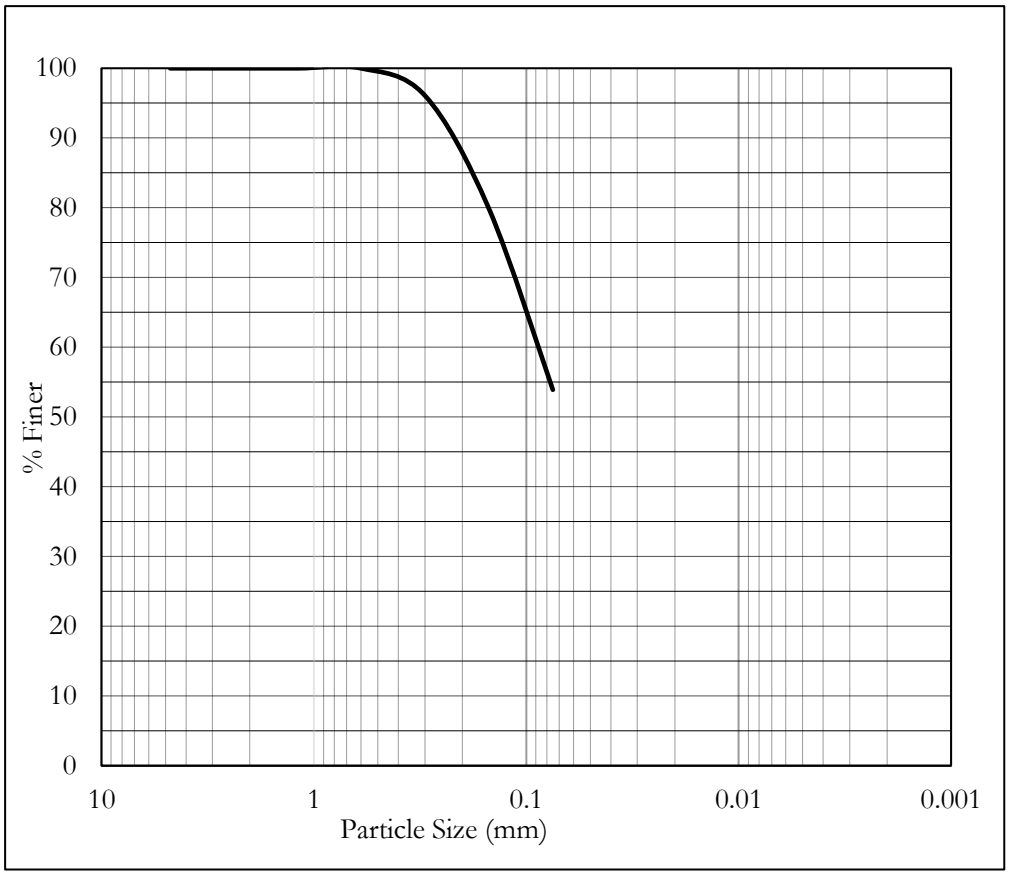
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	97.374
0.600	93.873
0.300	86.871
0.150	73.304
0.075	46.389
0.049	26.672
0.036	16.235
0.026	9.277
0.014	4.639
0.010	3.479
0.007	1.160
0.004	1.160
0.001	1.160

Soil Type	Unit	Value	Remarks
Sand	%	53.61	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	53.61	
Fines	%	46.39	
Silt	%	45.39	
Clay	%	1.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-2025	Borehole No :	**BH-03**
Sample Type	Disturbed	Depth (m):	**18**

Grain Size Analysis



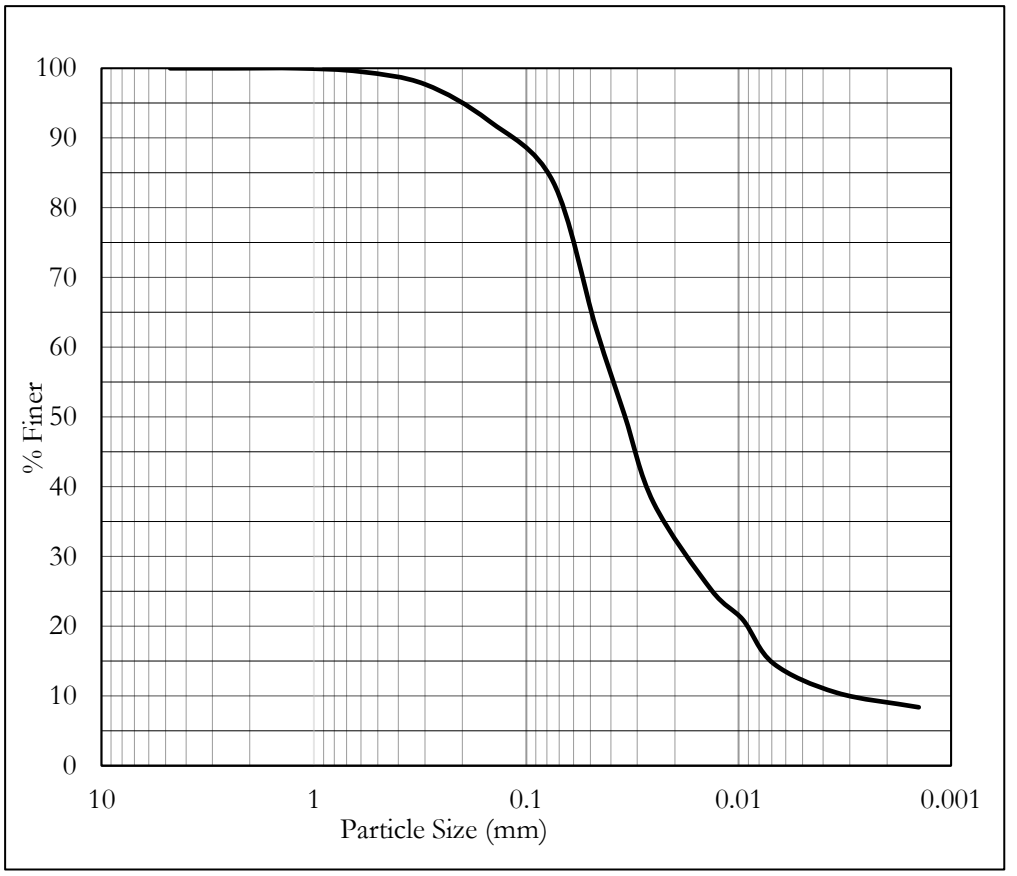
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	100.000
0.300	96.089
0.150	79.888
0.075	53.911

Soil Type	Unit	Value	Remarks
Sand	%	46.09	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	46.09	
Fines	%	53.91	
Silt	%	52.91	
Clay	%	1.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-2025	Borehole No :	**BH-04**
Sample Type	Disturbed	Depth (m):	**1.5**

Grain Size Analysis



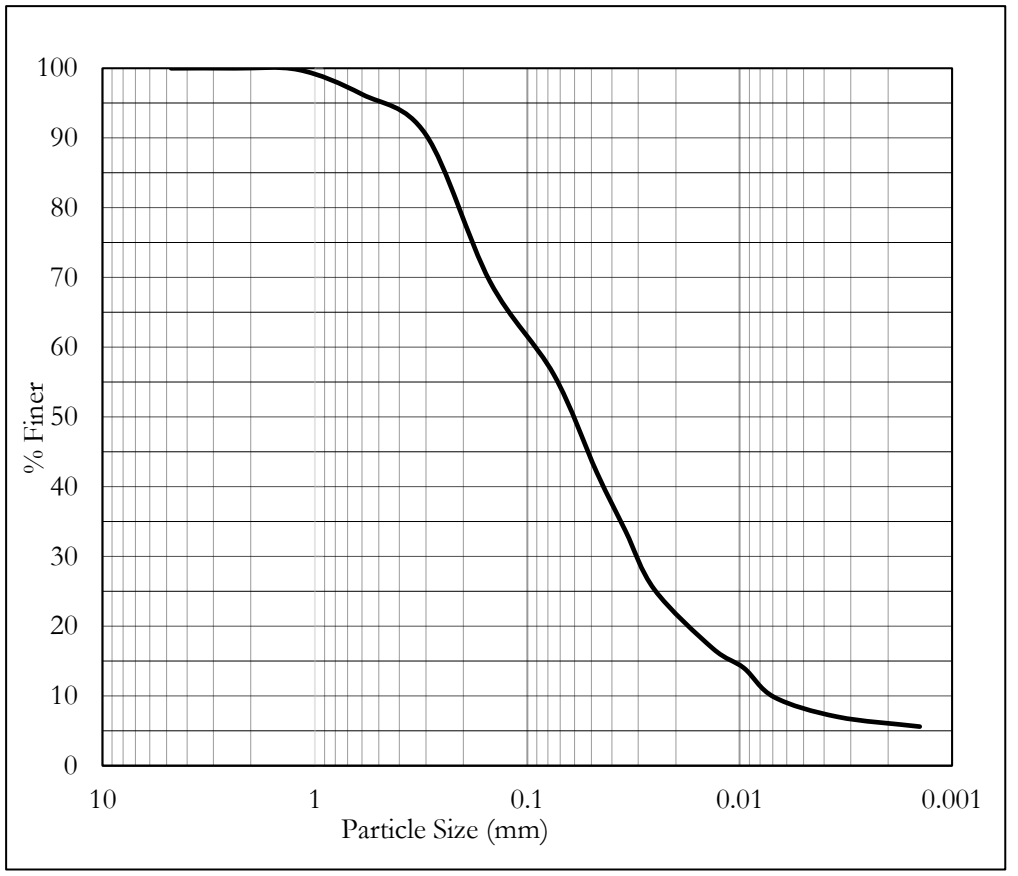
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.509
0.300	97.709
0.150	92.471
0.075	83.797
0.047	62.844
0.034	50.275
0.025	37.706
0.013	25.137
0.010	20.948
0.007	14.664
0.003	10.474
0.001	8.379

Soil Type	Unit	Value	Remarks
Sand	%	16.20	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	16.20	
Fines	%	83.80	
Silt	%	73.80	
Clay	%	10.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-2025	Borehole No :	**BH-04**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



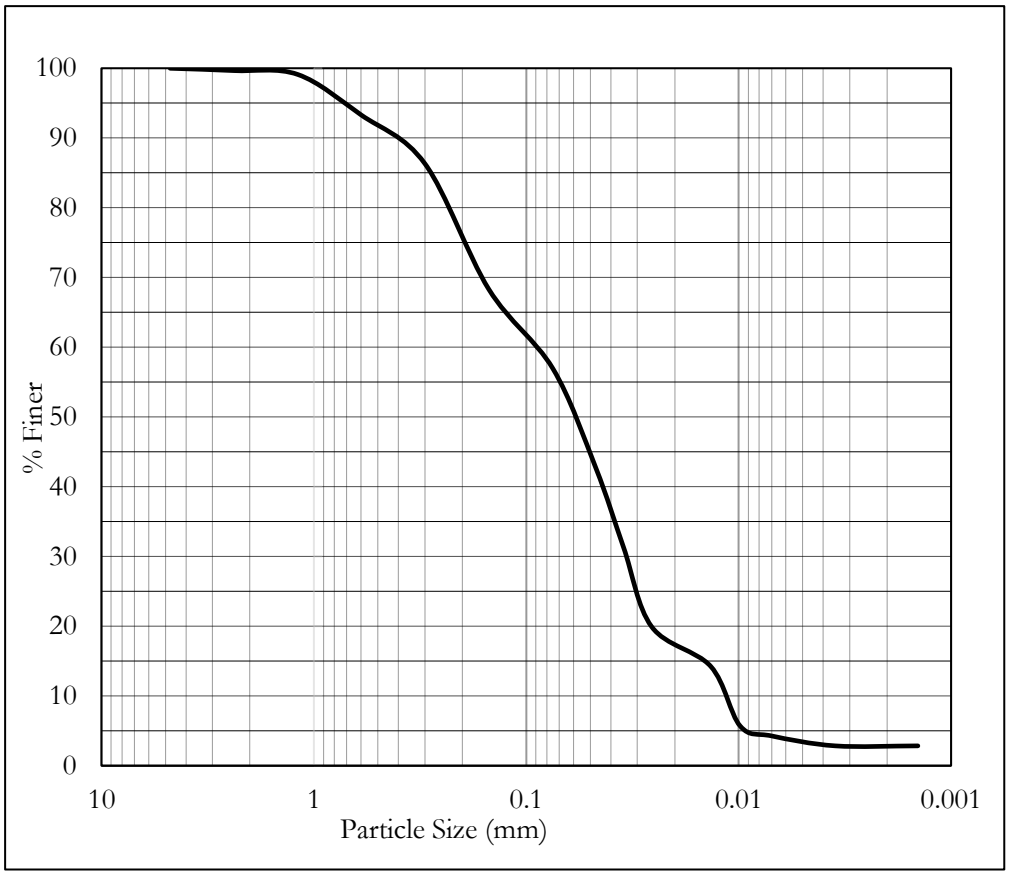
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.781
0.600	96.276
0.300	90.471
0.150	69.441
0.075	56.079
0.047	42.056
0.034	33.645
0.025	25.234
0.013	16.823
0.010	14.019
0.007	9.813
0.003	7.009
0.001	5.608

Soil Type	Unit	Value	Remarks
Sand	%	43.92	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	43.92	
Fines	%	56.08	
Silt	%	50.08	
Clay	%	6.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-2025	Borehole No :	**BH-04**
Sample Type	Disturbed	Depth (m):	**4.5**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	99.666
1.190	99.110
0.600	93.326
0.300	86.318
0.150	68.298
0.075	56.952
0.047	42.711
0.035	31.322
0.026	19.932
0.014	14.237
0.010	5.695
0.007	4.271
0.004	2.847
0.001	2.847

Soil Type	Unit	Value	Remarks
Sand	%	43.05	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	43.05	
Fines	%	56.95	
Silt	%	53.95	
Clay	%	3.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

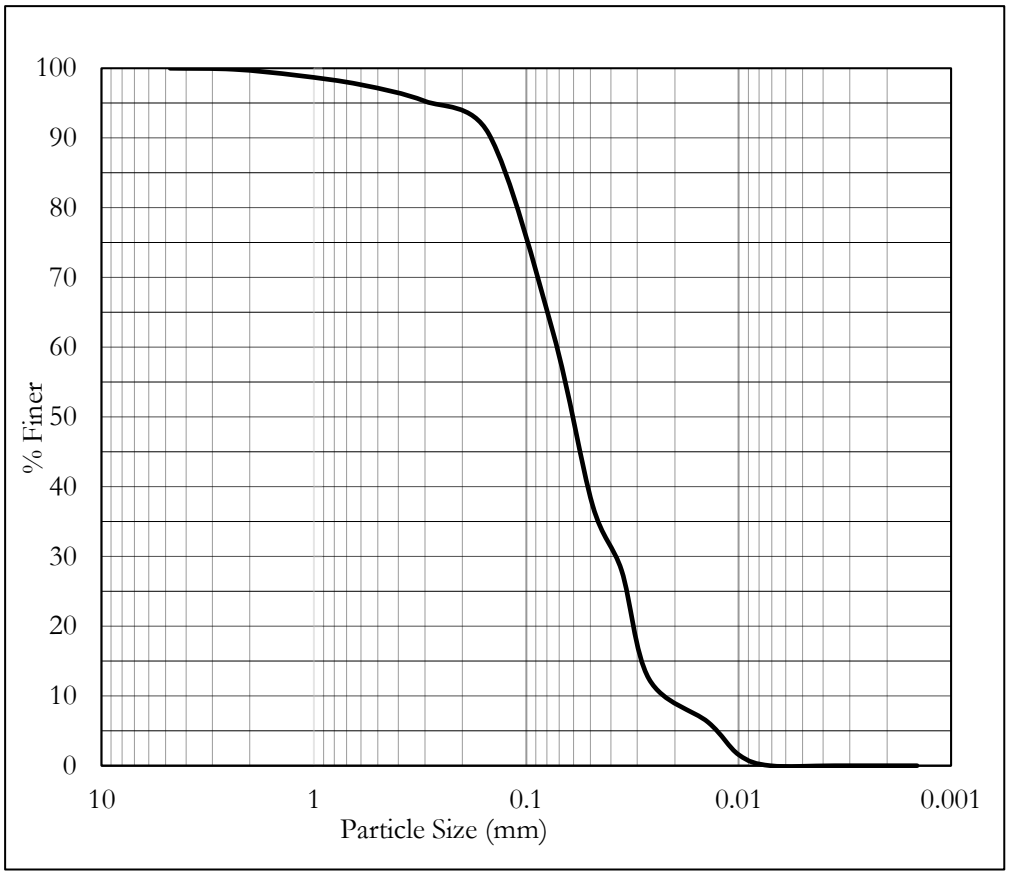
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No : **BH-04**

Depth (m): **15**

Grain Size Analysis



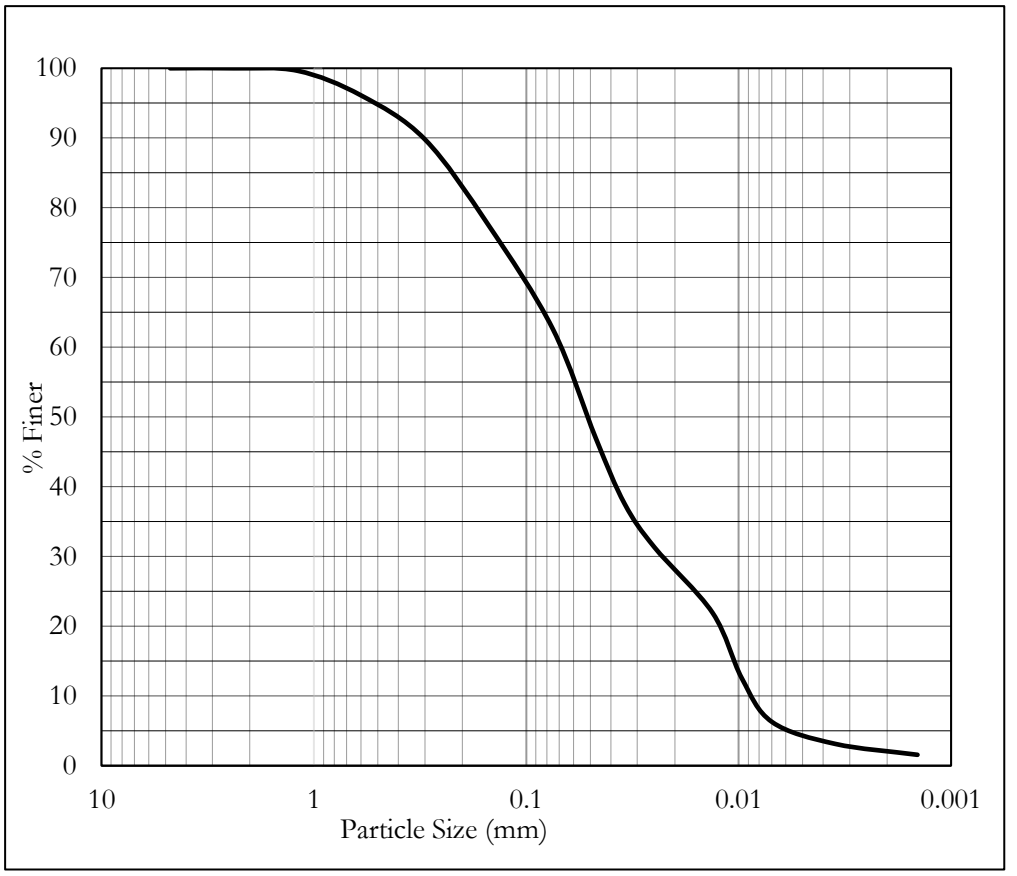
Particle Size (mm)	% Finer
4.750	100.000
2.380	99.853
1.190	98.968
0.600	97.640
0.300	95.280
0.150	90.560
0.075	62.242
0.049	37.343
0.036	28.007
0.026	12.448
0.014	6.224
0.010	1.556
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	37.76	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	37.76	
Fines	%	62.24	
Silt	%	62.24	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.076	Ref: ASTM D2487-11
D_{30}	%	0.038	
D_{10}	%	0.024	
C_u	%	3.167	
C_c	%	0.792	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-2025	Borehole No :	**BH-05**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



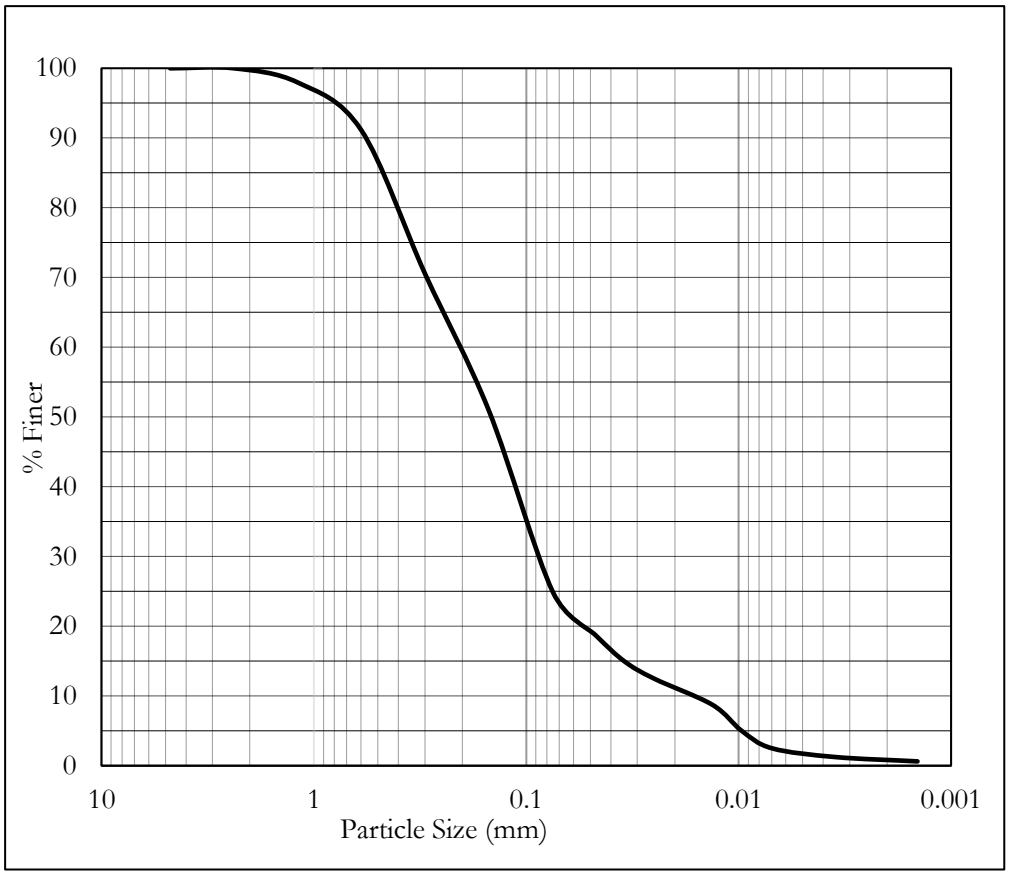
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.636
0.600	96.117
0.300	89.806
0.150	77.427
0.075	62.621
0.047	46.963
0.034	37.570
0.025	31.309
0.013	21.916
0.010	12.523
0.007	6.262
0.004	3.131
0.001	1.565

Soil Type	Unit	Value	Remarks
Sand	%	37.38	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	37.38	
Fines	%	62.62	
Silt	%	59.62	
Clay	%	3.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-2025	Borehole No :	**BH-05**
Sample Type	Disturbed	Depth (m):	**18**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	97.959
0.600	91.192
0.300	70.569
0.150	50.913
0.075	24.919
0.047	18.688
0.034	14.951
0.025	12.459
0.013	8.721
0.010	4.984
0.007	2.492
0.004	1.246
0.001	0.623

Soil Type	Unit	Value	Remarks
Sand	%	75.08	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	75.08	
Fines	%	24.92	
Silt	%	24.42	
Clay	%	0.50	Ref: ASTM D422
D_{60}	%	0.200	Ref: ASTM D2487-11
D_{30}	%	0.090	
D_{10}	%	0.016	
C_u	%	12.500	
C_c	%	2.531	

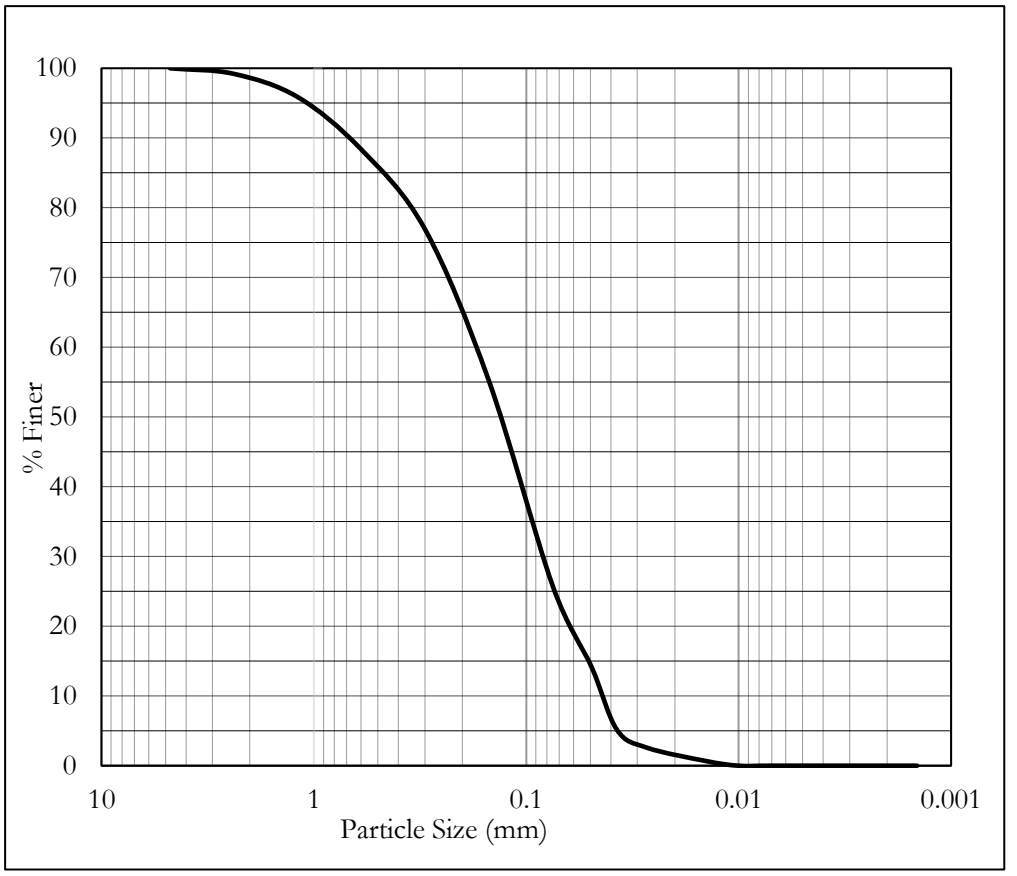
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-06**

Depth (m): **9**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	99.200
1.190	95.867
0.600	88.400
0.300	76.933
0.150	55.200
0.075	25.733
0.049	14.152
0.037	5.146
0.027	2.573
0.014	0.643
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	74.27	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	74.27	
Fines	%	25.73	
Silt	%	25.73	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.180	Ref: ASTM D2487-11
D_{30}	%	0.090	
D_{10}	%	0.045	
C_u	%	4.000	
C_c	%	1.000	

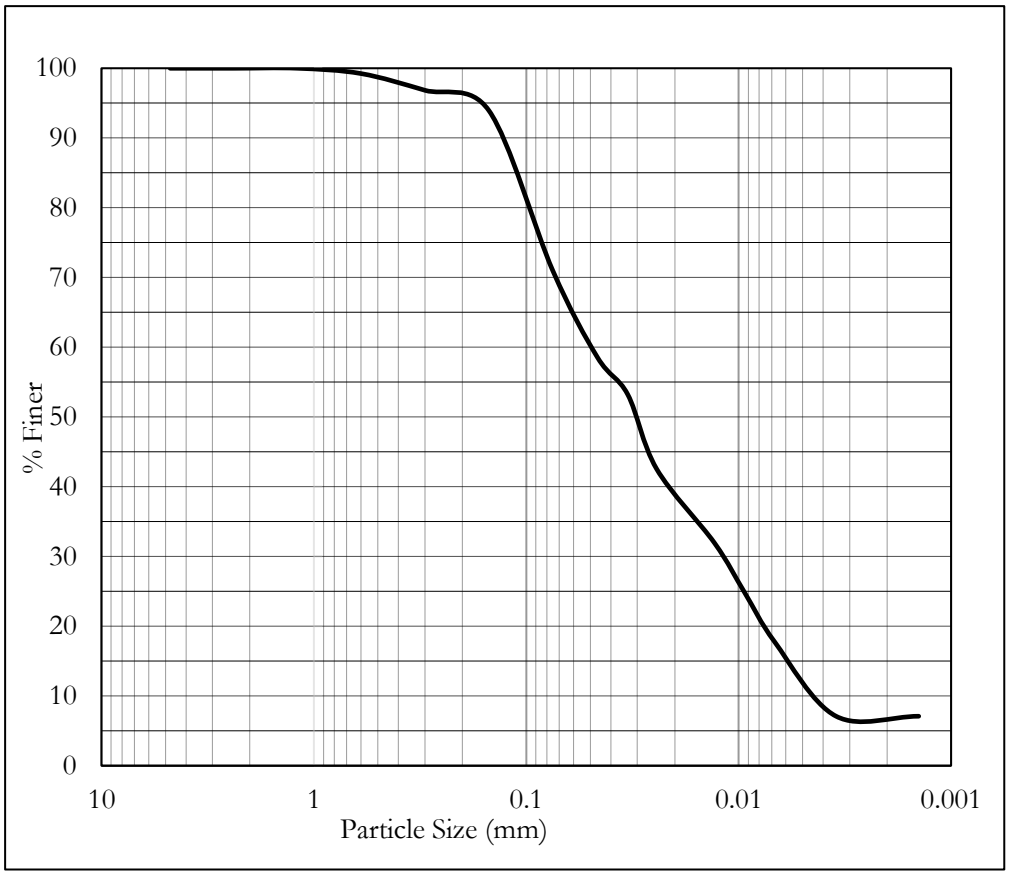
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-08**

Depth (m): **1.5**

Grain Size Analysis



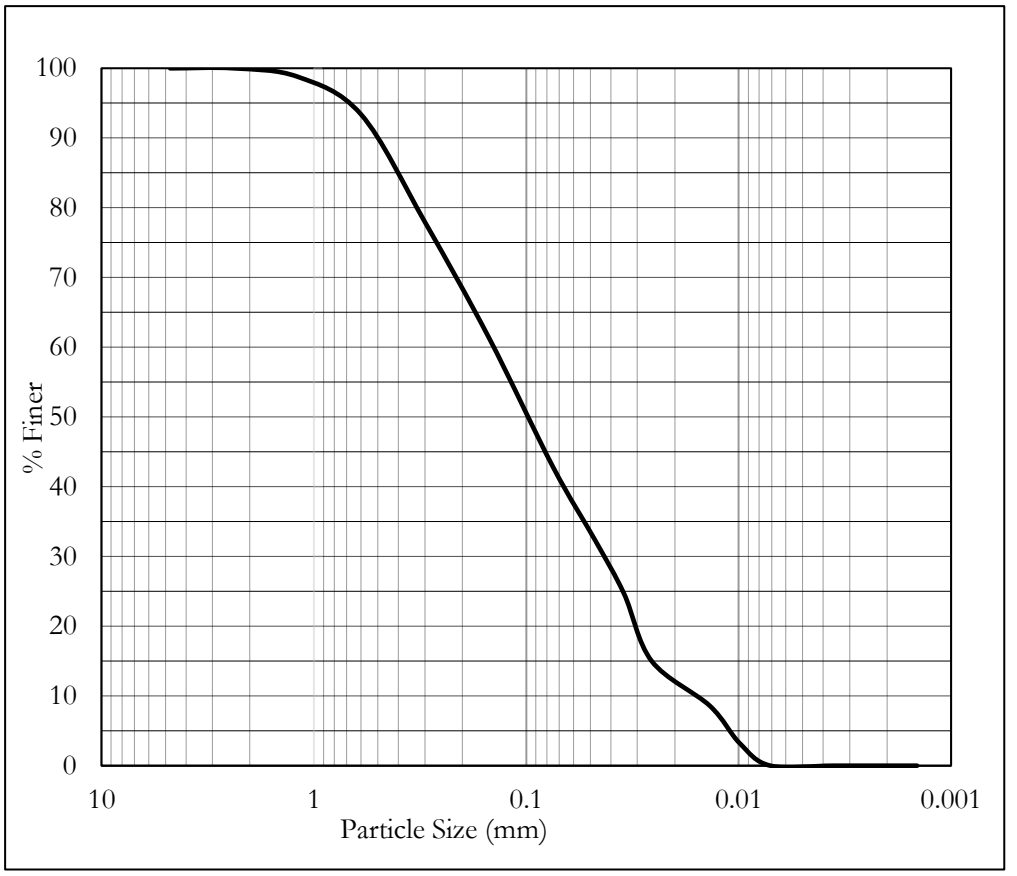
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.243
0.300	96.845
0.150	93.942
0.075	70.971
0.046	58.547
0.033	53.224
0.024	42.580
0.013	31.935
0.009	24.838
0.007	17.741
0.003	7.097
0.001	7.097

Soil Type	Unit	Value	Remarks
Sand	%	29.03	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	29.03	
Fines	%	70.97	
Silt	%	63.97	
Clay	%	7.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-2025	Borehole No :	**BH-08**
Sample Type	Disturbed	Depth (m):	**6**

Grain Size Analysis



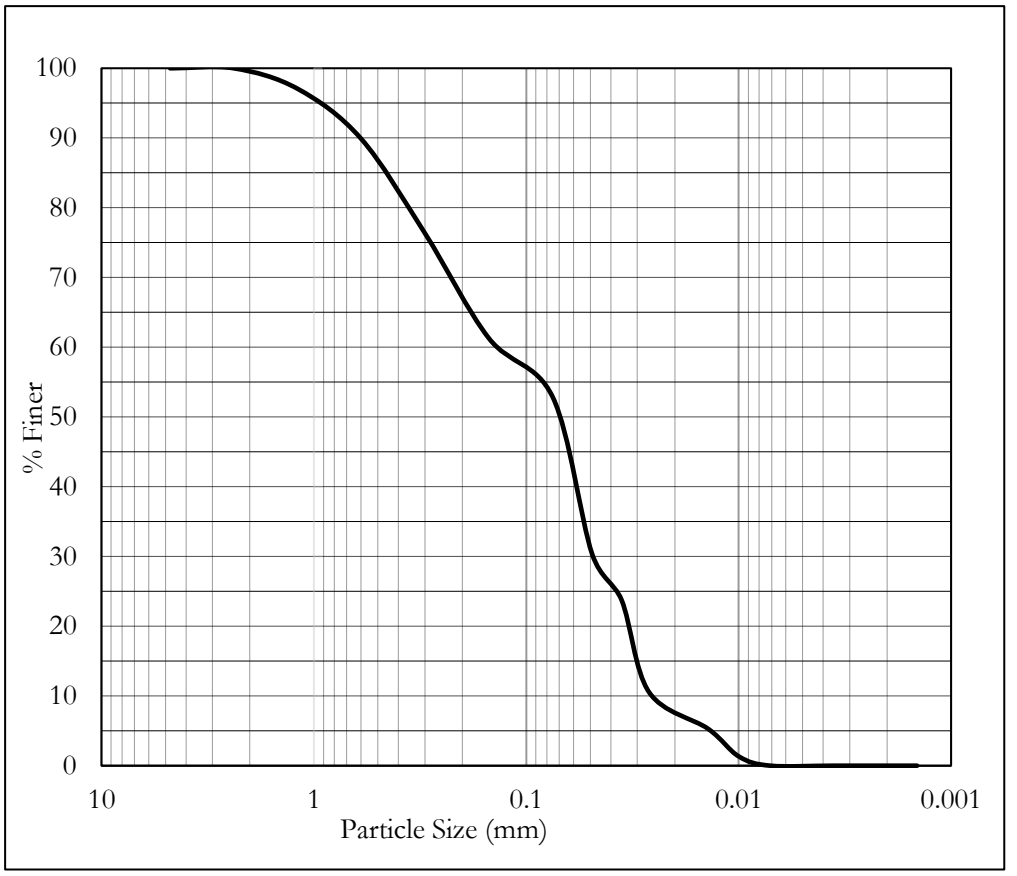
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	98.780
0.600	93.394
0.300	77.947
0.150	61.382
0.075	42.886
0.047	32.162
0.035	24.658
0.026	15.009
0.014	8.577
0.010	3.216
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	57.11	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	57.11	
Fines	%	42.89	
Silt	%	42.89	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.150	Ref: ASTM D2487-11
D_{30}	%	0.040	
D_{10}	%	0.015	
C_u	%	10.000	
C_c	%	0.711	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-2025	Borehole No :	**BH-08**
Sample Type	Disturbed	Depth (m):	**9**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	97.043
0.600	89.919
0.300	76.344
0.150	61.290
0.075	52.823
0.049	30.371
0.036	23.769
0.026	10.564
0.014	5.282
0.010	1.320
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	47.18	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	47.18	
Fines	%	52.82	
Silt	%	52.82	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.150	Ref: ASTM D2487-11
D_{30}	%	0.050	
D_{10}	%	0.028	
C_u	%	5.357	
C_c	%	0.595	

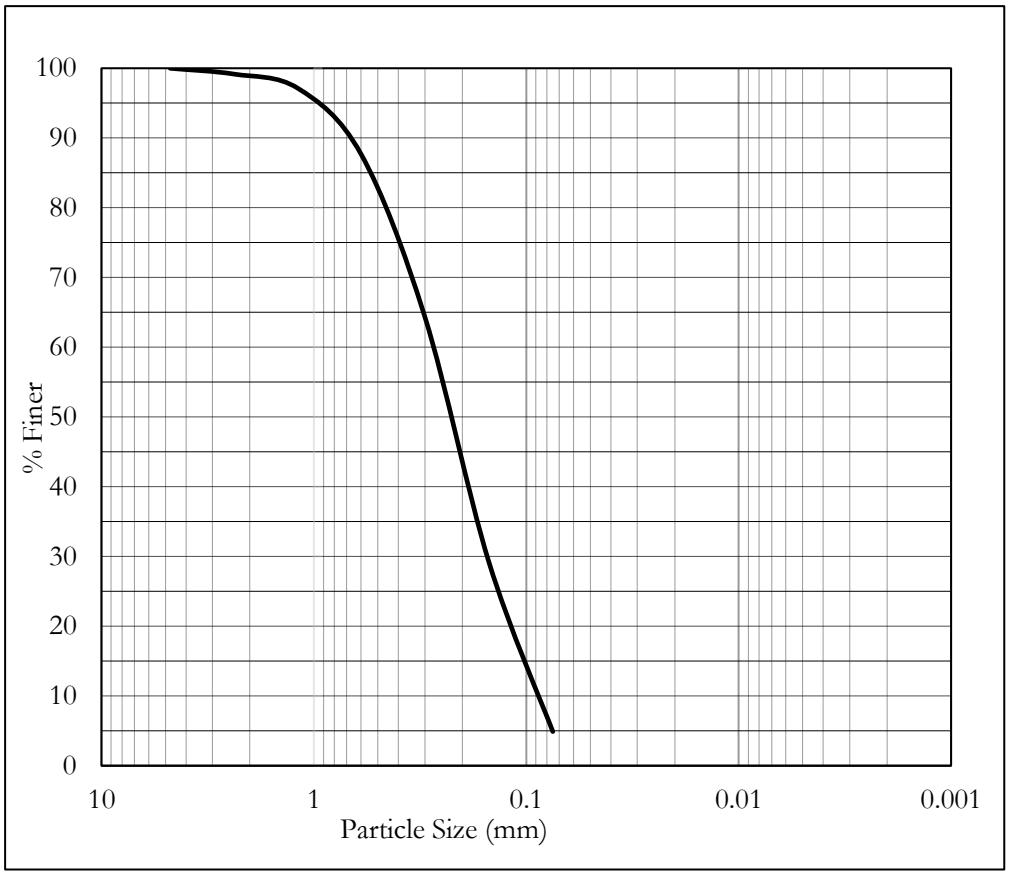
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-08**

Depth (m): **9**

Grain Size Analysis



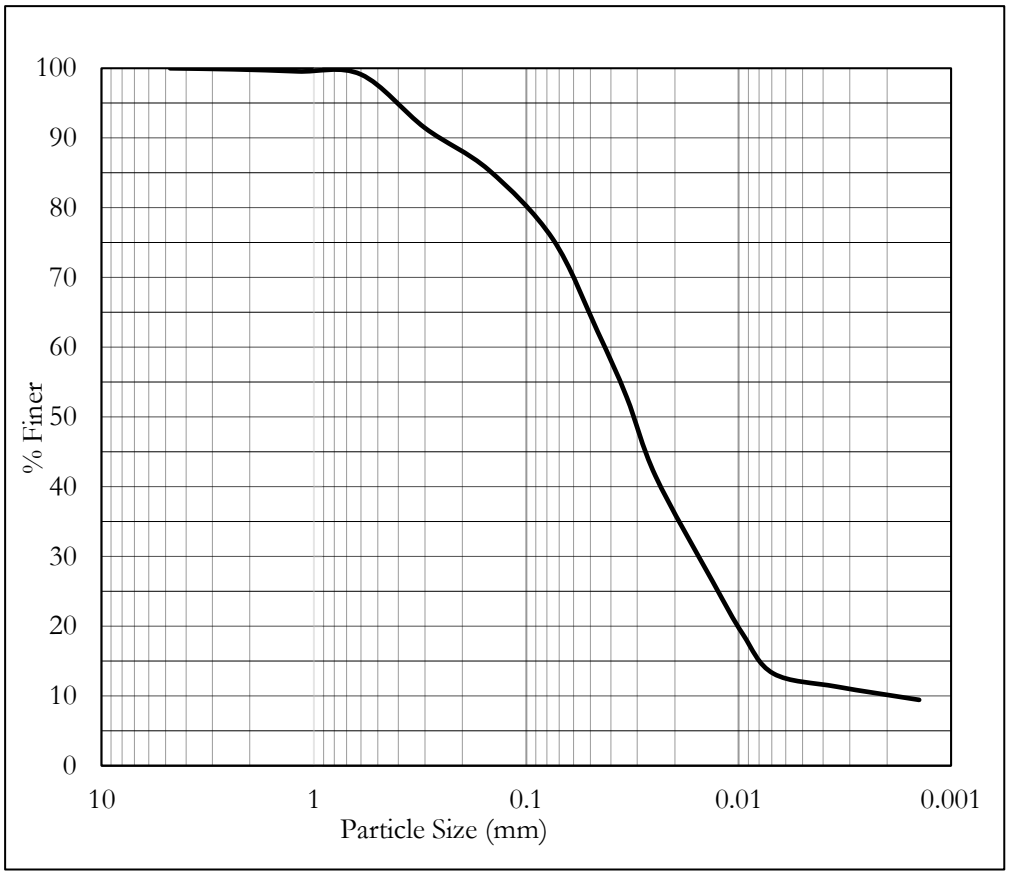
Particle Size (mm)	% Finer
4.750	100.000
2.380	99.168
1.190	97.135
0.600	87.708
0.300	64.325
0.150	29.205
0.075	4.898

Soil Type	Unit	Value	Remarks
Sand	%	95.10	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	95.10	
Fines	%	4.90	
Silt	%	4.90	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.300	Ref: ASTM D2487-11
D_{30}	%	0.160	
D_{10}	%	0.090	
C_u	%	3.333	
C_c	%	0.948	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-2025	Borehole No :	**BH-10**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	99.853
1.190	99.558
0.600	99.115
0.300	91.445
0.150	85.398
0.075	75.516
0.046	62.297
0.034	52.858
0.025	41.531
0.013	26.429
0.010	18.878
0.007	13.214
0.003	11.327
0.001	9.439

Soil Type	Unit	Value	Remarks
Sand	%	24.48	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	24.48	
Fines	%	75.52	
Silt	%	65.52	
Clay	%	10.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

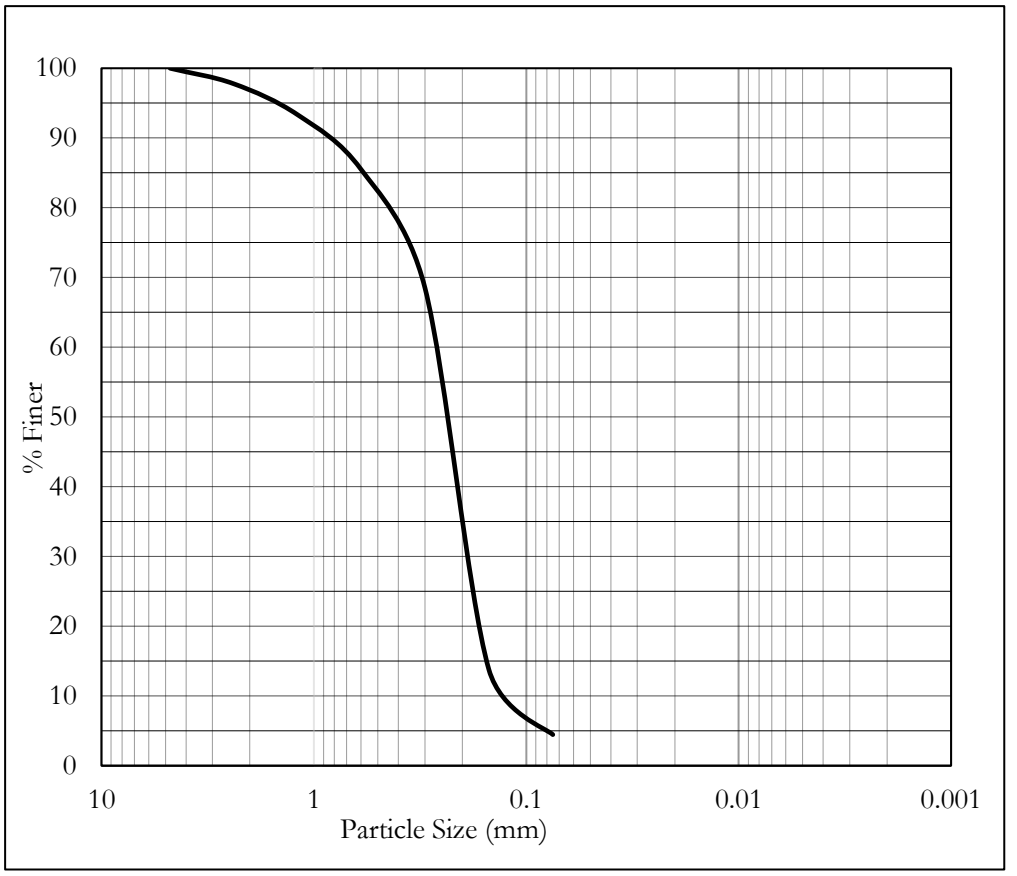
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-10**

Depth (m): **7.5**

Grain Size Analysis



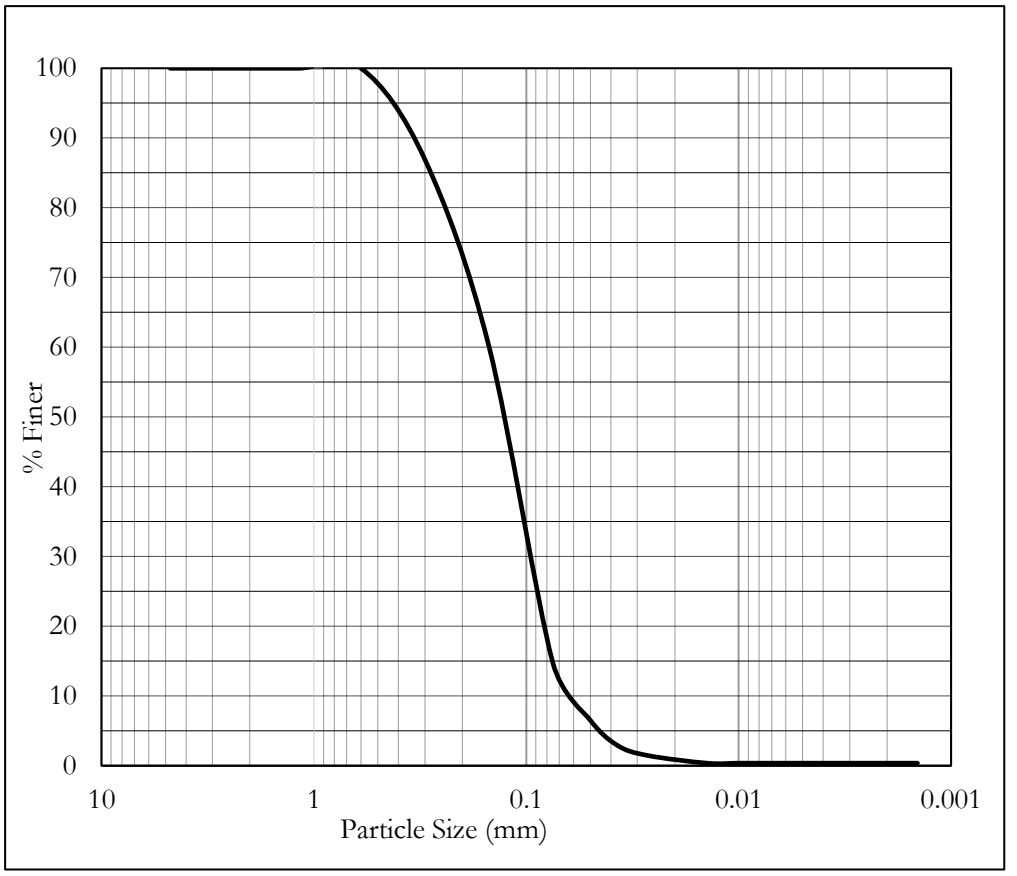
Particle Size (mm)	% Finer
4.750	100.000
2.380	97.772
1.190	93.315
0.600	85.515
0.300	68.524
0.150	13.788
0.075	4.457

Soil Type	Unit	Value	Remarks
Sand	%	95.54	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	95.54	
Fines	%	4.46	
Silt	%	4.46	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.280	Ref: ASTM D2487-11
D_{30}	%	0.200	
D_{10}	%	0.150	
C_u	%	1.867	
C_c	%	0.952	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-2025	Borehole No :	**BH-10**
Sample Type	Disturbed	Depth (m):	**15**

Grain Size Analysis



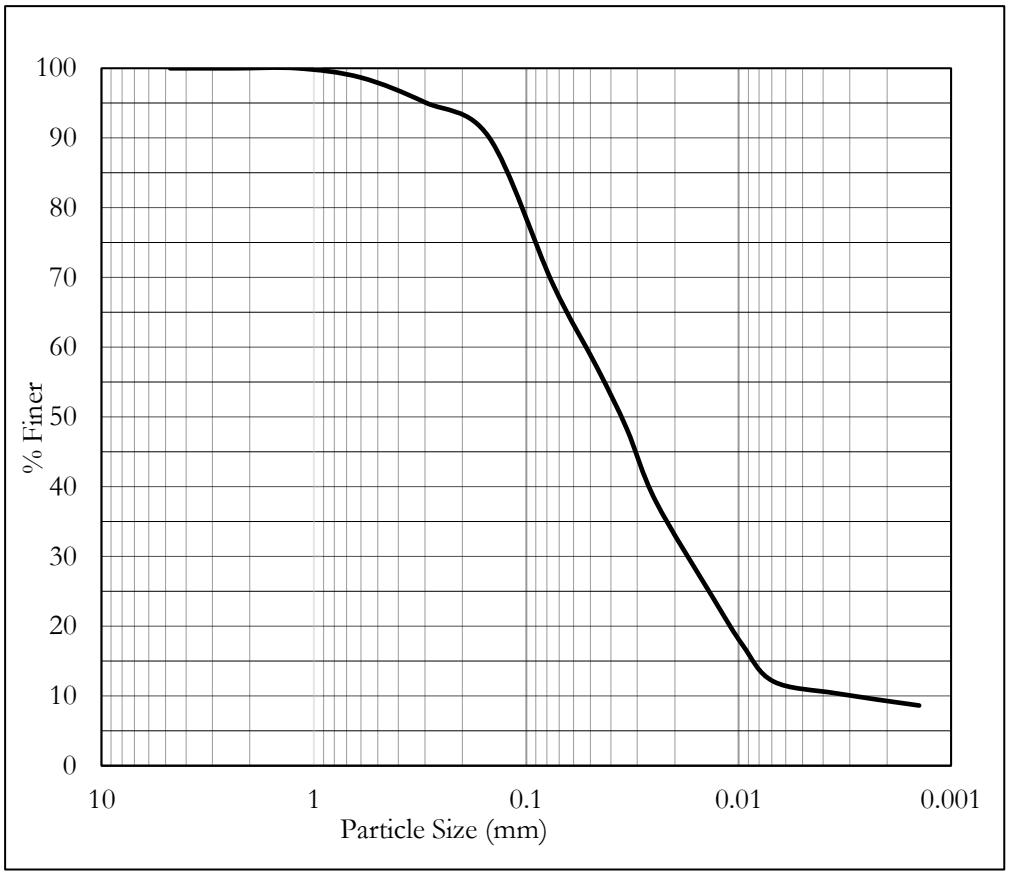
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	100.000
0.300	86.908
0.150	60.167
0.075	14.763
0.050	6.643
0.037	2.952
0.027	1.476
0.014	0.369
0.010	0.369
0.007	0.369
0.004	0.369
0.001	0.369

Soil Type	Unit	Value	Remarks
Sand	%	85.24	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	85.24	
Fines	%	14.76	
Silt	%	14.76	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.150	Ref: ASTM D2487-11
D_{30}	%	0.100	
D_{10}	%	0.060	
C_u	%	2.500	
C_c	%	1.111	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-11**
Sample Type	Disturbed	Depth (m):	**1.5**

Grain Size Analysis



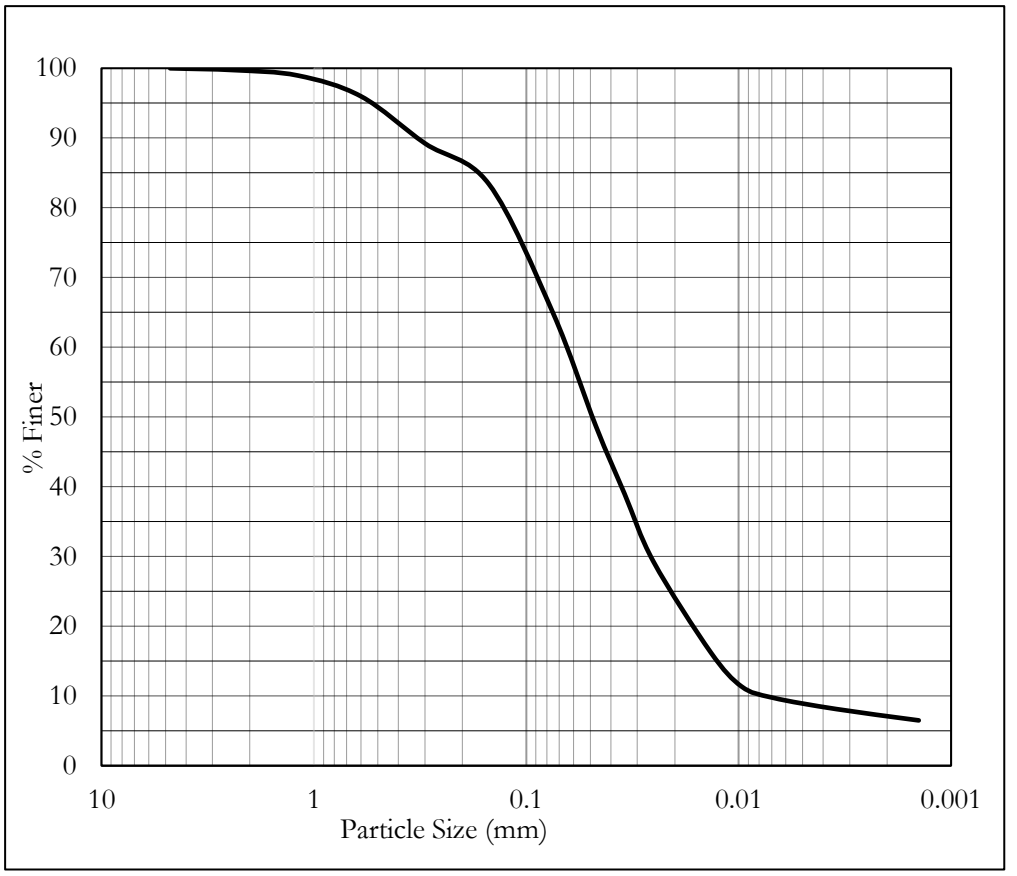
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	98.670
0.300	95.122
0.150	90.133
0.075	69.069
0.046	56.978
0.034	48.345
0.025	37.985
0.013	24.172
0.010	17.266
0.007	12.086
0.003	10.360
0.001	8.633

Soil Type	Unit	Value	Remarks
Sand	%	30.93	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	30.93	
Fines	%	69.07	
Silt	%	60.07	
Clay	%	9.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-11**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



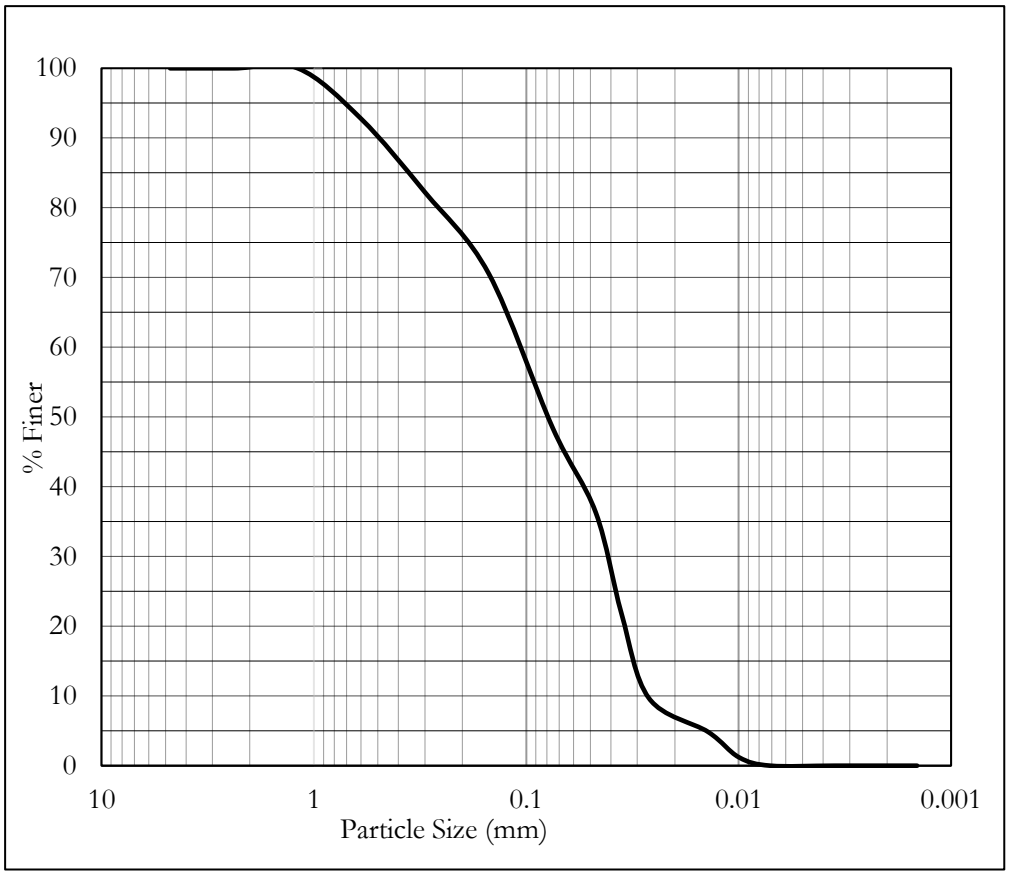
Particle Size (mm)	% Finer
4.750	100.000
2.380	99.741
1.190	98.962
0.600	95.979
0.300	89.235
0.150	83.398
0.075	64.981
0.047	48.732
0.034	38.986
0.025	29.239
0.014	16.244
0.010	11.371
0.007	9.746
0.003	8.122
0.001	6.498

Soil Type	Unit	Value	Remarks
Sand	%	35.02	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	35.02	
Fines	%	64.98	
Silt	%	57.98	
Clay	%	7.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-11**
Sample Type	Disturbed	Depth (m):	**6**

Grain Size Analysis



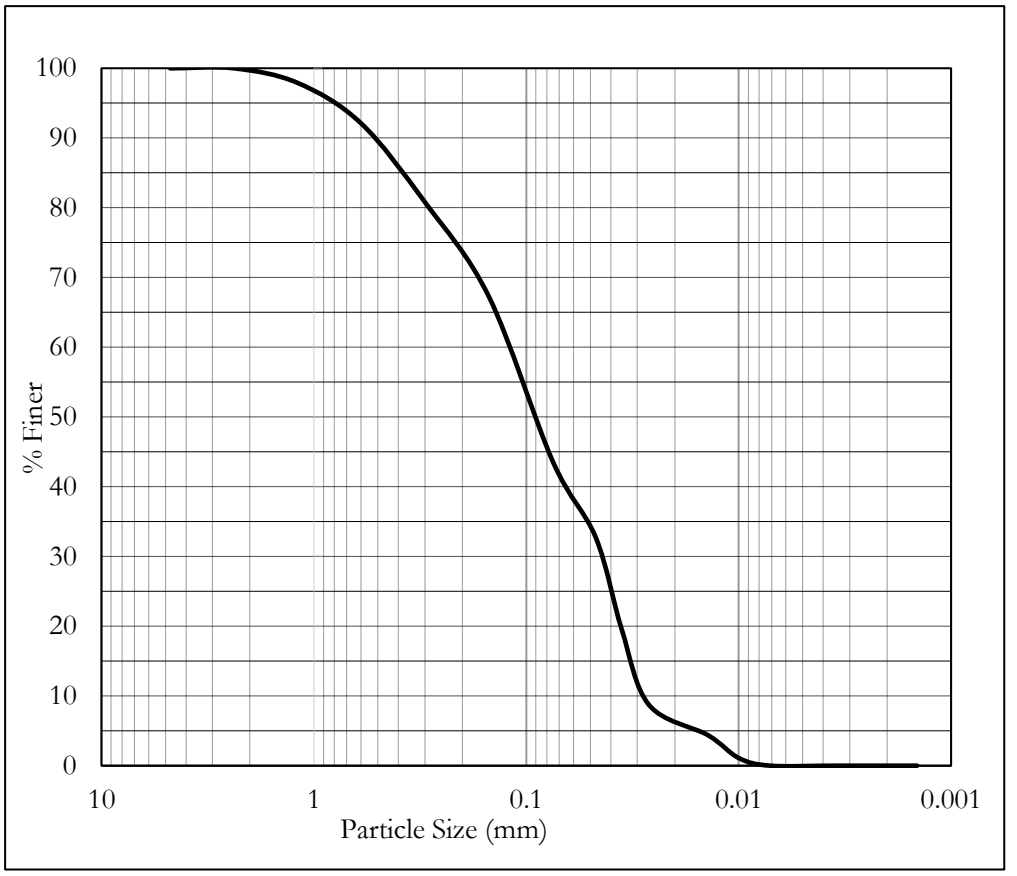
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	92.775
0.300	82.225
0.150	70.528
0.075	48.394
0.047	36.293
0.036	21.776
0.026	9.678
0.014	4.839
0.010	1.210
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	51.61	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	51.61	
Fines	%	48.39	
Silt	%	48.39	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.100	Ref: ASTM D2487-11
D_{30}	%	0.040	
D_{10}	%	0.029	
C_u	%	3.448	
C_c	%	0.552	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-11**
Sample Type	Disturbed	Depth (m):	**12**

Grain Size Analysis



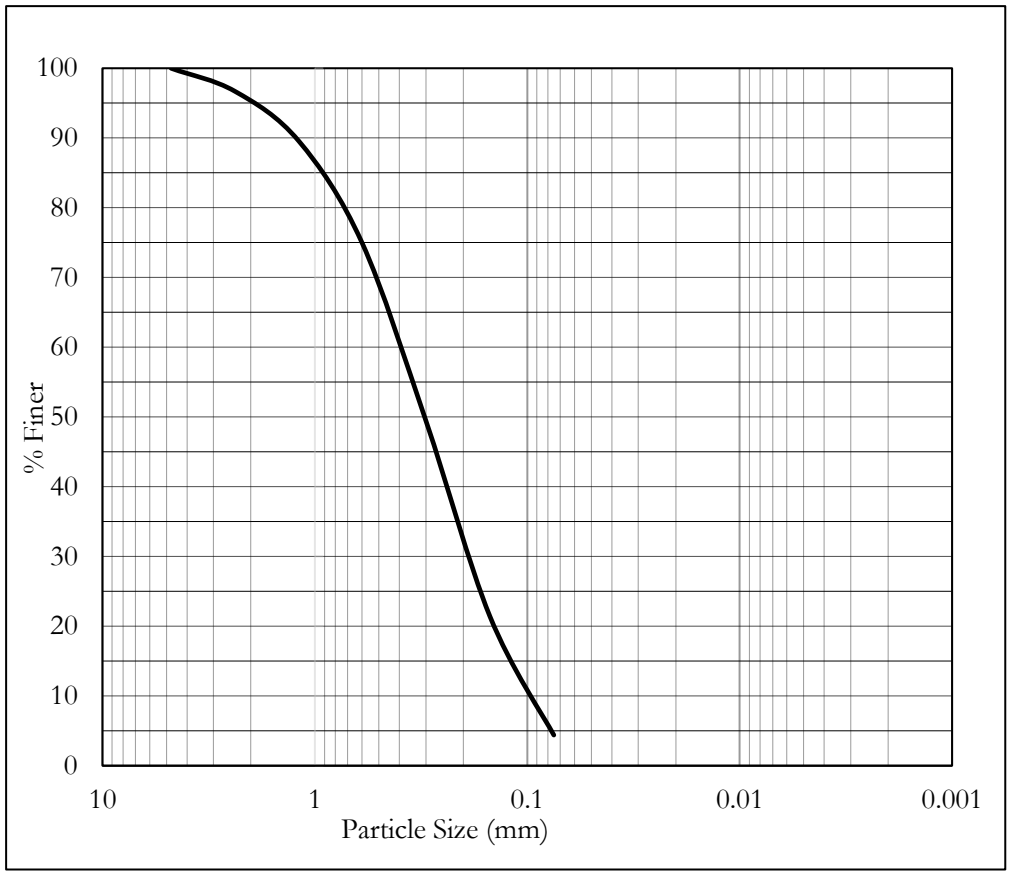
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	97.891
0.600	92.120
0.300	80.799
0.150	67.259
0.075	43.618
0.047	32.711
0.036	19.627
0.026	8.723
0.014	4.362
0.010	1.090
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	56.38	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	56.38	
Fines	%	43.62	
Silt	%	43.62	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.130	Ref: ASTM D2487-11
D_{30}	%	0.042	
D_{10}	%	0.030	
C_u	%	4.333	
C_c	%	0.452	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-11**
Sample Type	Disturbed	Depth (m):	**12**

Grain Size Analysis



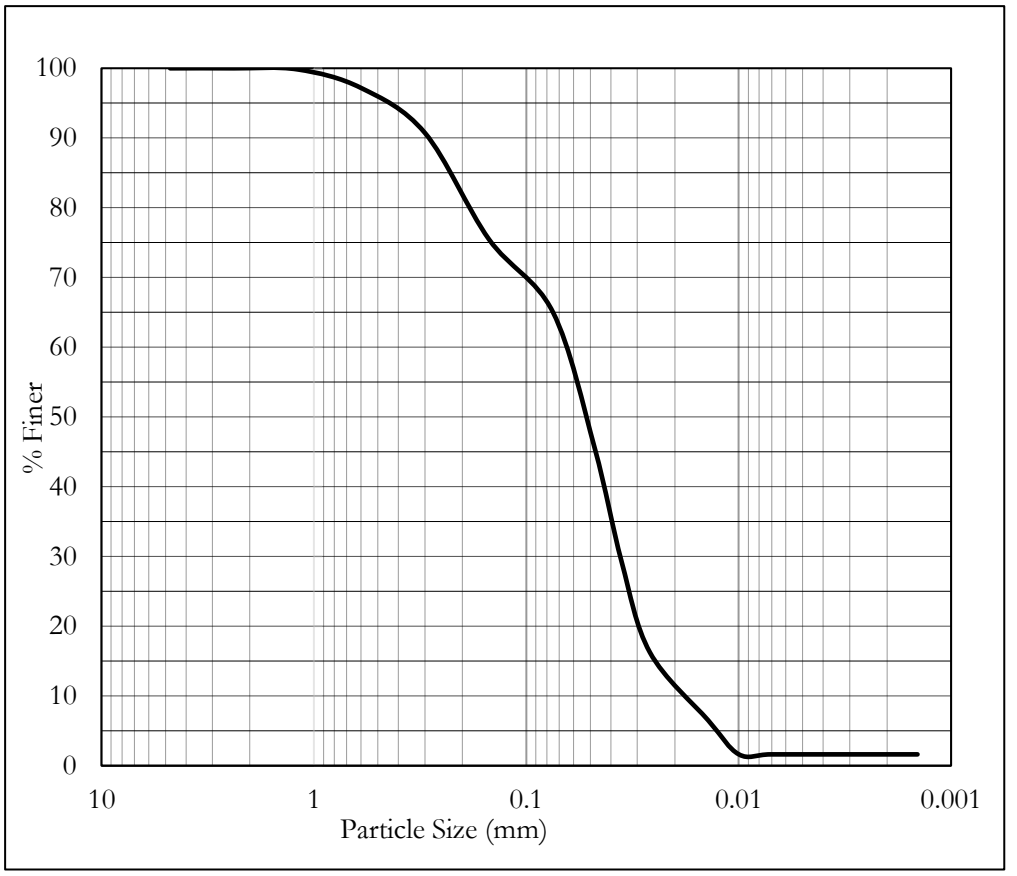
Particle Size (mm)	% Finer
4.750	100.000
2.380	96.703
1.190	89.560
0.600	75.000
0.300	49.451
0.150	21.429
0.075	4.396
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000

Soil Type	Unit	Value	Remarks
Sand	%	95.60	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	95.60	
Fines	%	4.40	
Silt	%	4.40	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.400	Ref: ASTM D2487-11
D_{30}	%	0.190	
D_{10}	%	0.100	
C_u	%	4.000	
C_c	%	0.903	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-13**
Sample Type	Disturbed	Depth (m):	**4.5**

Grain Size Analysis



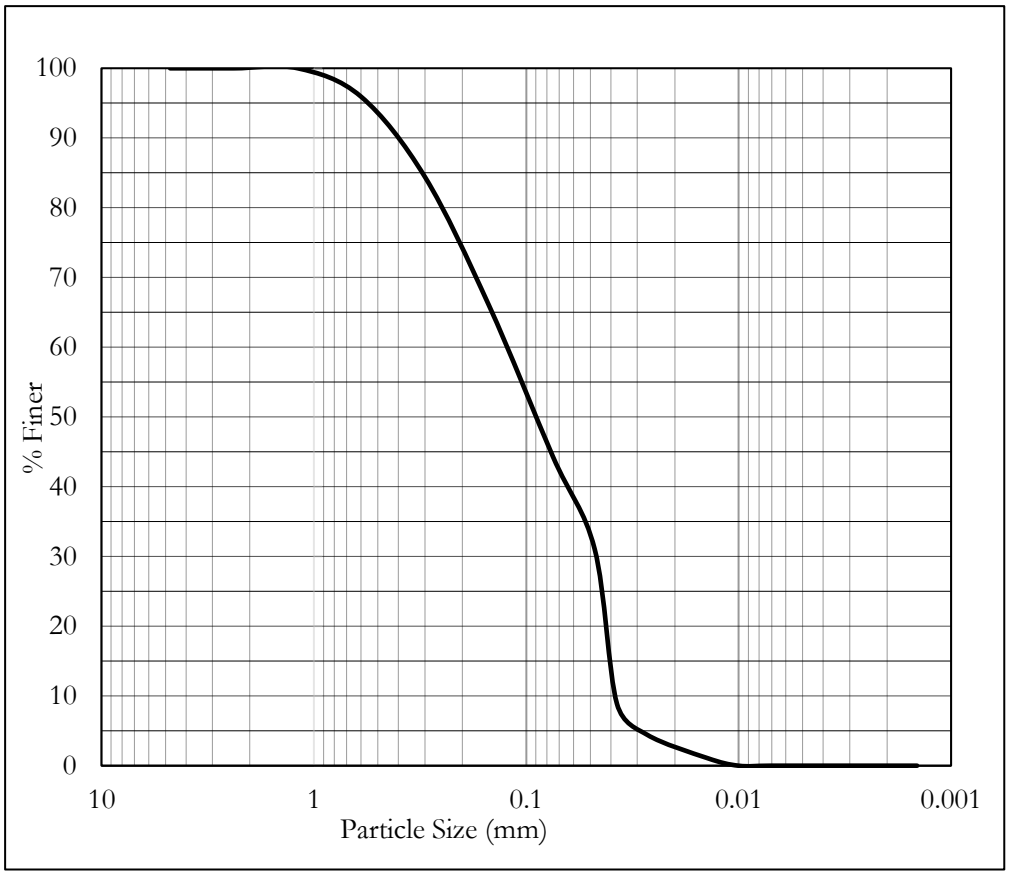
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.834
0.600	97.185
0.300	90.728
0.150	75.497
0.075	65.066
0.048	45.543
0.036	29.278
0.026	16.265
0.014	6.506
0.010	1.627
0.007	1.627
0.004	1.627
0.001	1.627

Soil Type	Unit	Value	Remarks
Sand	%	34.93	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	34.93	
Fines	%	65.07	
Silt	%	63.07	
Clay	%	2.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-13**
Sample Type	Disturbed	Depth (m):	**9**

Grain Size Analysis



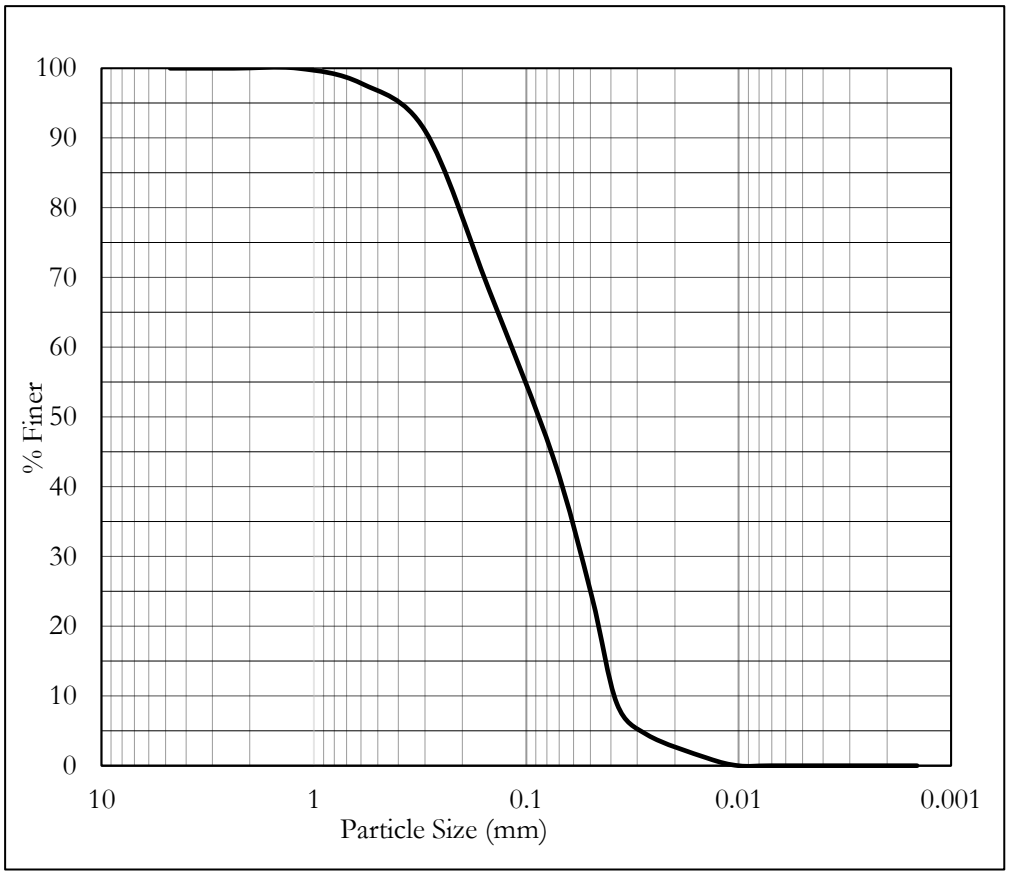
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	95.937
0.300	84.424
0.150	66.027
0.075	44.357
0.048	31.048
0.037	8.871
0.027	4.435
0.014	1.109
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	55.64	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	55.64	
Fines	%	44.36	
Silt	%	44.36	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.140	Ref: ASTM D2487-11
D_{30}	%	0.045	
D_{10}	%	0.040	
C_u	%	3.500	
C_c	%	0.362	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-13**
Sample Type	Disturbed	Depth (m):	**18**

Grain Size Analysis



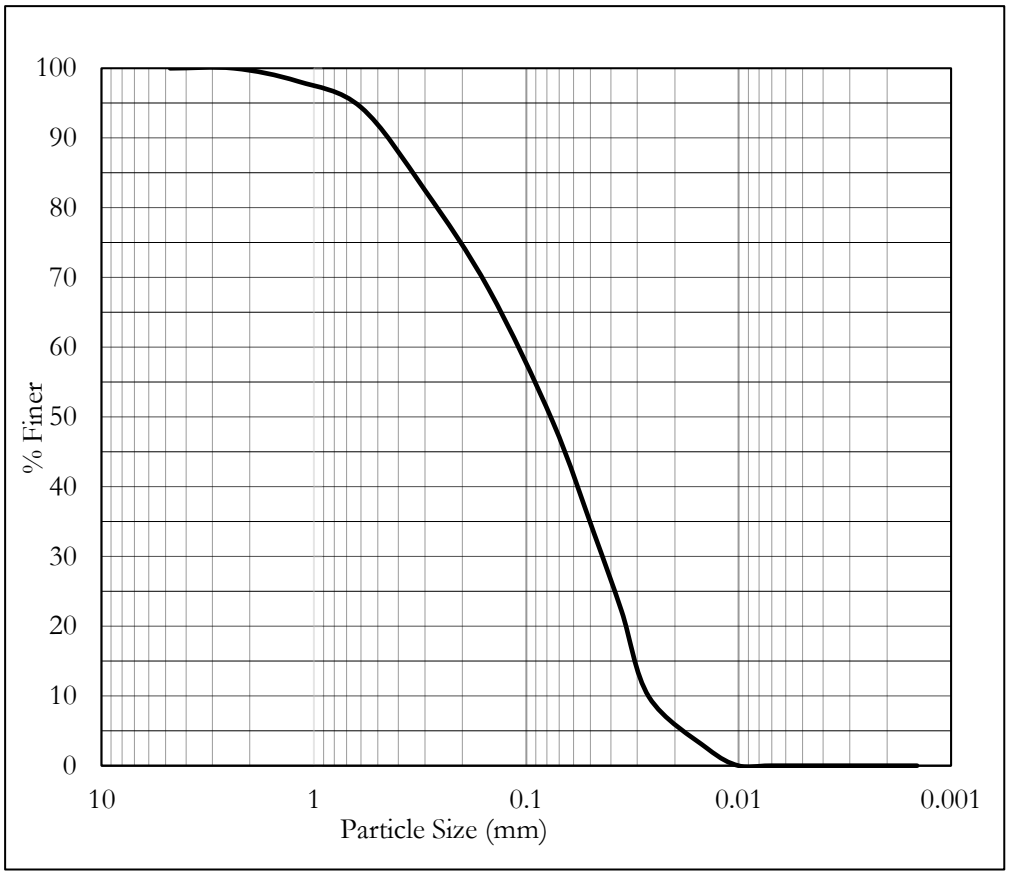
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	97.856
0.300	91.084
0.150	68.284
0.075	44.357
0.049	24.395
0.037	8.871
0.027	4.435
0.014	1.109
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	55.64	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	55.64	
Fines	%	44.36	
Silt	%	44.36	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.130	Ref: ASTM D2487-11
D_{30}	%	0.055	
D_{10}	%	0.039	
C_u	%	3.333	
C_c	%	0.597	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-14**
Sample Type	Disturbed	Depth (m):	**6**

Grain Size Analysis



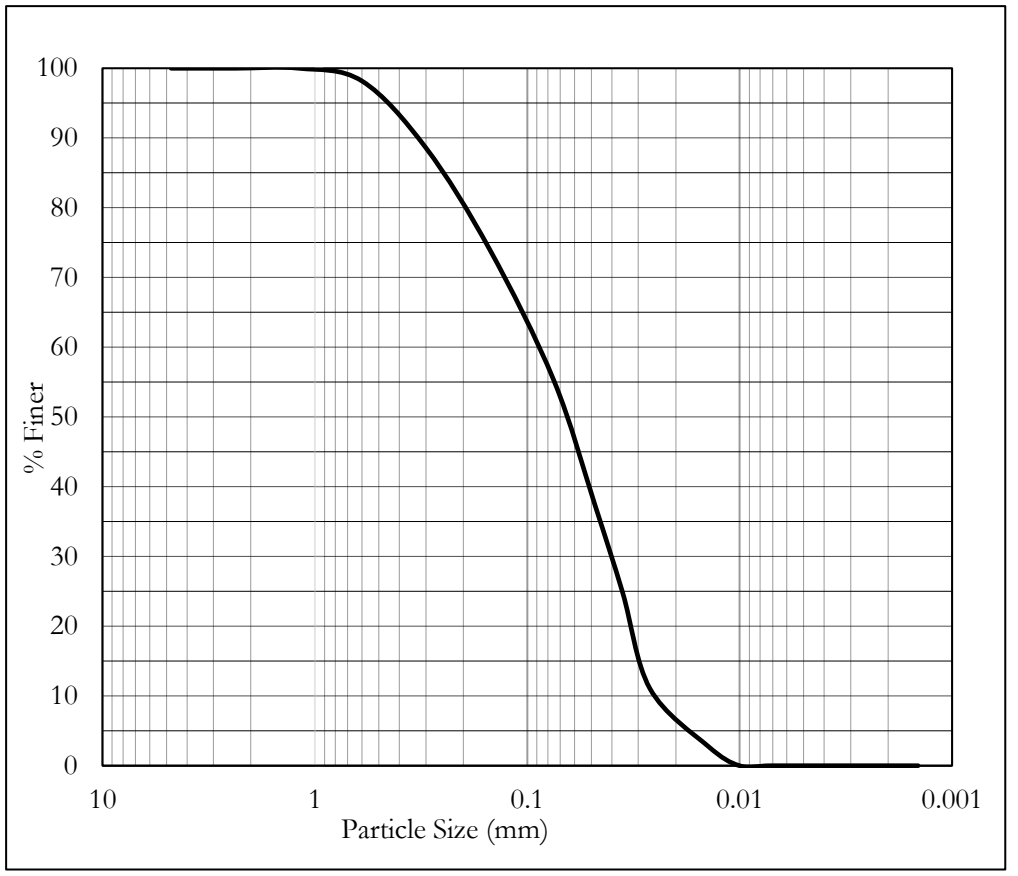
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	98.135
0.600	94.406
0.300	82.517
0.150	68.298
0.075	49.301
0.048	33.276
0.036	22.184
0.026	9.859
0.014	2.465
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	50.70	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	50.70	
Fines	%	49.30	
Silt	%	49.30	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.110	Ref: ASTM D2487-11
D_{30}	%	0.043	
D_{10}	%	0.028	
C_u	%	3.929	
C_c	%	0.600	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-14**
Sample Type	Disturbed	Depth (m):	**24**

Grain Size Analysis



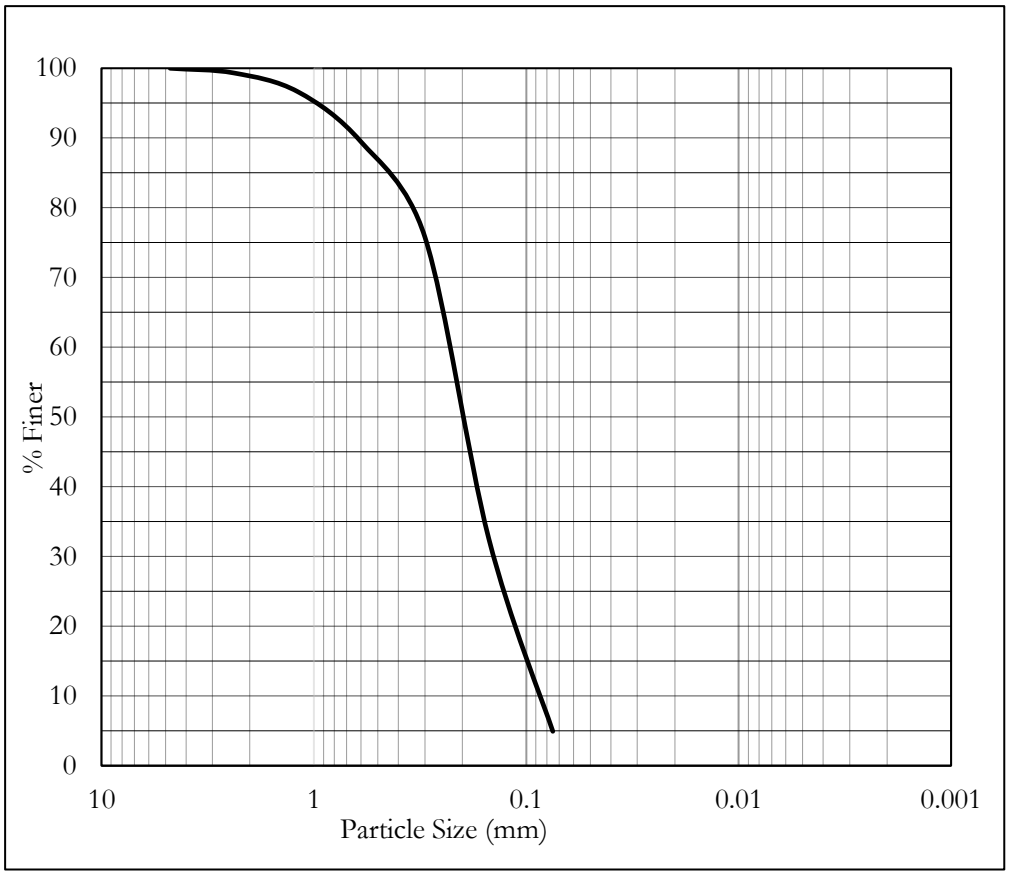
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	98.174
0.300	88.584
0.150	73.973
0.075	55.251
0.048	37.292
0.036	24.861
0.026	11.049
0.014	2.762
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	44.75	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	44.75	
Fines	%	55.25	
Silt	%	55.25	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.090	Ref: ASTM D2487-11
D_{30}	%	0.040	
D_{10}	%	0.026	
C_u	%	3.462	
C_c	%	0.684	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-2025	Borehole No :	**BH-14**
Sample Type	Disturbed	Depth (m):	**30**

Grain Size Analysis



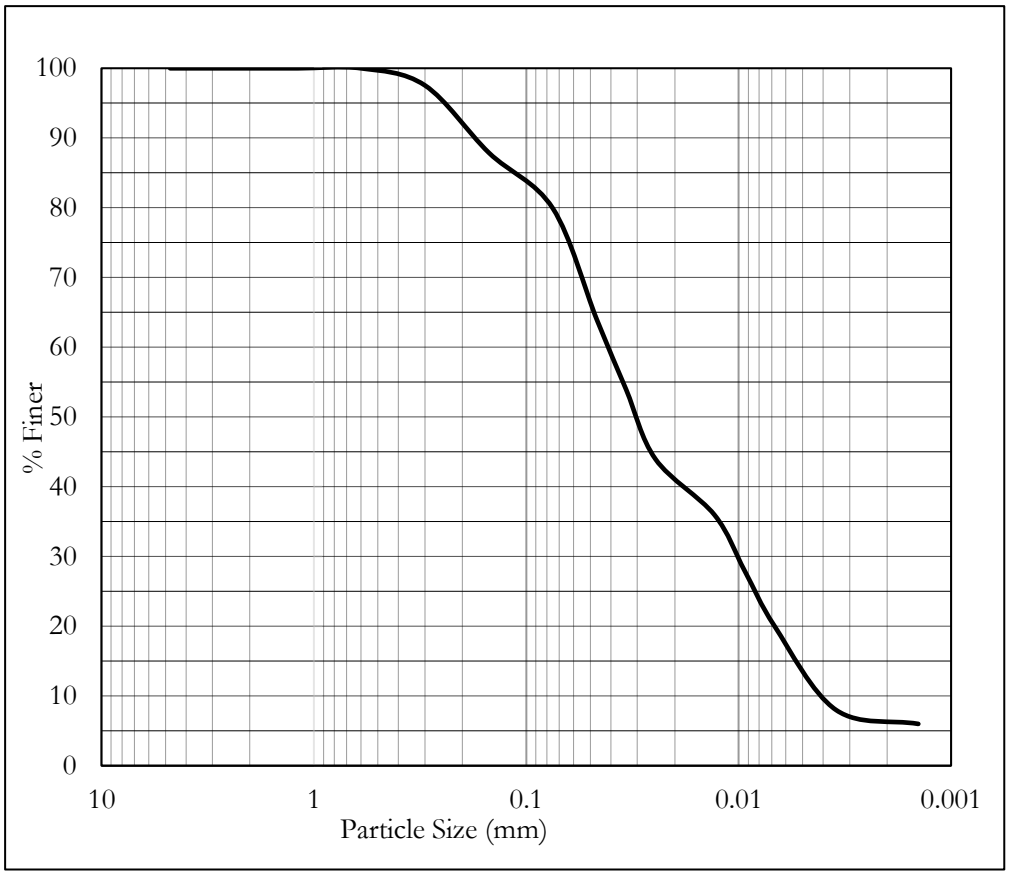
Particle Size (mm)	% Finer
4.750	100.000
2.380	99.327
1.190	96.637
0.600	89.462
0.300	75.785
0.150	32.511
0.075	4.933
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000

Soil Type	Unit	Value	Remarks
Sand	%	95.07	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	95.07	
Fines	%	4.93	
Silt	%	4.93	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.230	Ref: ASTM D2487-11
D_{30}	%	0.150	
D_{10}	%	0.090	
C_u	%	2.556	
C_c	%	1.087	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-15**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



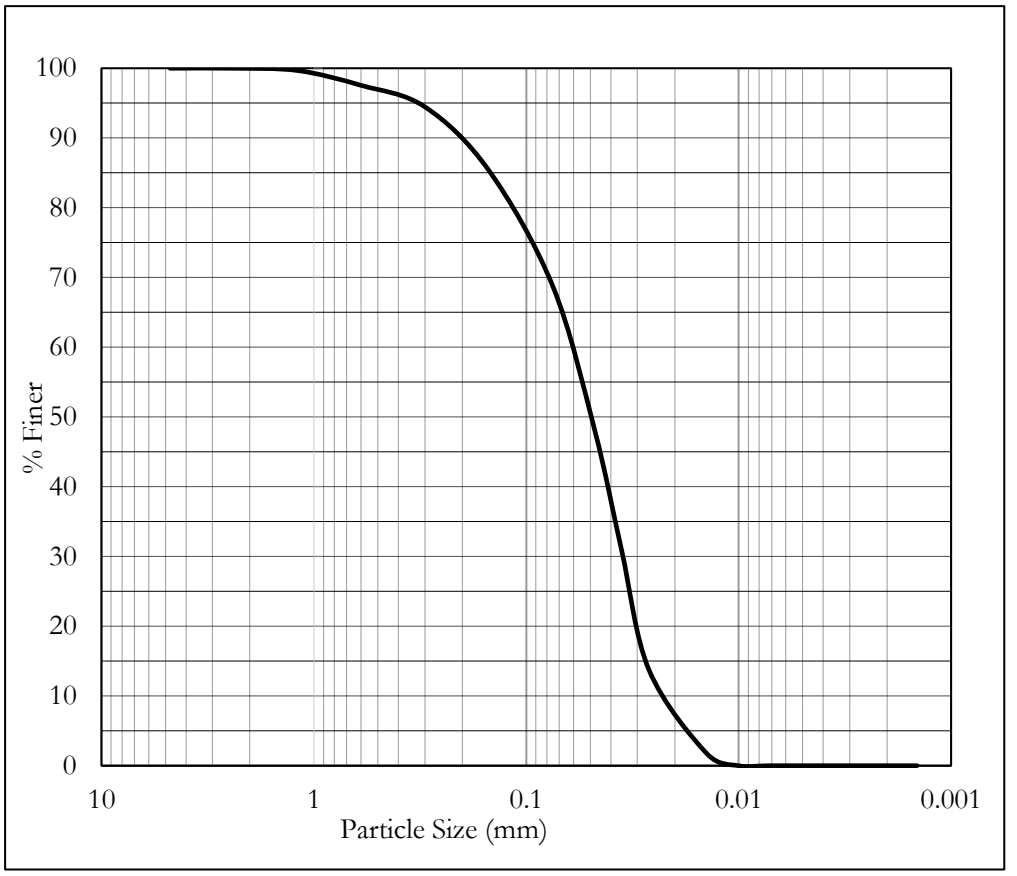
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	100.000
0.300	97.548
0.150	87.891
0.075	79.920
0.047	63.932
0.034	53.943
0.025	43.953
0.013	35.962
0.009	27.970
0.007	19.979
0.003	7.991
0.001	5.994

Soil Type	Unit	Value	Remarks
Sand	%	20.08	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	20.08	
Fines	%	79.92	
Silt	%	73.72	
Clay	%	6.20	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-15**
Sample Type	Disturbed	Depth (m):	**9**

Grain Size Analysis



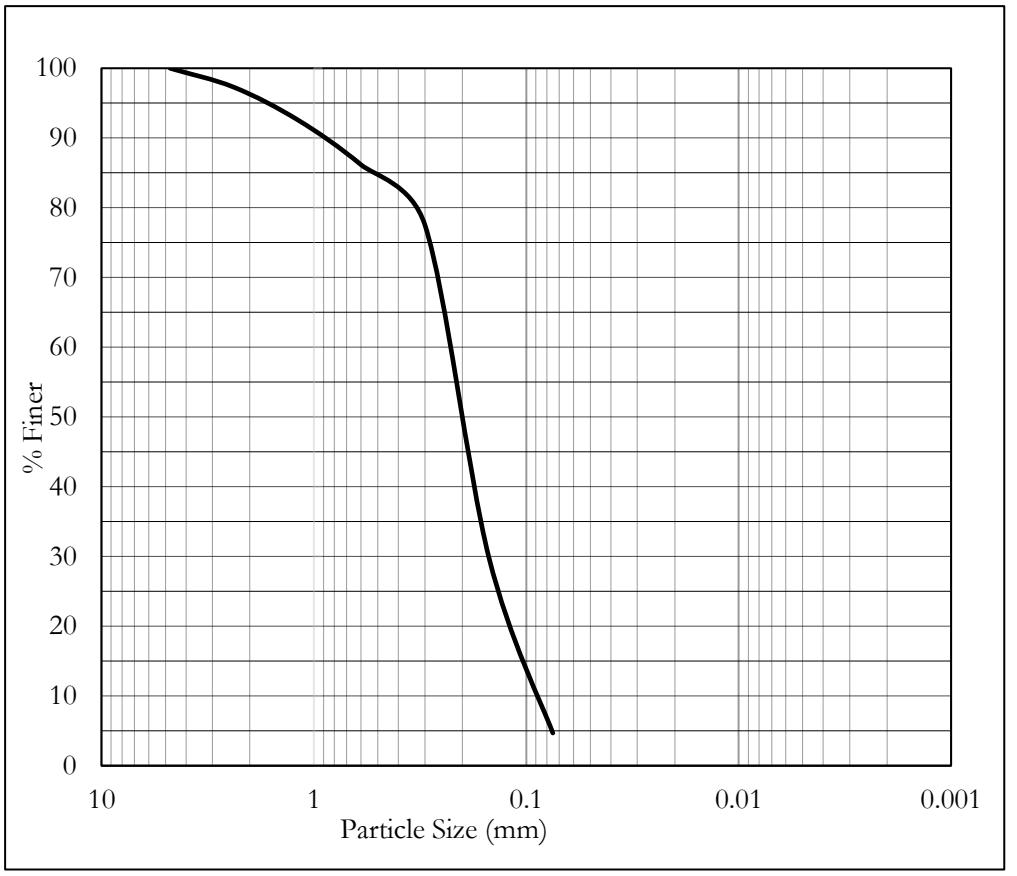
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.674
0.600	97.558
0.300	94.465
0.150	85.349
0.075	68.745
0.048	48.118
0.036	30.933
0.026	13.748
0.014	1.719
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	31.26	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	31.26	
Fines	%	68.74	
Silt	%	68.74	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.060	Ref: ASTM D2487-11
D_{30}	%	0.035	
D_{10}	%	0.025	
C_u	%	2.400	
C_c	%	0.817	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-2025	Borehole No :	**BH-15**
Sample Type	Disturbed	Depth (m):	**30**

Grain Size Analysis



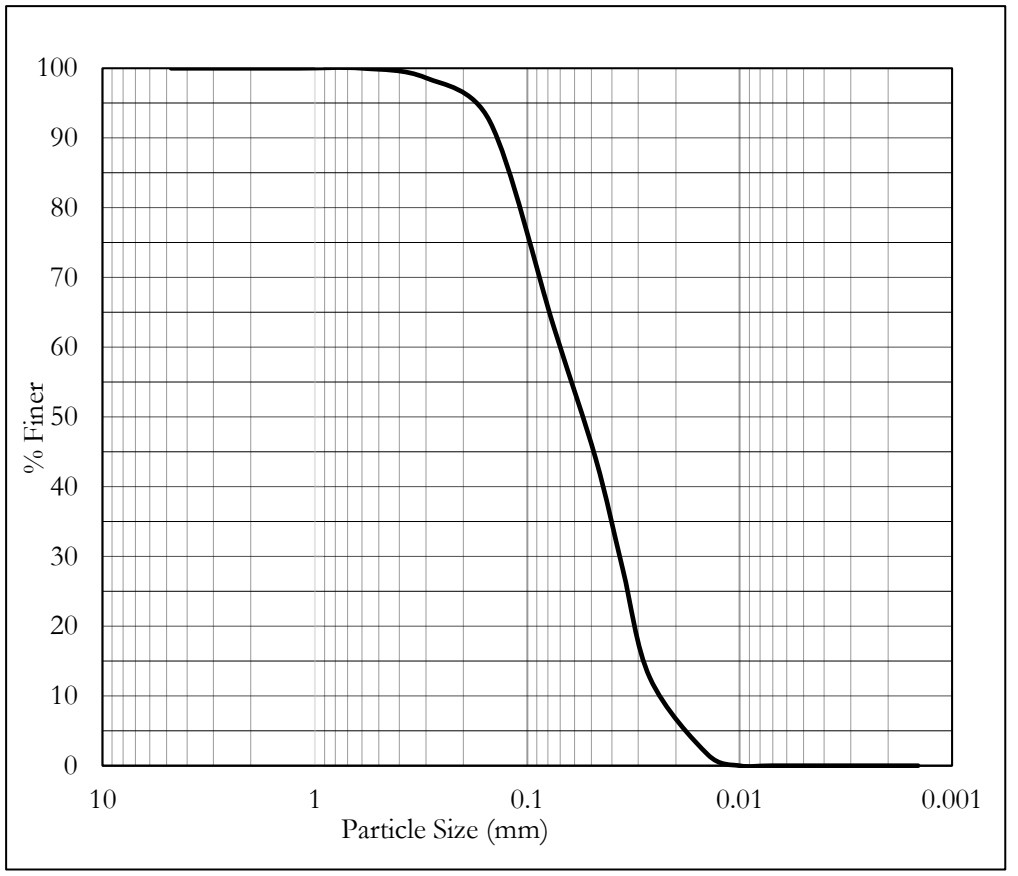
Particle Size (mm)	% Finer
4.750	100.000
2.380	97.284
1.190	92.593
0.600	86.173
0.300	77.531
0.150	29.877
0.075	4.691

Soil Type	Unit	Value	Remarks
Sand	%	95.31	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	95.31	
Fines	%	4.69	
Silt	%	4.69	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.220	Ref: ASTM D2487-11
D_{30}	%	0.160	
D_{10}	%	0.090	
C_u	%	2.444	
C_c	%	1.293	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	4-Oct-2025	Borehole No :	**BH-18**
Sample Type	Disturbed	Depth (m):	**6**

Grain Size Analysis



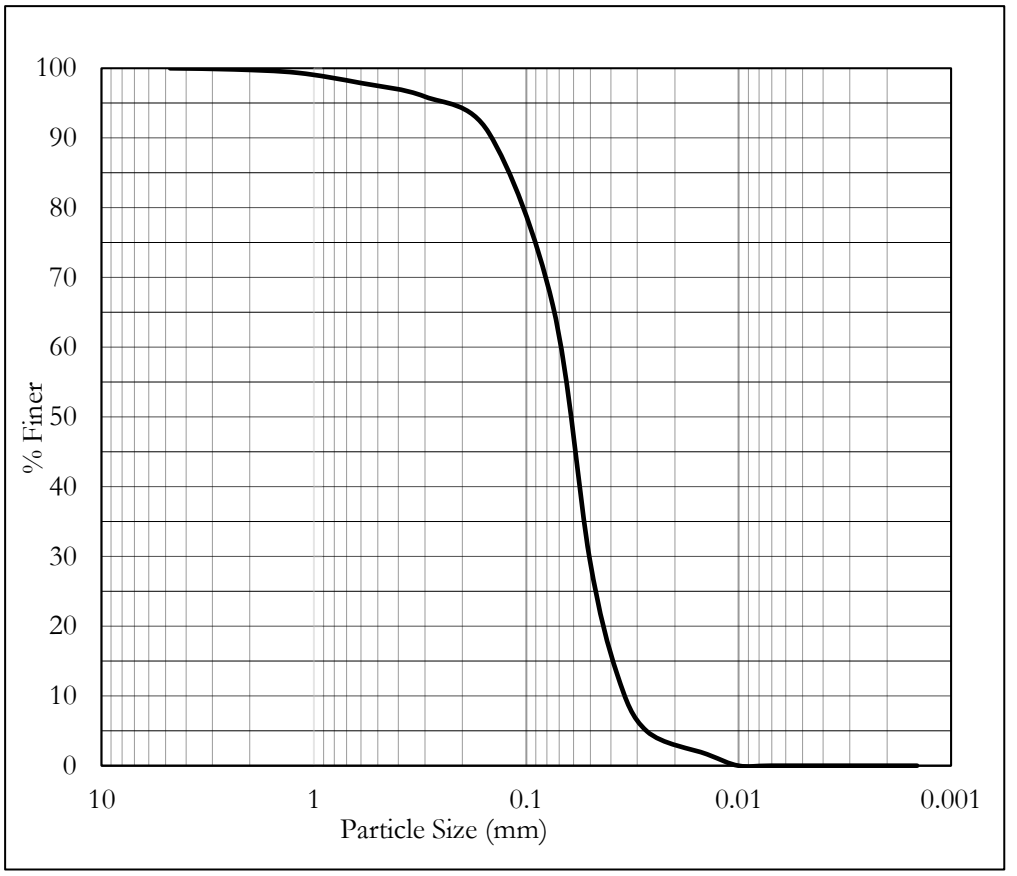
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	100.000
0.300	98.626
0.150	92.366
0.075	62.901
0.048	44.028
0.036	28.303
0.026	12.579
0.014	1.572
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	37.10	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	37.10	
Fines	%	62.90	
Silt	%	62.90	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.080	Ref: ASTM D2487-11
D_{30}	%	0.039	
D_{10}	%	0.025	
C_u	%	3.200	
C_c	%	0.761	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	4-Oct-2025	Borehole No :	**BH-18**
Sample Type	Disturbed	Depth (m):	**15**

Grain Size Analysis



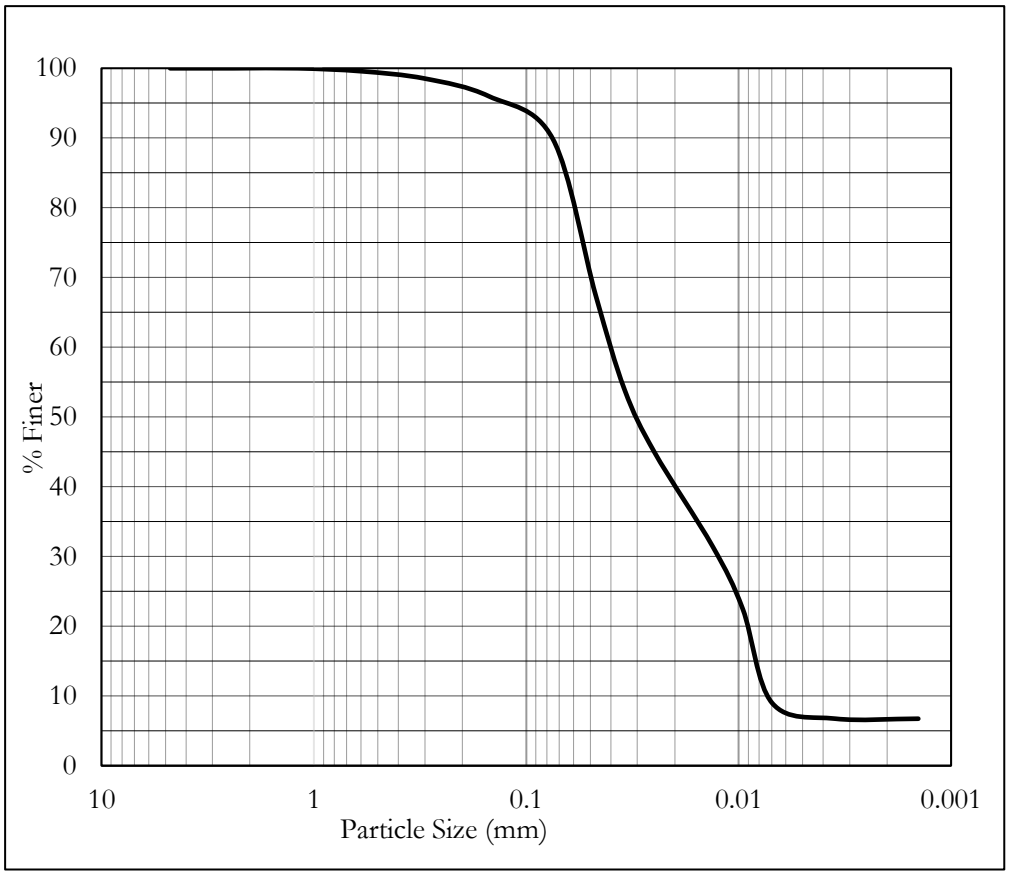
Particle Size (mm)	% Finer
4.750	100.000
2.380	99.837
1.190	99.350
0.600	97.886
0.300	95.935
0.150	90.732
0.075	66.016
0.050	29.705
0.037	13.202
0.027	4.951
0.014	1.650
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	33.98	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	33.98	
Fines	%	66.02	
Silt	%	66.02	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.070	Ref: ASTM D2487-11
D_{30}	%	0.050	
D_{10}	%	0.035	
C_u	%	2.000	
C_c	%	1.020	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-2025	Borehole No :	**BH-20**
Sample Type	Disturbed	Depth (m):	**3**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	99.578
0.300	98.523
0.150	95.992
0.075	89.873
0.047	67.401
0.034	53.920
0.025	44.934
0.013	31.454
0.010	22.467
0.007	8.987
0.003	6.740
0.001	6.740

Soil Type	Unit	Value	Remarks
Sand	%	10.13	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	10.13	
Fines	%	89.87	
Silt	%	82.87	
Clay	%	7.00	Ref: ASTM D422
D_{60}	%	----	Ref: ASTM D2487-11
D_{30}	%	----	
D_{10}	%	----	
C_u	%	----	
C_c	%	----	

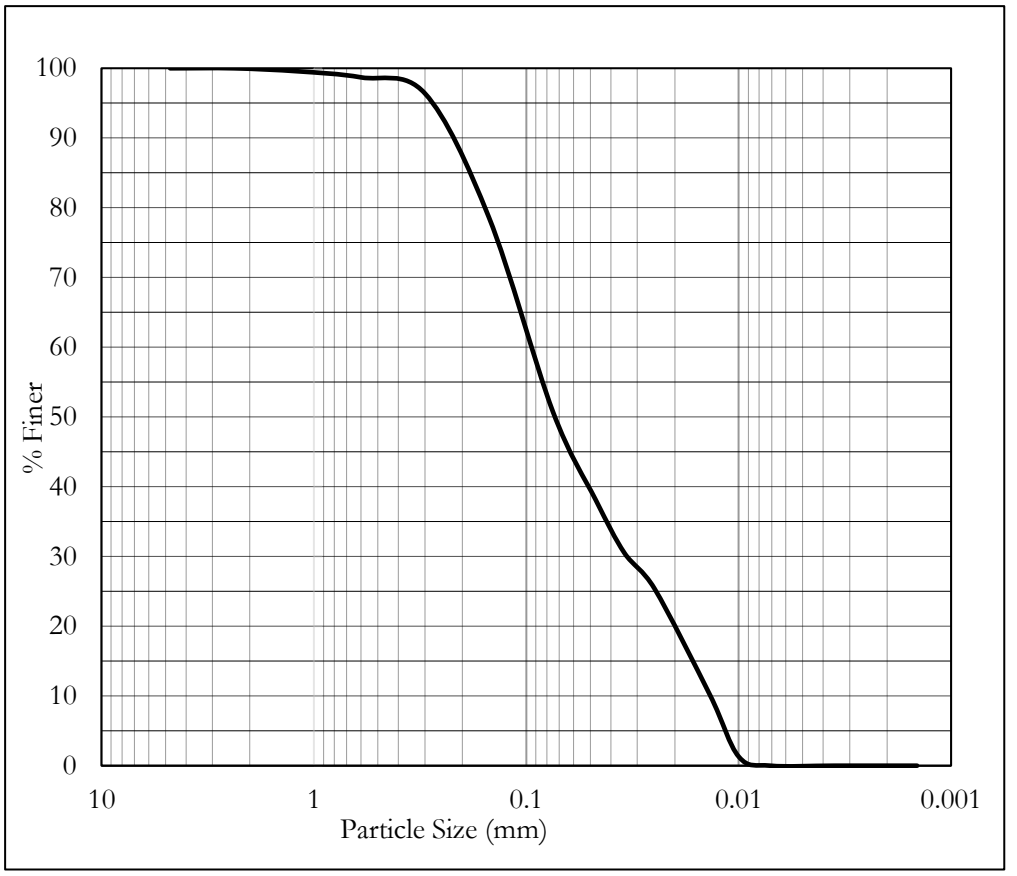
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	5-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-20**

Depth (m): **7.5**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.567
0.600	98.701
0.300	96.392
0.150	78.644
0.075	50.794
0.047	38.093
0.034	30.474
0.025	25.395
0.014	10.158
0.010	1.270
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	49.21	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	49.21	
Fines	%	50.79	
Silt	%	50.79	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.100	Ref: ASTM D2487-11
D_{30}	%	0.033	
D_{10}	%	0.015	
C_u	%	6.667	
C_c	%	0.726	

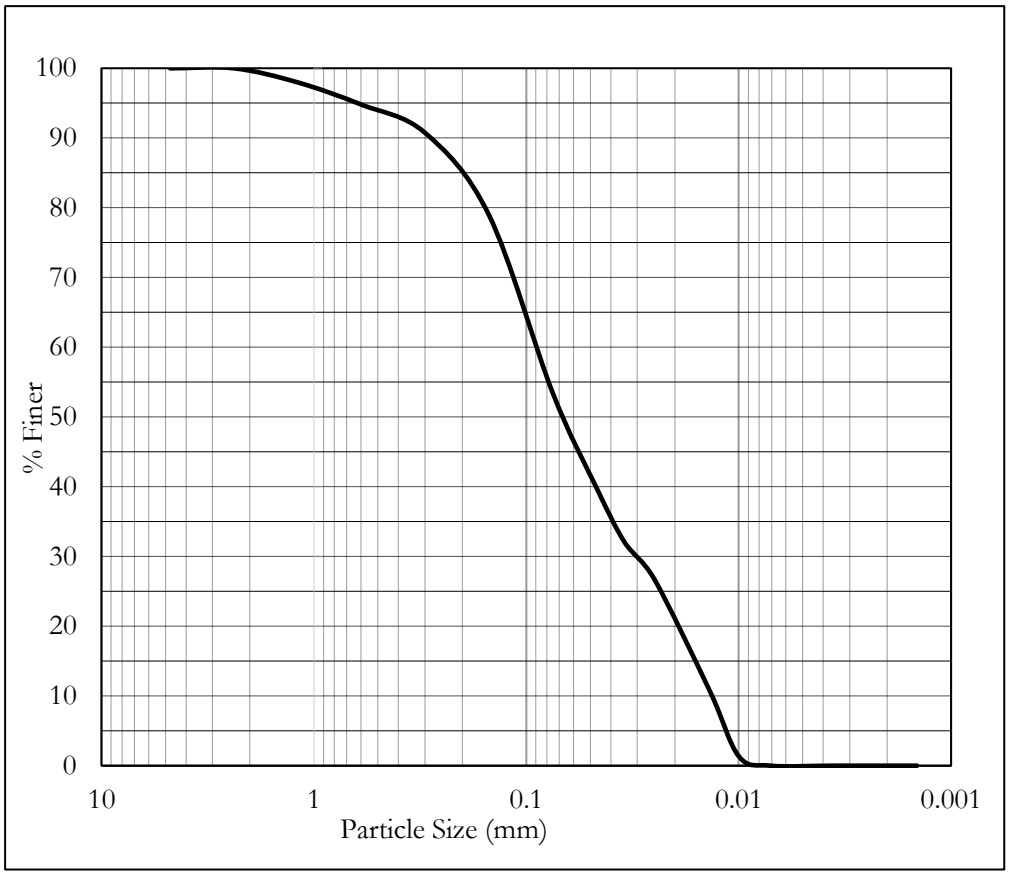
Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	5-Oct-2025
Sample Type	Disturbed

Borehole No : **BH-20**

Depth (m): **16.5**

Grain Size Analysis



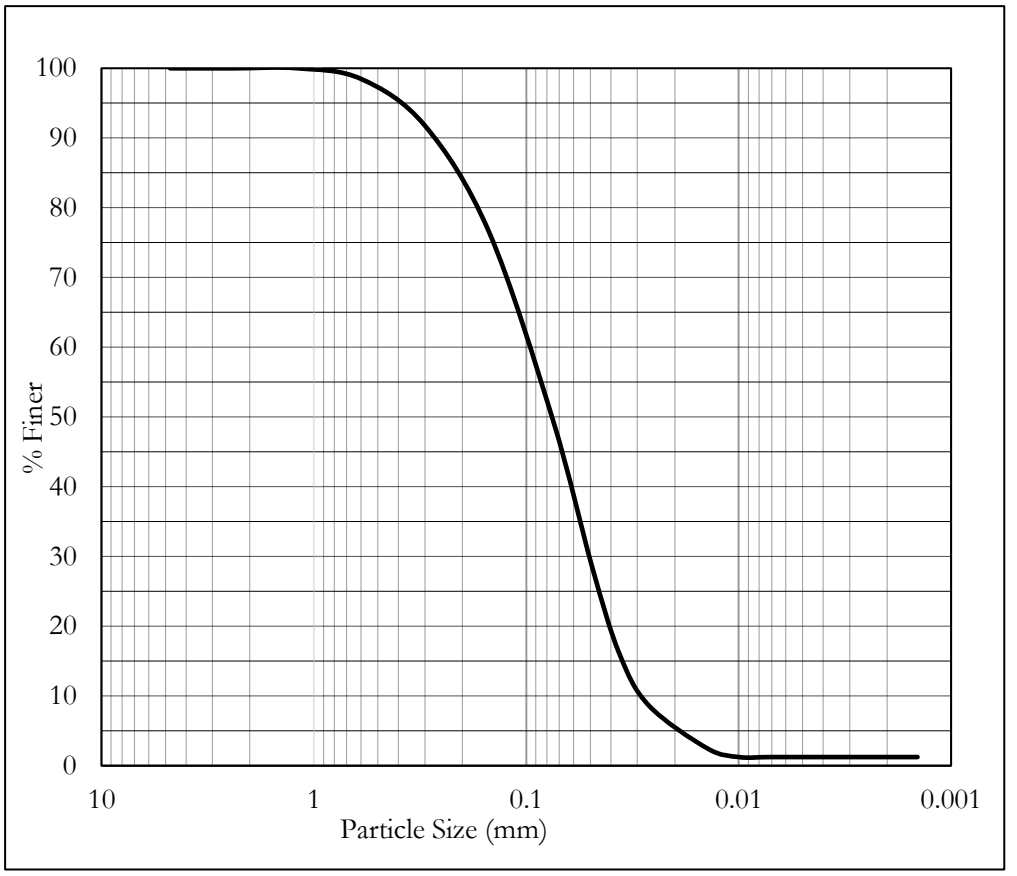
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	97.975
0.600	94.810
0.300	90.759
0.150	78.987
0.075	53.418
0.047	40.061
0.034	32.048
0.025	26.707
0.014	10.683
0.010	1.335
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	46.58	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	46.58	
Fines	%	53.42	
Silt	%	53.42	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.090	Ref: ASTM D2487-11
D_{30}	%	0.030	
D_{10}	%	0.015	
C_u	%	6.000	
C_c	%	0.667	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-2025	Borehole No :	**BH-20**
Sample Type	Disturbed	Depth (m):	**16.5**

Grain Size Analysis



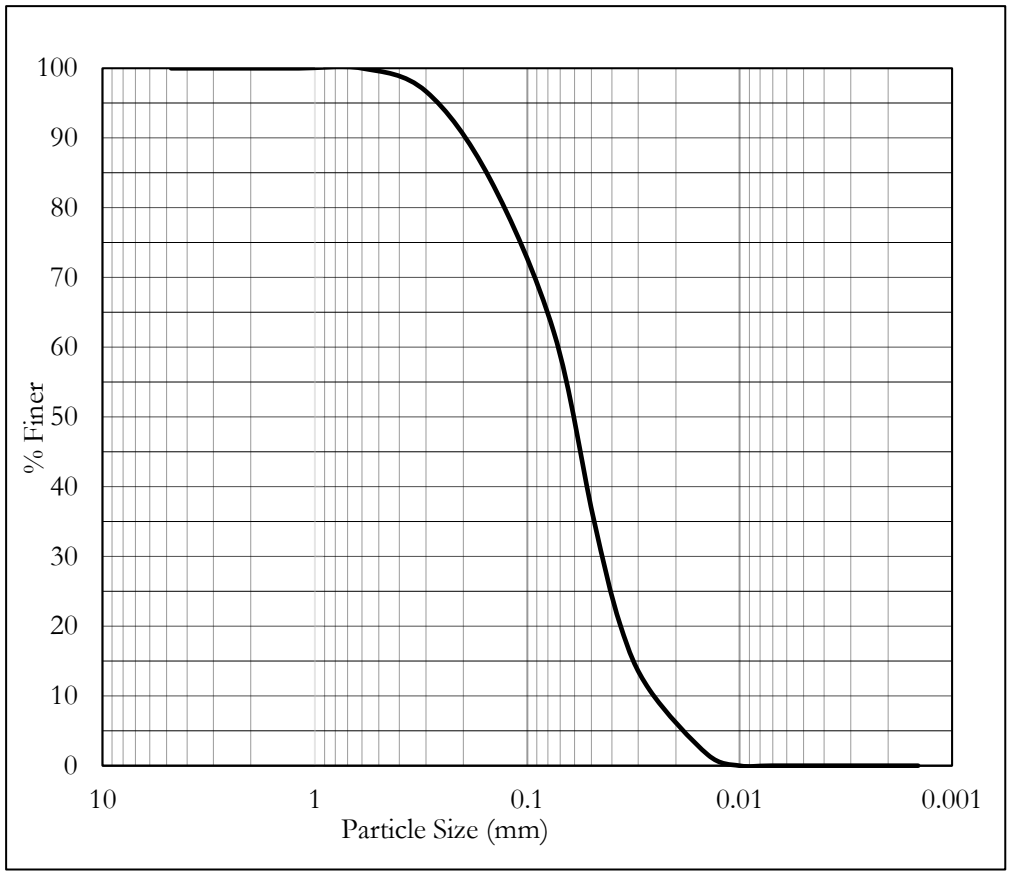
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	98.481
0.300	91.772
0.150	76.582
0.075	49.620
0.049	28.530
0.037	16.126
0.027	8.683
0.014	2.481
0.010	1.240
0.007	1.240
0.004	1.240
0.001	1.240

Soil Type	Unit	Value	Remarks
Sand	%	50.38	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	50.38	
Fines	%	49.62	
Silt	%	48.52	
Clay	%	1.10	Ref: ASTM D422
D_{60}	%	0.100	Ref: ASTM D2487-11
D_{30}	%	0.050	
D_{10}	%	0.030	
C_u	%	3.333	
C_c	%	0.833	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-2025	Borehole No :	**BH-21**
Sample Type	Disturbed	Depth (m):	**9**

Grain Size Analysis



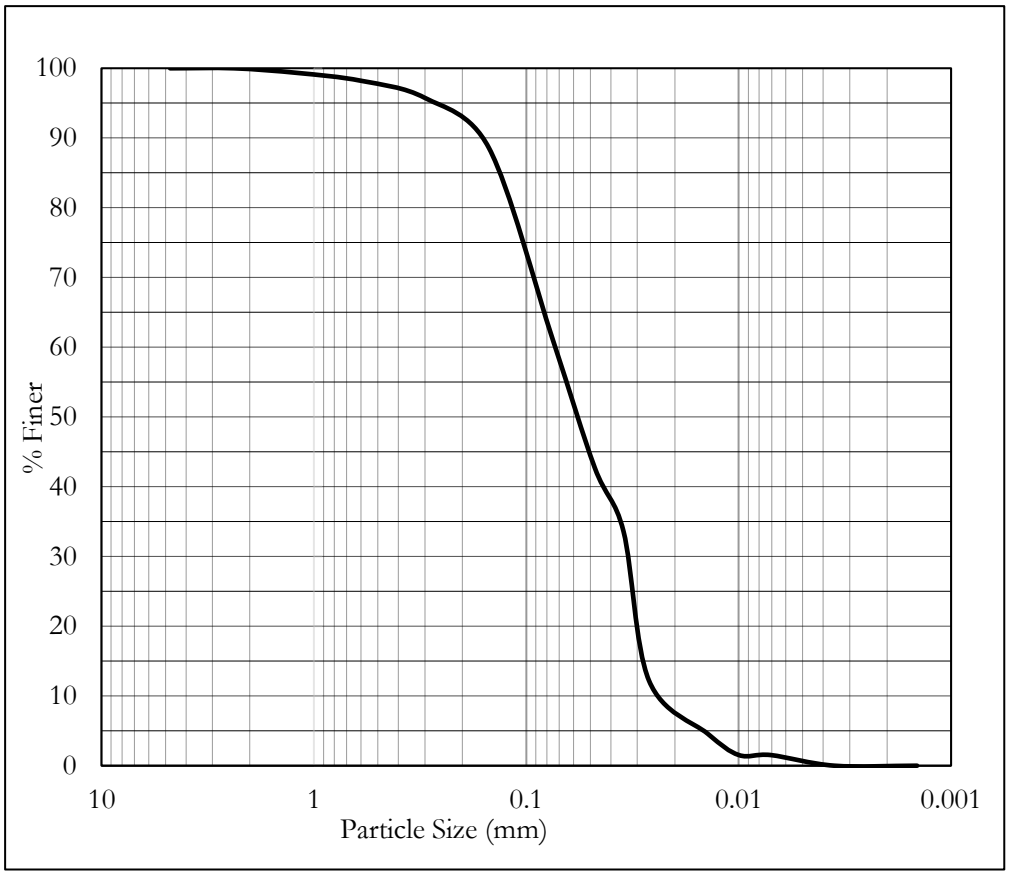
Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	100.000
0.600	100.000
0.300	96.690
0.150	84.161
0.075	62.175
0.049	35.748
0.037	20.206
0.027	10.880
0.014	1.554
0.010	0.000
0.007	0.000
0.004	0.000
0.001	0.000

Soil Type	Unit	Value	Remarks
Sand	%	37.83	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	37.83	
Fines	%	62.17	
Silt	%	62.17	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.070	Ref: ASTM D2487-11
D_{30}	%	0.045	
D_{10}	%	0.025	
C_u	%	2.800	
C_c	%	1.157	

Grain Size Analysis of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-2025	Borehole No :	**BH-21**
Sample Type	Disturbed	Depth (m):	**9**

Grain Size Analysis



Particle Size (mm)	% Finer
4.750	100.000
2.380	100.000
1.190	99.329
0.600	98.210
0.300	95.749
0.150	88.591
0.075	61.074
0.048	42.749
0.035	33.588
0.026	12.214
0.014	4.580
0.010	1.527
0.007	1.527
0.004	0.000
0.001	0.000

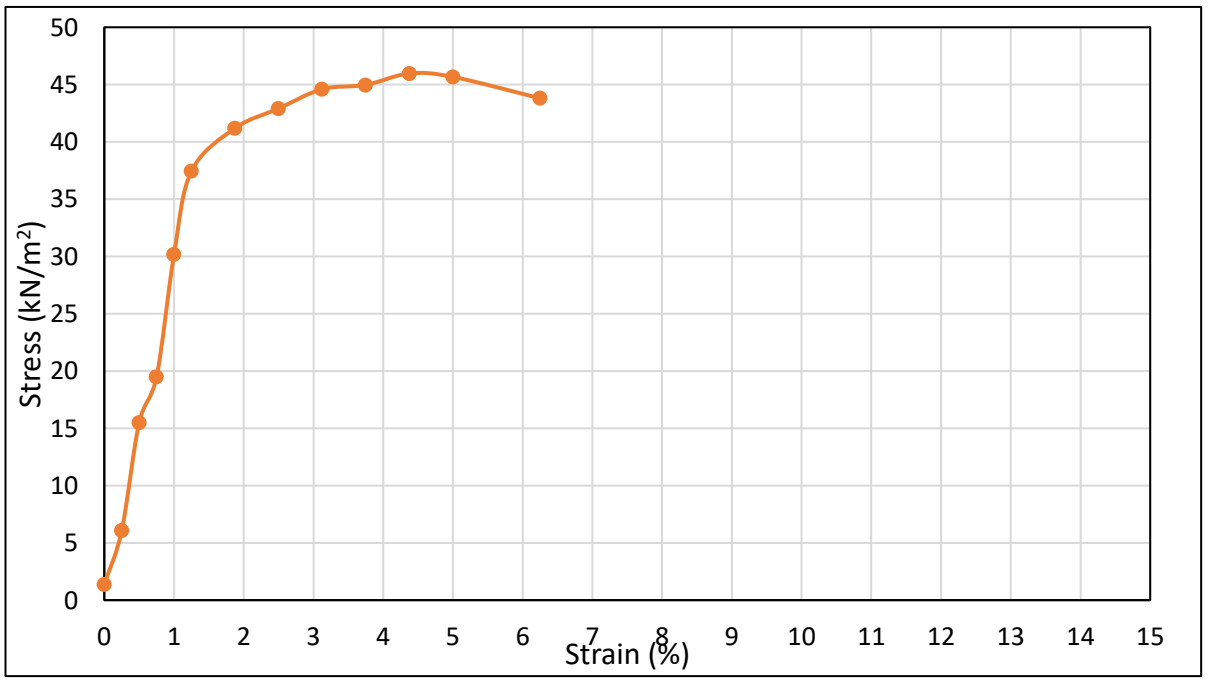
Soil Type	Unit	Value	Remarks
Sand	%	38.93	Ref: ASTM D2487-11
Coarse Sand	%	0.00	
Medium Sand	%	0.00	
Fine Sand	%	38.93	
Fines	%	61.07	
Silt	%	61.07	
Clay	%	0.00	Ref: ASTM D422
D_{60}	%	0.080	Ref: ASTM D2487-11
D_{30}	%	0.032	
D_{10}	%	0.026	
C_u	%	3.077	
C_c	%	0.492	

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-25	Borehole No:	**BH-01**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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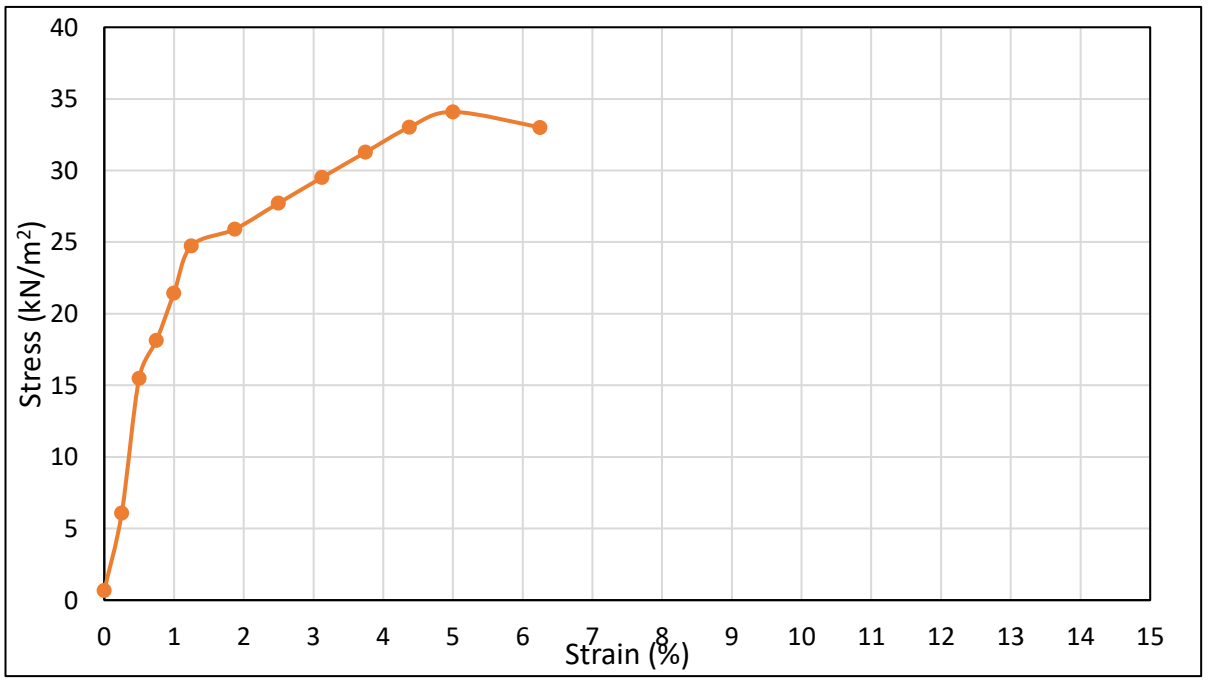
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.87
Natural Moisture Content:	%	29.43
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**4.38**
Unconfined Compressive Strength:	kPa	**46**
Shear Strength:	kPa	**23**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	29-Sep-25	Borehole No:	**BH-02**
Sample Type	Undisturbed	Depth (m):	**1.5**

Stress-Strain Relation of Soil



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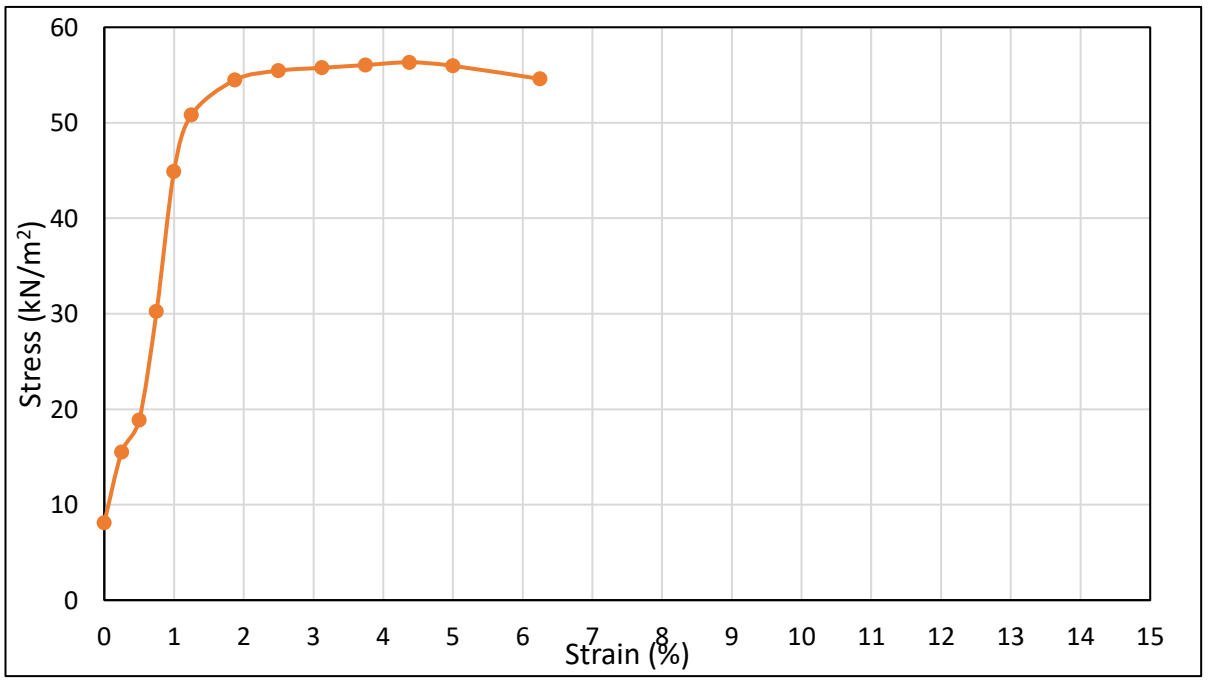
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	27.45
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**5.00**
Unconfined Compressive Strength:	kPa	**35**
Shear Strength:	kPa	**18**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-25	Borehole No:	**BH-04**
Sample Type	Undisturbed	Depth (m):	**4.5**

Stress-Strain Relation of Soil



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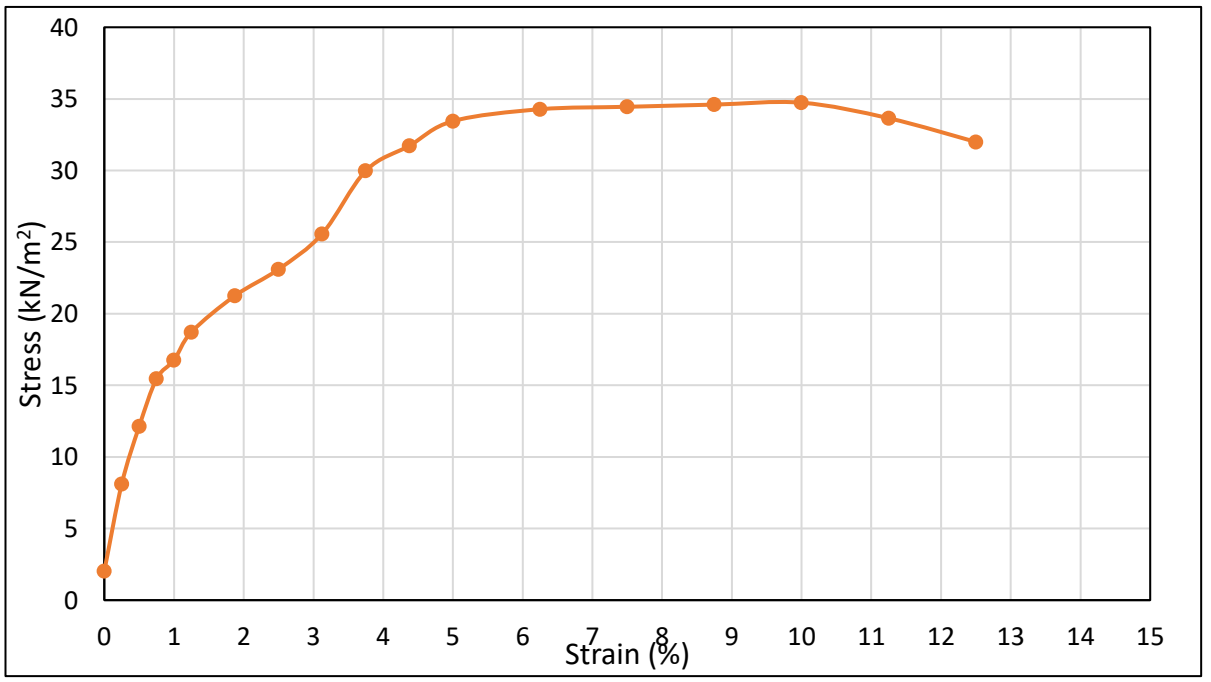
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.78
Natural Moisture Content:	%	29.11
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**3.13**
Unconfined Compressive Strength:	kPa	**56**
Shear Strength:	kPa	**28**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-25	Borehole No:	**BH-05**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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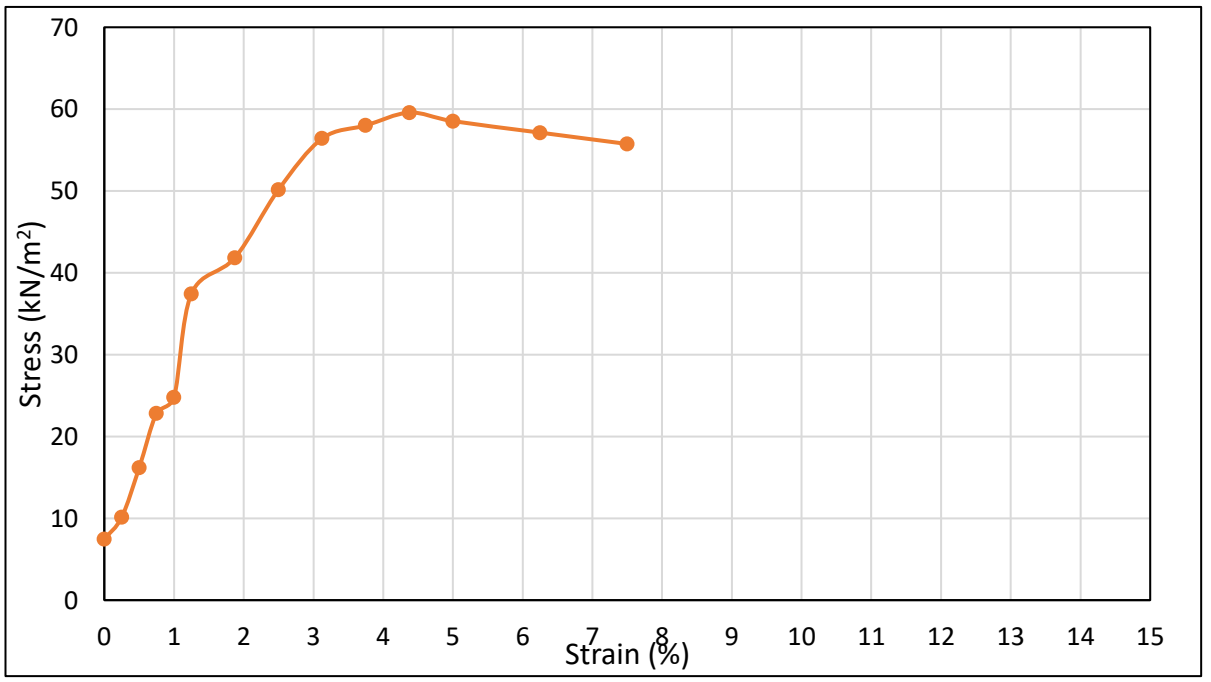
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.80
Natural Moisture Content:	%	25.30
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**10.00**
Unconfined Compressive Strength:	kPa	**35**
Shear Strength:	kPa	**18**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	30-Sep-25	Borehole No:	**BH-05**
Sample Type	Undisturbed	Depth (m):	**6**

Stress-Strain Relation of Soil



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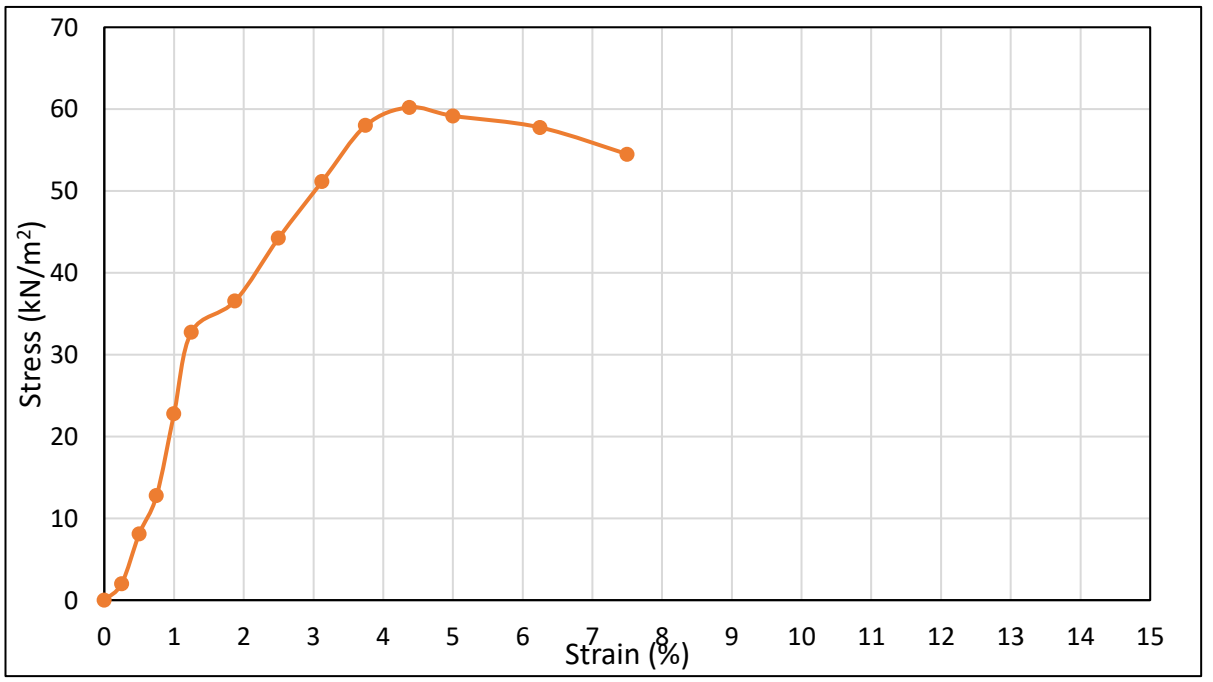
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.77
Natural Moisture Content:	%	20.34
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**4.38**
Unconfined Compressive Strength:	kPa	**60**
Shear Strength:	kPa	**30**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-25	Borehole No:	**BH-06**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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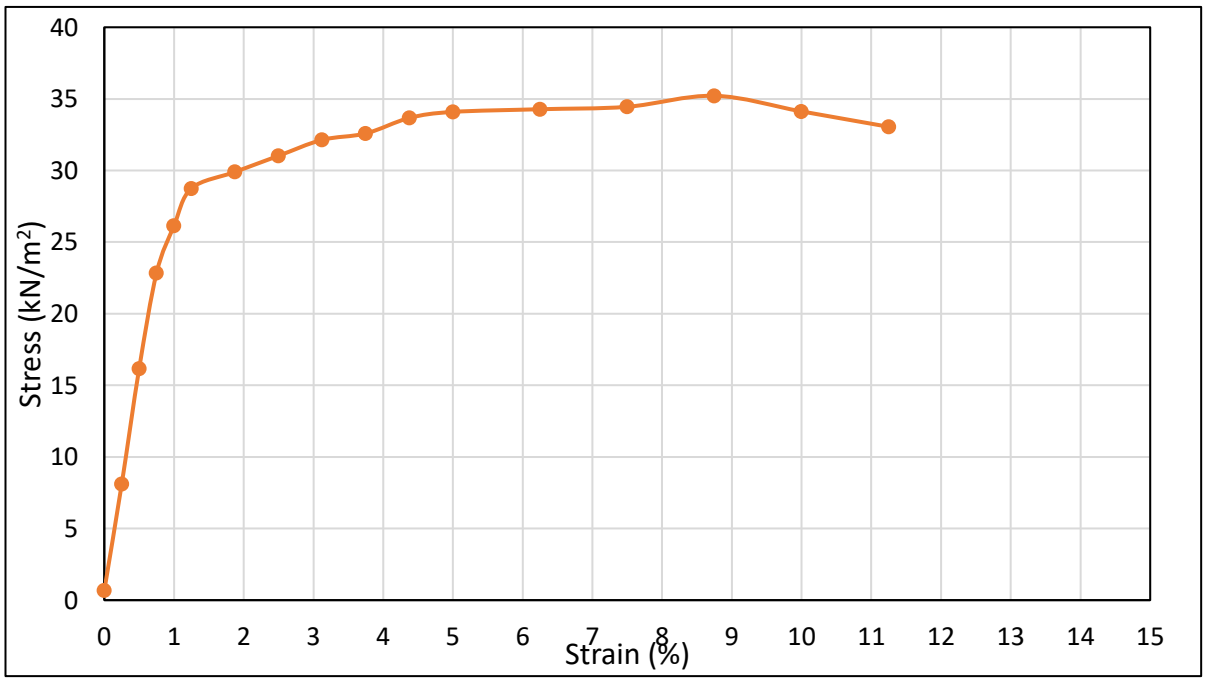
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.69
Natural Moisture Content:	%	29.23
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**4.38**
Unconfined Compressive Strength:	kPa	**61**
Shear Strength:	kPa	**31**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-25	Borehole No:	**BH-08**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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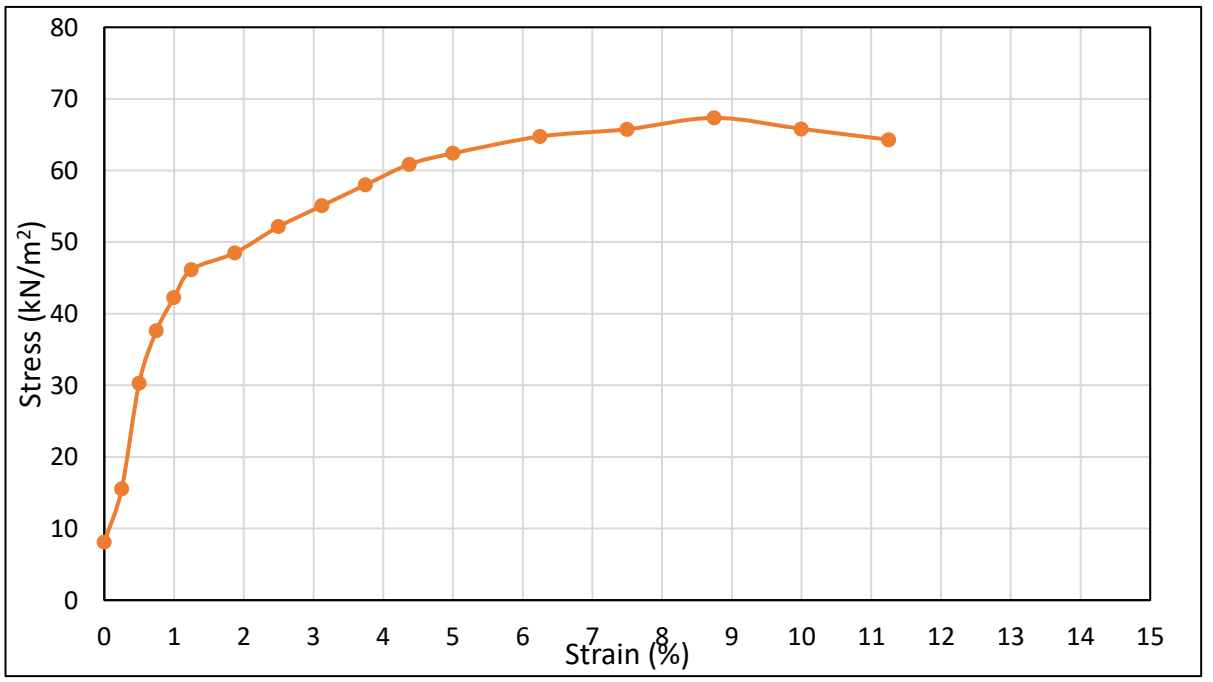
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	26.87
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**8.75**
Unconfined Compressive Strength:	kPa	**36**
Shear Strength:	kPa	**18**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-25	Borehole No:	**BH-09**
Sample Type	Undisturbed	Depth (m):	**1.5**

Stress-Strain Relation of Soil



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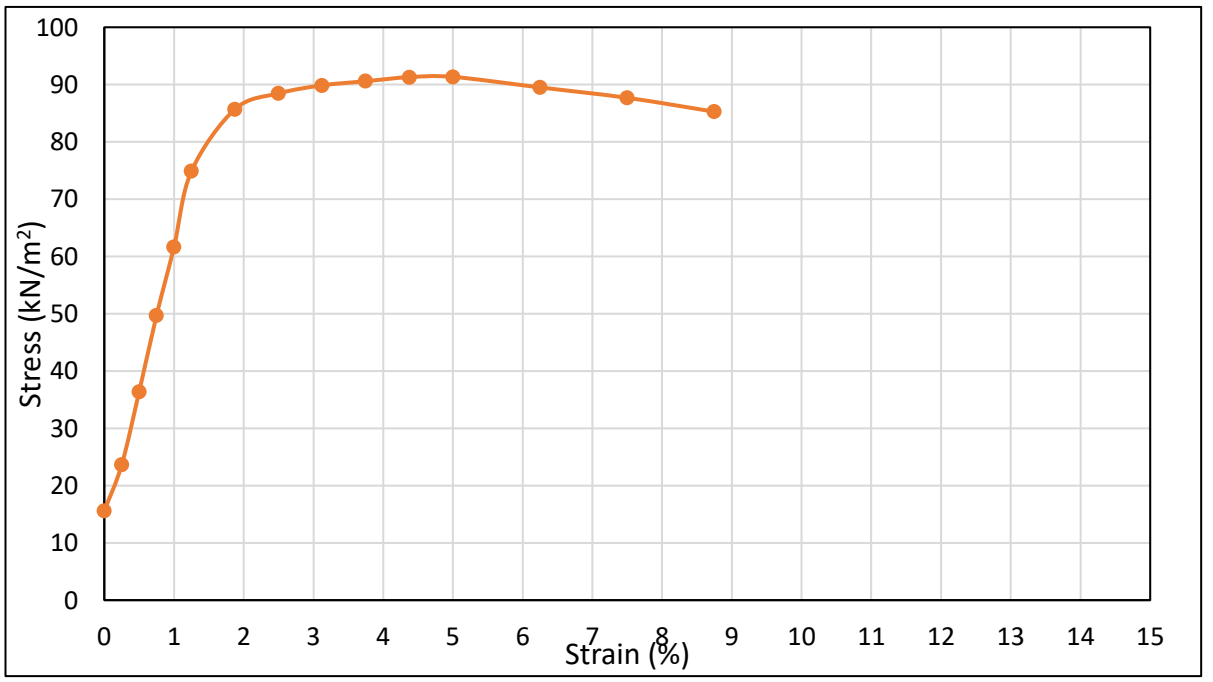
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.77
Natural Moisture Content:	%	26.89
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**8.75**
Unconfined Compressive Strength:	kPa	**68**
Shear Strength:	kPa	**34**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	1-Oct-25	Borehole No:	**BH-10**
Sample Type	Undisturbed	Depth (m):	**4.5**

Stress-Strain Relation of Soil



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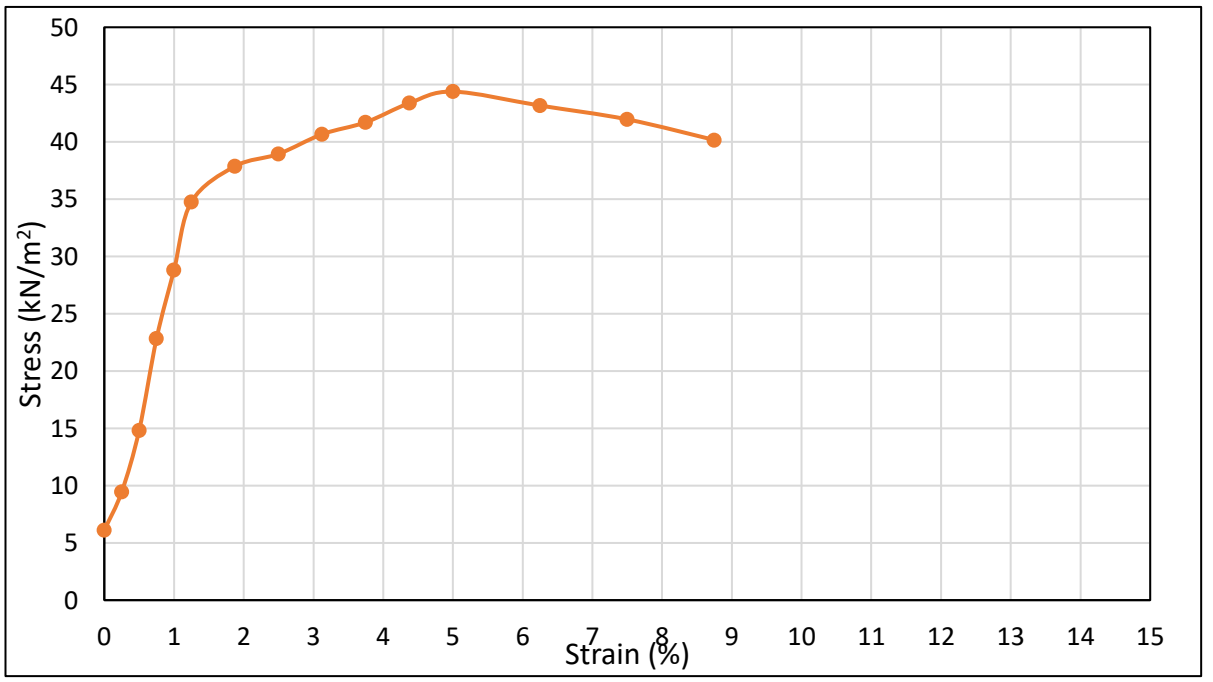
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	27.98
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**5.00**
Unconfined Compressive Strength:	kPa	**92**
Shear Strength:	kPa	**46**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-25	Borehole No:	**BH-11**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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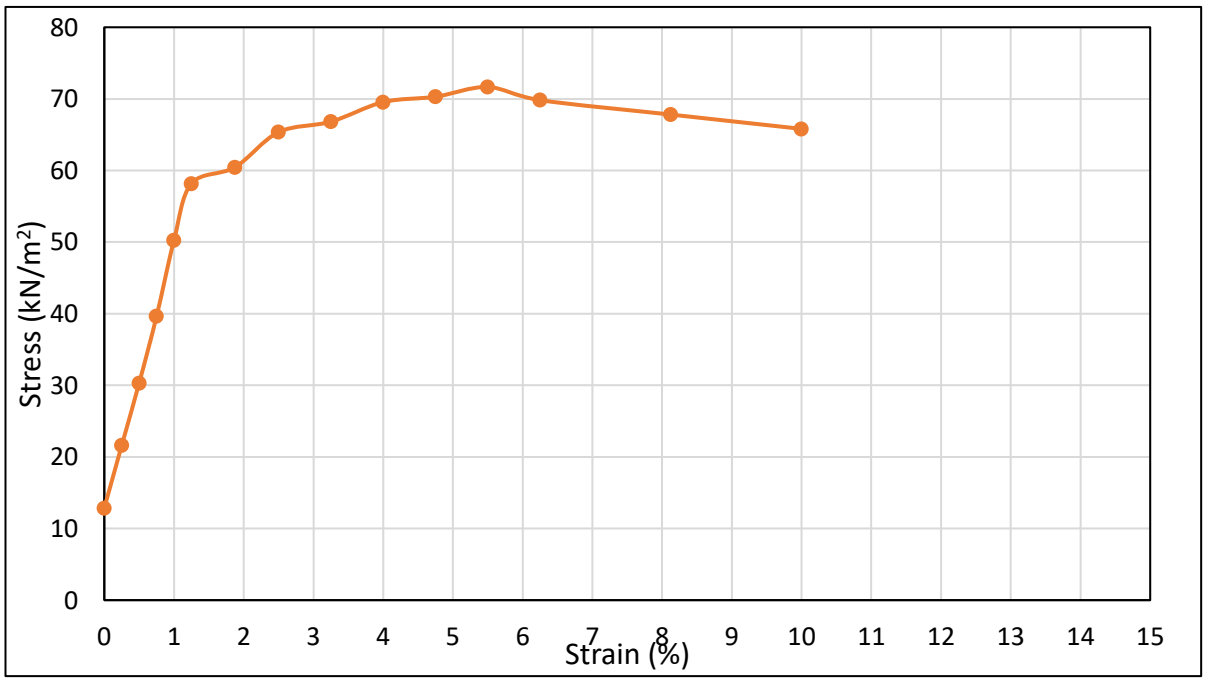
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	29.54
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**5.00**
Unconfined Compressive Strength:	kPa	**45**
Shear Strength:	kPa	**23**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	2-Oct-25	Borehole No:	**BH-13**
Sample Type	Undisturbed	Depth (m):	**4.5**

Stress-Strain Relation of Soil



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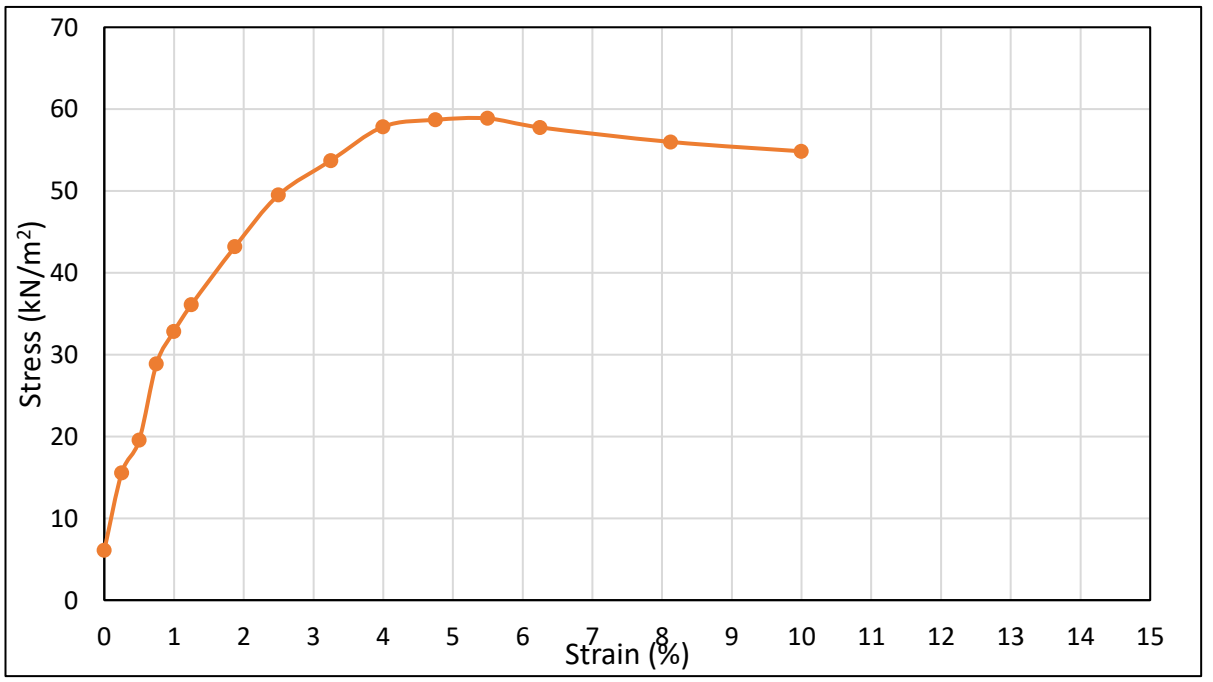
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.88
Natural Moisture Content:	%	27.56
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**5.50**
Unconfined Compressive Strength:	kPa	**72**
Shear Strength:	kPa	**36**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	3-Oct-25	Borehole No:	**BH-15**
Sample Type	Undisturbed	Depth (m):	**3**

Stress-Strain Relation of Soil



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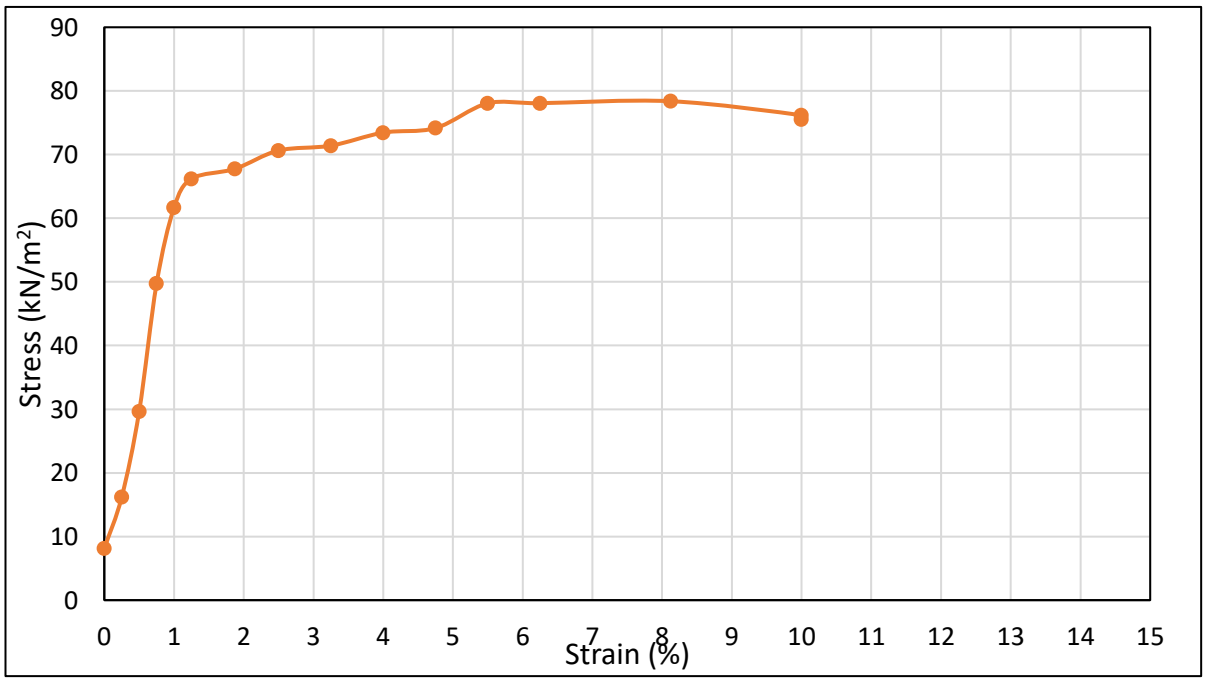
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.78
Natural Moisture Content:	%	25.87
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**5.50**
Unconfined Compressive Strength:	kPa	**59**
Shear Strength:	kPa	**30**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	4-Oct-25	Borehole No:	**BH-17**
Sample Type	Undisturbed	Depth (m):	**6**

Stress-Strain Relation of Soil



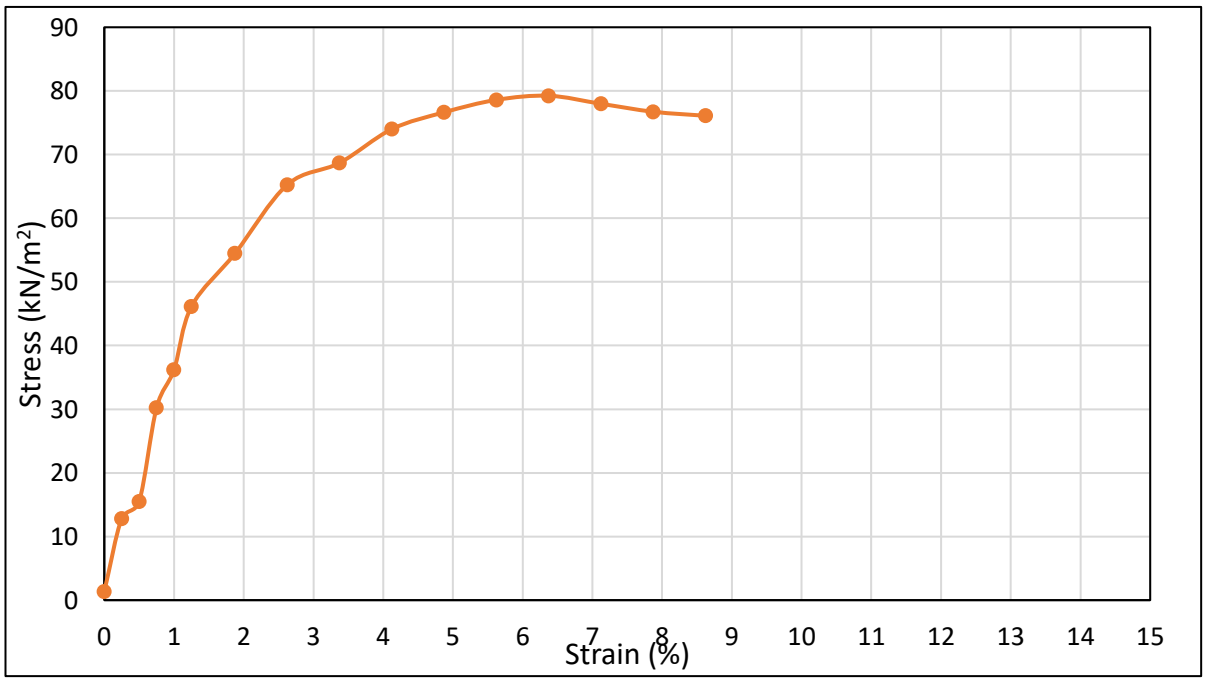
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	29.57
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**8.13**
Unconfined Compressive Strength:	kPa	**79**
Shear Strength:	kPa	**40**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-25	Borehole No:	**BH-19**
Sample Type	Undisturbed	Depth (m):	**1.5**

Stress-Strain Relation of Soil



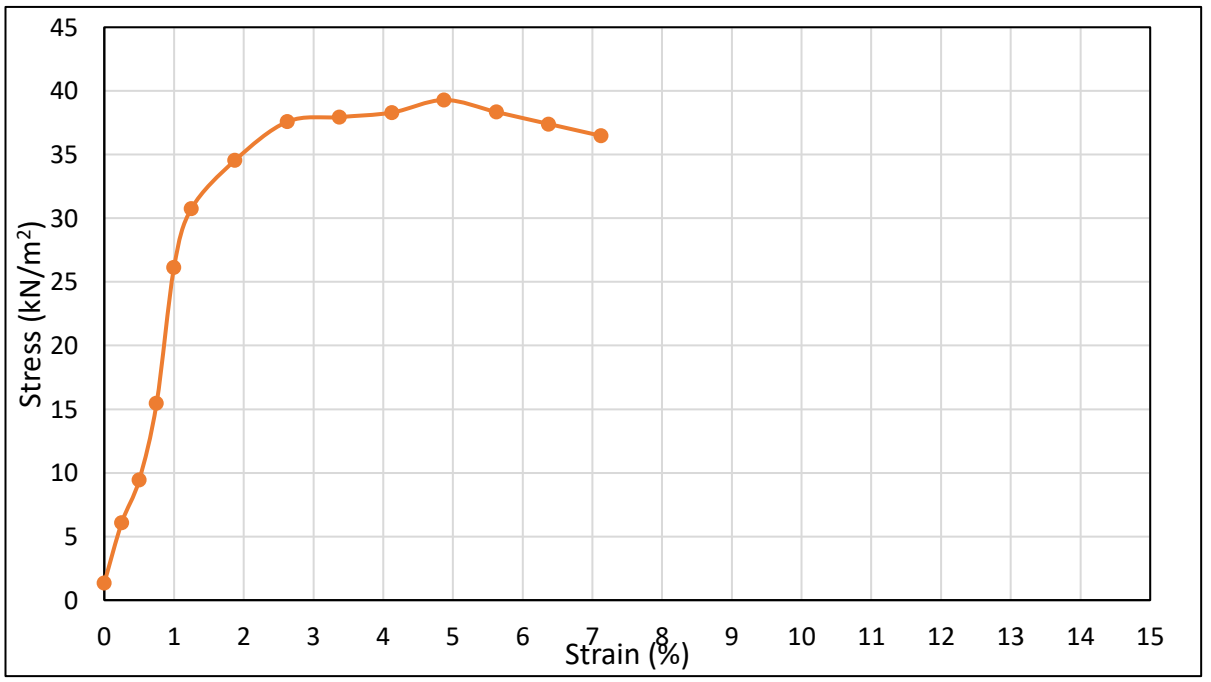
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.86
Natural Moisture Content:	%	24.39
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**6.38**
Unconfined Compressive Strength:	kPa	**80**
Shear Strength:	kPa	**40**

Laboratory Test Results

Unconfined Compressive Strength of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.		
Location:	Bhasanchar, Hatiya, Noakhali.		
Date of Boring:	5-Oct-25	Borehole No:	**BH-19**
Sample Type	Undisturbed	Depth (m):	**1.5**

Stress-Strain Relation of Soil



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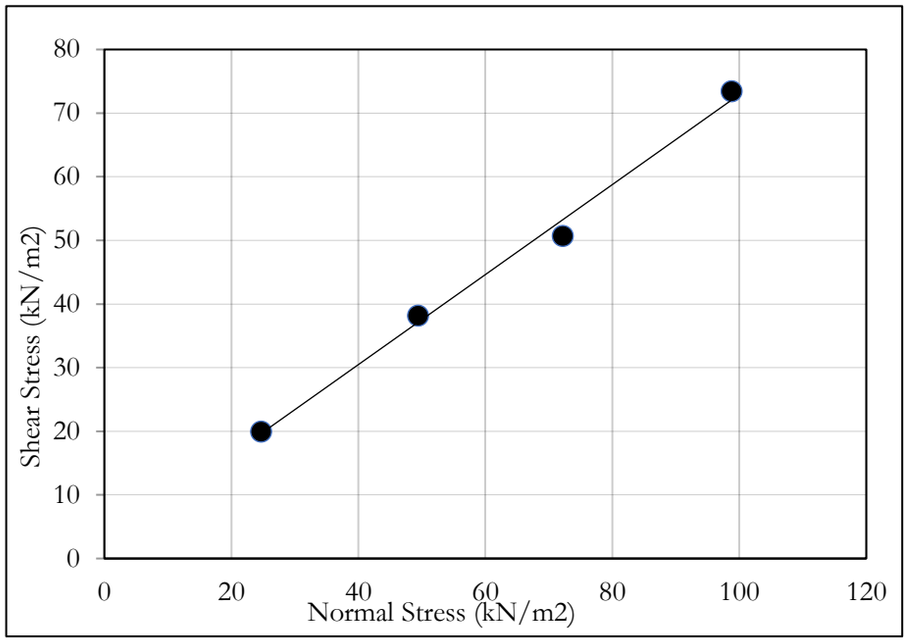
Parameters	Unit	Value
Test Standard:	----	ASTM D2166M-13
Sample Description:	----	Clayey Soils
Initial Density:	g/cm3	1.78
Natural Moisture Content:	%	20.34
Average Dia of the sample:	mm	40.0
Average Height of the sample:	mm	80.0
Strain at Failure:	%	**4.88**
Unconfined Compressive Strength:	kPa	**40**
Shear Strength:	kPa	**20**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	29-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-01**
Depth: **30**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	19.91
49.40	38.12
72.20	50.64
98.80	73.40

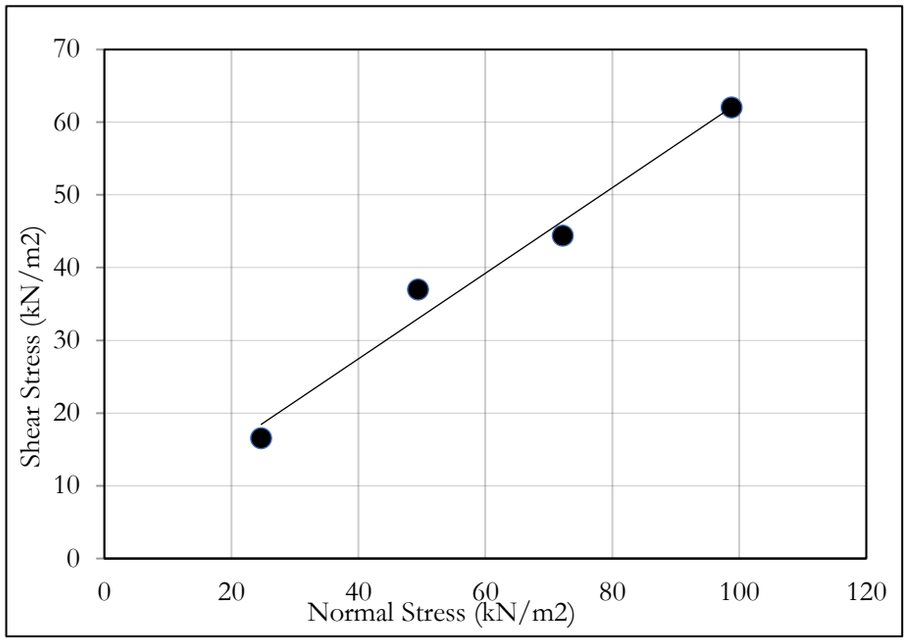
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**36.4**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	29-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-02**
Depth: **9**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	16.50
49.40	36.98
72.20	44.38
98.80	62.02

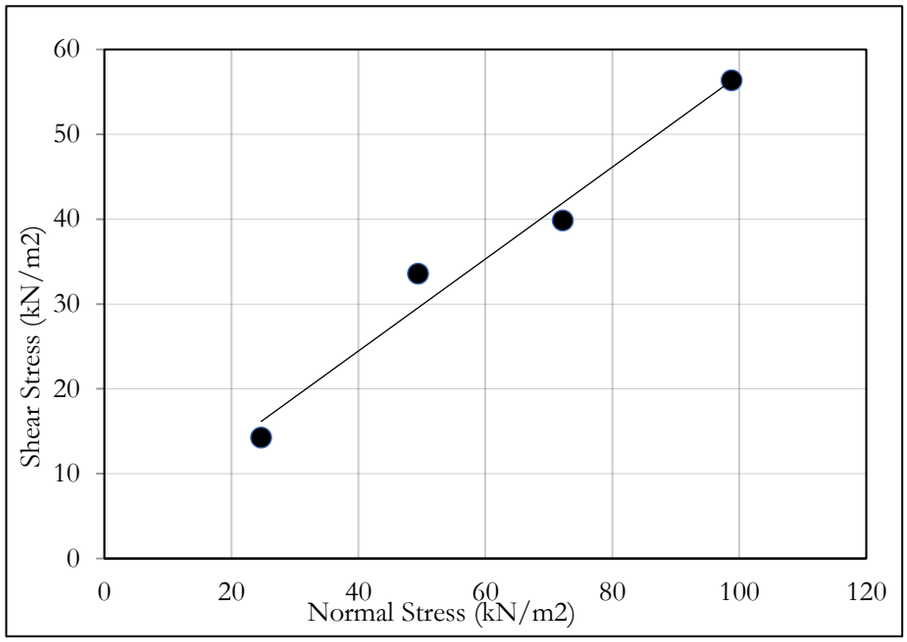
Cohesion, c (kPa)	**3.4**
Angle of Internal Friction, Φ (Degree)	**32.7**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	29-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-02**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	14.22
49.40	33.57
72.20	39.83
98.80	56.33

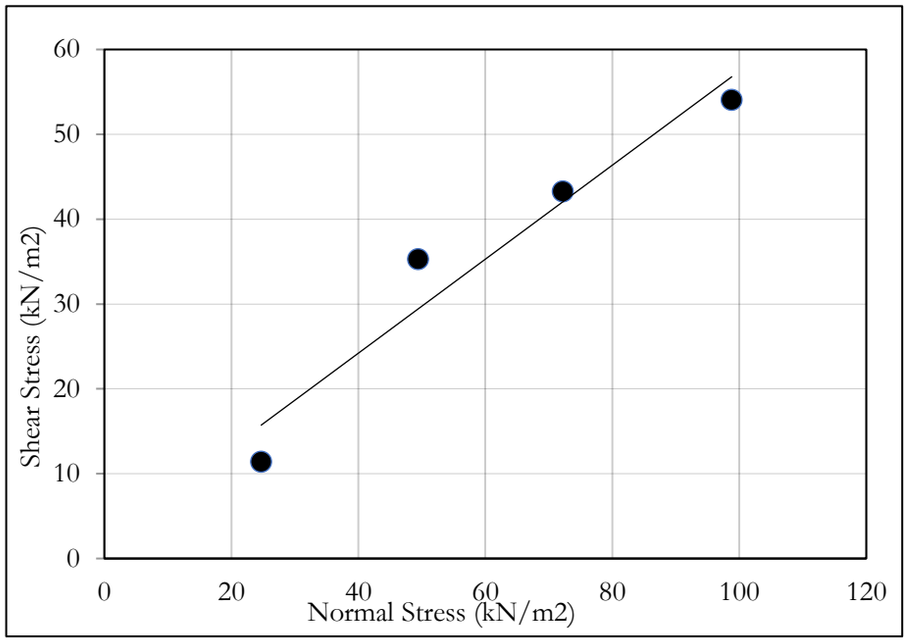
Cohesion, c (kPa)	**2.8**
Angle of Internal Friction, Φ (Degree)	**28.5**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-03**
Depth: **6**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	11.38
49.40	35.28
72.20	43.24
98.80	54.05

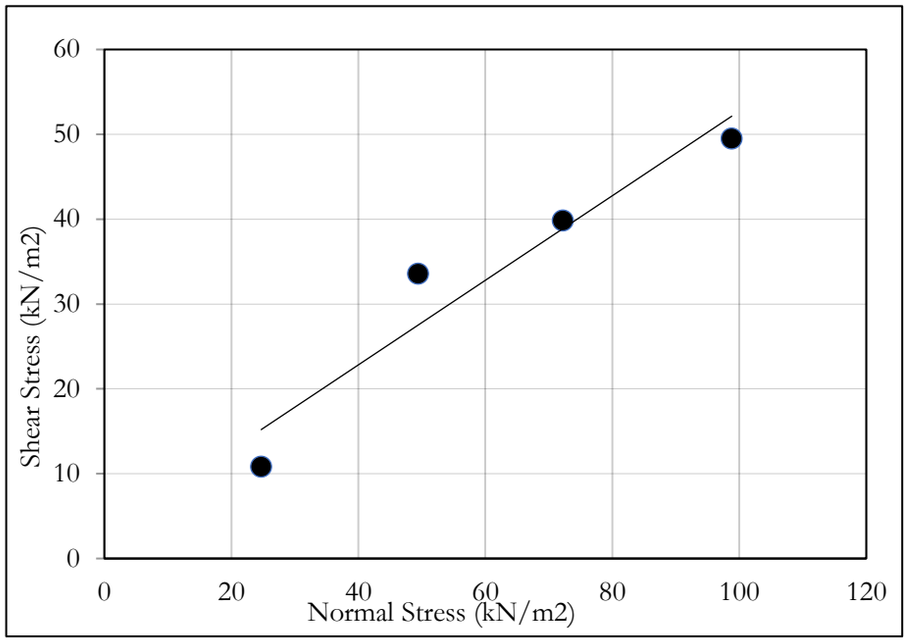
Cohesion, c (kPa)	**2.0**
Angle of Internal Friction, Φ (Degree)	**29.0**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-03**
Depth: **12**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	10.81
49.40	33.57
72.20	39.83
98.80	49.50

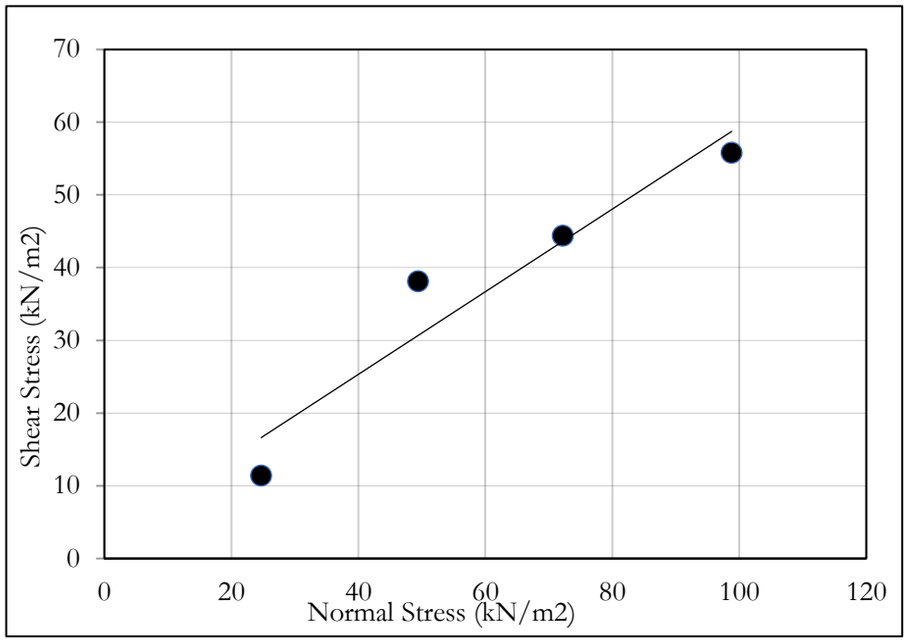
Cohesion, c (kPa)	**2.9**
Angle of Internal Friction, Φ (Degree)	**26.5**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-04**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	11.38
49.40	38.12
72.20	44.38
98.80	55.76

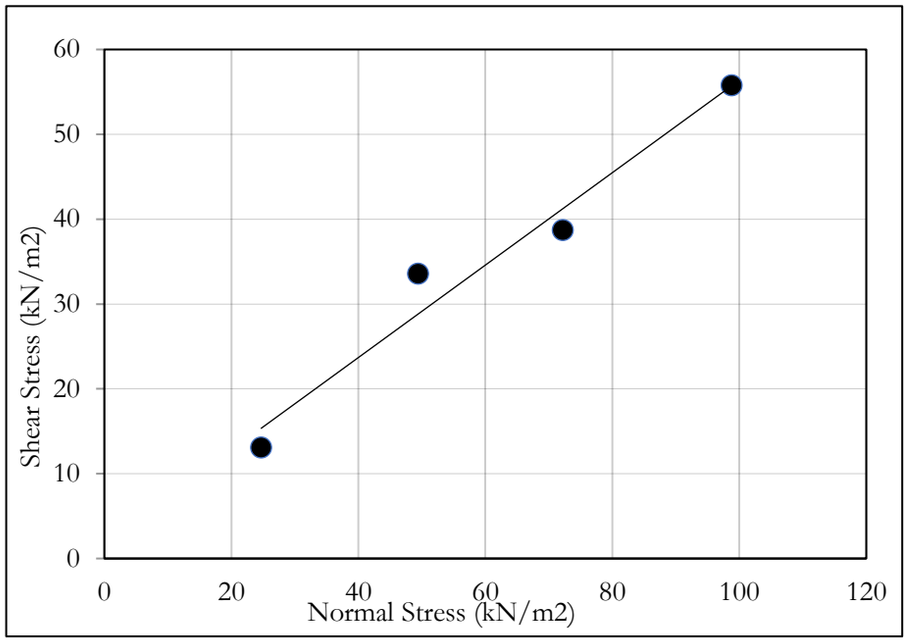
Cohesion, c (kPa)	**2.6**
Angle of Internal Friction, Φ (Degree)	**29.6**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-05**
Depth: **9**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.09
49.40	33.57
72.20	38.69
98.80	55.76

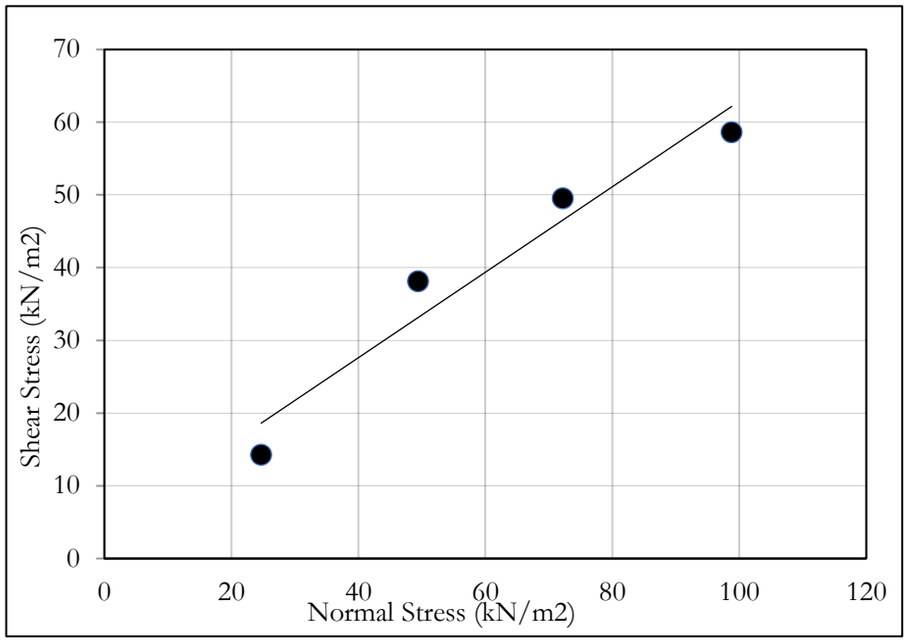
Cohesion, c (kPa)	**1.9**
Angle of Internal Friction, Φ (Degree)	**28.6**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-05**
Depth: **15**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	14.22
49.40	38.12
72.20	49.50
98.80	58.60

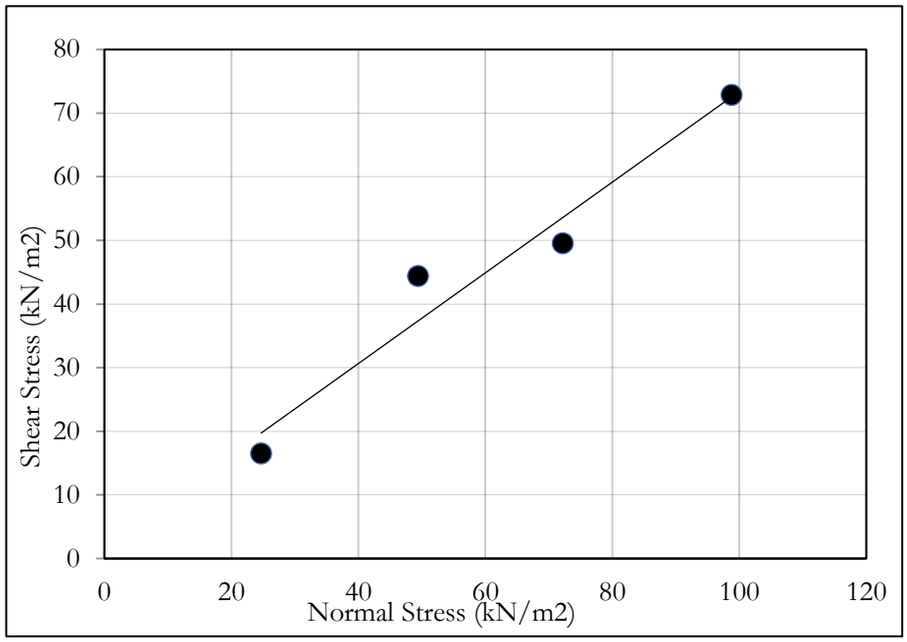
Cohesion, c (kPa)	**4.1**
Angle of Internal Friction, Φ (Degree)	**30.4**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-05**
Depth: **33**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	16.50
49.40	44.38
72.20	49.50
98.80	72.83

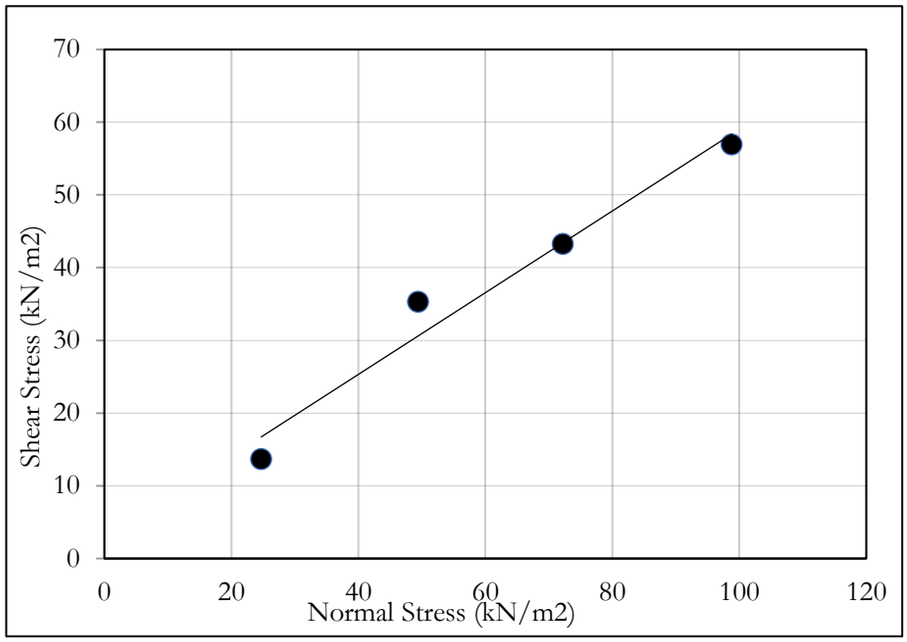
Cohesion, c (kPa)	**0.9**
Angle of Internal Friction, Φ (Degree)	**36.6**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-06**
Depth: **12**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.66
49.40	35.28
72.20	43.24
98.80	56.90

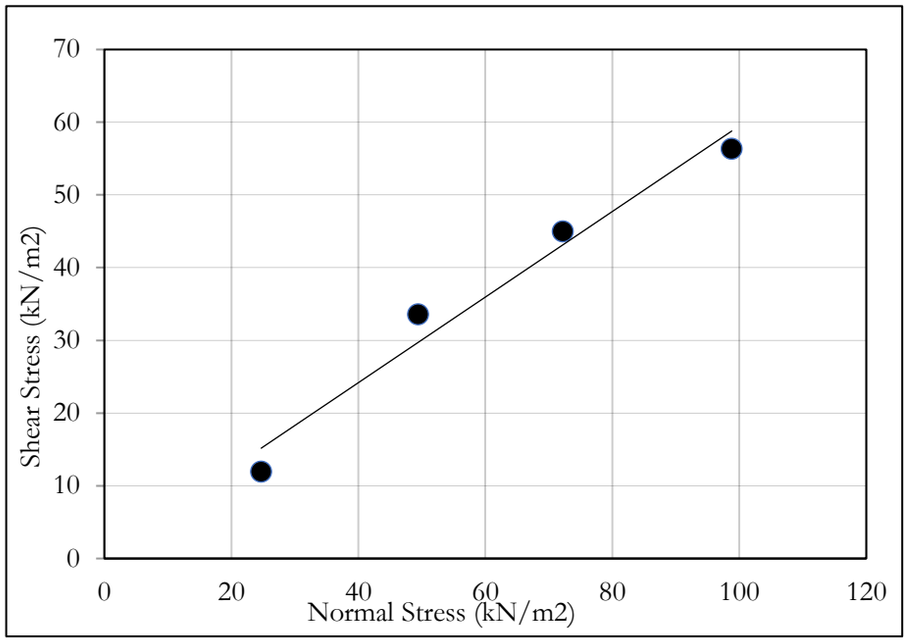
Cohesion, c (kPa)	**2.8**
Angle of Internal Friction, Φ (Degree)	**29.3**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-07**
Depth: **9**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	11.95
49.40	33.57
72.20	44.95
98.80	56.33

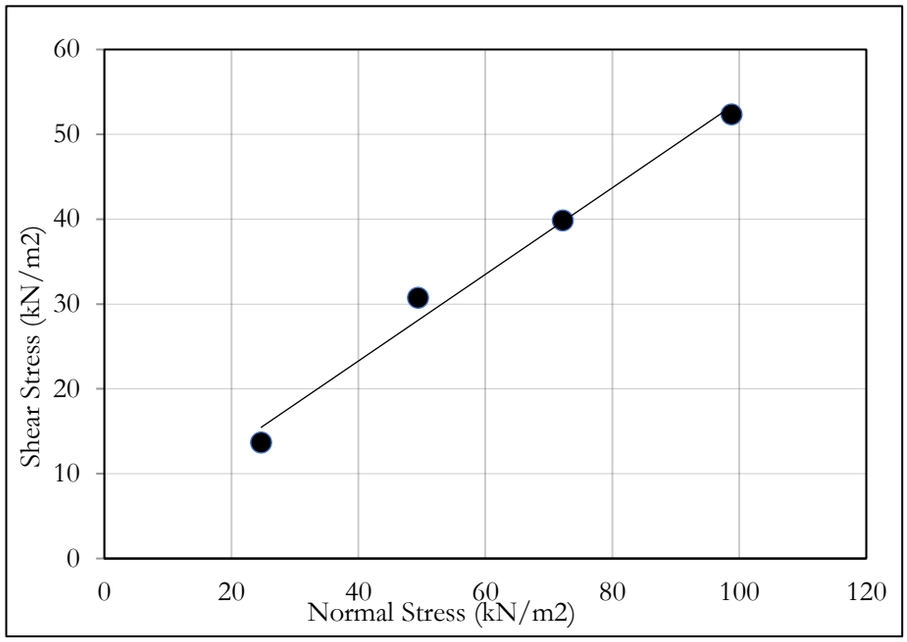
Cohesion, c (kPa)	**0.6**
Angle of Internal Friction, Φ (Degree)	**30.5**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	30-Sep-2025
Sample Type	Disturbed

Borehole No: **BH-07**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.66
49.40	30.72
72.20	39.83
98.80	52.35

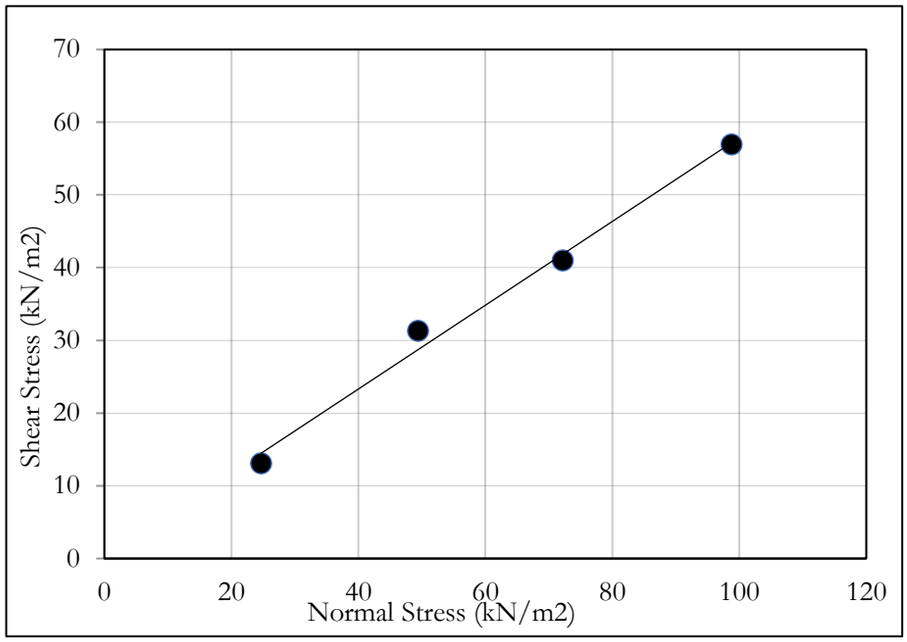
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**27.0**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-08**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.09
49.40	31.29
72.20	40.97
98.80	56.90

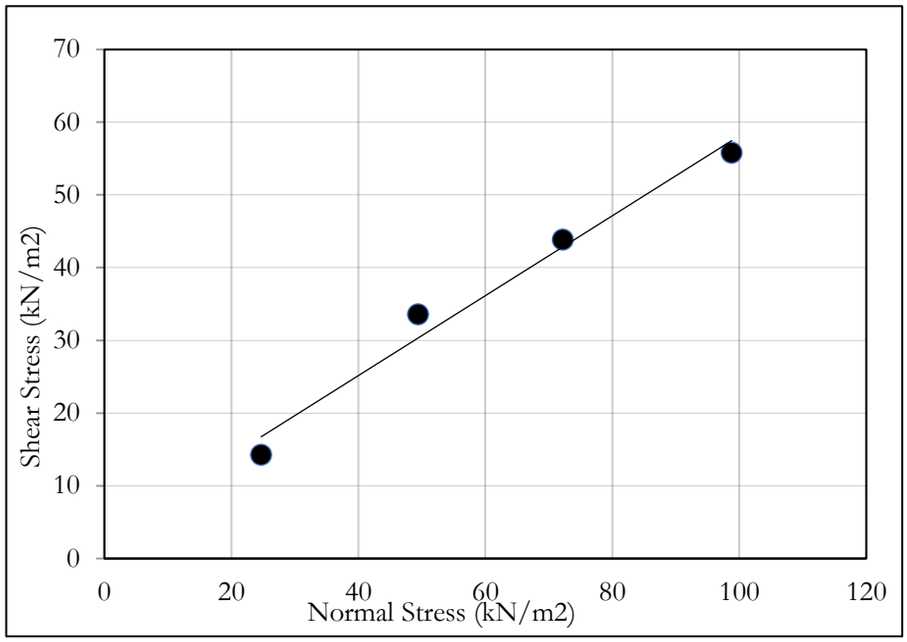
Cohesion, c (kPa)	**0.3**
Angle of Internal Friction, Φ (Degree)	**30.0**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-09**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	14.22
49.40	33.57
72.20	43.81
98.80	55.76

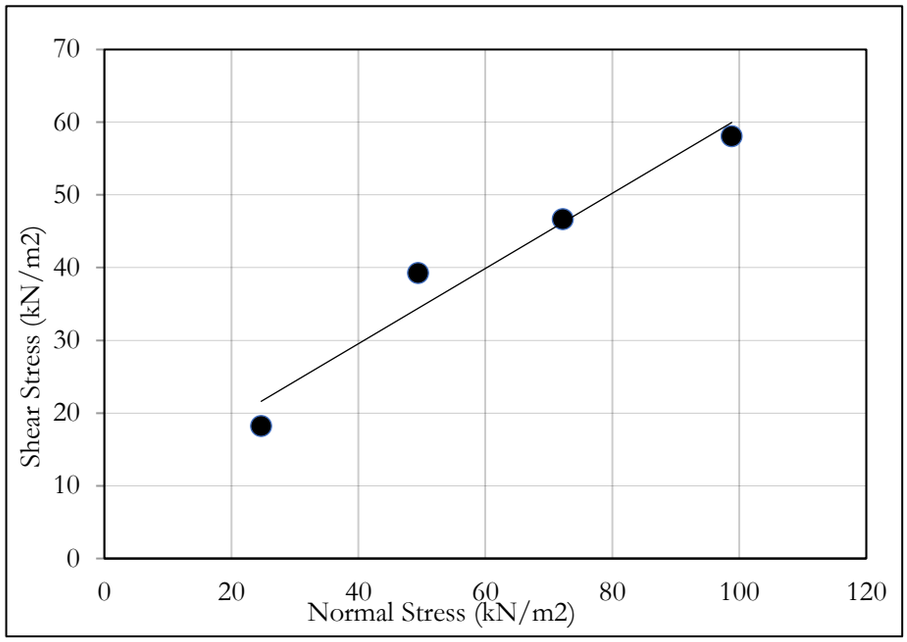
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**30.7**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	1-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-10**
Depth: **6**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	18.21
49.40	39.26
72.20	46.66
98.80	58.04

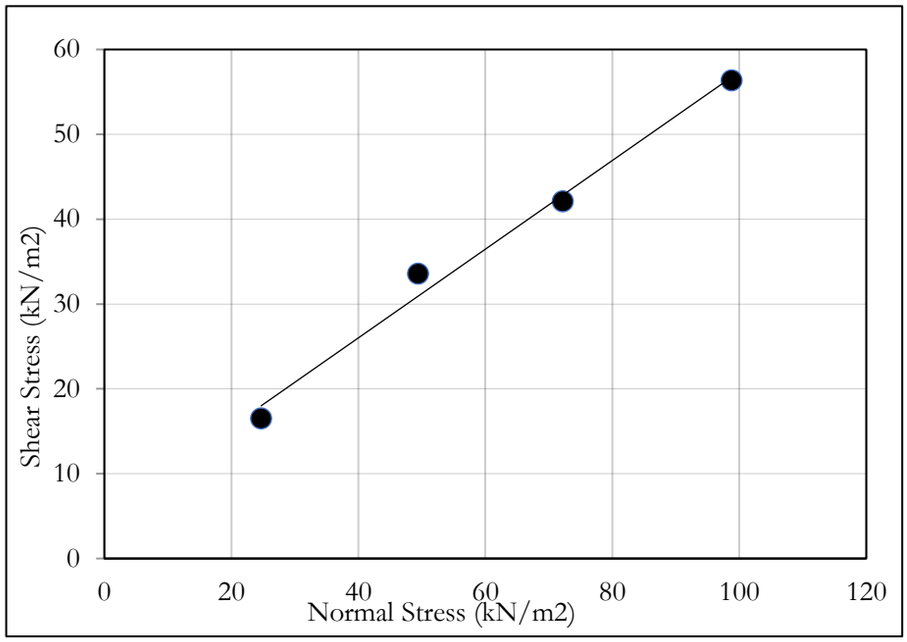
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**32.5**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	3-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-12**
Depth: **12**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	16.50
49.40	33.57
72.20	42.10
98.80	56.33

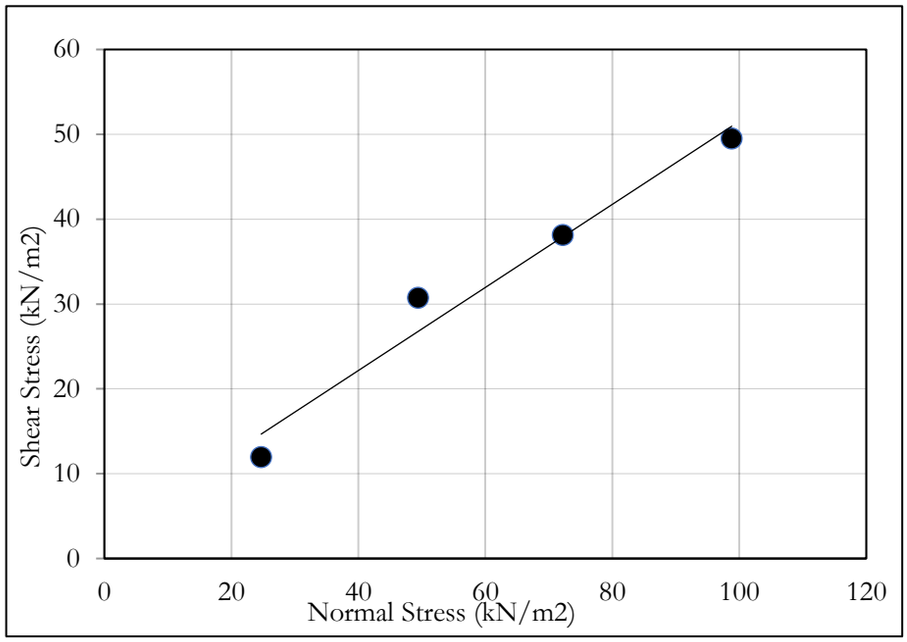
Cohesion, c (kPa)	**5.1**
Angle of Internal Friction, Φ (Degree)	**27.6**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	3-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-12**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	11.95
49.40	30.72
72.20	38.12
98.80	49.50

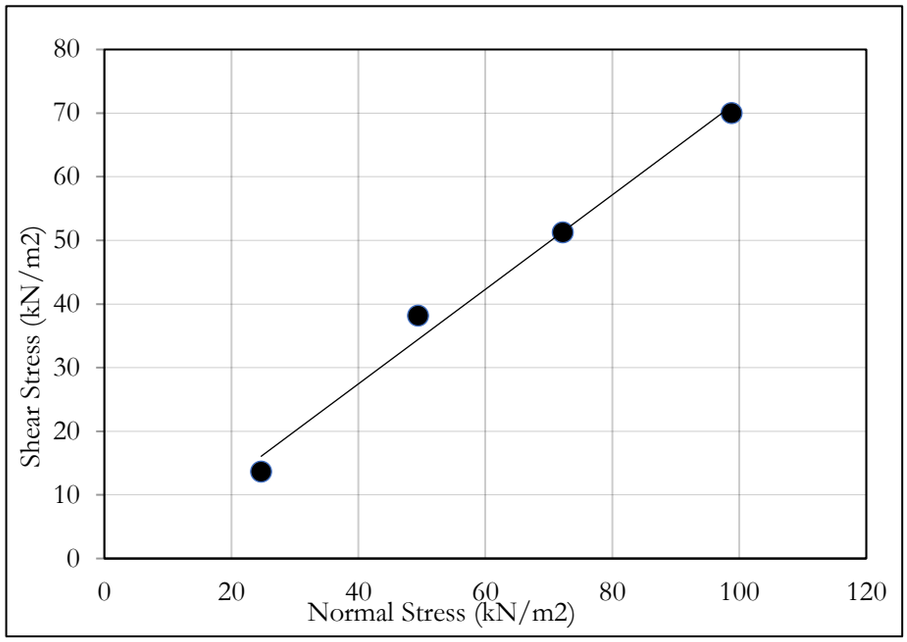
Cohesion, c (kPa)	**2.6**
Angle of Internal Friction, Φ (Degree)	**26.1**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	3-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-15**
Depth: **30**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.66
49.40	38.12
72.20	51.21
98.80	69.98

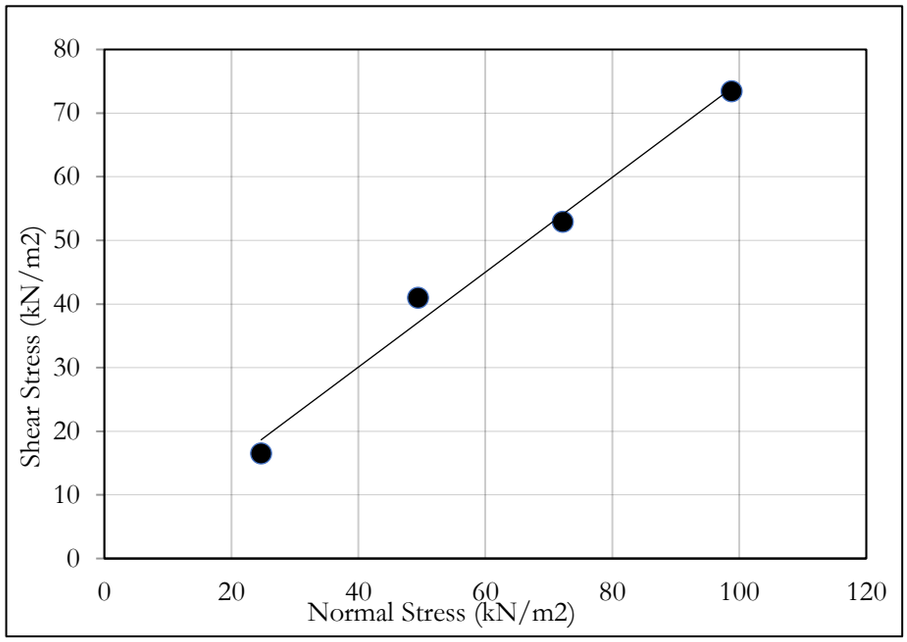
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**35.4**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	3-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-15**
Depth: **33**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	16.50
49.40	40.97
72.20	52.91
98.80	73.40

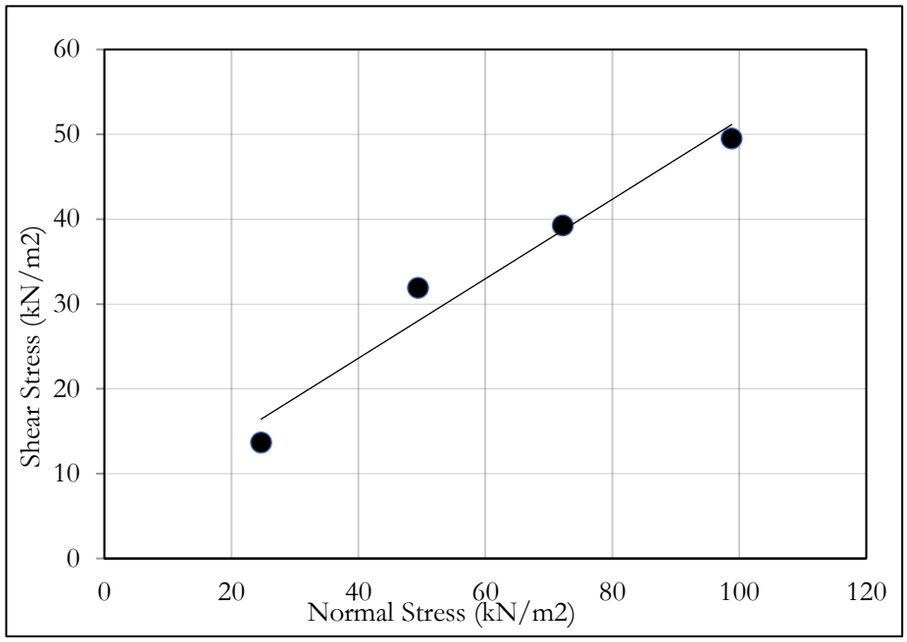
Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**36.8**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	3-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-16**
Depth: **18**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	13.66
49.40	31.86
72.20	39.26
98.80	49.50

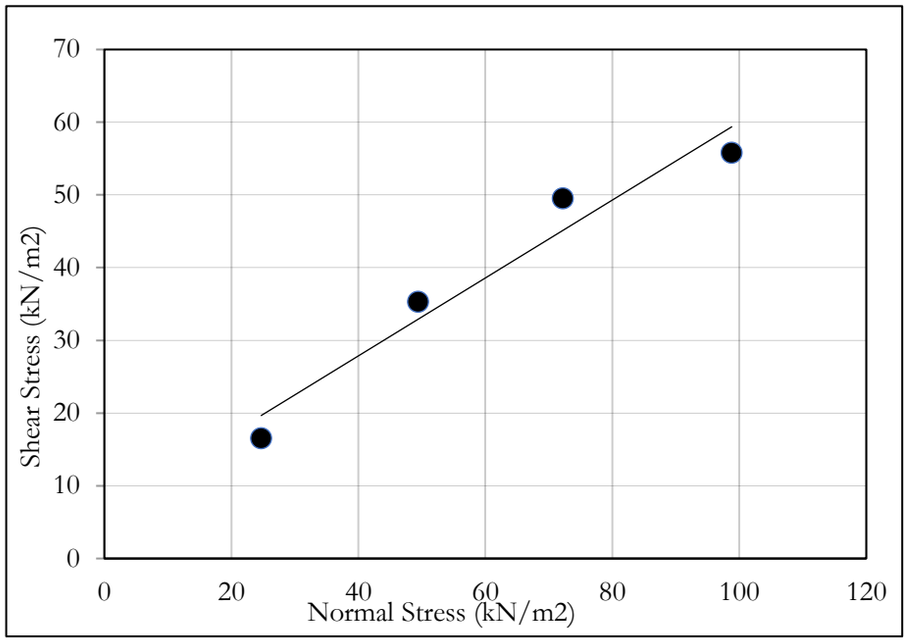
Cohesion, c (kPa)	**4.9**
Angle of Internal Friction, Φ (Degree)	**25.1**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	4-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-17**
Depth: **12**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	16.50
49.40	35.28
72.20	49.50
98.80	55.76

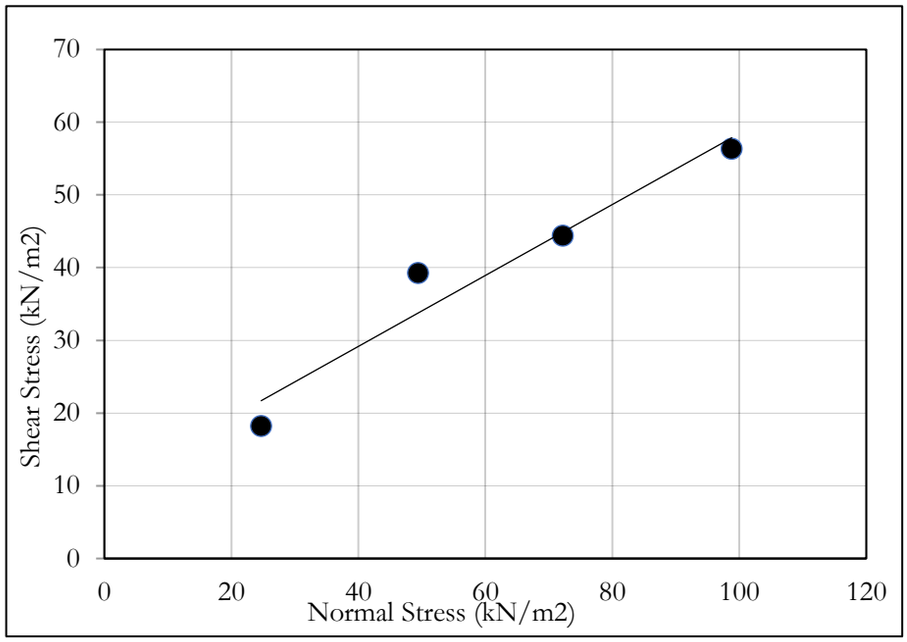
Cohesion, c (kPa)	**4.9**
Angle of Internal Friction, Φ (Degree)	**31.9**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	5-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-21**
Depth: **15**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	18.21
49.40	39.26
72.20	44.38
98.80	56.33

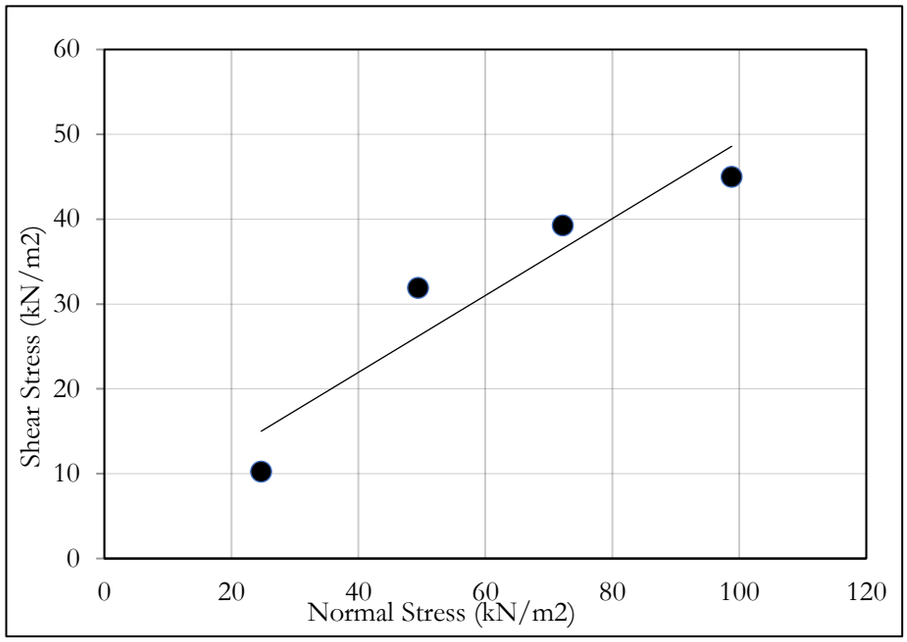
Cohesion, c (kPa)	**2.3**
Angle of Internal Friction, Φ (Degree)	**31.8**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	5-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-24**
Depth: **13.5**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	10.24
49.40	31.86
72.20	39.26
98.80	44.95

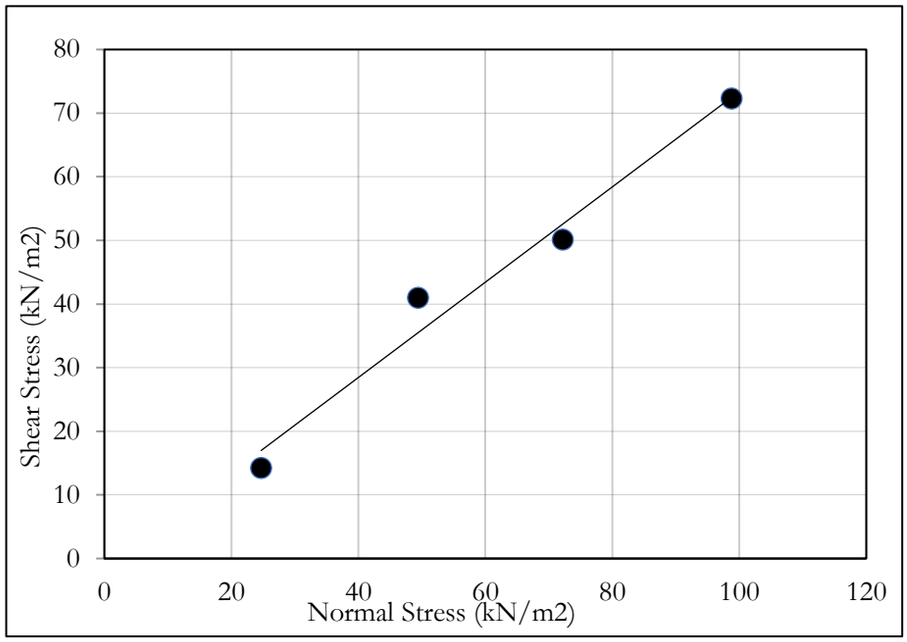
Cohesion, c (kPa)	**3.8**
Angle of Internal Friction, Φ (Degree)	**24.4**

Laboratory Test Results

Direct Shear Test (Quick) of Soil Sample

Project Name:	Construction of 10MW Solar Power Plant.
Location:	Bhasanchar, Hatiya, Noakhali.
Date of Boring:	6-Oct-2025
Sample Type	Disturbed

Borehole No: **BH-25**
Depth: **30**



Normal Stress (kPa)	Shear Stress (kPa)
24.70	14.22
49.40	40.97
72.20	50.07
98.80	72.26

Cohesion, c (kPa)	**0.0**
Angle of Internal Friction, Φ (Degree)	**36.1**

Borehole No: **BH-01**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	2	2	Clay	28.6	30.5	28.6	29.5	28.6	28.8
-2.0000	2	2	2	Clay	29.7	33.0	29.7	31.6	29.7	28.0
-2.5000	2.5	3	3	Clay	42.6	49.8	42.6	47.1	42.6	40.4
-3.0000	3	3	3	Clay	43.8	53.2	43.8	50.0	43.8	41.9
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	2	2	Clay	56.3	9.4	14	50.0	2.4	7
-3.0000	3	3	3	Clay	84.4	14.1	28	75.0	3.6	12
-4.5000	4.5	21	18	Sand	1192.4	2.6	140	2025.0	18.0	206
-6.0000	6	8	7	Clay	196.9	24.0	59	175.0	8.4	44
-7.5000	7.5	16	14	Sand	1774.0	4.3	221	2100.0	14.0	236
-9.0000	9	8	7	Silt	1727.6	5.2	221	700.0	6.3	114
-10.5000	10.5	13	11	Silt	2211.4	5.2	271	1100.0	9.9	159
-12.0000	12	9	8	Silt	2260.6	5.2	281	800.0	7.2	139
-13.5000	13.5	8	7	Silt	2523.4	5.2	311	700.0	6.3	136
-15.0000	15	8	7	Silt	2782.4	5.2	340	700.0	6.3	142
-16.5000	16.5	9	8	Silt	3041.3	5.2	369	800.0	7.2	158
-18.0000	18	8	7	Silt	3304.1	5.2	399	700.0	6.3	155
-19.5000	19.5	9	8	Silt	3563.1	5.2	428	800.0	7.2	170
-21.0000	21	10	9	Silt	4258.8	5.2	499	900.0	8.1	187
-22.5000	22.5	10	9	Silt	4555.5	5.2	531	900.0	8.1	195
-24.0000	24	11	9	Silt	4852.1	5.2	564	900.0	8.1	202
-25.5000	25.5	12	10	Silt	5148.8	5.2	597	1000.0	9.0	220
-27.0000	27	17	14	Sand	6021.5	5.2	684	2100.0	14.0	334
-28.5000	28.5	24	20	Sand	7639.2	5.2	841	3000.0	20.0	435
-30.0000	30	50	43	Sand	11016.3	5.2	1165	4000.0	43.0	559
-31.5000	31.5	50	43	Sand	11709.6	5.2	1235	4000.0	43.0	600
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	2	2	Clay	56.3	9.4	19	50.0	2.4	10
-3.0000	3	3	3	Clay	84.4	14.1	37	75.0	3.6	17
-4.5000	4.5	21	18	Sand	1192.4	2.6	210	1620.0	18.0	258
-6.0000	6	8	7	Clay	196.9	24.0	79	175.0	8.4	60
-7.5000	7.5	16	14	Sand	1774.0	4.3	328	2100.0	14.0	357
-9.0000	9	8	7	Silt	1727.6	5.2	327	700.0	6.3	163
-10.5000	10.5	13	11	Silt	2211.4	5.9	405	1100.0	9.9	231
-12.0000	12	9	8	Silt	2260.6	6.8	420	800.0	7.2	197
-13.5000	13.5	8	7	Silt	2523.4	6.8	466	700.0	6.3	190
-15.0000	15	8	7	Silt	2782.4	6.8	512	700.0	6.3	198
-16.5000	16.5	9	8	Silt	3041.3	6.8	559	800.0	7.2	221
-18.0000	18	8	7	Silt	3304.1	6.8	605	700.0	6.3	214
-19.5000	19.5	9	8	Silt	3563.1	6.8	651	800.0	7.2	236
-21.0000	21	10	9	Silt	4258.8	6.8	762	900.0	8.1	260
-22.5000	22.5	10	9	Silt	4555.5	6.8	813	900.0	8.1	270
-24.0000	24	11	9	Silt	4852.1	6.8	865	900.0	8.1	279
-25.5000	25.5	12	10	Silt	5148.8	6.8	917	1000.0	9.0	304
-27.0000	27	17	14	Sand	6021.5	6.8	1053	2100.0	14.0	480
-28.5000	28.5	24	20	Sand	7639.2	6.8	1299	3000.0	20.0	632
-30.0000	30	50	43	Sand	11016.3	6.8	1805	4000.0	43.0	817
-31.5000	31.5	50	43	Sand	11709.6	6.8	1915	4000.0	43.0	867
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	2	2	Clay	56.3	9.4	25	50.0	2.4	14
-3.0000	3	3	3	Clay	84.4	14.1	48	75.0	3.6	24
-4.5000	4.5	21	18	Sand	1192.4	2.6	294	1350.0	18.0	309
-6.0000	6	8	7	Clay	196.9	24.0	102	175.0	8.4	79
-7.5000	7.5	16	14	Sand	1774.0	4.3	457	1750.0	14.0	428
-9.0000	9	8	7	Silt	1727.6	5.2	454	700.0	6.3	220
-10.5000	10.5	13	11	Silt	2211.4	5.9	564	1100.0	9.9	316
-12.0000	12	9	8	Silt	2260.6	6.8	583	800.0	7.2	265
-13.5000	13.5	8	7	Silt	2523.4	7.6	649	700.0	6.3	253
-15.0000	15	8	7	Silt	2782.4	7.6	715	700.0	6.3	262
-16.5000	16.5	9	8	Silt	3041.3	7.6	780	800.0	7.2	293
-18.0000	18	8	7	Silt	3304.1	7.6	847	700.0	6.3	281
-19.5000	19.5	9	8	Silt	3563.1	7.6	912	800.0	7.2	312
-21.0000	21	10	9	Silt	4258.8	7.6	1071	900.0	8.1	344
-22.5000	22.5	10	9	Silt	4555.5	7.6	1144	900.0	8.1	355
-24.0000	24	11	9	Silt	4852.1	7.6	1218	900.0	8.1	367
-25.5000	25.5	12	10	Silt	5148.8	7.6	1291	1000.0	9.0	400
-27.0000	27	17	14	Sand	6021.5	7.6	1487	2100.0	14.0	650
-28.5000	28.5	24	20	Sand	7639.2	7.6	1841	3000.0	20.0	865
-30.0000	30	50	43	Sand	11016.3	7.6	2568	4000.0	43.0	1121
-31.5000	31.5	50	43	Sand	11709.6	7.6	2725	4000.0	43.0	1182
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	2	2	Clay	56.3	9.4	29	50.0	2.4	17
-3.0000	3	3	3	Clay	84.4	14.1	55	75.0	3.6	28
-4.5000	4.5	21	18	Sand	1192.4	2.6	358	1215.0	18.0	344
-6.0000	6	8	7	Clay	196.9	24.0	119	175.0	8.4	92
-7.5000	7.5	16	14	Sand	1774.0	4.3	554	1575.0	14.0	476
-9.0000	9	8	7	Silt	1727.6	5.2	549	630.0	6.3	245
-10.5000	10.5	13	11	Silt	2211.4	5.9	685	1100.0	9.9	380
-12.0000	12	9	8	Silt	2260.6	6.8	707	800.0	7.2	315
-13.5000	13.5	8	7	Silt	2523.4	7.6	787	700.0	6.3	300
-15.0000	15	8	7	Silt	2782.4	8.3	868	700.0	6.3	310
-16.5000	16.5	9	8	Silt	3041.3	8.3	949	800.0	7.2	346
-18.0000	18	8	7	Silt	3304.1	8.3	1031	700.0	6.3	331
-19.5000	19.5	9	8	Silt	3563.1	8.3	1111	800.0	7.2	368
-21.0000	21	10	9	Silt	4258.8	8.3	1307	900.0	8.1	406
-22.5000	22.5	10	9	Silt	4555.5	8.3	1397	900.0	8.1	419
-24.0000	24	11	9	Silt	4852.1	8.3	1488	900.0	8.1	431
-25.5000	25.5	12	10	Silt	5148.8	8.3	1579	1000.0	9.0	471
-27.0000	27	17	14	Sand	6021.5	8.3	1820	2100.0	14.0	777
-28.5000	28.5	24	20	Sand	7639.2	8.3	2257	3000.0	20.0	1039
-30.0000	30	50	43	Sand	11016.3	8.3	3154	4000.0	43.0	1351
-31.5000	31.5	50	43	Sand	11709.6	8.3	3349	4000.0	43.0	1418
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-02**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.0	43.9	41.0	42.3	41.0	41.3
-2.0000	2	6	5	Clay	66.0	74.4	66.0	70.9	66.0	61.9
-2.5000	2.5	8	7	Silt	182.0	192.0	191.3	190.7	200.6	170.5
-3.0000	3	10	9	Silt	233.1	257.1	244.4	252.2	255.7	218.1
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	10	9	Silt	759.5	2.0	92	450.0	8.1	51
-4.5000	4.5	18	15	Silt	1281.2	2.8	144	1125.0	13.5	125
-6.0000	6	14	12	Silt	1522.5	3.7	170	1200.0	10.8	144
-7.5000	7.5	13	11	Silt	1687.1	4.5	189	1100.0	9.9	144
-9.0000	9	12	10	Silt	1992.2	5.4	223	1000.0	9.0	143
-10.5000	10.5	9	8	Silt	2059.9	5.4	234	800.0	7.2	132
-12.0000	12	8	7	Silt	2322.6	5.4	264	700.0	6.3	129
-13.5000	13.5	8	7	Silt	2581.6	5.4	293	700.0	6.3	135
-15.0000	15	7	6	Silt	2840.6	5.4	323	600.0	5.4	131
-16.5000	16.5	8	7	Silt	3095.8	5.4	352	700.0	6.3	146
-18.0000	18	9	8	Silt	3354.8	5.4	381	800.0	7.2	162
-19.5000	19.5	11	9	Silt	4027.0	5.4	450	900.0	8.1	179
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	10	9	Silt	759.5	2.0	138	360.0	8.1	64
-4.5000	4.5	18	15	Silt	1281.2	2.8	218	900.0	13.5	156
-6.0000	6	14	12	Silt	1522.5	3.7	257	960.0	10.8	180
-7.5000	7.5	13	11	Silt	1687.1	4.5	286	1100.0	9.9	212
-9.0000	9	12	10	Silt	1992.2	5.4	337	1000.0	9.0	209
-10.5000	10.5	9	8	Silt	2059.9	6.2	354	800.0	7.2	189
-12.0000	12	8	7	Silt	2322.6	7.0	400	700.0	6.3	182
-13.5000	13.5	8	7	Silt	2581.6	7.0	446	700.0	6.3	189
-15.0000	15	7	6	Silt	2840.6	7.0	493	600.0	5.4	182
-16.5000	16.5	8	7	Silt	3095.8	7.0	538	700.0	6.3	203
-18.0000	18	9	8	Silt	3354.8	7.0	585	800.0	7.2	226
-19.5000	19.5	11	9	Silt	4027.0	7.0	692	900.0	8.1	250
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	10	9	Silt	759.5	2.0	192	300.0	8.1	77
-4.5000	4.5	18	15	Silt	1281.2	2.8	306	750.0	13.5	188
-6.0000	6	14	12	Silt	1522.5	3.7	362	800.0	10.8	215
-7.5000	7.5	13	11	Silt	1687.1	4.5	403	916.7	9.9	255
-9.0000	9	12	10	Silt	1992.2	5.4	475	1000.0	9.0	286
-10.5000	10.5	9	8	Silt	2059.9	6.2	497	800.0	7.2	255
-12.0000	12	8	7	Silt	2322.6	7.0	562	700.0	6.3	243
-13.5000	13.5	8	7	Silt	2581.6	7.7	627	700.0	6.3	252
-15.0000	15	7	6	Silt	2840.6	7.7	693	600.0	5.4	239
-16.5000	16.5	8	7	Silt	3095.8	7.7	758	700.0	6.3	269
-18.0000	18	9	8	Silt	3354.8	7.7	824	800.0	7.2	299
-19.5000	19.5	11	9	Silt	4027.0	7.7	978	900.0	8.1	331
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	10	9	Silt	759.5	2.0	234	270.0	8.1	86
-4.5000	4.5	18	15	Silt	1281.2	2.8	374	675.0	13.5	209
-6.0000	6	14	12	Silt	1522.5	3.7	442	720.0	10.8	239
-7.5000	7.5	13	11	Silt	1687.1	4.5	492	825.0	9.9	283
-9.0000	9	12	10	Silt	1992.2	5.4	579	900.0	9.0	318
-10.5000	10.5	9	8	Silt	2059.9	6.2	606	800.0	7.2	304
-12.0000	12	8	7	Silt	2322.6	7.0	685	700.0	6.3	289
-13.5000	13.5	8	7	Silt	2581.6	7.7	765	700.0	6.3	298
-15.0000	15	7	6	Silt	2840.6	8.5	845	600.0	5.4	281
-16.5000	16.5	8	7	Silt	3095.8	8.5	925	700.0	6.3	317
-18.0000	18	9	8	Silt	3354.8	8.5	1007	800.0	7.2	354
-19.5000	19.5	11	9	Silt	4027.0	8.5	1196	900.0	8.1	392
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-03**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	6	5	Clay	65.0	69.9	65.0	67.2	65.0	65.6
-2.0000	2	7	6	Clay	78.0	88.1	78.0	83.9	78.0	73.1
-2.5000	2.5	8	7	Silt	185.4	195.6	194.7	194.1	204.0	173.4
-3.0000	3	9	8	Silt	208.8	230.0	218.3	225.1	227.7	194.8
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	33	125.0	6.0	17
-3.0000	3	9	8	Silt	675.0	2.0	95	400.0	7.2	50
-4.5000	4.5	8	7	Silt	937.8	2.8	122	525.0	6.3	68
-6.0000	6	10	9	Silt	1332.2	3.6	162	900.0	8.1	110
-7.5000	7.5	9	8	Silt	1463.3	4.4	178	800.0	7.2	108
-9.0000	9	9	8	Silt	1726.0	5.2	207	800.0	7.2	114
-10.5000	10.5	11	9	Silt	2213.8	5.2	258	900.0	8.1	131
-12.0000	12	12	10	Silt	2510.5	5.2	291	1000.0	9.0	149
-13.5000	13.5	13	11	Silt	2811.4	5.2	324	1100.0	9.9	167
-15.0000	15	10	9	Silt	3116.4	5.2	358	900.0	8.1	156
-16.5000	16.5	9	8	Silt	3066.1	5.2	358	800.0	7.2	154
-18.0000	18	8	7	Silt	3328.8	5.2	388	700.0	6.3	151
-19.5000	19.5	9	8	Silt	3587.8	5.2	417	800.0	7.2	167
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	46	125.0	6.0	25
-3.0000	3	9	8	Silt	675.0	2.0	138	320.0	7.2	62
-4.5000	4.5	8	7	Silt	937.8	2.8	180	420.0	6.3	85
-6.0000	6	10	9	Silt	1332.2	3.6	242	720.0	8.1	137
-7.5000	7.5	9	8	Silt	1463.3	4.4	266	800.0	7.2	158
-9.0000	9	9	8	Silt	1726.0	5.2	310	800.0	7.2	167
-10.5000	10.5	11	9	Silt	2213.8	6.0	388	900.0	8.1	190
-12.0000	12	12	10	Silt	2510.5	6.7	440	1000.0	9.0	215
-13.5000	13.5	13	11	Silt	2811.4	6.7	492	1100.0	9.9	241
-15.0000	15	10	9	Silt	3116.4	6.7	545	900.0	8.1	222
-16.5000	16.5	9	8	Silt	3066.1	6.7	545	800.0	7.2	216
-18.0000	18	8	7	Silt	3328.8	6.7	592	700.0	6.3	210
-19.5000	19.5	9	8	Silt	3587.8	6.7	638	800.0	7.2	232
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	60	125.0	6.0	35
-3.0000	3	9	8	Silt	675.0	2.0	190	266.7	7.2	74
-4.5000	4.5	8	7	Silt	937.8	2.8	249	350.0	6.3	102
-6.0000	6	10	9	Silt	1332.2	3.6	337	600.0	8.1	165
-7.5000	7.5	9	8	Silt	1463.3	4.4	371	666.7	7.2	190
-9.0000	9	9	8	Silt	1726.0	5.2	433	800.0	7.2	228
-10.5000	10.5	11	9	Silt	2213.8	6.0	544	900.0	8.1	260
-12.0000	12	12	10	Silt	2510.5	6.7	616	1000.0	9.0	293
-13.5000	13.5	13	11	Silt	2811.4	7.6	690	1100.0	9.9	328
-15.0000	15	10	9	Silt	3116.4	7.6	765	900.0	8.1	298
-16.5000	16.5	9	8	Silt	3066.1	7.6	766	800.0	7.2	288
-18.0000	18	8	7	Silt	3328.8	7.6	832	700.0	6.3	276
-19.5000	19.5	9	8	Silt	3587.8	7.6	898	800.0	7.2	307
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	70	125.0	6.0	42
-3.0000	3	9	8	Silt	675.0	2.0	229	240.0	7.2	83
-4.5000	4.5	8	7	Silt	937.8	2.8	301	315.0	6.3	113
-6.0000	6	10	9	Silt	1332.2	3.6	409	540.0	8.1	183
-7.5000	7.5	9	8	Silt	1463.3	4.4	450	600.0	7.2	211
-9.0000	9	9	8	Silt	1726.0	5.2	526	720.0	7.2	254
-10.5000	10.5	11	9	Silt	2213.8	6.0	663	900.0	8.1	313
-12.0000	12	12	10	Silt	2510.5	6.7	750	1000.0	9.0	352
-13.5000	13.5	13	11	Silt	2811.4	7.6	840	1100.0	9.9	393
-15.0000	15	10	9	Silt	3116.4	8.4	933	900.0	8.1	355
-16.5000	16.5	9	8	Silt	3066.1	8.4	933	800.0	7.2	341
-18.0000	18	8	7	Silt	3328.8	8.4	1015	700.0	6.3	325
-19.5000	19.5	9	8	Silt	3587.8	8.4	1096	800.0	7.2	362
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-04**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	3	3	Clay	42.0	44.9	42.0	43.3	42.0	42.3
-2.0000	2	4	3	Clay	43.2	48.3	43.2	46.1	43.2	40.7
-2.5000	2.5	6	5	Clay	68.2	80.2	68.2	75.7	68.2	64.5
-3.0000	3	8	7	Clay	93.1	114.9	93.1	107.4	93.1	88.5
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	8	7	Clay	196.9	24.0	50	175.0	8.4	26
-4.5000	4.5	11	9	Clay	253.1	23.4	77	225.0	10.8	39
-6.0000	6	20	17	Silt	1730.5	3.8	229	1700.0	15.3	191
-7.5000	7.5	12	10	Silt	1756.7	4.7	236	1000.0	9.0	136
-9.0000	9	11	9	Silt	2057.5	5.5	269	900.0	8.1	135
-10.5000	10.5	9	8	Silt	2114.8	5.5	280	800.0	7.2	133
-12.0000	12	10	9	Silt	2646.7	5.5	335	900.0	8.1	149
-13.5000	13.5	10	9	Silt	2943.3	5.5	368	900.0	8.1	157
-15.0000	15	9	8	Silt	2910.6	5.5	370	800.0	7.2	155
-16.5000	16.5	10	9	Silt	3532.5	5.5	434	900.0	8.1	171
-18.0000	18	11	9	Silt	3829.2	5.5	467	900.0	8.1	179
-19.5000	19.5	12	10	Silt	4125.8	5.5	501	1000.0	9.0	196
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	8	7	Clay	196.9	24.0	68	175.0	8.4	37
-4.5000	4.5	11	9	Clay	253.1	23.4	104	225.0	10.8	56
-6.0000	6	20	17	Silt	1730.5	3.8	338	1360.0	15.3	238
-7.5000	7.5	12	10	Silt	1756.7	4.7	347	1000.0	9.0	200
-9.0000	9	11	9	Silt	2057.5	5.5	397	900.0	8.1	195
-10.5000	10.5	9	8	Silt	2114.8	6.3	412	800.0	7.2	189
-12.0000	12	10	9	Silt	2646.7	7.1	499	900.0	8.1	213
-13.5000	13.5	10	9	Silt	2943.3	7.1	551	900.0	8.1	222
-15.0000	15	9	8	Silt	2910.6	7.1	554	800.0	7.2	217
-16.5000	16.5	10	9	Silt	3532.5	7.1	654	900.0	8.1	241
-18.0000	18	11	9	Silt	3829.2	7.1	706	900.0	8.1	250
-19.5000	19.5	12	10	Silt	4125.8	7.1	758	1000.0	9.0	275
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	8	7	Clay	196.9	24.0	89	175.0	8.4	51
-4.5000	4.5	11	9	Clay	253.1	23.4	134	225.0	10.8	75
-6.0000	6	20	17	Silt	1730.5	3.8	466	1133.3	15.3	286
-7.5000	7.5	12	10	Silt	1756.7	4.7	478	833.3	9.0	239
-9.0000	9	11	9	Silt	2057.5	5.5	549	900.0	8.1	266
-10.5000	10.5	9	8	Silt	2114.8	6.3	570	800.0	7.2	255
-12.0000	12	10	9	Silt	2646.7	7.1	692	900.0	8.1	287
-13.5000	13.5	10	9	Silt	2943.3	7.9	765	900.0	8.1	299
-15.0000	15	9	8	Silt	2910.6	7.9	770	800.0	7.2	288
-16.5000	16.5	10	9	Silt	3532.5	7.9	913	900.0	8.1	320
-18.0000	18	11	9	Silt	3829.2	7.9	987	900.0	8.1	332
-19.5000	19.5	12	10	Silt	4125.8	7.9	1061	1000.0	9.0	365
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	8	7	Clay	196.9	24.0	104	175.0	8.4	61
-4.5000	4.5	11	9	Clay	253.1	23.4	155	225.0	10.8	89
-6.0000	6	20	17	Silt	1730.5	3.8	564	1020.0	15.3	318
-7.5000	7.5	12	10	Silt	1756.7	4.7	577	750.0	9.0	266
-9.0000	9	11	9	Silt	2057.5	5.5	664	810.0	8.1	295
-10.5000	10.5	9	8	Silt	2114.8	6.3	688	800.0	7.2	305
-12.0000	12	10	9	Silt	2646.7	7.1	838	900.0	8.1	343
-13.5000	13.5	10	9	Silt	2943.3	7.9	928	900.0	8.1	356
-15.0000	15	9	8	Silt	2910.6	8.7	932	800.0	7.2	341
-16.5000	16.5	10	9	Silt	3532.5	8.7	1109	900.0	8.1	380
-18.0000	18	11	9	Silt	3829.2	8.7	1200	900.0	8.1	392
-19.5000	19.5	12	10	Silt	4125.8	8.7	1291	1000.0	9.0	432
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-05**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	5	4	Clay	53.7	57.6	53.7	55.5	53.7	54.2
-2.0000	2	5	4	Clay	54.8	61.6	54.8	58.7	54.8	51.5
-2.5000	2.5	4	3	Clay	44.1	51.3	44.1	48.6	44.1	41.9
-3.0000	3	4	3	Clay	45.3	54.7	45.3	51.4	45.3	43.3
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Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	28	100.0	4.8	14
-3.0000	3	4	3	Clay	84.4	14.1	41	75.0	3.6	16
-4.5000	4.5	6	5	Clay	140.6	21.3	63	125.0	6.0	25
-6.0000	6	8	7	Clay	196.9	24.0	90	175.0	8.4	36
-7.5000	7.5	17	14	Sand	1853.3	4.5	259	2100.0	14.0	228
-9.0000	9	14	12	Sand	2204.2	5.4	297	1800.0	12.0	212
-10.5000	10.5	11	9	Silt	2304.1	5.4	312	900.0	8.1	137
-12.0000	12	10	9	Silt	2600.8	5.4	345	900.0	8.1	145
-13.5000	13.5	11	9	Silt	2897.5	5.4	378	900.0	8.1	152
-15.0000	15	12	10	Silt	3194.1	5.4	411	1000.0	9.0	170
-16.5000	16.5	7	6	Silt	3139.7	5.4	410	600.0	5.4	139
-18.0000	18	9	8	Silt	3394.9	5.4	440	800.0	7.2	164
-19.5000	19.5	8	7	Silt	3657.7	5.4	469	700.0	6.3	160
-21.0000	21	9	8	Silt	3916.6	5.4	499	800.0	7.2	176
-22.5000	22.5	13	11	Silt	4652.4	5.4	573	1100.0	9.9	213
-24.0000	24	6	5	Silt	4453.4	5.4	560	500.0	4.5	163
-25.5000	25.5	10	9	Silt	5237.4	5.4	639	900.0	8.1	206
-27.0000	27	15	13	Sand	6114.7	5.4	726	1950.0	13.0	315
-28.5000	28.5	20	17	Sand	7093.6	5.4	824	2550.0	17.0	386
-30.0000	30	25	21	Sand	8182.6	5.4	931	3150.0	21.0	460
-31.5000	31.5	50	43	Sand	11763.6	5.4	1274	4000.0	43.0	571
-33.0000	33	50	43	Sand	12071.0	5.4	1308	4000.0	43.0	611
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	39	100.0	4.8	20
-3.0000	3	4	3	Clay	84.4	14.1	54	75.0	3.6	22
-4.5000	4.5	6	5	Clay	140.6	21.3	83	125.0	6.0	35
-6.0000	6	8	7	Clay	196.9	24.0	118	175.0	8.4	51
-7.5000	7.5	17	14	Sand	1853.3	4.5	379	2100.0	14.0	347
-9.0000	9	14	12	Sand	2204.2	5.4	436	1800.0	12.0	318
-10.5000	10.5	11	9	Silt	2304.1	6.2	458	900.0	8.1	198
-12.0000	12	10	9	Silt	2600.8	7.0	509	900.0	8.1	207
-13.5000	13.5	11	9	Silt	2897.5	7.0	561	900.0	8.1	217
-15.0000	15	12	10	Silt	3194.1	7.0	613	1000.0	9.0	242
-16.5000	16.5	7	6	Silt	3139.7	7.0	613	600.0	5.4	191
-18.0000	18	9	8	Silt	3394.9	7.0	659	800.0	7.2	228
-19.5000	19.5	8	7	Silt	3657.7	7.0	706	700.0	6.3	221
-21.0000	21	9	8	Silt	3916.6	7.0	752	800.0	7.2	244
-22.5000	22.5	13	11	Silt	4652.4	7.0	869	1100.0	9.9	298
-24.0000	24	6	5	Silt	4453.4	7.0	848	500.0	4.5	218
-25.5000	25.5	10	9	Silt	5237.4	7.0	972	900.0	8.1	285
-27.0000	27	15	13	Sand	6114.7	7.0	1109	1950.0	13.0	452
-28.5000	28.5	20	17	Sand	7093.6	7.0	1261	2550.0	17.0	558
-30.0000	30	25	21	Sand	8182.6	7.0	1430	3150.0	21.0	668
-31.5000	31.5	50	43	Sand	11763.6	7.0	1966	4000.0	43.0	831
-33.0000	33	50	43	Sand	12071.0	7.0	2019	4000.0	43.0	882
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	50	100.0	4.8	28
-3.0000	3	4	3	Clay	84.4	14.1	68	75.0	3.6	29
-4.5000	4.5	6	5	Clay	140.6	21.3	105	125.0	6.0	46
-6.0000	6	8	7	Clay	196.9	24.0	149	175.0	8.4	67
-7.5000	7.5	17	14	Sand	1853.3	4.5	520	1750.0	14.0	417
-9.0000	9	14	12	Sand	2204.2	5.4	601	1800.0	12.0	446
-10.5000	10.5	11	9	Silt	2304.1	6.2	631	900.0	8.1	269
-12.0000	12	10	9	Silt	2600.8	7.0	703	900.0	8.1	280
-13.5000	13.5	11	9	Silt	2897.5	7.8	776	900.0	8.1	292
-15.0000	15	12	10	Silt	3194.1	7.8	850	1000.0	9.0	325
-16.5000	16.5	7	6	Silt	3139.7	7.8	850	600.0	5.4	251
-18.0000	18	9	8	Silt	3394.9	7.8	915	800.0	7.2	302
-19.5000	19.5	8	7	Silt	3657.7	7.8	982	700.0	6.3	290
-21.0000	21	9	8	Silt	3916.6	7.8	1048	800.0	7.2	321
-22.5000	22.5	13	11	Silt	4652.4	7.8	1215	1100.0	9.9	397
-24.0000	24	6	5	Silt	4453.4	7.8	1183	500.0	4.5	280
-25.5000	25.5	10	9	Silt	5237.4	7.8	1361	900.0	8.1	373
-27.0000	27	15	13	Sand	6114.7	7.8	1558	1950.0	13.0	611
-28.5000	28.5	20	17	Sand	7093.6	7.8	1776	2550.0	17.0	759
-30.0000	30	25	21	Sand	8182.6	7.8	2018	3150.0	21.0	913
-31.5000	31.5	50	43	Sand	11763.6	7.8	2789	4000.0	43.0	1139
-33.0000	33	50	43	Sand	12071.0	7.8	2865	4000.0	43.0	1200
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	59	100.0	4.8	34
-3.0000	3	4	3	Clay	84.4	14.1	77	75.0	3.6	34
-4.5000	4.5	6	5	Clay	140.6	21.3	120	125.0	6.0	54
-6.0000	6	8	7	Clay	196.9	24.0	170	175.0	8.4	79
-7.5000	7.5	17	14	Sand	1853.3	4.5	626	1575.0	14.0	463
-9.0000	9	14	12	Sand	2204.2	5.4	726	1620.0	12.0	495
-10.5000	10.5	11	9	Silt	2304.1	6.2	761	900.0	8.1	322
-12.0000	12	10	9	Silt	2600.8	7.0	849	900.0	8.1	335
-13.5000	13.5	11	9	Silt	2897.5	7.8	938	900.0	8.1	348
-15.0000	15	12	10	Silt	3194.1	8.6	1029	1000.0	9.0	387
-16.5000	16.5	7	6	Silt	3139.7	8.6	1028	600.0	5.4	294
-18.0000	18	9	8	Silt	3394.9	8.6	1109	800.0	7.2	356
-19.5000	19.5	8	7	Silt	3657.7	8.6	1191	700.0	6.3	341
-21.0000	21	9	8	Silt	3916.6	8.6	1272	800.0	7.2	378
-22.5000	22.5	13	11	Silt	4652.4	8.6	1478	1100.0	9.9	469
-24.0000	24	6	5	Silt	4453.4	8.6	1440	500.0	4.5	324
-25.5000	25.5	10	9	Silt	5237.4	8.6	1658	900.0	8.1	438
-27.0000	27	15	13	Sand	6114.7	8.6	1901	1950.0	13.0	730
-28.5000	28.5	20	17	Sand	7093.6	8.6	2171	2550.0	17.0	910
-30.0000	30	25	21	Sand	8182.6	8.6	2470	3150.0	21.0	1097
-31.5000	31.5	50	43	Sand	11763.6	8.6	3421	4000.0	43.0	1370
-33.0000	33	50	43	Sand	12071.0	8.6	3515	4000.0	43.0	1438
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-06**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	42.3	45.2	42.3	43.6	42.3	42.6
-2.0000	2	5	4	Clay	55.4	62.2	55.4	59.3	55.4	52.1
-2.5000	2.5	6	5	Clay	68.4	80.4	68.4	75.9	68.4	64.7
-3.0000	3	7	6	Clay	81.4	100.1	81.4	93.6	81.4	77.5
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	7	6	Clay	168.8	23.1	47	150.0	7.2	23
-4.5000	4.5	10	9	Silt	1153.0	3.1	152	675.0	8.1	79
-6.0000	6	15	13	Silt	1601.8	3.9	197	1300.0	11.7	148
-7.5000	7.5	12	10	Silt	1763.1	4.7	217	1000.0	9.0	129
-9.0000	9	13	11	Silt	2064.0	5.5	250	1100.0	9.9	147
-10.5000	10.5	14	12	Silt	2617.6	5.5	307	1200.0	10.8	167
-12.0000	12	14	12	Silt	2959.2	5.5	345	1200.0	10.8	177
-13.5000	13.5	11	9	Silt	2987.4	5.5	353	900.0	8.1	157
-15.0000	15	13	11	Silt	3284.1	5.5	386	1100.0	9.9	185
-16.5000	16.5	9	8	Silt	3224.2	5.5	385	800.0	7.2	164
-18.0000	18	9	8	Silt	3487.0	5.5	415	800.0	7.2	171
-19.5000	19.5	9	8	Silt	3749.7	5.5	445	800.0	7.2	178
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	7	6	Clay	168.8	23.1	63	150.0	7.2	33
-4.5000	4.5	10	9	Silt	1153.0	3.1	224	540.0	8.1	99
-6.0000	6	15	13	Silt	1601.8	3.9	294	1040.0	11.7	184
-7.5000	7.5	12	10	Silt	1763.1	4.7	323	1000.0	9.0	191
-9.0000	9	13	11	Silt	2064.0	5.5	373	1100.0	9.9	217
-10.5000	10.5	14	12	Silt	2617.6	6.4	462	1200.0	10.8	244
-12.0000	12	14	12	Silt	2959.2	7.2	520	1200.0	10.8	256
-13.5000	13.5	11	9	Silt	2987.4	7.2	533	900.0	8.1	223
-15.0000	15	13	11	Silt	3284.1	7.2	585	1100.0	9.9	263
-16.5000	16.5	9	8	Silt	3224.2	7.2	584	800.0	7.2	229
-18.0000	18	9	8	Silt	3487.0	7.2	632	800.0	7.2	238
-19.5000	19.5	9	8	Silt	3749.7	7.2	679	800.0	7.2	246
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	7	6	Clay	168.8	23.1	82	150.0	7.2	45
-4.5000	4.5	10	9	Silt	1153.0	3.1	309	450.0	8.1	119
-6.0000	6	15	13	Silt	1601.8	3.9	409	866.7	11.7	221
-7.5000	7.5	12	10	Silt	1763.1	4.7	450	833.3	9.0	229
-9.0000	9	13	11	Silt	2064.0	5.5	521	1100.0	9.9	299
-10.5000	10.5	14	12	Silt	2617.6	6.4	646	1200.0	10.8	335
-12.0000	12	14	12	Silt	2959.2	7.2	729	1200.0	10.8	350
-13.5000	13.5	11	9	Silt	2987.4	8.0	745	900.0	8.1	300
-15.0000	15	13	11	Silt	3284.1	8.0	820	1100.0	9.9	355
-16.5000	16.5	9	8	Silt	3224.2	8.0	818	800.0	7.2	303
-18.0000	18	9	8	Silt	3487.0	8.0	885	800.0	7.2	313
-19.5000	19.5	9	8	Silt	3749.7	8.0	952	800.0	7.2	324
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	7	6	Clay	168.8	23.1	95	150.0	7.2	53
-4.5000	4.5	10	9	Silt	1153.0	3.1	374	405.0	8.1	132
-6.0000	6	15	13	Silt	1601.8	3.9	497	780.0	11.7	246
-7.5000	7.5	12	10	Silt	1763.1	4.7	546	750.0	9.0	254
-9.0000	9	13	11	Silt	2064.0	5.5	633	990.0	9.9	332
-10.5000	10.5	14	12	Silt	2617.6	6.4	787	1200.0	10.8	403
-12.0000	12	14	12	Silt	2959.2	7.2	887	1200.0	10.8	420
-13.5000	13.5	11	9	Silt	2987.4	8.0	906	900.0	8.1	356
-15.0000	15	13	11	Silt	3284.1	8.8	997	1100.0	9.9	423
-16.5000	16.5	9	8	Silt	3224.2	8.8	995	800.0	7.2	358
-18.0000	18	9	8	Silt	3487.0	8.8	1078	800.0	7.2	369
-19.5000	19.5	9	8	Silt	3749.7	8.8	1161	800.0	7.2	380
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-07**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	42.9	45.9	42.9	44.3	42.9	43.3
-2.0000	2	5	4	Clay	56.1	62.8	56.1	60.0	56.1	52.8
-2.5000	2.5	6	5	Clay	69.0	81.0	69.0	76.6	69.0	65.3
-3.0000	3	8	7	Clay	93.9	115.7	93.9	108.2	93.9	89.3
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	8	7	Clay	196.9	24.0	50	175.0	8.4	26
-4.5000	4.5	10	9	Silt	1211.9	3.3	158	675.0	8.1	80
-6.0000	6	13	11	Silt	1508.6	4.1	190	1100.0	9.9	129
-7.5000	7.5	12	10	Silt	1813.7	4.9	223	1000.0	9.0	128
-9.0000	9	13	11	Silt	2114.5	5.7	256	1100.0	9.9	147
-10.5000	10.5	11	9	Silt	2419.5	5.7	290	900.0	8.1	136
-12.0000	12	9	8	Silt	2440.1	5.7	297	800.0	7.2	134
-13.5000	13.5	12	10	Silt	3008.7	5.7	356	1000.0	9.0	161
-15.0000	15	15	13	Silt	3656.8	5.7	423	1300.0	11.7	199
-16.5000	16.5	10	9	Silt	3623.0	5.7	425	900.0	8.1	170
-18.0000	18	12	10	Silt	3919.6	5.7	458	1000.0	9.0	188
-19.5000	19.5	11	9	Silt	4220.5	5.7	492	900.0	8.1	186
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	8	7	Clay	196.9	24.0	68	175.0	8.4	37
-4.5000	4.5	10	9	Silt	1211.9	3.3	234	540.0	8.1	101
-6.0000	6	13	11	Silt	1508.6	4.1	282	880.0	9.9	161
-7.5000	7.5	12	10	Silt	1813.7	4.9	332	1000.0	9.0	190
-9.0000	9	13	11	Silt	2114.5	5.7	382	1100.0	9.9	216
-10.5000	10.5	11	9	Silt	2419.5	6.5	434	900.0	8.1	197
-12.0000	12	9	8	Silt	2440.1	7.3	446	800.0	7.2	191
-13.5000	13.5	12	10	Silt	3008.7	7.3	538	1000.0	9.0	230
-15.0000	15	15	13	Silt	3656.8	7.3	642	1300.0	11.7	287
-16.5000	16.5	10	9	Silt	3623.0	7.3	646	900.0	8.1	239
-18.0000	18	12	10	Silt	3919.6	7.3	698	1000.0	9.0	264
-19.5000	19.5	11	9	Silt	4220.5	7.3	751	900.0	8.1	260
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	8	7	Clay	196.9	24.0	89	175.0	8.4	51
-4.5000	4.5	10	9	Silt	1211.9	3.3	323	450.0	8.1	121
-6.0000	6	13	11	Silt	1508.6	4.1	391	733.3	9.9	193
-7.5000	7.5	12	10	Silt	1813.7	4.9	462	833.3	9.0	228
-9.0000	9	13	11	Silt	2114.5	5.7	533	1100.0	9.9	298
-10.5000	10.5	11	9	Silt	2419.5	6.5	607	900.0	8.1	268
-12.0000	12	9	8	Silt	2440.1	7.3	621	800.0	7.2	258
-13.5000	13.5	12	10	Silt	3008.7	8.1	752	1000.0	9.0	312
-15.0000	15	15	13	Silt	3656.8	8.1	901	1300.0	11.7	390
-16.5000	16.5	10	9	Silt	3623.0	8.1	905	900.0	8.1	319
-18.0000	18	12	10	Silt	3919.6	8.1	980	1000.0	9.0	352
-19.5000	19.5	11	9	Silt	4220.5	8.1	1055	900.0	8.1	343
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	8	7	Clay	196.9	24.0	104	175.0	8.4	61
-4.5000	4.5	10	9	Silt	1211.9	3.3	391	405.0	8.1	134
-6.0000	6	13	11	Silt	1508.6	4.1	474	660.0	9.9	215
-7.5000	7.5	12	10	Silt	1813.7	4.9	561	750.0	9.0	253
-9.0000	9	13	11	Silt	2114.5	5.7	648	990.0	9.9	331
-10.5000	10.5	11	9	Silt	2419.5	6.5	737	900.0	8.1	322
-12.0000	12	9	8	Silt	2440.1	7.3	754	800.0	7.2	307
-13.5000	13.5	12	10	Silt	3008.7	8.1	915	1000.0	9.0	373
-15.0000	15	15	13	Silt	3656.8	8.9	1098	1300.0	11.7	467
-16.5000	16.5	10	9	Silt	3623.0	8.9	1103	900.0	8.1	378
-18.0000	18	12	10	Silt	3919.6	8.9	1194	1000.0	9.0	418
-19.5000	19.5	11	9	Silt	4220.5	8.9	1287	900.0	8.1	405
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-08**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	5	4	Clay	54.7	58.6	54.7	56.5	54.7	55.2
-2.0000	2	5	4	Clay	55.8	62.6	55.8	59.7	55.8	52.5
-2.5000	2.5	4	3	Clay	45.0	52.3	45.0	49.6	45.0	42.8
-3.0000	3	3	3	Clay	46.3	55.6	46.3	52.4	46.3	44.3
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	28	100.0	4.8	14
-3.0000	3	3	3	Clay	84.4	14.1	41	75.0	3.6	16
-4.5000	4.5	14	12	Silt	1316.2	3.2	165	900.0	10.8	100
-6.0000	6	8	7	Silt	1347.9	4.0	172	700.0	6.3	89
-7.5000	7.5	16	14	Silt	1976.4	4.8	235	1400.0	12.6	164
-9.0000	9	13	11	Silt	2106.3	5.7	252	1100.0	9.9	147
-10.5000	10.5	10	9	Silt	2411.3	5.7	286	900.0	8.1	136
-12.0000	12	12	10	Silt	2708.0	5.7	320	1000.0	9.0	154
-13.5000	13.5	17	14	Silt	3324.6	5.7	383	1400.0	12.6	202
-15.0000	15	13	11	Silt	3326.5	5.7	389	1100.0	9.9	184
-16.5000	16.5	8	7	Silt	3262.3	5.7	388	700.0	6.3	154
-18.0000	18	39	33	Sand	7067.4	5.7	752	4000.0	33.0	483
-19.5000	19.5	11	9	Sand	4304.3	5.7	497	1350.0	9.0	253
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	39	100.0	4.8	20
-3.0000	3	3	3	Clay	84.4	14.1	54	75.0	3.6	22
-4.5000	4.5	14	12	Silt	1316.2	3.2	245	720.0	10.8	125
-6.0000	6	8	7	Silt	1347.9	4.0	254	560.0	6.3	112
-7.5000	7.5	16	14	Silt	1976.4	4.8	352	1400.0	12.6	246
-9.0000	9	13	11	Silt	2106.3	5.7	377	1100.0	9.9	216
-10.5000	10.5	10	9	Silt	2411.3	6.5	429	900.0	8.1	197
-12.0000	12	12	10	Silt	2708.0	7.3	481	1000.0	9.0	221
-13.5000	13.5	17	14	Silt	3324.6	7.3	581	1400.0	12.6	293
-15.0000	15	13	11	Silt	3326.5	7.3	590	1100.0	9.9	262
-16.5000	16.5	8	7	Silt	3262.3	7.3	589	700.0	6.3	213
-18.0000	18	39	33	Sand	7067.4	7.3	1158	4000.0	33.0	722
-19.5000	19.5	11	9	Sand	4304.3	7.3	759	1350.0	9.0	356
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	50	100.0	4.8	28
-3.0000	3	3	3	Clay	84.4	14.1	68	75.0	3.6	29
-4.5000	4.5	14	12	Silt	1316.2	3.2	341	600.0	10.8	150
-6.0000	6	8	7	Silt	1347.9	4.0	353	466.7	6.3	134
-7.5000	7.5	16	14	Silt	1976.4	4.8	492	1166.7	12.6	296
-9.0000	9	13	11	Silt	2106.3	5.7	527	1100.0	9.9	298
-10.5000	10.5	10	9	Silt	2411.3	6.5	601	900.0	8.1	268
-12.0000	12	12	10	Silt	2708.0	7.3	673	1000.0	9.0	301
-13.5000	13.5	17	14	Silt	3324.6	8.1	815	1400.0	12.6	401
-15.0000	15	13	11	Silt	3326.5	8.1	827	1100.0	9.9	353
-16.5000	16.5	8	7	Silt	3262.3	8.1	825	700.0	6.3	280
-18.0000	18	39	33	Sand	7067.4	8.1	1643	4000.0	33.0	1008
-19.5000	19.5	11	9	Sand	4304.3	8.1	1068	1350.0	9.0	475
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	59	100.0	4.8	34
-3.0000	3	3	3	Clay	84.4	14.1	77	75.0	3.6	34
-4.5000	4.5	14	12	Silt	1316.2	3.2	413	540.0	10.8	167
-6.0000	6	8	7	Silt	1347.9	4.0	427	420.0	6.3	149
-7.5000	7.5	16	14	Silt	1976.4	4.8	599	1050.0	12.6	329
-9.0000	9	13	11	Silt	2106.3	5.7	641	990.0	9.9	331
-10.5000	10.5	10	9	Silt	2411.3	6.5	730	900.0	8.1	321
-12.0000	12	12	10	Silt	2708.0	7.3	819	1000.0	9.0	361
-13.5000	13.5	17	14	Silt	3324.6	8.1	992	1400.0	12.6	482
-15.0000	15	13	11	Silt	3326.5	8.9	1006	1100.0	9.9	422
-16.5000	16.5	8	7	Silt	3262.3	8.9	1004	700.0	6.3	330
-18.0000	18	39	33	Sand	7067.4	8.9	2014	4000.0	33.0	1224
-19.5000	19.5	11	9	Sand	4304.3	8.9	1304	1350.0	9.0	564
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-09**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	6	5	Clay	65.7	70.5	65.7	67.9	65.7	66.3
-2.0000	2	6	5	Clay	66.8	75.2	66.8	71.7	66.8	62.7
-2.5000	2.5	7	6	Clay	79.8	94.2	79.8	88.8	79.8	75.3
-3.0000	3	7	6	Clay	80.9	99.6	80.9	93.2	80.9	77.0
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	33	125.0	6.0	17
-3.0000	3	7	6	Clay	168.8	23.1	57	150.0	7.2	26
-4.5000	4.5	12	10	Silt	1090.3	2.9	156	750.0	9.0	90
-6.0000	6	8	7	Silt	1249.7	3.7	174	700.0	6.3	93
-7.5000	7.5	14	12	Silt	1855.6	4.5	235	1200.0	10.8	148
-9.0000	9	12	10	Silt	1988.6	5.3	252	1000.0	9.0	138
-10.5000	10.5	11	9	Silt	2289.5	5.3	286	900.0	8.1	137
-12.0000	12	9	8	Silt	2323.2	5.3	294	800.0	7.2	135
-13.5000	13.5	8	7	Silt	2586.0	5.3	324	700.0	6.3	132
-15.0000	15	9	8	Silt	2845.0	5.3	353	800.0	7.2	147
-16.5000	16.5	12	10	Silt	3459.4	5.3	416	1000.0	9.0	174
-18.0000	18	22	19	Sand	4980.8	5.3	565	2850.0	19.0	362
-19.5000	19.5	6	5	Silt	3682.1	5.3	447	500.0	4.5	151
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	46	125.0	6.0	25
-3.0000	3	7	6	Clay	168.8	23.1	76	150.0	7.2	37
-4.5000	4.5	12	10	Silt	1090.3	2.9	227	600.0	9.0	113
-6.0000	6	8	7	Silt	1249.7	3.7	255	560.0	6.3	116
-7.5000	7.5	14	12	Silt	1855.6	4.5	349	1200.0	10.8	220
-9.0000	9	12	10	Silt	1988.6	5.3	374	1000.0	9.0	202
-10.5000	10.5	11	9	Silt	2289.5	6.2	425	900.0	8.1	198
-12.0000	12	9	8	Silt	2323.2	7.0	438	800.0	7.2	192
-13.5000	13.5	8	7	Silt	2586.0	7.0	485	700.0	6.3	185
-15.0000	15	9	8	Silt	2845.0	7.0	531	800.0	7.2	208
-16.5000	16.5	12	10	Silt	3459.4	7.0	630	1000.0	9.0	247
-18.0000	18	22	19	Sand	4980.8	7.0	862	2850.0	19.0	536
-19.5000	19.5	6	5	Silt	3682.1	7.0	679	500.0	4.5	204
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	60	125.0	6.0	35
-3.0000	3	7	6	Clay	168.8	23.1	97	150.0	7.2	50
-4.5000	4.5	12	10	Silt	1090.3	2.9	311	500.0	9.0	135
-6.0000	6	8	7	Silt	1249.7	3.7	350	466.7	6.3	139
-7.5000	7.5	14	12	Silt	1855.6	4.5	484	1000.0	10.8	264
-9.0000	9	12	10	Silt	1988.6	5.3	519	1000.0	9.0	278
-10.5000	10.5	11	9	Silt	2289.5	6.2	591	900.0	8.1	269
-12.0000	12	9	8	Silt	2323.2	7.0	608	800.0	7.2	259
-13.5000	13.5	8	7	Silt	2586.0	7.7	674	700.0	6.3	247
-15.0000	15	9	8	Silt	2845.0	7.7	740	800.0	7.2	278
-16.5000	16.5	12	10	Silt	3459.4	7.7	881	1000.0	9.0	332
-18.0000	18	22	19	Sand	4980.8	7.7	1214	2850.0	19.0	744
-19.5000	19.5	6	5	Silt	3682.1	7.7	950	500.0	4.5	262
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	70	125.0	6.0	42
-3.0000	3	7	6	Clay	168.8	23.1	113	150.0	7.2	59
-4.5000	4.5	12	10	Silt	1090.3	2.9	374	450.0	9.0	150
-6.0000	6	8	7	Silt	1249.7	3.7	421	420.0	6.3	154
-7.5000	7.5	14	12	Silt	1855.6	4.5	586	900.0	10.8	294
-9.0000	9	12	10	Silt	1988.6	5.3	629	900.0	9.0	309
-10.5000	10.5	11	9	Silt	2289.5	6.2	717	900.0	8.1	323
-12.0000	12	9	8	Silt	2323.2	7.0	736	800.0	7.2	308
-13.5000	13.5	8	7	Silt	2586.0	7.7	816	700.0	6.3	293
-15.0000	15	9	8	Silt	2845.0	8.5	897	800.0	7.2	330
-16.5000	16.5	12	10	Silt	3459.4	8.5	1071	1000.0	9.0	395
-18.0000	18	22	19	Sand	4980.8	8.5	1483	2850.0	19.0	901
-19.5000	19.5	6	5	Silt	3682.1	8.5	1156	500.0	4.5	304
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-10**

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	43.3	46.2	43.3	44.6	43.3	43.6
-2.0000	2	5	4	Clay	56.4	63.1	56.4	60.3	56.4	53.1
-2.5000	2.5	6	5	Clay	69.4	81.4	69.4	76.9	69.4	65.7
-3.0000	3	7	6	Clay	82.4	101.1	82.4	94.6	82.4	78.4
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Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	7	6	Clay	168.8	23.1	47	150.0	7.2	23
-4.5000	4.5	8	7	Clay	196.9	24.0	72	175.0	8.4	32
-6.0000	6	32	27	Sand	2372.4	8.2	292	4000.0	27.0	410
-7.5000	7.5	18	15	Sand	2299.4	5.1	291	2250.0	15.0	264
-9.0000	9	13	11	Silt	2217.2	6.0	289	1100.0	9.9	168
-10.5000	10.5	12	10	Silt	2522.2	6.0	323	1000.0	9.0	167
-12.0000	12	11	9	Silt	2823.1	6.0	357	900.0	8.1	166
-13.5000	13.5	13	11	Silt	3119.7	6.0	391	1100.0	9.9	193
-15.0000	15	14	12	Silt	3784.1	6.0	459	1200.0	10.8	212
-16.5000	16.5	13	11	Silt	3734.0	6.0	460	1100.0	9.9	213
-18.0000	18	9	8	Silt	3628.4	6.0	455	800.0	7.2	192
-19.5000	19.5	8	7	Silt	3891.2	6.0	486	700.0	6.3	189
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	7	6	Clay	168.8	23.1	63	150.0	7.2	33
-4.5000	4.5	8	7	Clay	196.9	24.0	95	175.0	8.4	46
-6.0000	6	32	27	Sand	2372.4	8.2	435	3240.0	27.0	518
-7.5000	7.5	18	15	Sand	2299.4	5.1	432	2250.0	15.0	397
-9.0000	9	13	11	Silt	2217.2	6.0	426	1100.0	9.9	242
-10.5000	10.5	12	10	Silt	2522.2	6.8	478	1000.0	9.0	238
-12.0000	12	11	9	Silt	2823.1	7.6	531	900.0	8.1	234
-13.5000	13.5	13	11	Silt	3119.7	7.6	584	1100.0	9.9	274
-15.0000	15	14	12	Silt	3784.1	7.6	691	1200.0	10.8	301
-16.5000	16.5	13	11	Silt	3734.0	7.6	692	1100.0	9.9	298
-18.0000	18	9	8	Silt	3628.4	7.6	686	800.0	7.2	264
-19.5000	19.5	8	7	Silt	3891.2	7.6	733	700.0	6.3	257
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	7	6	Clay	168.8	23.1	82	150.0	7.2	45
-4.5000	4.5	8	7	Clay	196.9	24.0	121	175.0	8.4	61
-6.0000	6	32	27	Sand	2372.4	8.2	605	2700.0	27.0	621
-7.5000	7.5	18	15	Sand	2299.4	5.1	599	1875.0	15.0	476
-9.0000	9	13	11	Silt	2217.2	6.0	590	1100.0	9.9	329
-10.5000	10.5	12	10	Silt	2522.2	6.8	663	1000.0	9.0	321
-12.0000	12	11	9	Silt	2823.1	7.6	737	900.0	8.1	312
-13.5000	13.5	13	11	Silt	3119.7	8.4	811	1100.0	9.9	367
-15.0000	15	14	12	Silt	3784.1	8.4	964	1200.0	10.8	403
-16.5000	16.5	13	11	Silt	3734.0	8.4	965	1100.0	9.9	397
-18.0000	18	9	8	Silt	3628.4	8.4	955	800.0	7.2	345
-19.5000	19.5	8	7	Silt	3891.2	8.4	1022	700.0	6.3	334
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	7	6	Clay	168.8	23.1	95	150.0	7.2	53
-4.5000	4.5	8	7	Clay	196.9	24.0	140	175.0	8.4	72
-6.0000	6	32	27	Sand	2372.4	8.2	735	2430.0	27.0	690
-7.5000	7.5	18	15	Sand	2299.4	5.1	726	1687.5	15.0	529
-9.0000	9	13	11	Silt	2217.2	6.0	713	990.0	9.9	366
-10.5000	10.5	12	10	Silt	2522.2	6.8	803	1000.0	9.0	383
-12.0000	12	11	9	Silt	2823.1	7.6	893	900.0	8.1	371
-13.5000	13.5	13	11	Silt	3119.7	8.4	983	1100.0	9.9	437
-15.0000	15	14	12	Silt	3784.1	9.2	1171	1200.0	10.8	480
-16.5000	16.5	13	11	Silt	3734.0	9.2	1172	1100.0	9.9	470
-18.0000	18	9	8	Silt	3628.4	9.2	1159	800.0	7.2	405
-19.5000	19.5	8	7	Silt	3891.2	9.2	1242	700.0	6.3	389
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-11**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	6	5	Clay	66.3	71.2	66.3	68.5	66.3	66.9
-2.0000	2	6	5	Clay	67.4	75.9	67.4	72.3	67.4	63.3
-2.5000	2.5	5	4	Clay	56.7	66.3	56.7	62.7	56.7	53.7
-3.0000	3	4	3	Clay	45.9	55.3	45.9	52.0	45.9	43.9
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	33	125.0	6.0	17
-3.0000	3	4	3	Clay	84.4	14.1	45	75.0	3.6	17
-4.5000	4.5	12	10	Silt	1172.2	3.2	155	750.0	9.0	87
-6.0000	6	6	5	Silt	1323.3	4.0	173	500.0	4.5	70
-7.5000	7.5	13	11	Silt	1753.0	4.7	218	1100.0	9.9	133
-9.0000	9	11	9	Silt	2058.0	5.5	251	900.0	8.1	123
-10.5000	10.5	8	7	Silt	2115.3	5.5	262	700.0	6.3	111
-12.0000	12	6	5	Silt	2374.3	5.5	291	500.0	4.5	97
-13.5000	13.5	11	9	Silt	2922.9	5.5	348	900.0	8.1	140
-15.0000	15	12	10	Silt	3219.6	5.5	381	1000.0	9.0	158
-16.5000	16.5	17	14	Silt	3889.8	5.5	450	1400.0	12.6	206
-18.0000	18	23	20	Sand	5083.8	5.5	568	3000.0	20.0	372
-19.5000	19.5	----	----	----	----	----	----	----	----	----
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	46	125.0	6.0	25
-3.0000	3	4	3	Clay	84.4	14.1	58	75.0	3.6	24
-4.5000	4.5	12	10	Silt	1172.2	3.2	229	600.0	9.0	109
-6.0000	6	6	5	Silt	1323.3	4.0	255	400.0	4.5	87
-7.5000	7.5	13	11	Silt	1753.0	4.7	324	1100.0	9.9	199
-9.0000	9	11	9	Silt	2058.0	5.5	375	900.0	8.1	180
-10.5000	10.5	8	7	Silt	2115.3	6.3	390	700.0	6.3	159
-12.0000	12	6	5	Silt	2374.3	7.1	436	500.0	4.5	136
-13.5000	13.5	11	9	Silt	2922.9	7.1	525	900.0	8.1	202
-15.0000	15	12	10	Silt	3219.6	7.1	577	1000.0	9.0	227
-16.5000	16.5	17	14	Silt	3889.8	7.1	684	1400.0	12.6	298
-18.0000	18	23	20	Sand	5083.8	7.1	869	3000.0	20.0	553
-19.5000	19.5	----	----	----	----	----	----	----	----	----
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	60	125.0	6.0	35
-3.0000	3	4	3	Clay	84.4	14.1	73	75.0	3.6	31
-4.5000	4.5	12	10	Silt	1172.2	3.2	316	500.0	9.0	130
-6.0000	6	6	5	Silt	1323.3	4.0	353	333.3	4.5	104
-7.5000	7.5	13	11	Silt	1753.0	4.7	450	916.7	9.9	238
-9.0000	9	11	9	Silt	2058.0	5.5	522	900.0	8.1	247
-10.5000	10.5	8	7	Silt	2115.3	6.3	543	700.0	6.3	215
-12.0000	12	6	5	Silt	2374.3	7.1	607	500.0	4.5	180
-13.5000	13.5	11	9	Silt	2922.9	7.9	734	900.0	8.1	274
-15.0000	15	12	10	Silt	3219.6	7.9	808	1000.0	9.0	307
-16.5000	16.5	17	14	Silt	3889.8	7.9	961	1400.0	12.6	408
-18.0000	18	23	20	Sand	5083.8	7.9	1226	3000.0	20.0	770
-19.5000	19.5	----	----	----	----	----	----	----	----	----
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	70	125.0	6.0	42
-3.0000	3	4	3	Clay	84.4	14.1	83	75.0	3.6	37
-4.5000	4.5	12	10	Silt	1172.2	3.2	382	450.0	9.0	145
-6.0000	6	6	5	Silt	1323.3	4.0	427	300.0	4.5	116
-7.5000	7.5	13	11	Silt	1753.0	4.7	546	825.0	9.9	265
-9.0000	9	11	9	Silt	2058.0	5.5	634	810.0	8.1	275
-10.5000	10.5	8	7	Silt	2115.3	6.3	658	700.0	6.3	257
-12.0000	12	6	5	Silt	2374.3	7.1	737	500.0	4.5	214
-13.5000	13.5	11	9	Silt	2922.9	7.9	892	900.0	8.1	328
-15.0000	15	12	10	Silt	3219.6	8.7	983	1000.0	9.0	368
-16.5000	16.5	17	14	Silt	3889.8	8.7	1172	1400.0	12.6	490
-18.0000	18	23	20	Sand	5083.8	8.7	1498	3000.0	20.0	934
-19.5000	19.5	----	----	----	----	----	----	----	----	----
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-12**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.6	44.6	41.6	43.0	41.6	42.0
-2.0000	2	4	3	Clay	42.9	47.9	42.9	45.8	42.9	40.4
-2.5000	2.5	5	4	Clay	56.0	65.6	56.0	62.0	56.0	53.0
-3.0000	3	6	5	Clay	69.0	84.6	69.0	79.2	69.0	65.7
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	6	5	Clay	140.6	21.3	43	125.0	6.0	20
-4.5000	4.5	7	6	Clay	168.8	23.1	67	150.0	7.2	28
-6.0000	6	8	7	Clay	196.9	24.0	92	175.0	8.4	38
-7.5000	7.5	9	8	Silt	1497.1	4.5	228	800.0	7.2	104
-9.0000	9	10	9	Silt	1959.0	5.3	276	900.0	8.1	121
-10.5000	10.5	11	9	Silt	2255.7	5.3	309	900.0	8.1	129
-12.0000	12	12	10	Silt	2552.4	5.3	342	1000.0	9.0	146
-13.5000	13.5	13	11	Silt	2853.2	5.3	375	1100.0	9.9	164
-15.0000	15	9	8	Silt	2837.2	5.3	378	800.0	7.2	144
-16.5000	16.5	10	9	Silt	3450.7	5.3	441	900.0	8.1	161
-18.0000	18	8	7	Silt	3366.4	5.3	438	700.0	6.3	149
-19.5000	19.5	7	6	Silt	3625.4	5.3	468	600.0	5.4	145
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	6	5	Clay	140.6	21.3	58	125.0	6.0	28
-4.5000	4.5	7	6	Clay	168.8	23.1	88	150.0	7.2	40
-6.0000	6	8	7	Clay	196.9	24.0	120	175.0	8.4	53
-7.5000	7.5	9	8	Silt	1497.1	4.5	329	800.0	7.2	154
-9.0000	9	10	9	Silt	1959.0	5.3	402	900.0	8.1	178
-10.5000	10.5	11	9	Silt	2255.7	6.1	453	900.0	8.1	187
-12.0000	12	12	10	Silt	2552.4	6.9	504	1000.0	9.0	212
-13.5000	13.5	13	11	Silt	2853.2	6.9	556	1100.0	9.9	238
-15.0000	15	9	8	Silt	2837.2	6.9	562	800.0	7.2	204
-16.5000	16.5	10	9	Silt	3450.7	6.9	661	900.0	8.1	227
-18.0000	18	8	7	Silt	3366.4	6.9	656	700.0	6.3	206
-19.5000	19.5	7	6	Silt	3625.4	6.9	702	600.0	5.4	199
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	6	5	Clay	140.6	21.3	75	125.0	6.0	38
-4.5000	4.5	7	6	Clay	168.8	23.1	112	150.0	7.2	53
-6.0000	6	8	7	Clay	196.9	24.0	151	175.0	8.4	69
-7.5000	7.5	9	8	Silt	1497.1	4.5	447	666.7	7.2	185
-9.0000	9	10	9	Silt	1959.0	5.3	552	900.0	8.1	245
-10.5000	10.5	11	9	Silt	2255.7	6.1	623	900.0	8.1	256
-12.0000	12	12	10	Silt	2552.4	6.9	695	1000.0	9.0	290
-13.5000	13.5	13	11	Silt	2853.2	7.7	769	1100.0	9.9	324
-15.0000	15	9	8	Silt	2837.2	7.7	777	800.0	7.2	273
-16.5000	16.5	10	9	Silt	3450.7	7.7	918	900.0	8.1	305
-18.0000	18	8	7	Silt	3366.4	7.7	911	700.0	6.3	272
-19.5000	19.5	7	6	Silt	3625.4	7.7	976	600.0	5.4	260
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	6	5	Clay	140.6	21.3	87	125.0	6.0	46
-4.5000	4.5	7	6	Clay	168.8	23.1	129	150.0	7.2	63
-6.0000	6	8	7	Clay	196.9	24.0	173	175.0	8.4	82
-7.5000	7.5	9	8	Silt	1497.1	4.5	536	600.0	7.2	205
-9.0000	9	10	9	Silt	1959.0	5.3	665	810.0	8.1	272
-10.5000	10.5	11	9	Silt	2255.7	6.1	751	900.0	8.1	308
-12.0000	12	12	10	Silt	2552.4	6.9	839	1000.0	9.0	348
-13.5000	13.5	13	11	Silt	2853.2	7.7	929	1100.0	9.9	389
-15.0000	15	9	8	Silt	2837.2	8.5	938	800.0	7.2	324
-16.5000	16.5	10	9	Silt	3450.7	8.5	1112	900.0	8.1	362
-18.0000	18	8	7	Silt	3366.4	8.5	1103	700.0	6.3	321
-19.5000	19.5	7	6	Silt	3625.4	8.5	1184	600.0	5.4	304
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-13**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	5	4	Clay	54.7	58.6	54.7	56.5	54.7	55.2
-2.0000	2	5	4	Clay	55.8	62.6	55.8	59.7	55.8	52.5
-2.5000	2.5	6	5	Clay	68.8	80.8	68.8	76.3	68.8	65.1
-3.0000	3	7	6	Clay	81.8	100.5	81.8	94.1	81.8	77.9
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	28	100.0	4.8	14
-3.0000	3	7	6	Clay	168.8	23.1	53	150.0	7.2	24
-4.5000	4.5	8	7	Clay	196.9	24.0	78	175.0	8.4	34
-6.0000	6	11	9	Silt	1452.3	3.9	210	900.0	8.1	110
-7.5000	7.5	11	9	Silt	1749.0	4.7	242	900.0	8.1	118
-9.0000	9	12	10	Silt	2045.6	5.5	274	1000.0	9.0	135
-10.5000	10.5	9	8	Silt	2107.9	5.5	285	800.0	7.2	124
-12.0000	12	10	9	Silt	2639.0	5.5	341	900.0	8.1	141
-13.5000	13.5	11	9	Silt	2935.6	5.5	374	900.0	8.1	148
-15.0000	15	11	9	Silt	3232.3	5.5	407	900.0	8.1	156
-16.5000	16.5	13	11	Silt	3529.0	5.5	440	1100.0	9.9	183
-18.0000	18	10	9	Silt	3834.0	5.5	474	900.0	8.1	173
-19.5000	19.5	7	6	Silt	3710.7	5.5	468	600.0	5.4	151
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	39	100.0	4.8	20
-3.0000	3	7	6	Clay	168.8	23.1	72	150.0	7.2	35
-4.5000	4.5	8	7	Clay	196.9	24.0	103	175.0	8.4	48
-6.0000	6	11	9	Silt	1452.3	3.9	305	720.0	8.1	138
-7.5000	7.5	11	9	Silt	1749.0	4.7	354	900.0	8.1	174
-9.0000	9	12	10	Silt	2045.6	5.5	403	1000.0	9.0	199
-10.5000	10.5	9	8	Silt	2107.9	6.3	419	800.0	7.2	179
-12.0000	12	10	9	Silt	2639.0	7.1	506	900.0	8.1	202
-13.5000	13.5	11	9	Silt	2935.6	7.1	558	900.0	8.1	212
-15.0000	15	11	9	Silt	3232.3	7.1	610	900.0	8.1	221
-16.5000	16.5	13	11	Silt	3529.0	7.1	662	1100.0	9.9	261
-18.0000	18	10	9	Silt	3834.0	7.1	715	900.0	8.1	243
-19.5000	19.5	7	6	Silt	3710.7	7.1	705	600.0	5.4	206
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	50	100.0	4.8	28
-3.0000	3	7	6	Clay	168.8	23.1	92	150.0	7.2	47
-4.5000	4.5	8	7	Clay	196.9	24.0	131	175.0	8.4	63
-6.0000	6	11	9	Silt	1452.3	3.9	417	600.0	8.1	165
-7.5000	7.5	11	9	Silt	1749.0	4.7	486	750.0	8.1	208
-9.0000	9	12	10	Silt	2045.6	5.5	556	1000.0	9.0	274
-10.5000	10.5	9	8	Silt	2107.9	6.3	578	800.0	7.2	243
-12.0000	12	10	9	Silt	2639.0	7.1	700	900.0	8.1	275
-13.5000	13.5	11	9	Silt	2935.6	7.9	773	900.0	8.1	286
-15.0000	15	11	9	Silt	3232.3	7.9	847	900.0	8.1	298
-16.5000	16.5	13	11	Silt	3529.0	7.9	922	1100.0	9.9	353
-18.0000	18	10	9	Silt	3834.0	7.9	997	900.0	8.1	323
-19.5000	19.5	7	6	Silt	3710.7	7.9	982	600.0	5.4	269
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	59	100.0	4.8	34
-3.0000	3	7	6	Clay	168.8	23.1	107	150.0	7.2	56
-4.5000	4.5	8	7	Clay	196.9	24.0	151	175.0	8.4	75
-6.0000	6	11	9	Silt	1452.3	3.9	501	540.0	8.1	184
-7.5000	7.5	11	9	Silt	1749.0	4.7	586	675.0	8.1	232
-9.0000	9	12	10	Silt	2045.6	5.5	672	900.0	9.0	304
-10.5000	10.5	9	8	Silt	2107.9	6.3	697	800.0	7.2	290
-12.0000	12	10	9	Silt	2639.0	7.1	847	900.0	8.1	329
-13.5000	13.5	11	9	Silt	2935.6	7.9	936	900.0	8.1	341
-15.0000	15	11	9	Silt	3232.3	8.7	1027	900.0	8.1	354
-16.5000	16.5	13	11	Silt	3529.0	8.7	1118	1100.0	9.9	421
-18.0000	18	10	9	Silt	3834.0	8.7	1212	900.0	8.1	382
-19.5000	19.5	7	6	Silt	3710.7	8.7	1193	600.0	5.4	314
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-14**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	3	3	Clay	42.9	45.9	42.9	44.3	42.9	43.3
-2.0000	2	3	3	Clay	44.2	49.3	44.2	47.1	44.2	41.7
-2.5000	2.5	4	3	Clay	45.4	52.6	45.4	50.0	45.4	43.2
-3.0000	3	5	4	Clay	58.5	71.0	58.5	66.7	58.5	55.9
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	5	4	Clay	112.5	18.8	39	100.0	4.8	17
-4.5000	4.5	8	7	Clay	196.9	24.0	67	175.0	8.4	30
-6.0000	6	9	8	Silt	1336.4	4.0	188	800.0	7.2	96
-7.5000	7.5	12	10	Silt	1780.2	4.8	234	1000.0	9.0	123
-9.0000	9	16	14	Silt	2299.4	5.6	288	1400.0	12.6	171
-10.5000	10.5	14	12	Silt	2650.3	5.6	326	1200.0	10.8	163
-12.0000	12	11	9	Silt	2707.8	5.6	337	900.0	8.1	143
-13.5000	13.5	11	9	Silt	3004.5	5.6	370	900.0	8.1	151
-15.0000	15	13	11	Silt	3301.2	5.6	403	1100.0	9.9	178
-16.5000	16.5	11	9	Silt	3606.2	5.6	437	900.0	8.1	168
-18.0000	18	8	7	Clay	196.9	5.6	121	175.0	8.4	108
-19.5000	19.5	7	6	Clay	168.8	5.6	124	150.0	7.2	113
-21.0000	21	9	8	Clay	225.0	5.6	135	200.0	9.6	125
-22.5000	22.5	10	9	Silt	4767.8	5.6	568	900.0	8.1	199
-24.0000	24	11	9	Silt	5064.5	5.6	601	900.0	8.1	207
-25.5000	25.5	12	10	Silt	5361.1	5.6	634	1000.0	9.0	225
-27.0000	27	18	15	Sand	6868.7	5.6	782	2250.0	15.0	354
-28.5000	28.5	23	20	Sand	7925.9	5.6	887	3000.0	20.0	441
-30.0000	30	50	43	Sand	11406.6	5.6	1220	4000.0	43.0	565
-31.5000	31.5	50	43	Sand	12071.0	5.6	1288	4000.0	43.0	605
-33.0000	33	50	43	Sand	12071.0	5.6	1293	4000.0	43.0	646
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	5	4	Clay	112.5	18.8	52	100.0	4.8	24
-4.5000	4.5	8	7	Clay	196.9	24.0	90	175.0	8.4	43
-6.0000	6	9	8	Silt	1336.4	4.0	274	640.0	7.2	120
-7.5000	7.5	12	10	Silt	1780.2	4.8	345	1000.0	9.0	183
-9.0000	9	16	14	Silt	2299.4	5.6	428	1400.0	12.6	255
-10.5000	10.5	14	12	Silt	2650.3	6.4	486	1200.0	10.8	239
-12.0000	12	11	9	Silt	2707.8	7.3	503	900.0	8.1	206
-13.5000	13.5	11	9	Silt	3004.5	7.3	555	900.0	8.1	215
-15.0000	15	13	11	Silt	3301.2	7.3	607	1100.0	9.9	255
-16.5000	16.5	11	9	Silt	3606.2	7.3	661	900.0	8.1	237
-18.0000	18	8	7	Clay	196.9	7.3	167	175.0	8.4	140
-19.5000	19.5	7	6	Clay	168.8	7.3	172	150.0	7.2	145
-21.0000	21	9	8	Clay	225.0	7.3	189	200.0	9.6	162
-22.5000	22.5	10	9	Silt	4767.8	7.3	866	900.0	8.1	276
-24.0000	24	11	9	Silt	5064.5	7.3	918	900.0	8.1	285
-25.5000	25.5	12	10	Silt	5361.1	7.3	971	1000.0	9.0	310
-27.0000	27	18	15	Sand	6868.7	7.3	1201	2250.0	15.0	508
-28.5000	28.5	23	20	Sand	7925.9	7.3	1366	3000.0	20.0	639
-30.0000	30	50	43	Sand	11406.6	7.3	1887	4000.0	43.0	824
-31.5000	31.5	50	43	Sand	12071.0	7.3	1993	4000.0	43.0	875
-33.0000	33	50	43	Sand	12071.0	7.3	2002	4000.0	43.0	925
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	5	4	Clay	112.5	18.8	67	100.0	4.8	32
-4.5000	4.5	8	7	Clay	196.9	24.0	115	175.0	8.4	57
-6.0000	6	9	8	Silt	1336.4	4.0	377	533.3	7.2	144
-7.5000	7.5	12	10	Silt	1780.2	4.8	477	833.3	9.0	220
-9.0000	9	16	14	Silt	2299.4	5.6	594	1400.0	12.6	355
-10.5000	10.5	14	12	Silt	2650.3	6.4	677	1200.0	10.8	329
-12.0000	12	11	9	Silt	2707.8	7.3	699	900.0	8.1	279
-13.5000	13.5	11	9	Silt	3004.5	8.1	773	900.0	8.1	290
-15.0000	15	13	11	Silt	3301.2	8.1	847	1100.0	9.9	345
-16.5000	16.5	11	9	Silt	3606.2	8.1	923	900.0	8.1	316
-18.0000	18	8	7	Clay	196.9	8.1	212	175.0	8.4	174
-19.5000	19.5	7	6	Clay	168.8	8.1	217	150.0	7.2	179
-21.0000	21	9	8	Clay	225.0	8.1	241	200.0	9.6	202
-22.5000	22.5	10	9	Silt	4767.8	8.1	1215	900.0	8.1	363
-24.0000	24	11	9	Silt	5064.5	8.1	1290	900.0	8.1	374
-25.5000	25.5	12	10	Silt	5361.1	8.1	1364	1000.0	9.0	408
-27.0000	27	18	15	Sand	6868.7	8.1	1695	2250.0	15.0	690
-28.5000	28.5	23	20	Sand	7925.9	8.1	1931	3000.0	20.0	873
-30.0000	30	50	43	Sand	11406.6	8.1	2680	4000.0	43.0	1130
-31.5000	31.5	50	43	Sand	12071.0	8.1	2833	4000.0	43.0	1191
-33.0000	33	50	43	Sand	12071.0	8.1	2844	4000.0	43.0	1252
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	5	4	Clay	112.5	18.8	77	100.0	4.8	38
-4.5000	4.5	8	7	Clay	196.9	24.0	133	175.0	8.4	68
-6.0000	6	9	8	Silt	1336.4	4.0	453	480.0	7.2	161
-7.5000	7.5	12	10	Silt	1780.2	4.8	576	750.0	9.0	244
-9.0000	9	16	14	Silt	2299.4	5.6	720	1260.0	12.6	394
-10.5000	10.5	14	12	Silt	2650.3	6.4	822	1200.0	10.8	397
-12.0000	12	11	9	Silt	2707.8	7.3	848	900.0	8.1	333
-13.5000	13.5	11	9	Silt	3004.5	8.1	937	900.0	8.1	346
-15.0000	15	13	11	Silt	3301.2	8.9	1028	1100.0	9.9	413
-16.5000	16.5	11	9	Silt	3606.2	8.9	1122	900.0	8.1	374
-18.0000	18	8	7	Clay	196.9	8.9	244	175.0	8.4	198
-19.5000	19.5	7	6	Clay	168.8	8.9	250	150.0	7.2	203
-21.0000	21	9	8	Clay	225.0	8.9	279	200.0	9.6	230
-22.5000	22.5	10	9	Silt	4767.8	8.9	1482	900.0	8.1	427
-24.0000	24	11	9	Silt	5064.5	8.9	1574	900.0	8.1	439
-25.5000	25.5	12	10	Silt	5361.1	8.9	1665	1000.0	9.0	479
-27.0000	27	18	15	Sand	6868.7	8.9	2074	2250.0	15.0	825
-28.5000	28.5	23	20	Sand	7925.9	8.9	2365	3000.0	20.0	1049
-30.0000	30	50	43	Sand	11406.6	8.9	3290	4000.0	43.0	1360
-31.5000	31.5	50	43	Sand	12071.0	8.9	3478	4000.0	43.0	1428
-33.0000	33	50	43	Sand	12071.0	8.9	3492	4000.0	43.0	1495
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-15**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.0	43.9	41.0	42.3	41.0	41.3
-2.0000	2	4	3	Clay	42.2	47.3	42.2	45.2	42.2	39.8
-2.5000	2.5	5	4	Clay	55.3	65.0	55.3	61.4	55.3	52.4
-3.0000	3	5	4	Clay	56.4	68.9	56.4	64.6	56.4	53.8
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	5	4	Clay	112.5	18.8	39	100.0	4.8	17
-4.5000	4.5	7	6	Clay	168.8	23.1	64	150.0	7.2	27
-6.0000	6	9	8	Silt	1185.2	3.5	173	800.0	7.2	95
-7.5000	7.5	10	9	Silt	1611.8	4.3	217	900.0	8.1	112
-9.0000	9	11	9	Silt	1908.5	5.1	249	900.0	8.1	119
-10.5000	10.5	11	9	Silt	2205.1	5.1	282	900.0	8.1	127
-12.0000	12	12	10	Silt	2501.8	5.1	315	1000.0	9.0	145
-13.5000	13.5	12	10	Silt	2802.7	5.1	348	1000.0	9.0	153
-15.0000	15	9	8	Silt	2788.0	5.1	351	800.0	7.2	142
-16.5000	16.5	7	6	Silt	3050.7	5.1	381	600.0	5.4	129
-18.0000	18	7	6	Silt	3306.0	5.1	410	600.0	5.4	134
-19.5000	19.5	8	7	Silt	3561.2	5.1	439	700.0	6.3	149
-21.0000	21	10	9	Silt	4252.5	5.1	509	900.0	8.1	175
-22.5000	22.5	10	9	Silt	4549.2	5.1	541	900.0	8.1	182
-24.0000	24	12	10	Silt	4845.9	5.1	574	1000.0	9.0	200
-25.5000	25.5	13	11	Silt	5146.7	5.1	607	1100.0	9.9	218
-27.0000	27	18	15	Silt	6613.6	5.1	751	1500.0	13.5	267
-28.5000	28.5	20	17	Sand	7004.0	5.1	792	2550.0	17.0	380
-30.0000	30	50	43	Sand	11005.0	5.1	1174	4000.0	43.0	545
-31.5000	31.5	50	43	Sand	11698.3	5.1	1244	4000.0	43.0	586
-33.0000	33	50	43	Sand	12071.0	5.1	1284	4000.0	43.0	626
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	5	4	Clay	112.5	18.8	52	100.0	4.8	24
-4.5000	4.5	7	6	Clay	168.8	23.1	85	150.0	7.2	38
-6.0000	6	9	8	Silt	1185.2	3.5	251	640.0	7.2	119
-7.5000	7.5	10	9	Silt	1611.8	4.3	318	900.0	8.1	166
-9.0000	9	11	9	Silt	1908.5	5.1	368	900.0	8.1	176
-10.5000	10.5	11	9	Silt	2205.1	5.9	418	900.0	8.1	185
-12.0000	12	12	10	Silt	2501.8	6.7	469	1000.0	9.0	210
-13.5000	13.5	12	10	Silt	2802.7	6.7	521	1000.0	9.0	221
-15.0000	15	9	8	Silt	2788.0	6.7	527	800.0	7.2	201
-16.5000	16.5	7	6	Silt	3050.7	6.7	573	600.0	5.4	179
-18.0000	18	7	6	Silt	3306.0	6.7	619	600.0	5.4	185
-19.5000	19.5	8	7	Silt	3561.2	6.7	664	700.0	6.3	207
-21.0000	21	10	9	Silt	4252.5	6.7	774	900.0	8.1	245
-22.5000	22.5	10	9	Silt	4549.2	6.7	826	900.0	8.1	254
-24.0000	24	12	10	Silt	4845.9	6.7	877	1000.0	9.0	279
-25.5000	25.5	13	11	Silt	5146.7	6.7	930	1100.0	9.9	305
-27.0000	27	18	15	Silt	6613.6	6.7	1154	1500.0	13.5	378
-28.5000	28.5	20	17	Sand	7004.0	6.7	1219	2550.0	17.0	550
-30.0000	30	50	43	Sand	11005.0	6.7	1816	4000.0	43.0	799
-31.5000	31.5	50	43	Sand	11698.3	6.7	1926	4000.0	43.0	850
-33.0000	33	50	43	Sand	12071.0	6.7	1989	4000.0	43.0	900
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	5	4	Clay	112.5	18.8	67	100.0	4.8	32
-4.5000	4.5	7	6	Clay	168.8	23.1	108	150.0	7.2	51
-6.0000	6	9	8	Silt	1185.2	3.5	343	533.3	7.2	143
-7.5000	7.5	10	9	Silt	1611.8	4.3	439	750.0	8.1	200
-9.0000	9	11	9	Silt	1908.5	5.1	508	900.0	8.1	243
-10.5000	10.5	11	9	Silt	2205.1	5.9	579	900.0	8.1	254
-12.0000	12	12	10	Silt	2501.8	6.7	651	1000.0	9.0	288
-13.5000	13.5	12	10	Silt	2802.7	7.5	725	1000.0	9.0	300
-15.0000	15	9	8	Silt	2788.0	7.5	732	800.0	7.2	269
-16.5000	16.5	7	6	Silt	3050.7	7.5	799	600.0	5.4	236
-18.0000	18	7	6	Silt	3306.0	7.5	864	600.0	5.4	243
-19.5000	19.5	8	7	Silt	3561.2	7.5	928	700.0	6.3	273
-21.0000	21	10	9	Silt	4252.5	7.5	1086	900.0	8.1	326
-22.5000	22.5	10	9	Silt	4549.2	7.5	1159	900.0	8.1	337
-24.0000	24	12	10	Silt	4845.9	7.5	1233	1000.0	9.0	370
-25.5000	25.5	13	11	Silt	5146.7	7.5	1307	1100.0	9.9	405
-27.0000	27	18	15	Silt	6613.6	7.5	1629	1500.0	13.5	506
-28.5000	28.5	20	17	Sand	7004.0	7.5	1722	2550.0	17.0	750
-30.0000	30	50	43	Sand	11005.0	7.5	2581	4000.0	43.0	1100
-31.5000	31.5	50	43	Sand	11698.3	7.5	2739	4000.0	43.0	1161
-33.0000	33	50	43	Sand	12071.0	7.5	2829	4000.0	43.0	1222
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	5	4	Clay	112.5	18.8	77	100.0	4.8	38
-4.5000	4.5	7	6	Clay	168.8	23.1	125	150.0	7.2	61
-6.0000	6	9	8	Silt	1185.2	3.5	412	480.0	7.2	159
-7.5000	7.5	10	9	Silt	1611.8	4.3	530	675.0	8.1	222
-9.0000	9	11	9	Silt	1908.5	5.1	615	810.0	8.1	270
-10.5000	10.5	11	9	Silt	2205.1	5.9	701	900.0	8.1	306
-12.0000	12	12	10	Silt	2501.8	6.7	789	1000.0	9.0	346
-13.5000	13.5	12	10	Silt	2802.7	7.5	879	1000.0	9.0	360
-15.0000	15	9	8	Silt	2788.0	8.3	887	800.0	7.2	320
-16.5000	16.5	7	6	Silt	3050.7	8.3	969	600.0	5.4	278
-18.0000	18	7	6	Silt	3306.0	8.3	1049	600.0	5.4	286
-19.5000	19.5	8	7	Silt	3561.2	8.3	1129	700.0	6.3	322
-21.0000	21	10	9	Silt	4252.5	8.3	1323	900.0	8.1	385
-22.5000	22.5	10	9	Silt	4549.2	8.3	1414	900.0	8.1	398
-24.0000	24	12	10	Silt	4845.9	8.3	1505	1000.0	9.0	438
-25.5000	25.5	13	11	Silt	5146.7	8.3	1597	1100.0	9.9	479
-27.0000	27	18	15	Silt	6613.6	8.3	1994	1500.0	13.5	602
-28.5000	28.5	20	17	Sand	7004.0	8.3	2109	2550.0	17.0	901
-30.0000	30	50	43	Sand	11005.0	8.3	3170	4000.0	43.0	1327
-31.5000	31.5	50	43	Sand	11698.3	8.3	3364	4000.0	43.0	1395
-33.0000	33	50	43	Sand	12071.0	8.3	3475	4000.0	43.0	1462
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-16**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	3	3	Clay	41.6	44.6	41.6	43.0	41.6	42.0
-2.0000	2	3	3	Clay	42.9	47.9	42.9	45.8	42.9	40.4
-2.5000	2.5	4	3	Clay	44.1	51.3	44.1	48.7	44.1	41.9
-3.0000	3	4	3	Clay	45.4	54.7	45.4	51.5	45.4	43.4
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	4	3	Clay	84.4	14.1	34	75.0	3.6	14
-4.5000	4.5	6	5	Silt	1011.1	3.0	130	375.0	4.5	46
-6.0000	6	7	6	Silt	1262.5	3.8	157	600.0	5.4	72
-7.5000	7.5	8	7	Silt	1517.8	4.5	185	700.0	6.3	87
-9.0000	9	11	9	Silt	1977.8	5.3	233	900.0	8.1	112
-10.5000	10.5	7	6	Silt	2043.3	5.3	244	600.0	5.4	90
-12.0000	12	8	7	Silt	2298.5	5.3	273	700.0	6.3	105
-13.5000	13.5	8	7	Silt	2557.5	5.3	302	700.0	6.3	111
-15.0000	15	9	8	Silt	2816.5	5.3	332	800.0	7.2	127
-16.5000	16.5	9	8	Silt	3079.2	5.3	362	800.0	7.2	134
-18.0000	18	7	6	Silt	3342.0	5.3	391	600.0	5.4	121
-19.5000	19.5	6	5	Silt	3597.2	5.3	420	500.0	4.5	116
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	4	3	Clay	84.4	14.1	46	75.0	3.6	20
-4.5000	4.5	6	5	Silt	1011.1	3.0	192	300.0	4.5	57
-6.0000	6	7	6	Silt	1262.5	3.8	233	480.0	5.4	90
-7.5000	7.5	8	7	Silt	1517.8	4.5	276	700.0	6.3	129
-9.0000	9	11	9	Silt	1977.8	5.3	349	900.0	8.1	167
-10.5000	10.5	7	6	Silt	2043.3	6.1	366	600.0	5.4	131
-12.0000	12	8	7	Silt	2298.5	6.9	411	700.0	6.3	152
-13.5000	13.5	8	7	Silt	2557.5	6.9	457	700.0	6.3	160
-15.0000	15	9	8	Silt	2816.5	6.9	503	800.0	7.2	182
-16.5000	16.5	9	8	Silt	3079.2	6.9	550	800.0	7.2	191
-18.0000	18	7	6	Silt	3342.0	6.9	597	600.0	5.4	169
-19.5000	19.5	6	5	Silt	3597.2	6.9	643	500.0	4.5	160
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	4	3	Clay	84.4	14.1	58	75.0	3.6	26
-4.5000	4.5	6	5	Silt	1011.1	3.0	266	250.0	4.5	69
-6.0000	6	7	6	Silt	1262.5	3.8	324	400.0	5.4	108
-7.5000	7.5	8	7	Silt	1517.8	4.5	384	583.3	6.3	155
-9.0000	9	11	9	Silt	1977.8	5.3	489	900.0	8.1	232
-10.5000	10.5	7	6	Silt	2043.3	6.1	511	600.0	5.4	178
-12.0000	12	8	7	Silt	2298.5	6.9	574	700.0	6.3	208
-13.5000	13.5	8	7	Silt	2557.5	7.7	639	700.0	6.3	217
-15.0000	15	9	8	Silt	2816.5	7.7	705	800.0	7.2	247
-16.5000	16.5	9	8	Silt	3079.2	7.7	772	800.0	7.2	257
-18.0000	18	7	6	Silt	3342.0	7.7	838	600.0	5.4	224
-19.5000	19.5	6	5	Silt	3597.2	7.7	903	500.0	4.5	210
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	4	3	Clay	84.4	14.1	66	75.0	3.6	31
-4.5000	4.5	6	5	Silt	1011.1	3.0	322	225.0	4.5	77
-6.0000	6	7	6	Silt	1262.5	3.8	393	360.0	5.4	120
-7.5000	7.5	8	7	Silt	1517.8	4.5	467	525.0	6.3	172
-9.0000	9	11	9	Silt	1977.8	5.3	595	810.0	8.1	258
-10.5000	10.5	7	6	Silt	2043.3	6.1	621	600.0	5.4	214
-12.0000	12	8	7	Silt	2298.5	6.9	698	700.0	6.3	249
-13.5000	13.5	8	7	Silt	2557.5	7.7	777	700.0	6.3	259
-15.0000	15	9	8	Silt	2816.5	8.4	858	800.0	7.2	296
-16.5000	16.5	9	8	Silt	3079.2	8.4	940	800.0	7.2	307
-18.0000	18	7	6	Silt	3342.0	8.4	1022	600.0	5.4	265
-19.5000	19.5	6	5	Silt	3597.2	8.4	1102	500.0	4.5	246
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-17**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.3	44.2	41.3	42.6	41.3	41.7
-2.0000	2	4	3	Clay	42.6	47.6	42.6	45.5	42.6	40.1
-2.5000	2.5	5	4	Clay	55.7	65.3	55.7	61.7	55.7	52.7
-3.0000	3	6	5	Clay	68.6	84.2	68.6	78.9	68.6	65.4
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	6	5	Clay	140.6	21.3	43	125.0	6.0	20
-4.5000	4.5	8	7	Clay	196.9	24.0	70	175.0	8.4	31
-6.0000	6	8	7	Clay	196.9	24.0	93	175.0	8.4	39
-7.5000	7.5	10	9	Silt	1643.4	4.4	242	900.0	8.1	115
-9.0000	9	11	9	Silt	1940.0	5.2	275	900.0	8.1	123
-10.5000	10.5	11	9	Silt	2236.7	5.2	308	900.0	8.1	130
-12.0000	12	13	11	Sand	2533.4	5.2	340	1650.0	11.0	210
-13.5000	13.5	12	10	Sand	2838.4	5.2	374	1500.0	10.0	206
-15.0000	15	11	9	Silt	3139.2	5.2	407	900.0	8.1	158
-16.5000	16.5	9	8	Silt	3086.6	5.2	407	800.0	7.2	156
-18.0000	18	7	6	Silt	3349.3	5.2	437	600.0	5.4	143
-19.5000	19.5	6	5	Silt	3604.6	5.2	466	500.0	4.5	138
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	6	5	Clay	140.6	21.3	58	125.0	6.0	28
-4.5000	4.5	8	7	Clay	196.9	24.0	93	175.0	8.4	44
-6.0000	6	8	7	Clay	196.9	24.0	121	175.0	8.4	54
-7.5000	7.5	10	9	Silt	1643.4	4.4	351	900.0	8.1	171
-9.0000	9	11	9	Silt	1940.0	5.2	401	900.0	8.1	180
-10.5000	10.5	11	9	Silt	2236.7	6.0	451	900.0	8.1	190
-12.0000	12	13	11	Sand	2533.4	6.8	502	1650.0	11.0	311
-13.5000	13.5	12	10	Sand	2838.4	6.8	555	1500.0	10.0	302
-15.0000	15	11	9	Silt	3139.2	6.8	607	900.0	8.1	224
-16.5000	16.5	9	8	Silt	3086.6	6.8	608	800.0	7.2	218
-18.0000	18	7	6	Silt	3349.3	6.8	654	600.0	5.4	196
-19.5000	19.5	6	5	Silt	3604.6	6.8	700	500.0	4.5	187
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	6	5	Clay	140.6	21.3	75	125.0	6.0	38
-4.5000	4.5	8	7	Clay	196.9	24.0	119	175.0	8.4	59
-6.0000	6	8	7	Clay	196.9	24.0	153	175.0	8.4	71
-7.5000	7.5	10	9	Silt	1643.4	4.4	480	750.0	8.1	205
-9.0000	9	11	9	Silt	1940.0	5.2	549	900.0	8.1	248
-10.5000	10.5	11	9	Silt	2236.7	6.0	620	900.0	8.1	259
-12.0000	12	13	11	Sand	2533.4	6.8	692	1650.0	11.0	432
-13.5000	13.5	12	10	Sand	2838.4	7.6	767	1500.0	10.0	415
-15.0000	15	11	9	Silt	3139.2	7.6	842	900.0	8.1	300
-16.5000	16.5	9	8	Silt	3086.6	7.6	841	800.0	7.2	290
-18.0000	18	7	6	Silt	3349.3	7.6	908	600.0	5.4	257
-19.5000	19.5	6	5	Silt	3604.6	7.6	973	500.0	4.5	242
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	6	5	Clay	140.6	21.3	87	125.0	6.0	46
-4.5000	4.5	8	7	Clay	196.9	24.0	137	175.0	8.4	70
-6.0000	6	8	7	Clay	196.9	24.0	175	175.0	8.4	84
-7.5000	7.5	10	9	Silt	1643.4	4.4	576	675.0	8.1	227
-9.0000	9	11	9	Silt	1940.0	5.2	661	810.0	8.1	275
-10.5000	10.5	11	9	Silt	2236.7	6.0	748	900.0	8.1	312
-12.0000	12	13	11	Sand	2533.4	6.8	835	1650.0	11.0	523
-13.5000	13.5	12	10	Sand	2838.4	7.6	926	1500.0	10.0	500
-15.0000	15	11	9	Silt	3139.2	8.4	1018	900.0	8.1	357
-16.5000	16.5	9	8	Silt	3086.6	8.4	1017	800.0	7.2	343
-18.0000	18	7	6	Silt	3349.3	8.4	1099	600.0	5.4	301
-19.5000	19.5	6	5	Silt	3604.6	8.4	1179	500.0	4.5	282
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-18**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	42.0	44.9	42.0	43.3	42.0	42.3
-2.0000	2	4	3	Clay	43.2	48.3	43.2	46.1	43.2	40.7
-2.5000	2.5	5	4	Clay	56.3	65.9	56.3	62.4	56.3	53.4
-3.0000	3	6	5	Clay	69.3	84.9	69.3	79.5	69.3	66.0
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	6	5	Clay	140.6	21.3	43	125.0	6.0	20
-4.5000	4.5	7	6	Silt	1007.5	3.0	136	450.0	5.4	56
-6.0000	6	8	7	Silt	1262.7	3.8	164	700.0	6.3	85
-7.5000	7.5	9	8	Silt	1521.7	4.6	192	800.0	7.2	101
-9.0000	9	8	7	Silt	1784.4	5.3	221	700.0	6.3	97
-10.5000	10.5	10	9	Silt	2274.7	5.3	273	900.0	8.1	123
-12.0000	12	11	9	Silt	2571.4	5.3	306	900.0	8.1	131
-13.5000	13.5	11	9	Silt	2868.0	5.3	339	900.0	8.1	138
-15.0000	15	10	9	Silt	3164.7	5.3	372	900.0	8.1	146
-16.5000	16.5	9	8	Silt	3109.5	5.3	371	800.0	7.2	144
-18.0000	18	7	6	Silt	3372.2	5.3	401	600.0	5.4	131
-19.5000	19.5	6	5	Silt	3627.4	5.3	430	500.0	4.5	126
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	6	5	Clay	140.6	21.3	58	125.0	6.0	28
-4.5000	4.5	7	6	Silt	1007.5	3.0	200	360.0	5.4	70
-6.0000	6	8	7	Silt	1262.7	3.8	242	560.0	6.3	106
-7.5000	7.5	9	8	Silt	1521.7	4.6	285	800.0	7.2	149
-9.0000	9	8	7	Silt	1784.4	5.3	329	700.0	6.3	142
-10.5000	10.5	10	9	Silt	2274.7	6.1	408	900.0	8.1	180
-12.0000	12	11	9	Silt	2571.4	6.9	460	900.0	8.1	190
-13.5000	13.5	11	9	Silt	2868.0	6.9	511	900.0	8.1	200
-15.0000	15	10	9	Silt	3164.7	6.9	563	900.0	8.1	209
-16.5000	16.5	9	8	Silt	3109.5	6.9	563	800.0	7.2	203
-18.0000	18	7	6	Silt	3372.2	6.9	610	600.0	5.4	181
-19.5000	19.5	6	5	Silt	3627.4	6.9	656	500.0	4.5	172
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	6	5	Clay	140.6	21.3	75	125.0	6.0	38
-4.5000	4.5	7	6	Silt	1007.5	3.0	276	300.0	5.4	84
-6.0000	6	8	7	Silt	1262.7	3.8	335	466.7	6.3	127
-7.5000	7.5	9	8	Silt	1521.7	4.6	396	666.7	7.2	179
-9.0000	9	8	7	Silt	1784.4	5.3	458	700.0	6.3	196
-10.5000	10.5	10	9	Silt	2274.7	6.1	570	900.0	8.1	248
-12.0000	12	11	9	Silt	2571.4	6.9	642	900.0	8.1	260
-13.5000	13.5	11	9	Silt	2868.0	7.7	716	900.0	8.1	271
-15.0000	15	10	9	Silt	3164.7	7.7	789	900.0	8.1	283
-16.5000	16.5	9	8	Silt	3109.5	7.7	789	800.0	7.2	272
-18.0000	18	7	6	Silt	3372.2	7.7	855	600.0	5.4	239
-19.5000	19.5	6	5	Silt	3627.4	7.7	920	500.0	4.5	225
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	6	5	Clay	140.6	21.3	87	125.0	6.0	46
-4.5000	4.5	7	6	Silt	1007.5	3.0	333	270.0	5.4	93
-6.0000	6	8	7	Silt	1262.7	3.8	405	420.0	6.3	141
-7.5000	7.5	9	8	Silt	1521.7	4.6	479	600.0	7.2	199
-9.0000	9	8	7	Silt	1784.4	5.3	556	630.0	6.3	217
-10.5000	10.5	10	9	Silt	2274.7	6.1	693	900.0	8.1	299
-12.0000	12	11	9	Silt	2571.4	6.9	781	900.0	8.1	312
-13.5000	13.5	11	9	Silt	2868.0	7.7	870	900.0	8.1	325
-15.0000	15	10	9	Silt	3164.7	8.5	961	900.0	8.1	338
-16.5000	16.5	9	8	Silt	3109.5	8.5	960	800.0	7.2	323
-18.0000	18	7	6	Silt	3372.2	8.5	1042	600.0	5.4	281
-19.5000	19.5	6	5	Silt	3627.4	8.5	1122	500.0	4.5	263
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-19**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	6	5	Clay	65.7	70.5	65.7	67.9	65.7	66.3
-2.0000	2	6	5	Clay	66.8	75.2	66.8	71.7	66.8	62.7
-2.5000	2.5	7	6	Clay	79.8	94.2	79.8	88.8	79.8	75.3
-3.0000	3	7	6	Clay	80.9	99.6	80.9	93.2	80.9	77.0
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	33	125.0	6.0	17
-3.0000	3	7	6	Clay	168.8	23.1	57	150.0	7.2	26
-4.5000	4.5	9	8	Silt	979.4	2.9	146	600.0	7.2	75
-6.0000	6	11	9	Silt	1382.8	3.7	187	900.0	8.1	111
-7.5000	7.5	10	9	Silt	1679.4	4.5	219	900.0	8.1	118
-9.0000	9	12	10	Silt	1976.1	5.3	251	1000.0	9.0	136
-10.5000	10.5	12	10	Silt	2276.9	5.3	285	1000.0	9.0	144
-12.0000	12	13	11	Silt	2577.8	5.3	318	1100.0	9.9	163
-13.5000	13.5	14	12	Silt	3185.3	5.3	380	1200.0	10.8	182
-15.0000	15	11	9	Silt	3192.1	5.3	386	900.0	8.1	162
-16.5000	16.5	9	8	Silt	3134.0	5.3	385	800.0	7.2	160
-18.0000	18	8	7	Silt	3396.8	5.3	415	700.0	6.3	157
-19.5000	19.5	7	6	Silt	3655.8	5.3	445	600.0	5.4	153
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	46	125.0	6.0	25
-3.0000	3	7	6	Clay	168.8	23.1	76	150.0	7.2	37
-4.5000	4.5	9	8	Silt	979.4	2.9	211	480.0	7.2	94
-6.0000	6	11	9	Silt	1382.8	3.7	274	720.0	8.1	138
-7.5000	7.5	10	9	Silt	1679.4	4.5	323	900.0	8.1	174
-9.0000	9	12	10	Silt	1976.1	5.3	372	1000.0	9.0	199
-10.5000	10.5	12	10	Silt	2276.9	6.1	423	1000.0	9.0	210
-12.0000	12	13	11	Silt	2577.8	6.9	475	1100.0	9.9	236
-13.5000	13.5	14	12	Silt	3185.3	6.9	573	1200.0	10.8	263
-15.0000	15	11	9	Silt	3192.1	6.9	582	900.0	8.1	230
-16.5000	16.5	9	8	Silt	3134.0	6.9	582	800.0	7.2	224
-18.0000	18	8	7	Silt	3396.8	6.9	629	700.0	6.3	217
-19.5000	19.5	7	6	Silt	3655.8	6.9	675	600.0	5.4	209
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	60	125.0	6.0	35
-3.0000	3	7	6	Clay	168.8	23.1	97	150.0	7.2	50
-4.5000	4.5	9	8	Silt	979.4	2.9	288	400.0	7.2	113
-6.0000	6	11	9	Silt	1382.8	3.7	378	600.0	8.1	166
-7.5000	7.5	10	9	Silt	1679.4	4.5	447	750.0	8.1	209
-9.0000	9	12	10	Silt	1976.1	5.3	517	1000.0	9.0	274
-10.5000	10.5	12	10	Silt	2276.9	6.1	588	1000.0	9.0	287
-12.0000	12	13	11	Silt	2577.8	6.9	661	1100.0	9.9	322
-13.5000	13.5	14	12	Silt	3185.3	7.8	801	1200.0	10.8	358
-15.0000	15	11	9	Silt	3192.1	7.8	813	900.0	8.1	307
-16.5000	16.5	9	8	Silt	3134.0	7.8	812	800.0	7.2	297
-18.0000	18	8	7	Silt	3396.8	7.8	878	700.0	6.3	285
-19.5000	19.5	7	6	Silt	3655.8	7.8	944	600.0	5.4	272
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	6	5	Clay	140.6	21.3	70	125.0	6.0	42
-3.0000	3	7	6	Clay	168.8	23.1	113	150.0	7.2	59
-4.5000	4.5	9	8	Silt	979.4	2.9	345	360.0	7.2	125
-6.0000	6	11	9	Silt	1382.8	3.7	456	540.0	8.1	184
-7.5000	7.5	10	9	Silt	1679.4	4.5	540	675.0	8.1	233
-9.0000	9	12	10	Silt	1976.1	5.3	626	900.0	9.0	305
-10.5000	10.5	12	10	Silt	2276.9	6.1	713	1000.0	9.0	345
-12.0000	12	13	11	Silt	2577.8	6.9	802	1100.0	9.9	386
-13.5000	13.5	14	12	Silt	3185.3	7.8	973	1200.0	10.8	429
-15.0000	15	11	9	Silt	3192.1	8.6	988	900.0	8.1	365
-16.5000	16.5	9	8	Silt	3134.0	8.6	986	800.0	7.2	351
-18.0000	18	8	7	Silt	3396.8	8.6	1068	700.0	6.3	335
-19.5000	19.5	7	6	Silt	3655.8	8.6	1149	600.0	5.4	318
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-20**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.3	44.2	41.3	42.6	41.3	41.7
-2.0000	2	5	4	Clay	54.4	61.2	54.4	58.3	54.4	51.1
-2.5000	2.5	6	5	Clay	67.4	79.4	67.4	75.0	67.4	63.7
-3.0000	3	7	6	Clay	80.4	99.1	80.4	92.7	80.4	76.5
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	7	6	Clay	168.8	23.1	47	150.0	7.2	23
-4.5000	4.5	9	8	Clay	225.0	24.1	74	200.0	9.6	35
-6.0000	6	10	9	Silt	1363.4	3.7	195	900.0	8.1	110
-7.5000	7.5	11	9	Silt	1660.1	4.5	226	900.0	8.1	117
-9.0000	9	12	10	Silt	1956.8	5.3	259	1000.0	9.0	135
-10.5000	10.5	13	11	Silt	2257.6	5.3	292	1100.0	9.9	153
-12.0000	12	11	9	Silt	2562.6	5.3	326	900.0	8.1	143
-13.5000	13.5	13	11	Silt	2859.3	5.3	359	1100.0	9.9	170
-15.0000	15	10	9	Silt	3164.4	5.3	393	900.0	8.1	160
-16.5000	16.5	11	9	Silt	3461.0	5.3	426	900.0	8.1	167
-18.0000	18	16	14	Silt	4152.0	5.3	496	1400.0	12.6	224
-19.5000	19.5	17	14	Silt	4502.9	5.3	534	1400.0	12.6	236
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	7	6	Clay	168.8	23.1	63	150.0	7.2	33
-4.5000	4.5	9	8	Clay	225.0	24.1	99	200.0	9.6	50
-6.0000	6	10	9	Silt	1363.4	3.7	283	720.0	8.1	137
-7.5000	7.5	11	9	Silt	1660.1	4.5	332	900.0	8.1	173
-9.0000	9	12	10	Silt	1956.8	5.3	381	1000.0	9.0	198
-10.5000	10.5	13	11	Silt	2257.6	6.1	432	1100.0	9.9	224
-12.0000	12	11	9	Silt	2562.6	6.9	485	900.0	8.1	205
-13.5000	13.5	13	11	Silt	2859.3	6.9	537	1100.0	9.9	245
-15.0000	15	10	9	Silt	3164.4	6.9	590	900.0	8.1	226
-16.5000	16.5	11	9	Silt	3461.0	6.9	641	900.0	8.1	236
-18.0000	18	16	14	Silt	4152.0	6.9	751	1400.0	12.6	321
-19.5000	19.5	17	14	Silt	4502.9	6.9	811	1400.0	12.6	336
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	7	6	Clay	168.8	23.1	82	150.0	7.2	45
-4.5000	4.5	9	8	Clay	225.0	24.1	127	200.0	9.6	67
-6.0000	6	10	9	Silt	1363.4	3.7	388	600.0	8.1	164
-7.5000	7.5	11	9	Silt	1660.1	4.5	457	750.0	8.1	208
-9.0000	9	12	10	Silt	1956.8	5.3	527	1000.0	9.0	273
-10.5000	10.5	13	11	Silt	2257.6	6.1	599	1100.0	9.9	307
-12.0000	12	11	9	Silt	2562.6	6.9	672	900.0	8.1	278
-13.5000	13.5	13	11	Silt	2859.3	7.7	746	1100.0	9.9	333
-15.0000	15	10	9	Silt	3164.4	7.7	821	900.0	8.1	303
-16.5000	16.5	11	9	Silt	3461.0	7.7	895	900.0	8.1	314
-18.0000	18	16	14	Silt	4152.0	7.7	1052	1400.0	12.6	435
-19.5000	19.5	17	14	Silt	4502.9	7.7	1138	1400.0	12.6	453
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	7	6	Clay	168.8	23.1	95	150.0	7.2	53
-4.5000	4.5	9	8	Clay	225.0	24.1	147	200.0	9.6	80
-6.0000	6	10	9	Silt	1363.4	3.7	467	540.0	8.1	183
-7.5000	7.5	11	9	Silt	1660.1	4.5	551	675.0	8.1	231
-9.0000	9	12	10	Silt	1956.8	5.3	636	900.0	9.0	303
-10.5000	10.5	13	11	Silt	2257.6	6.1	724	1100.0	9.9	370
-12.0000	12	11	9	Silt	2562.6	6.9	814	900.0	8.1	332
-13.5000	13.5	13	11	Silt	2859.3	7.7	903	1100.0	9.9	398
-15.0000	15	10	9	Silt	3164.4	8.5	996	900.0	8.1	360
-16.5000	16.5	11	9	Silt	3461.0	8.5	1087	900.0	8.1	373
-18.0000	18	16	14	Silt	4152.0	8.5	1281	1400.0	12.6	520
-19.5000	19.5	17	14	Silt	4502.9	8.5	1386	1400.0	12.6	540
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-21**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	5	4	Clay	52.4	56.3	52.4	54.2	52.4	52.9
-2.0000	2	5	4	Clay	53.5	60.3	53.5	57.4	53.5	50.2
-2.5000	2.5	4	3	Clay	42.8	50.0	42.8	47.3	42.8	40.5
-3.0000	3	3	3	Clay	44.0	53.4	44.0	50.1	44.0	42.0
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	28	100.0	4.8	14
-3.0000	3	3	3	Clay	84.4	14.1	41	75.0	3.6	16
-4.5000	4.5	6	5	Clay	140.6	21.3	63	125.0	6.0	25
-6.0000	6	8	7	Silt	1149.5	3.4	170	700.0	6.3	85
-7.5000	7.5	9	8	Silt	1408.5	4.2	198	800.0	7.2	101
-9.0000	9	11	9	Silt	1860.4	5.0	245	900.0	8.1	117
-10.5000	10.5	12	10	Silt	2157.0	5.0	277	1000.0	9.0	135
-12.0000	12	14	12	Silt	2715.8	5.0	335	1200.0	10.8	163
-13.5000	13.5	13	11	Silt	2767.1	5.0	344	1100.0	9.9	163
-15.0000	15	11	9	Silt	3072.1	5.0	378	900.0	8.1	153
-16.5000	16.5	9	8	Silt	3026.3	5.0	378	800.0	7.2	151
-18.0000	18	8	7	Silt	3289.1	5.0	408	700.0	6.3	148
-19.5000	19.5	7	6	Silt	3548.0	5.0	437	600.0	5.4	144
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	39	100.0	4.8	20
-3.0000	3	3	3	Clay	84.4	14.1	54	75.0	3.6	22
-4.5000	4.5	6	5	Clay	140.6	21.3	83	125.0	6.0	35
-6.0000	6	8	7	Silt	1149.5	3.4	246	560.0	6.3	106
-7.5000	7.5	9	8	Silt	1408.5	4.2	289	800.0	7.2	149
-9.0000	9	11	9	Silt	1860.4	5.0	361	900.0	8.1	173
-10.5000	10.5	12	10	Silt	2157.0	5.8	411	1000.0	9.0	198
-12.0000	12	14	12	Silt	2715.8	6.6	500	1200.0	10.8	239
-13.5000	13.5	13	11	Silt	2767.1	6.6	516	1100.0	9.9	236
-15.0000	15	11	9	Silt	3072.1	6.6	568	900.0	8.1	218
-16.5000	16.5	9	8	Silt	3026.3	6.6	569	800.0	7.2	212
-18.0000	18	8	7	Silt	3289.1	6.6	616	700.0	6.3	205
-19.5000	19.5	7	6	Silt	3548.0	6.6	662	600.0	5.4	197
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	50	100.0	4.8	28
-3.0000	3	3	3	Clay	84.4	14.1	68	75.0	3.6	29
-4.5000	4.5	6	5	Clay	140.6	21.3	105	125.0	6.0	46
-6.0000	6	8	7	Silt	1149.5	3.4	336	466.7	6.3	127
-7.5000	7.5	9	8	Silt	1408.5	4.2	396	666.7	7.2	179
-9.0000	9	11	9	Silt	1860.4	5.0	499	900.0	8.1	239
-10.5000	10.5	12	10	Silt	2157.0	5.8	569	1000.0	9.0	273
-12.0000	12	14	12	Silt	2715.8	6.6	696	1200.0	10.8	329
-13.5000	13.5	13	11	Silt	2767.1	7.4	717	1100.0	9.9	323
-15.0000	15	11	9	Silt	3072.1	7.4	792	900.0	8.1	293
-16.5000	16.5	9	8	Silt	3026.3	7.4	793	800.0	7.2	282
-18.0000	18	8	7	Silt	3289.1	7.4	860	700.0	6.3	271
-19.5000	19.5	7	6	Silt	3548.0	7.4	925	600.0	5.4	258
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	59	100.0	4.8	34
-3.0000	3	3	3	Clay	84.4	14.1	77	75.0	3.6	34
-4.5000	4.5	6	5	Clay	140.6	21.3	120	125.0	6.0	54
-6.0000	6	8	7	Silt	1149.5	3.4	403	420.0	6.3	141
-7.5000	7.5	9	8	Silt	1408.5	4.2	477	600.0	7.2	199
-9.0000	9	11	9	Silt	1860.4	5.0	603	810.0	8.1	266
-10.5000	10.5	12	10	Silt	2157.0	5.8	689	1000.0	9.0	329
-12.0000	12	14	12	Silt	2715.8	6.6	845	1200.0	10.8	397
-13.5000	13.5	13	11	Silt	2767.1	7.4	869	1100.0	9.9	387
-15.0000	15	11	9	Silt	3072.1	8.3	962	900.0	8.1	349
-16.5000	16.5	9	8	Silt	3026.3	8.3	963	800.0	7.2	335
-18.0000	18	8	7	Silt	3289.1	8.3	1044	700.0	6.3	319
-19.5000	19.5	7	6	Silt	3548.0	8.3	1125	600.0	5.4	302
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-22**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	41.0	43.9	41.0	42.3	41.0	41.3
-2.0000	2	4	3	Clay	42.2	47.3	42.2	45.2	42.2	39.8
-2.5000	2.5	5	4	Clay	55.3	65.0	55.3	61.4	55.3	52.4
-3.0000	3	6	5	Clay	68.3	83.9	68.3	78.5	68.3	65.1
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	6	5	Clay	140.6	21.3	43	125.0	6.0	20
-4.5000	4.5	11	9	Silt	1039.4	2.8	139	675.0	8.1	78
-6.0000	6	9	8	Silt	1200.2	3.6	157	800.0	7.2	97
-7.5000	7.5	10	9	Silt	1628.5	4.4	202	900.0	8.1	114
-9.0000	9	13	11	Silt	1925.2	5.2	234	1100.0	9.9	141
-10.5000	10.5	14	12	Silt	2464.3	5.2	290	1200.0	10.8	160
-12.0000	12	15	13	Silt	2805.9	5.2	327	1300.0	11.7	180
-13.5000	13.5	11	9	Silt	2852.9	5.2	336	900.0	8.1	152
-15.0000	15	9	8	Silt	2829.3	5.2	339	800.0	7.2	150
-16.5000	16.5	8	7	Silt	3092.1	5.2	368	700.0	6.3	147
-18.0000	18	7	6	Silt	3351.1	5.2	398	600.0	5.4	143
-19.5000	19.5	7	6	Silt	3606.3	5.2	427	600.0	5.4	148
-21.0000	21	9	8	Silt	3861.5	5.2	456	800.0	7.2	173
-22.5000	22.5	10	9	Silt	4591.0	5.2	529	900.0	8.1	189
-24.0000	24	10	9	Silt	4887.7	5.2	562	900.0	8.1	197
-25.5000	25.5	12	10	Silt	5184.4	5.2	595	1000.0	9.0	214
-27.0000	27	15	13	Silt	6060.8	5.2	682	1300.0	11.7	252
-28.5000	28.5	26	22	Sand	8345.9	5.2	903	3300.0	22.0	457
-30.0000	30	50	43	Sand	11088.0	5.2	1166	4000.0	43.0	553
-31.5000	31.5	50	43	Sand	11781.3	5.2	1236	4000.0	43.0	594
-33.0000	33	50	43	Sand	12071.0	5.2	1268	4000.0	43.0	634
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	6	5	Clay	140.6	21.3	58	125.0	6.0	28
-4.5000	4.5	11	9	Silt	1039.4	2.8	205	540.0	8.1	98
-6.0000	6	9	8	Silt	1200.2	3.6	232	640.0	7.2	121
-7.5000	7.5	10	9	Silt	1628.5	4.4	300	900.0	8.1	169
-9.0000	9	13	11	Silt	1925.2	5.2	349	1100.0	9.9	209
-10.5000	10.5	14	12	Silt	2464.3	6.0	435	1200.0	10.8	236
-12.0000	12	15	13	Silt	2805.9	6.8	493	1300.0	11.7	264
-13.5000	13.5	11	9	Silt	2852.9	6.8	508	900.0	8.1	216
-15.0000	15	9	8	Silt	2829.3	6.8	513	800.0	7.2	211
-16.5000	16.5	8	7	Silt	3092.1	6.8	559	700.0	6.3	204
-18.0000	18	7	6	Silt	3351.1	6.8	606	600.0	5.4	196
-19.5000	19.5	7	6	Silt	3606.3	6.8	651	600.0	5.4	203
-21.0000	21	9	8	Silt	3861.5	6.8	697	800.0	7.2	239
-22.5000	22.5	10	9	Silt	4591.0	6.8	812	900.0	8.1	263
-24.0000	24	10	9	Silt	4887.7	6.8	864	900.0	8.1	273
-25.5000	25.5	12	10	Silt	5184.4	6.8	916	1000.0	9.0	297
-27.0000	27	15	13	Silt	6060.8	6.8	1053	1300.0	11.7	354
-28.5000	28.5	26	22	Sand	8345.9	6.8	1397	3300.0	22.0	668
-30.0000	30	50	43	Sand	11088.0	6.8	1809	4000.0	43.0	810
-31.5000	31.5	50	43	Sand	11781.3	6.8	1919	4000.0	43.0	860
-33.0000	33	50	43	Sand	12071.0	6.8	1970	4000.0	43.0	911
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	6	5	Clay	140.6	21.3	75	125.0	6.0	38
-4.5000	4.5	11	9	Silt	1039.4	2.8	282	450.0	8.1	117
-6.0000	6	9	8	Silt	1200.2	3.6	321	533.3	7.2	146
-7.5000	7.5	10	9	Silt	1628.5	4.4	417	750.0	8.1	203
-9.0000	9	13	11	Silt	1925.2	5.2	487	1100.0	9.9	289
-10.5000	10.5	14	12	Silt	2464.3	6.0	609	1200.0	10.8	325
-12.0000	12	15	13	Silt	2805.9	6.8	691	1300.0	11.7	362
-13.5000	13.5	11	9	Silt	2852.9	7.7	711	900.0	8.1	292
-15.0000	15	9	8	Silt	2829.3	7.7	717	800.0	7.2	281
-16.5000	16.5	8	7	Silt	3092.1	7.7	783	700.0	6.3	270
-18.0000	18	7	6	Silt	3351.1	7.7	849	600.0	5.4	257
-19.5000	19.5	7	6	Silt	3606.3	7.7	914	600.0	5.4	264
-21.0000	21	9	8	Silt	3861.5	7.7	979	800.0	7.2	316
-22.5000	22.5	10	9	Silt	4591.0	7.7	1145	900.0	8.1	348
-24.0000	24	10	9	Silt	4887.7	7.7	1218	900.0	8.1	359
-25.5000	25.5	12	10	Silt	5184.4	7.7	1292	1000.0	9.0	392
-27.0000	27	15	13	Silt	6060.8	7.7	1489	1300.0	11.7	471
-28.5000	28.5	26	22	Sand	8345.9	7.7	1984	3300.0	22.0	918
-30.0000	30	50	43	Sand	11088.0	7.7	2577	4000.0	43.0	1113
-31.5000	31.5	50	43	Sand	11781.3	7.7	2735	4000.0	43.0	1174
-33.0000	33	50	43	Sand	12071.0	7.7	2807	4000.0	43.0	1234
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	6	5	Clay	140.6	21.3	87	125.0	6.0	46
-4.5000	4.5	11	9	Silt	1039.4	2.8	341	405.0	8.1	130
-6.0000	6	9	8	Silt	1200.2	3.6	388	480.0	7.2	162
-7.5000	7.5	10	9	Silt	1628.5	4.4	506	675.0	8.1	225
-9.0000	9	13	11	Silt	1925.2	5.2	592	990.0	9.9	322
-10.5000	10.5	14	12	Silt	2464.3	6.0	742	1200.0	10.8	393
-12.0000	12	15	13	Silt	2805.9	6.8	841	1300.0	11.7	437
-13.5000	13.5	11	9	Silt	2852.9	7.7	865	900.0	8.1	348
-15.0000	15	9	8	Silt	2829.3	8.5	871	800.0	7.2	333
-16.5000	16.5	8	7	Silt	3092.1	8.5	953	700.0	6.3	318
-18.0000	18	7	6	Silt	3351.1	8.5	1034	600.0	5.4	301
-19.5000	19.5	7	6	Silt	3606.3	8.5	1115	600.0	5.4	309
-21.0000	21	9	8	Silt	3861.5	8.5	1195	800.0	7.2	372
-22.5000	22.5	10	9	Silt	4591.0	8.5	1399	900.0	8.1	410
-24.0000	24	10	9	Silt	4887.7	8.5	1490	900.0	8.1	422
-25.5000	25.5	12	10	Silt	5184.4	8.5	1581	1000.0	9.0	462
-27.0000	27	15	13	Silt	6060.8	8.5	1824	1300.0	11.7	557
-28.5000	28.5	26	22	Sand	8345.9	8.5	2435	3300.0	22.0	1107
-30.0000	30	50	43	Sand	11088.0	8.5	3166	4000.0	43.0	1341
-31.5000	31.5	50	43	Sand	11781.3	8.5	3361	4000.0	43.0	1409
-33.0000	33	50	43	Sand	12071.0	8.5	3450	4000.0	43.0	1476
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-23**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	5	4	Clay	53.1	57.0	53.1	54.8	53.1	53.6
-2.0000	2	5	4	Clay	54.2	60.9	54.2	58.1	54.2	50.9
-2.5000	2.5	6	5	Clay	67.2	79.2	67.2	74.7	67.2	63.5
-3.0000	3	7	6	Clay	80.2	98.9	80.2	92.4	80.2	76.2
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	28	100.0	4.8	14
-3.0000	3	7	6	Clay	168.8	23.1	53	150.0	7.2	24
-4.5000	4.5	8	7	Silt	922.7	2.8	137	525.0	6.3	66
-6.0000	6	7	6	Silt	1181.7	3.5	164	600.0	5.4	79
-7.5000	7.5	9	8	Silt	1437.0	4.3	192	800.0	7.2	103
-9.0000	9	10	9	Silt	1892.1	5.1	239	900.0	8.1	120
-10.5000	10.5	11	9	Silt	2188.7	5.1	272	900.0	8.1	128
-12.0000	12	12	10	Silt	2485.4	5.1	305	1000.0	9.0	145
-13.5000	13.5	13	11	Silt	2786.3	5.1	338	1100.0	9.9	163
-15.0000	15	11	9	Silt	3091.3	5.1	371	900.0	8.1	153
-16.5000	16.5	10	9	Silt	3388.0	5.1	404	900.0	8.1	161
-18.0000	18	8	7	Silt	3310.0	5.1	401	700.0	6.3	149
-19.5000	19.5	15	13	Silt	4389.8	5.1	508	1300.0	11.7	214
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	39	100.0	4.8	20
-3.0000	3	7	6	Clay	168.8	23.1	72	150.0	7.2	35
-4.5000	4.5	8	7	Silt	922.7	2.8	198	420.0	6.3	83
-6.0000	6	7	6	Silt	1181.7	3.5	240	480.0	5.4	98
-7.5000	7.5	9	8	Silt	1437.0	4.3	282	800.0	7.2	153
-9.0000	9	10	9	Silt	1892.1	5.1	354	900.0	8.1	177
-10.5000	10.5	11	9	Silt	2188.7	5.9	405	900.0	8.1	186
-12.0000	12	12	10	Silt	2485.4	6.7	456	1000.0	9.0	211
-13.5000	13.5	13	11	Silt	2786.3	6.7	508	1100.0	9.9	237
-15.0000	15	11	9	Silt	3091.3	6.7	561	900.0	8.1	218
-16.5000	16.5	10	9	Silt	3388.0	6.7	612	900.0	8.1	227
-18.0000	18	8	7	Silt	3310.0	6.7	609	700.0	6.3	206
-19.5000	19.5	15	13	Silt	4389.8	6.7	776	1300.0	11.7	305
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	50	100.0	4.8	28
-3.0000	3	7	6	Clay	168.8	23.1	92	150.0	7.2	47
-4.5000	4.5	8	7	Silt	922.7	2.8	270	350.0	6.3	99
-6.0000	6	7	6	Silt	1181.7	3.5	329	400.0	5.4	118
-7.5000	7.5	9	8	Silt	1437.0	4.3	389	666.7	7.2	183
-9.0000	9	10	9	Silt	1892.1	5.1	492	900.0	8.1	244
-10.5000	10.5	11	9	Silt	2188.7	5.9	563	900.0	8.1	255
-12.0000	12	12	10	Silt	2485.4	6.7	635	1000.0	9.0	288
-13.5000	13.5	13	11	Silt	2786.3	7.5	709	1100.0	9.9	323
-15.0000	15	11	9	Silt	3091.3	7.5	784	900.0	8.1	293
-16.5000	16.5	10	9	Silt	3388.0	7.5	857	900.0	8.1	305
-18.0000	18	8	7	Silt	3310.0	7.5	851	700.0	6.3	272
-19.5000	19.5	15	13	Silt	4389.8	7.5	1091	1300.0	11.7	412
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	5	4	Clay	112.5	18.8	59	100.0	4.8	34
-3.0000	3	7	6	Clay	168.8	23.1	107	150.0	7.2	56
-4.5000	4.5	8	7	Silt	922.7	2.8	324	315.0	6.3	110
-6.0000	6	7	6	Silt	1181.7	3.5	397	360.0	5.4	131
-7.5000	7.5	9	8	Silt	1437.0	4.3	470	600.0	7.2	204
-9.0000	9	10	9	Silt	1892.1	5.1	596	810.0	8.1	271
-10.5000	10.5	11	9	Silt	2188.7	5.9	683	900.0	8.1	307
-12.0000	12	12	10	Silt	2485.4	6.7	770	1000.0	9.0	347
-13.5000	13.5	13	11	Silt	2786.3	7.5	860	1100.0	9.9	388
-15.0000	15	11	9	Silt	3091.3	8.3	952	900.0	8.1	349
-16.5000	16.5	10	9	Silt	3388.0	8.3	1043	900.0	8.1	362
-18.0000	18	8	7	Silt	3310.0	8.3	1036	700.0	6.3	321
-19.5000	19.5	15	13	Silt	4389.8	8.3	1332	1300.0	11.7	492
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-24**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	3	3	Clay	42.0	44.9	42.0	43.3	42.0	42.3
-2.0000	2	3	3	Clay	43.2	48.3	43.2	46.1	43.2	40.7
-2.5000	2.5	4	3	Clay	44.4	51.7	44.4	49.0	44.4	42.2
-3.0000	3	5	4	Clay	57.6	70.0	57.6	65.7	57.6	55.0
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	5	4	Clay	112.5	18.8	39	100.0	4.8	17
-4.5000	4.5	7	6	Clay	168.8	23.1	64	150.0	7.2	27
-6.0000	6	9	8	Clay	225.0	24.1	92	200.0	9.6	40
-7.5000	7.5	10	9	Silt	1693.9	4.6	244	900.0	8.1	114
-9.0000	9	11	9	Silt	1990.6	5.4	276	900.0	8.1	122
-10.5000	10.5	11	9	Silt	2287.2	5.4	309	900.0	8.1	129
-12.0000	12	12	10	Silt	2583.9	5.4	342	1000.0	9.0	147
-13.5000	13.5	13	11	Silt	2884.8	5.4	376	1100.0	9.9	165
-15.0000	15	11	9	Silt	3189.8	5.4	410	900.0	8.1	155
-16.5000	16.5	9	8	Silt	3132.0	5.4	409	800.0	7.2	153
-18.0000	18	8	7	Silt	3394.8	5.4	439	700.0	6.3	150
-19.5000	19.5	9	8	Silt	3653.7	5.4	469	800.0	7.2	165
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	5	4	Clay	112.5	18.8	52	100.0	4.8	24
-4.5000	4.5	7	6	Clay	168.8	23.1	85	150.0	7.2	38
-6.0000	6	9	8	Clay	225.0	24.1	121	200.0	9.6	56
-7.5000	7.5	10	9	Silt	1693.9	4.6	355	900.0	8.1	169
-9.0000	9	11	9	Silt	1990.6	5.4	404	900.0	8.1	179
-10.5000	10.5	11	9	Silt	2287.2	6.1	455	900.0	8.1	188
-12.0000	12	12	10	Silt	2583.9	6.9	506	1000.0	9.0	213
-13.5000	13.5	13	11	Silt	2884.8	6.9	559	1100.0	9.9	239
-15.0000	15	11	9	Silt	3189.8	6.9	612	900.0	8.1	220
-16.5000	16.5	9	8	Silt	3132.0	6.9	611	800.0	7.2	214
-18.0000	18	8	7	Silt	3394.8	6.9	658	700.0	6.3	208
-19.5000	19.5	9	8	Silt	3653.7	6.9	705	800.0	7.2	230
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	5	4	Clay	112.5	18.8	67	100.0	4.8	32
-4.5000	4.5	7	6	Clay	168.8	23.1	108	150.0	7.2	51
-6.0000	6	9	8	Clay	225.0	24.1	154	200.0	9.6	74
-7.5000	7.5	10	9	Silt	1693.9	4.6	485	750.0	8.1	203
-9.0000	9	11	9	Silt	1990.6	5.4	555	900.0	8.1	246
-10.5000	10.5	11	9	Silt	2287.2	6.1	626	900.0	8.1	258
-12.0000	12	12	10	Silt	2583.9	6.9	699	1000.0	9.0	291
-13.5000	13.5	13	11	Silt	2884.8	7.8	773	1100.0	9.9	326
-15.0000	15	11	9	Silt	3189.8	7.8	848	900.0	8.1	296
-16.5000	16.5	9	8	Silt	3132.0	7.8	847	800.0	7.2	285
-18.0000	18	8	7	Silt	3394.8	7.8	914	700.0	6.3	274
-19.5000	19.5	9	8	Silt	3653.7	7.8	980	800.0	7.2	305
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	3	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	5	4	Clay	112.5	18.8	77	100.0	4.8	38
-4.5000	4.5	7	6	Clay	168.8	23.1	125	150.0	7.2	61
-6.0000	6	9	8	Clay	225.0	24.1	177	200.0	9.6	87
-7.5000	7.5	10	9	Silt	1693.9	4.6	584	675.0	8.1	225
-9.0000	9	11	9	Silt	1990.6	5.4	669	810.0	8.1	274
-10.5000	10.5	11	9	Silt	2287.2	6.1	756	900.0	8.1	310
-12.0000	12	12	10	Silt	2583.9	6.9	844	1000.0	9.0	349
-13.5000	13.5	13	11	Silt	2884.8	7.8	934	1100.0	9.9	390
-15.0000	15	11	9	Silt	3189.8	8.6	1027	900.0	8.1	352
-16.5000	16.5	9	8	Silt	3132.0	8.6	1025	800.0	7.2	338
-18.0000	18	8	7	Silt	3394.8	8.6	1107	700.0	6.3	323
-19.5000	19.5	9	8	Silt	3653.7	8.6	1189	800.0	7.2	359
-21.0000	21	----	----	----	----	----	----	----	----	----
-22.5000	22.5	----	----	----	----	----	----	----	----	----
-24.0000	24	----	----	----	----	----	----	----	----	----
-25.5000	25.5	----	----	----	----	----	----	----	----	----
-27.0000	27	----	----	----	----	----	----	----	----	----
-28.5000	28.5	----	----	----	----	----	----	----	----	----
-30.0000	30	----	----	----	----	----	----	----	----	----
-31.5000	31.5	----	----	----	----	----	----	----	----	----
-33.0000	33	----	----	----	----	----	----	----	----	----
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Borehole No: **BH-25**

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: **Bearing Capacity for Shallow Foundation**

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: **3.0** **RL (m):** **0.0** ***Note:*** *RL was approximated at ground level*

Remarks: Note: qa-1: using Terzaghi's bearing capacity formula, qa-2: using Meyerhof bearing capacity formula

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	Width:1.5 m		Width:2 m		Width:2.5 m	
					q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)	q_a-1 (kPa)	q_a-2 (kPa)
-1.5000	1.5	4	3	Clay	42.3	45.2	42.3	43.6	42.3	42.6
-2.0000	2	4	3	Clay	43.5	48.6	43.5	46.5	43.5	41.1
-2.5000	2.5	4	3	Clay	44.8	52.0	44.8	49.3	44.8	42.6
-3.0000	3	4	3	Clay	46.0	55.4	46.0	52.2	46.0	44.1
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Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:600mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	21	75.0	3.6	10
-3.0000	3	4	3	Clay	84.4	14.1	34	75.0	3.6	14
-4.5000	4.5	6	5	Clay	140.6	21.3	56	125.0	6.0	23
-6.0000	6	8	7	Clay	196.9	24.0	83	175.0	8.4	35
-7.5000	7.5	13	11	Silt	1748.5	4.7	243	1100.0	9.9	130
-9.0000	9	9	8	Silt	1844.7	5.5	257	800.0	7.2	110
-10.5000	10.5	11	9	Silt	2346.0	5.5	309	900.0	8.1	127
-12.0000	12	8	7	Silt	2374.0	5.5	317	700.0	6.3	115
-13.5000	13.5	5	4	Silt	2344.6	5.5	320	400.0	3.6	91
-15.0000	15	7	6	Silt	2880.7	5.5	375	600.0	5.4	114
-16.5000	16.5	6	5	Silt	3135.9	5.5	404	500.0	4.5	109
-18.0000	18	8	7	Silt	3387.4	5.5	433	700.0	6.3	133
-19.5000	19.5	9	8	Silt	3646.4	5.5	463	800.0	7.2	149
-21.0000	21	9	8	Silt	3909.1	5.5	493	800.0	7.2	156
-22.5000	22.5	8	7	Silt	4171.9	5.5	523	700.0	6.3	153
-24.0000	24	9	8	Silt	4430.9	5.5	553	800.0	7.2	169
-25.5000	25.5	10	9	Silt	5224.8	5.5	633	900.0	8.1	185
-27.0000	27	11	9	Silt	5521.5	5.5	666	900.0	8.1	193
-28.5000	28.5	17	14	Sand	6428.6	5.5	756	2100.0	14.0	316
-30.0000	30	50	43	Sand	11062.8	5.5	1198	4000.0	43.0	522
-31.5000	31.5	50	43	Sand	11756.1	5.5	1269	4000.0	43.0	563
-33.0000	33	50	43	Sand	12071.0	5.5	1304	4000.0	43.0	603
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:750mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	29	75.0	3.6	15
-3.0000	3	4	3	Clay	84.4	14.1	46	75.0	3.6	20
-4.5000	4.5	6	5	Clay	140.6	21.3	75	125.0	6.0	33
-6.0000	6	8	7	Clay	196.9	24.0	110	175.0	8.4	48
-7.5000	7.5	13	11	Silt	1748.5	4.7	355	1100.0	9.9	195
-9.0000	9	9	8	Silt	1844.7	5.5	375	800.0	7.2	161
-10.5000	10.5	11	9	Silt	2346.0	6.3	456	900.0	8.1	185
-12.0000	12	8	7	Silt	2374.0	7.1	468	700.0	6.3	164
-13.5000	13.5	5	4	Silt	2344.6	7.1	472	400.0	3.6	126
-15.0000	15	7	6	Silt	2880.7	7.1	559	600.0	5.4	160
-16.5000	16.5	6	5	Silt	3135.9	7.1	605	500.0	4.5	152
-18.0000	18	8	7	Silt	3387.4	7.1	651	700.0	6.3	187
-19.5000	19.5	9	8	Silt	3646.4	7.1	697	800.0	7.2	210
-21.0000	21	9	8	Silt	3909.1	7.1	744	800.0	7.2	219
-22.5000	22.5	8	7	Silt	4171.9	7.1	791	700.0	6.3	212
-24.0000	24	9	8	Silt	4430.9	7.1	838	800.0	7.2	234
-25.5000	25.5	10	9	Silt	5224.8	7.1	963	900.0	8.1	258
-27.0000	27	11	9	Silt	5521.5	7.1	1015	900.0	8.1	268
-28.5000	28.5	17	14	Sand	6428.6	7.1	1157	2100.0	14.0	457
-30.0000	30	50	43	Sand	11062.8	7.1	1848	4000.0	43.0	771
-31.5000	31.5	50	43	Sand	11756.1	7.1	1959	4000.0	43.0	821
-33.0000	33	50	43	Sand	12071.0	7.1	2013	4000.0	43.0	872
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island

Client: Bashanchar, Hatiya, Noakhali

Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:900mm)

References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	38	75.0	3.6	21
-3.0000	3	4	3	Clay	84.4	14.1	58	75.0	3.6	26
-4.5000	4.5	6	5	Clay	140.6	21.3	95	125.0	6.0	43
-6.0000	6	8	7	Clay	196.9	24.0	139	175.0	8.4	64
-7.5000	7.5	13	11	Silt	1748.5	4.7	488	916.7	9.9	234
-9.0000	9	9	8	Silt	1844.7	5.5	516	800.0	7.2	222
-10.5000	10.5	11	9	Silt	2346.0	6.3	630	900.0	8.1	254
-12.0000	12	8	7	Silt	2374.0	7.1	646	700.0	6.3	222
-13.5000	13.5	5	4	Silt	2344.6	7.9	650	400.0	3.6	165
-15.0000	15	7	6	Silt	2880.7	7.9	775	600.0	5.4	214
-16.5000	16.5	6	5	Silt	3135.9	7.9	840	500.0	4.5	200
-18.0000	18	8	7	Silt	3387.4	7.9	905	700.0	6.3	250
-19.5000	19.5	9	8	Silt	3646.4	7.9	971	800.0	7.2	280
-21.0000	21	9	8	Silt	3909.1	7.9	1037	800.0	7.2	291
-22.5000	22.5	8	7	Silt	4171.9	7.9	1104	700.0	6.3	279
-24.0000	24	9	8	Silt	4430.9	7.9	1170	800.0	7.2	310
-25.5000	25.5	10	9	Silt	5224.8	7.9	1350	900.0	8.1	342
-27.0000	27	11	9	Silt	5521.5	7.9	1424	900.0	8.1	353
-28.5000	28.5	17	14	Sand	6428.6	7.9	1627	2100.0	14.0	623
-30.0000	30	50	43	Sand	11062.8	7.9	2621	4000.0	43.0	1066
-31.5000	31.5	50	43	Sand	11756.1	7.9	2779	4000.0	43.0	1127
-33.0000	33	50	43	Sand	12071.0	7.9	2857	4000.0	43.0	1188
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----

Project Name: Construction of 10 MW Solar Power Plant in Bashanchar Island
Client: Bashanchar, Hatiya, Noakhali
Title: Axial Pile Capacity (Pile Type: Bored, Size: Dia:1000mm)
References: *Bangladesh National Building Code (BNBC - 2020)*

Factor of Safety: 3.0 **RL (m):** 0.0 ***Note:*** *RL was approximated at ground level*

Remarks: qb=base resistance, qs=skin resistance, Qa=allowable axial capacity, SBC=Static Bearing Capacity, 1 kPa=10 k/ft2, 1 kN=0.10 Ton

Elevation (m)	Depth (m)	SPT, N	N_{60}	Soil Type	as per SBC			as per SPT, N		
					q_b (kPa)	q_s (kPa)	Q_a (kN)	q_b (kPa)	q_s (kPa)	Q_a (kN)
-1.5000	1.5	4	3	Clay	84.4	14.1	44	75.0	3.6	25
-3.0000	3	4	3	Clay	84.4	14.1	66	75.0	3.6	31
-4.5000	4.5	6	5	Clay	140.6	21.3	109	125.0	6.0	52
-6.0000	6	8	7	Clay	196.9	24.0	159	175.0	8.4	76
-7.5000	7.5	13	11	Silt	1748.5	4.7	588	825.0	9.9	261
-9.0000	9	9	8	Silt	1844.7	5.5	621	720.0	7.2	246
-10.5000	10.5	11	9	Silt	2346.0	6.3	762	900.0	8.1	306
-12.0000	12	8	7	Silt	2374.0	7.1	780	700.0	6.3	265
-13.5000	13.5	5	4	Silt	2344.6	7.9	784	400.0	3.6	194
-15.0000	15	7	6	Silt	2880.7	8.6	937	600.0	5.4	253
-16.5000	16.5	6	5	Silt	3135.9	8.6	1017	500.0	4.5	235
-18.0000	18	8	7	Silt	3387.4	8.6	1097	700.0	6.3	296
-19.5000	19.5	9	8	Silt	3646.4	8.6	1178	800.0	7.2	332
-21.0000	21	9	8	Silt	3909.1	8.6	1260	800.0	7.2	344
-22.5000	22.5	8	7	Silt	4171.9	8.6	1343	700.0	6.3	328
-24.0000	24	9	8	Silt	4430.9	8.6	1424	800.0	7.2	365
-25.5000	25.5	10	9	Silt	5224.8	8.6	1645	900.0	8.1	403
-27.0000	27	11	9	Silt	5521.5	8.6	1737	900.0	8.1	416
-28.5000	28.5	17	14	Sand	6428.6	8.6	1988	2100.0	14.0	747
-30.0000	30	50	43	Sand	11062.8	8.6	3214	4000.0	43.0	1290
-31.5000	31.5	50	43	Sand	11756.1	8.6	3409	4000.0	43.0	1357
-33.0000	33	50	43	Sand	12071.0	8.6	3505	4000.0	43.0	1425
-34.5000	34.5	----	----	----	----	----	----	----	----	----
-36.0000	36	----	----	----	----	----	----	----	----	----
-37.5000	37.5	----	----	----	----	----	----	----	----	----
-39.0000	39	----	----	----	----	----	----	----	----	----
-40.5000	40.5	----	----	----	----	----	----	----	----	----
-42.0000	42	----	----	----	----	----	----	----	----	----
-43.5000	43.5	----	----	----	----	----	----	----	----	----
-45.0000	45	----	----	----	----	----	----	----	----	----
-46.5000	46.5	----	----	----	----	----	----	----	----	----
-48.0000	48	----	----	----	----	----	----	----	----	----
-49.5000	49.5	----	----	----	----	----	----	----	----	----
-51.0000	51	----	----	----	----	----	----	----	----	----
-52.5000	52.5	----	----	----	----	----	----	----	----	----
-54.0000	54	----	----	----	----	----	----	----	----	----