

# **Detailed Project Report: Sadulsahar**

## **Part C: Additional Supporting Documents**

Booking Advice No.-8582-2

Dated: 24.02.2018

# Geotechnical Investigation Sample Report

(Geotechnical survey of Land)

Project:-

## Faecal Sludge Treatment Plant

(Sadulshahar- open land abhohar Hanumangarh Road)

Submitted To:

### M/S CDD Society

Survey no.205, Ground Floor,  
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## 1.0 Introduction

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The main function of a foundation is to distribute or transmit all loads coming over it to the soil or ground upon which it rests. The knowledge of the characteristics of underlying soil is therefore very essential for safe & economical design of foundations. The performance of supporting stratum depends upon the physical properties of soil type & shape of footing & structure, water table depth etc.

Soil has different meanings depending upon the area of interest of the professional to an agriculturist, soil means top earth's surface which supports plant life. To a geologist it is thin top crust of earth formed by disintegration of rocks. To an engineer it is uncemented loose cohesive or cohesion less material. Soil may have particles ranging from fraction of micron to large boulder.

Soil is a complex material which contains inorganic non cohesive material in various percentages. It may also contain chemicals. Study of soil and its behavior is important for design of foundations, pavements, underground and earth retaining structures, embankments and earth dams.

Geology is a science which deals with behavior and application of soil as engineering material. Terzaghi defined soil mechanics as the application of laws of mechanics and hydraulics to engineering problems dealing with sediments and other unconsolidated accumulations of solid particles produced by mechanical and chemical disintegration of rocks regardless of that these contain an admixture of organic constituent.

Soil is produced by disintegration of solid rocks. The production of soil is cyclic and soil cycle consists of weathering, denudation, transportation and deposition. All the planes and vallies are formed by this procedure. Inorganic soils get organic material from decaying vegetation.

Soil in its natural state is a three phase system, it contains solids, water and air, in dry mass of soil, the voids contain air and hygroscopic moisture surrounding and adhering to surface of soil particles. When all the voids are filled with water it is saturated mass of soil. To assess the suitability of a soil with respect to a desired purpose all or a few of following properties are required to be known.

- Specific gravity
- Bulk density
- Porosity.
- Void ratio.
- Water content.
- Water absorption.
- Particle size distribution.
- Liquid limit.
- Plastic limit and plasticity index.
- Coefficient of friction.
- Compressive strength.
- Permeability.
- Salt content.
- Shrinkage limit.
- Swell index.
- Direct shear test.
- Total Soluble Solids.

In addition to this chemical characteristics of soil may also interest an agriculturist. The knowledge of properties of soil is important for –

- Foundation design.
- Pavement design.
- Design of underground and earth retaining structures.
- Design of embankments.
- Design of earth dams.

The performance of soil in the designs cited above depends upon the characteristics of soil. It necessitates testing of soil to determine its physical properties.

## 2.0 Project

# Faecal Sludge Treatment Plant

## 3.0 Location of Site

**BH-1**

**BH-2**

**BH-3**

**(Sadulshahar- open land abhoar Hanumangarh Road)**

## 4.0 Scope of Work

Field investigation at the site are planned to determine the required characteristics of underlying soil to design the foundations of the proposed structure, the data obtained from these investigations have been analyzed to arrive at the required parameters, mainly the safe bearing capacity of the soil at various depth with respect to the existing ground level. In order to achieve the stated objectives, the stipulated scope of work included following operations

- Transportation of the personnel, plant and equipment to the site of work and withdrawing the same on completion of work.
- Drilling Three boreholes of 100 mm diameter from the ground level to 8.0 meter depth or up to refusal strata.
- Conducting Standard Penetration Test in borehole as per Indian standard specification (IS-2131)
- Extracting undisturbed soil samples and sealing, numbering and preserving them as per (IS-2132)
- Carrying out following necessary test on the soil samples to establish its characteristics.
  - ❖ Sieve analysis
  - ❖ Bulk density
  - ❖ Specific gravity
  - ❖ Atterberg limits
  - ❖ Shear Strength Parameters
  - ❖ Consolidation Properties

## 5.0 Field Investigation

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The standard penetration test was conducted in bore hole in soils following the Standard procedure as per Indian standard IS: 2131, which specifies the procedure for conducting SPT for soil. This test is carried out using the standard split spoon sampler to measure the number of blows called 'N' Value. Standard split spoon sampler was attached to an 'A' rod. It was driven into the soil to a distance of 45 cm using a standard hammer falling freely from a height of 75 cm while driving, the number of blows required to penetrate the last 30 cm is taken as 'N' value at that particular depth of the bore hole. This value is then used for calculating the bearing capacity of the soil. ( Table 6 to 11)

The subsurface investigations in the field involve three basic operations:-

- Drilling
- Sampling
- Conducting the required field test. This is followed by operations in the Laboratory for conducting prescribed laboratory tests.

## 6.0 Laboratory Tests

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*All test were conducted in accordance with the procedure laid down in Indian Standard IS: 2720, results obtained are presented in Table 4 and 5 bearing capacity results Based on IS: 6403-1981 are presented in Table-12 to 14 and Table-6 to 11.*

*The safe Bearing capacity at depth is presented in Table 1, 2 and 3 is based on shear failure criteria.*

## 7.0 Results and Analysis

The field investigation and laboratory tests conducted over the soil revealed the following Conclusions:

**Table – 1**  
**Safe Bearing Capacity**

BH-1

Depth (meter)	Settlement Criteria (Table -12)	Lab Findings			Recommended Safe Bearing Capacity (T / m <sup>2</sup> ) (Lower of columns 2 & 5 & rounded down)
		Local Shear Failure Criteria (Tables-6)	General Shear Failure Criteria (Tables-9)	Interpolated Value from Column 3 & 4 (As per IS 6403-1981)	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1.00	10.82	5.43	12.01	10.03	10.00
2.00	12.55	9.33	21.40	17.78	12.50
3.00	22.43	13.24	29.38	24.54	15.00*
4.00	36.68	17.14	37.37	31.30	15.00*
5.00	39.51	21.05	45.36	38.06	15.00*
6.00	43.71	26.88	58.85	49.26	15.00*
7.00	45.44	31.07	74.72	61.63	15.00*
8.00	53.10	38.23	84.85	70.87	15.00*



**Table – 2 BH-2  
Safe Bearing Capacity**

Depth (meter)	Settlement Criteria (Table- 13)	Lab Findings			Recommended Safe Bearing Capacity (T / m <sup>2</sup> ) (Lower of columns 2 & 5 & rounded down)
		Local Shear Failure Criteria (Tables-7)	General Shear Failure Criteria (Tables-10)	Interpolated Value from Column 3 & 4 (As per IS 6403-1981)	
1	2	3	4	5	6
1.00	10.07	5.46	12.08	10.42	10.00
2.00	12.57	9.39	19.42	16.91	12.50
3.00	25.22	13.32	26.76	23.40	15.00*
4.00	39.01	17.24	37.59	32.50	15.00*
5.00	40.75	21.17	45.62	39.51	15.00*
6.00	52.39	27.04	59.19	51.15	15.00*
7.00	54.20	31.43	68.40	59.15	15.00*
8.00	58.01	35.66	77.26	66.86	15.00*

**Table – 3 BH-3  
Safe Bearing Capacity**

Depth (meter)	Settlement Criteria (Table- 14)	Lab Findings			Recommended Safe Bearing Capacity (T / m <sup>2</sup> ) (Lower of columns 2 & 5 & rounded down)
		Local Shear Failure Criteria (Tables-8)	General Shear Failure Criteria (Tables-11)	Interpolated Value from Column 3 & 4 (As per IS 6403-1981)	
1	2	3	4	5	6
1.00	10.84	5.49	12.15	10.48	10.50
2.00	13.50	9.44	21.64	18.59	13.50
3.00	26.44	13.39	29.72	25.64	15.00*
4.00	40.33	17.34	37.80	32.69	15.00*
5.00	49.73	22.96	50.66	43.74	15.00*
6.00	51.54	27.35	59.87	51.74	15.00*
7.00	55.28	31.61	68.79	59.49	15.00*
8.00	57.04	38.67	85.83	74.04	15.00*

**(\*) Limiting Value as per NBC 1983**

**Table No: 2 (BH- 1&2)**  
**RESULTS OF LABORATORY TEST**

B.H. No.	Depth (m)	Type of Sample	Field Density (gm/cc)	Natural Moisture Content (%)	Void Ratio	Specific Gravity	Grain Size Analysis					Consistency limits			Soil Classification	Shear Parameter		SPT N Value
							Gravel (%)	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Silt & Clay (%)	Liquid Limits (%)	Plastic Limits (%)	Plasticity Index (%)		C (Kg/cm <sup>2</sup> )	φ (Degree)	
1	1.00	SPT	1.73	6.12	0.61	2.62	0.00	0.00	1.31	87.56	11.13	22.23	NPL	NPI	SM	0.00	25	7
	2.00	SPT	1.73	6.54	0.61	2.61	0.00	0.00	0.86	88.94	10.20	22.29	NPL	NPI	SM	0.00	26	8
	3.00	SPT	1.73	6.24	0.61	2.62	0.00	0.00	0.92	90.24	8.84	21.78	NPL	NPI	SM	0.00	26	15
	4.00	SPT	1.73	5.87	0.61	2.62	0.00	0.00	0.83	89.65	9.52	21.98	NPL	NPI	SM	0.00	26	24
	5.00	SPT	1.73	7.56	0.61	2.62	0.00	0.00	1.49	88.75	9.76	22.00	NPL	NPI	SM	0.00	26	27
	6.00	SPT	1.73	7.46	0.61	2.63	0.00	0.00	1.67	88.02	10.31	22.10	NPL	NPI	SM	0.00	27	30
	7.00	SPT	1.73	6.24	0.61	2.62	0.00	0.00	0.56	90.34	9.10	21.56	NPL	NPI	SM	0.00	28	32
	8.00	SPT	1.74	6.81	0.61	2.63	0.00	0.00	1.02	89.27	9.71	21.95	NPL	NPI	SM	0.00	28	38
2	1.00	SPT	1.74	6.32	0.60	2.61	0.00	0.00	1.75	85.65	12.60	23.20	NPL	NPI	SM	0.00	25	8
	2.00	SPT	1.74	5.32	0.60	2.61	0.00	0.00	1.62	86.52	11.86	23.10	NPL	NPI	SM	0.00	25	8
	3.00	SPT	1.74	6.94	0.60	2.62	0.00	0.00	1.34	85.34	13.32	23.65	NPL	NPI	SM	0.00	25	16
	4.00	SPT	1.74	5.00	0.60	2.62	0.00	0.00	1.29	90.15	8.56	21.89	NPL	NPI	SM	0.00	26	26
	5.00	SPT	1.74	6.84	0.60	2.62	0.00	0.00	0.83	89.35	9.82	22.05	NPL	NPI	SM	0.00	26	28
	6.00	SPT	1.74	7.21	0.60	2.61	0.00	0.00	0.91	90.12	8.97	21.89	NPL	NPI	SM	0.00	27	36
	7.00	SPT	1.75	6.38	0.60	2.62	0.00	0.00	0.77	90.21	9.02	21.97	NPL	NPI	SM	0.00	27	39
	8.00	SPT	1.75	7.05	0.60	2.61	0.00	0.00	1.02	89.65	9.33	22.14	NPL	NPI	SM	0.00	27	43

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**Table No: 5 (BH-3)**  
**RESULTS OF LABORATORY TEST**

B.H. No.	Depth (m)	Type of Sample	Field Density (gm/cc)	Natural Moisture Content (%)	Void Ratio	Specific Gravity	Grain Size Analysis					Consistency limits			Soil Classification	Shear Parameter		SPT N Value
							Gravel (%)	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Silt & Clay (%)	Liquid Limits (%)	Plastic Limits (%)	Plasticity Index (%)		C (Kg/cm <sup>2</sup> )	φ (Degree)	
3	1.00	SPT	1.75	6.98	0.60	2.62	0.00	0.00	1.49	85.62	12.89	23.01	NPL	NPI	SM	0.00	25	7
	2.00	SPT	1.75	5.91	0.60	2.62	0.00	0.00	0.85	89.00	10.15	21.98	NPL	NPI	SM	0.00	26	9
	3.00	SPT	1.75	6.75	0.60	2.62	0.00	0.00	0.79	88.31	10.90	22.31	NPL	NPI	SM	0.00	26	17
	4.00	SPT	1.75	6.80	0.60	2.62	0.00	0.00	1.23	87.96	10.81	22.28	NPL	NPI	SM	0.00	26	27
	5.00	SPT	1.75	7.45	0.60	2.62	0.00	0.00	1.31	88.99	9.70	21.98	NPL	NPI	SM	0.00	27	33
	6.00	SPT	1.76	6.87	0.60	2.62	0.00	0.00	0.86	90.21	8.93	22.01	NPL	NPI	SM	0.00	27	36
	7.00	SPT	1.76	6.91	0.60	2.63	0.00	0.00	1.42	88.95	9.63	22.02	NPL	NPI	SM	0.00	27	40
	8.00	SPT	1.76	7.24	0.60	2.63	0.00	0.00	1.72	89.04	9.24	22.65	NPL	NPI	SM	0.00	28	42

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**TABLE No: 6  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C-Φ For BH – 1 (For Local Shear)**

$$Q_{ns} = 1/FS [C \cdot N_c + \gamma d(N_q - 1) + 0.5 \cdot B \cdot \gamma \cdot N_\gamma \cdot W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encountered**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter			Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	Φ	Φ'	N <sub>c</sub>	N <sub>q</sub>	N <sub>γ</sub>	γ	0.5γ	W <sub>q</sub>	W <sub>γ</sub>		
1	1.50	1.50	1.00	0.00	25	17	12.34	4.77	3.53	1.73	0.865	1	0.5	3.70	5.43
2	1.50	1.50	2.00	0.00	26	17	12.34	4.77	3.53	1.73	0.865	1	0.5	5.87	9.33
3	1.50	1.50	3.00	0.00	26	17	12.34	4.77	3.53	1.73	0.865	1	0.5	8.05	13.24
4	1.50	1.50	4.00	0.00	26	17	12.34	4.77	3.53	1.73	0.865	1	0.5	10.22	17.14
5	1.50	1.50	5.00	0.00	26	17	12.34	4.77	3.53	1.73	0.865	1	0.5	12.40	21.05
6	1.50	1.50	6.00	0.00	27	18	13.10	5.26	4.07	1.73	0.865	1	0.5	16.50	26.88
7	1.50	1.50	7.00	0.00	28	19	13.10	5.26	4.07	1.73	0.865	1	0.5	18.96	31.07
8	1.50	1.50	8.00	0.00	28	19	13.93	5.80	4.68	1.74	0.870	1	0.5	24.31	38.23

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**TABLE No: 7  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C- $\Phi$  For BH-2(For Local Shear)**

$$Q_{ns} = 1/FS [2/3 * C * N_c + \gamma d (N_q - 1) + 0.5 * B * \gamma * N_y * W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encountered**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter			Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	$\Phi$	$\Phi'$	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	$\gamma$	0.5 $\gamma$	W <sub>q</sub>	W <sub><math>\gamma</math></sub>		
1	1.50	1.50	1.00	0.00	25	17	12.34	4.77	3.53	1.74	0.870	1	0.5	3.72	5.46
2	1.50	1.50	2.00	0.00	25	17	12.34	4.77	3.53	1.74	0.870	1	0.5	5.91	9.39
3	1.50	1.50	3.00	0.00	25	17	12.34	4.77	3.53	1.74	0.870	1	0.5	8.10	13.32
4	1.50	1.50	4.00	0.00	26	17	12.34	4.77	3.53	1.74	0.870	1	0.5	10.28	17.24
5	1.50	1.50	5.00	0.00	26	17	12.34	4.77	3.53	1.74	0.870	1	0.5	12.47	21.17
6	1.50	1.50	6.00	0.00	27	18	13.10	5.26	4.07	1.74	0.870	1	0.5	16.60	27.04
7	1.50	1.50	7.00	0.00	27	18	13.10	5.26	4.07	1.75	0.875	1	0.5	19.18	31.43
8	1.50	1.50	8.00	0.00	27	18	13.10	5.26	4.07	1.75	0.875	1	0.5	21.66	35.66

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**TABLE No: 8  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C- $\Phi$  For BH-3(For Local Shear)**

$$Q_{ns} = 1/FS [2/3 * C * N_c + \gamma d(N_q - 1) + 0.5 * B * \gamma * N_\gamma * W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encountered**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter			Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	$\Phi$	$\Phi'$	N <sub>c</sub>	N <sub>q</sub>	N <sub><math>\gamma</math></sub>	$\gamma$	0.5 $\gamma$	W <sub>q</sub>	W <sub><math>\gamma</math></sub>		
1	1.50	1.50	1.00	0.00	25	17	12.34	4.77	3.53	1.75	0.875	1	0.5	3.74	5.49
2	1.50	1.50	2.00	0.00	26	17	12.34	4.77	3.53	1.75	0.875	1	0.5	5.94	9.44
3	1.50	1.50	3.00	0.00	26	17	12.34	4.77	3.53	1.75	0.875	1	0.5	8.14	13.39
4	1.50	1.50	4.00	0.00	26	17	12.34	4.77	3.53	1.75	0.875	1	0.5	10.34	17.34
5	1.50	1.50	5.00	0.00	27	18	13.10	5.26	4.07	1.75	0.875	1	0.5	14.21	22.96
6	1.50	1.50	6.00	0.00	27	18	13.10	5.26	4.07	1.76	0.880	1	0.5	16.79	27.35
7	1.50	1.50	7.00	0.00	27	18	13.10	5.26	4.07	1.76	0.880	1	0.5	19.29	31.61
8	1.50	1.50	8.00	0.00	28	19	13.93	5.80	4.68	1.76	0.880	1	0.5	24.59	38.67

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**TABLE No:9  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C-Φ For BH-1 ( For General Shear)**

$$Q_{ns} = 1/FS [C \cdot N_c + \gamma d(N_q - 1) + 0.5 \cdot B \cdot \gamma \cdot N_\gamma \cdot W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encountered**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter		Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	Φ	N <sub>c</sub>	N <sub>q</sub>	N <sub>γ</sub>	γ	0.5γ	W <sub>q</sub>	W <sub>γ</sub>		
1	1.50	1.50	1.00	0.00	25	20.72	10.66	10.88	1.73	0.865	1	0.5	10.28	12.01
2	1.50	1.50	2.00	0.00	26	22.25	11.85	12.54	1.73	0.865	1	0.5	17.94	21.40
3	1.50	1.50	3.00	0.00	26	22.25	11.85	12.54	1.73	0.865	1	0.5	24.19	29.38
4	1.50	1.50	4.00	0.00	26	22.25	11.85	12.54	1.73	0.865	1	0.5	30.45	37.37
5	1.50	1.50	5.00	0.00	26	22.25	11.85	12.54	1.73	0.865	1	0.5	36.71	45.36
6	1.50	1.50	6.00	0.00	27	23.94	13.20	14.47	1.73	0.865	1	0.5	48.47	58.85
7	1.50	1.50	7.00	0.00	28	25.80	14.72	16.72	1.73	0.865	1	0.5	62.61	74.72
8	1.50	1.50	8.00	0.00	28	25.80	14.72	16.72	1.74	0.870	1	0.5	70.93	84.85

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**TABLE No:10  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C-Φ For BH-2 ( For General Shear)**

$$Q_{ns} = 1/FS [C \cdot N_c + \gamma d(N_q - 1) + 0.5 \cdot B \cdot \gamma \cdot N_\gamma \cdot W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encountered**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter		Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	Φ	N <sub>c</sub>	N <sub>q</sub>	N <sub>γ</sub>	γ	0.5γ	W <sub>q</sub>	W <sub>γ</sub>		
1	1.50	1.50	1.00	0.00	25	20.72	10.66	10.88	1.74	0.870	1	0.5	10.34	12.08
2	1.50	1.50	2.00	0.00	25	20.72	10.66	10.88	1.74	0.870	1	0.5	15.94	19.42
3	1.50	1.50	3.00	0.00	25	20.72	10.66	10.88	1.74	0.870	1	0.5	21.54	26.76
4	1.50	1.50	4.00	0.00	26	22.25	11.85	12.54	1.74	0.870	1	0.5	30.63	37.59
5	1.50	1.50	5.00	0.00	26	22.25	11.85	12.54	1.74	0.870	1	0.5	36.92	45.62
6	1.50	1.50	6.00	0.00	27	23.94	13.20	14.47	1.74	0.870	1	0.5	48.75	59.19
7	1.50	1.50	7.00	0.00	27	23.94	13.20	14.47	1.75	0.875	1	0.5	56.15	68.40
8	1.50	1.50	8.00	0.00	27	23.94	13.20	14.47	1.75	0.875	1	0.5	63.26	77.26

Authorised Signatory



**TABLE No:11  
For Continuous Strip/Raft Footing****Calculation of Net Safe Bearing Capacity Based on Shear Parameters C-Φ For BH-3 ( For General Shear)**

$$Q_{ns} = 1/FS [C \cdot N_c + \gamma d(N_q - 1) + 0.5 \cdot B \cdot \gamma \cdot N_\gamma \cdot W_q] ; Q_s = Q_{ns} + \gamma d$$

**FS=3.0, Water Table Not Encounterd**

S.NO	Size of Foundation		Depth of Foundation m	Shear Parameter		Bearing Capacity Factors			Unit Weight		Water Table Correction		Net Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>ns</sub> )	Safe Bearing Capacity t/m <sup>2</sup> (Q <sub>s</sub> )
	Length m	Width m		C (kg/cm <sup>2</sup> )	Φ	N <sub>c</sub>	N <sub>q</sub>	N <sub>γ</sub>	γ	0.5γ	W <sub>q</sub>	W <sub>γ</sub>		
1	1.50	1.50	1.00	0.00	25	20.72	10.66	10.88	1.75	0.875	1	0.5	10.40	12.15
2	1.50	1.50	2.00	0.00	26	22.25	11.85	12.54	1.75	0.875	1	0.5	18.14	21.64
3	1.50	1.50	3.00	0.00	26	22.25	11.85	12.54	1.75	0.875	1	0.5	24.47	29.72
4	1.50	1.50	4.00	0.00	26	22.25	11.85	12.54	1.75	0.875	1	0.5	30.80	37.80
5	1.50	1.50	5.00	0.00	27	23.94	13.20	14.47	1.75	0.875	1	0.5	41.91	50.66
6	1.50	1.50	6.00	0.00	27	23.94	13.20	14.47	1.76	0.880	1	0.5	49.31	59.87
7	1.50	1.50	7.00	0.00	27	23.94	13.20	14.47	1.76	0.880	1	0.5	56.47	68.79
8	1.50	1.50	8.00	0.00	28	25.80	14.72	16.72	1.76	0.880	1	0.5	71.75	85.83

Authorised Signatory

**Table No: 12****Safe Bearing Capacity by Standard Penetration Test based on IS- 2131**

(Width = 1.5 m)

Q<sub>s</sub>, Corrected N- From IS Code 8009, Q<sub>s</sub>= Q<sub>ns</sub>+ γd

B.H.	Depth (meter)	Avg. Bulk density (gm/cc)	'N'	Corrected 'N'	Corrected N Due To Dalatancy	Q <sub>ns</sub> (T/m <sup>2</sup> )	Q <sub>s</sub> (T/m <sup>2</sup> )
1	1.00	1.73	7	11	-	9.09	10.82
	2.00	1.73	8	11	-	9.09	12.55
	3.00	1.73	15	18	-	17.24	22.43
	4.00	1.73	24	27	-	29.76	36.68
	5.00	1.73	27	28	-	30.86	39.51
	6.00	1.73	30	30	-	33.33	43.71
	7.00	1.73	32	30	-	33.33	45.44
	8.00	1.74	38	34	-	39.18	53.10

Authorised Signatory

**Table No: 13****Safe Bearing Capacity by Standard Penetration Test based on IS- 2131**

(Width = 1.5 m)

Q<sub>ns</sub>, Corrected N- From IS Code 8009, Q<sub>s</sub>= Q<sub>ns</sub>+ γd

B.H.	Depth (meter)	Avg. Bulk density (gm/cc)	'N'	Corrected 'N'	Corrected N Due To Dalatancy	Q <sub>ns</sub> (T/m <sup>2</sup> )	Q <sub>s</sub> (T/m <sup>2</sup> )
2	1.00	1.74	8	13	-	8.33	10.07
	2.00	1.74	8	11	-	9.09	12.57
	3.00	1.74	16	20	-	20.00	25.22
	4.00	1.74	26	29	-	32.05	39.01
	5.00	1.74	28	29	-	32.05	40.75
	6.00	1.74	36	36	-	41.95	52.39
	7.00	1.75	39	36	-	41.95	54.20
	8.00	1.75	43	38	-	44.01	58.01

Authorised Signatory

**Table No: 14****Safe Bearing Capacity by Standard Penetration Test based on IS- 2131**

(Width = 1.5 m)

Qns, Corrected N- From IS Code 8009, Qs= Qns+  $\gamma d$ 

B.H.	Depth (meter)	Avg. Bulk density (gm/cc)	'N'	Corrected 'N'	Corrected N Due To Dalatancy	Qns (T/m <sup>2</sup> )	Qs (T/m <sup>2</sup> )
3	1.00	1.75	7	11	-	9.09	10.84
	2.00	1.75	9	12	-	10.00	13.50
	3.00	1.75	17	21	-	21.19	26.44
	4.00	1.75	27	30	-	33.33	40.33
	5.00	1.75	33	35	-	40.98	49.73
	6.00	1.76	36	35	-	40.98	51.54
	7.00	1.76	40	37	-	42.96	55.28
	8.00	1.76	42	37	-	42.96	57.04

Authorised Signatory

## 8.0 Allowable Bearing Capacity

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Considering the proposed structure and taking in to account the 'N' value an allowable settlement of 25 mm has been adopted for evaluating the net allowable bearing capacity based on the settlement criterion.

Average shear strength parameters have been used for calculating safe bearing capacity from shear failure criterion, lower of the two values obtained from settlement and shear failure criteria is used in arriving at net allowable bearing capacity of the soil, as shown in Table -1 to 3.

## 9.0 Conclusions:

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- \* The soil stratum consists of sand With silty (SM).
- \* The SPT 'N' value indicates that soil stratum is **medium loose**.
- \* No Plasticity index Present in soil.
- \* Water table was not encountered.
- \* The recommended values of SBC are as per Table 1 to 3

### Remarks: -

1. Samples will be preserved in our laboratory for a period of 30 days only, from the date of issue of this report.

For E.T.T.L

\*\*\*\*\*END OF REPORT\*\*\*\*\*

Authorised Signatory

# कार्यालय नगर पालिका सादुलशहर, जिला श्रीगगानगर

फोन: 01503-222088 फैक्स: 01503-222588 ईमेल: nagarpalikasds@yahoo.in

क्रमांक:- 1720

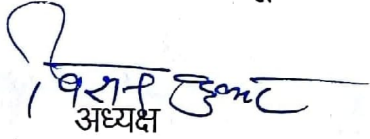
दिनांक:- 22/8/19

श्रीमान निदेशक महोदय,  
स्थानीय निकाय विभाग,  
जयपुर।

विषय: एफ एस टी पी के सर्वेक्षण एवं निर्माण कार्य के लिए अनापति बाबत।

उपरोक्त विषय में निवेदन है कि आपके प्रोजेक्ट सलाहकार के लिए लगभग एक हेक्टेयर अविवादित सरकारी भूमि पर निर्माण कार्य करने की मांग की गई है। वर्तमान में पालिका के पास 24 पी.टी.पी. सादुलशहर में जमाबंदी 2062-63 में कुल खाता 10.31 हेक्टेयर में से पत्थर न. 84/138, मुरब्बा न. 6 किला 1,2,9,10 कुल 1.012 व पत्थर न. 83/138 मुरब्बा न. 7 किला न. 5/. 253 व 6/.177, 15/.076 कुल 1.518 यानि 6 बीघा भूमि नगरपालिका की है। उक्त भूमि ठोस कचरा प्रबन्धन के लिए आरक्षित है। जिसमे से 4 बीघा 1.012 पर एफ एस टी पी परियोजना के सर्वेक्षण एवं निर्माण कार्य के लिए अनापति दी जाती है।

उक्त समस्त भूमि का स्वामित्व नगरपालिका का रहेगा। जमाबंदी सलग्न है।

  
अध्यक्ष

नगरपालिका सादुलशहर

सावर!



अधिशायी अधिकारी

नगरपालिका सादुलशहर



# सादुलशहर नगरपालिका मंडल

## नीति संकल्प

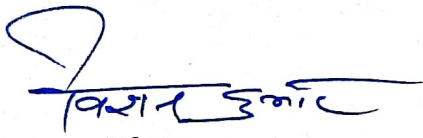
हम सादुलशहर नगरपालिका के सदस्य, वर्ष 2018 में जनवरी महीने की तारीख २५/११/२०१८ ..... के इस दिन, निम्नलिखित का पालन करने का संकल्प लें:

1. सादुलशहर जिसकी आबादी 2017 में २,७०० थी, एक शहर के तौर पे उन्नत हो रही है। बढ़ती आबादी को ध्यान में रखते हुए, नगर कि स्वच्छता को विशेष सुधार कि आवश्यकता है। आने वाले दिनों में स्वच्छता के लिए हमें ऐसी नई प्रणाली लानी होगी जो छोटे शहरों में कम लागत में हि लागू हो सके, जिस्का परिचालन भी किफायती हो और जिससे नगर निवासियों को आपत्ति भी नहीं होगी। विकेंद्रित प्रदूषित जल प्रबंधन और मल गाद प्रबंधन ऐसी कुछ प्रणालियाँ हैं।
2. मल गाद प्रणाली के तहत, हम निम्नलिखित का पालन करेंगे :-
  - 2.1 सादुलशहर को खुले में शौच से मुक्त घोषित किया जाएगा
  - 2.2 यह सुनिश्चित किया जाएगा कि हर नए शौचालय का सेप्टिक टैंक SBM में लिखित प्रणाली से बनाया जाए
  - 2.3 हर शौचालय का सेप्टिक टैंक या पिट कम से कम पांच साल में एक बार खाली कराया जाए
  - 2.4 यह सुनिश्चित किया जाएगा कि वैक्यूम ट्रक से खाली किया गया मल गाद केवल उपचार संयंत्र में डाला जाएगा
  - 2.5 सादुलशहर के लिए एक मल गाद उपचार संयंत्र स्थापित किया जायेग
  - 2.6 हम प्रत्येक वार्षिक बजट में यूजर फीस के लिए प्रावधान और उपयुक्त आवंटन के जरिए उपचार प्रणाली की स्थिरता सुनिश्चित करेंगे।
- 3 एक मल गाद उपचार संयंत्र स्थापित करने के उद्देश्य के लिए, हम वार्ड / ग्राम २५ PTP में भूमि का 1 एकड़ (4 बीघा) निर्धारित करें। इस उपचार संयंत्र का संचालन और रखरखाव किफायती और सरल होगा, इससे अतिरिक्त उपचार संयंत्र दुर्गंध मुक्त और सौंदर्यशास्त्रिक रूप से आकर्षक होगा।
- 4 राज्य वित्त आयोग से उल्ल को धन का उपयोग मल गाद उपचार संयंत्र के निर्माण के लिए किया जाएगा जो कि ₹ 104.85 लाख की लागत का है।
- 5 इस तथ्य के बारे में जागरूकता रखते हुए, कि शहर के अपशिष्ट जल खुले नालों में शहर से गुजरते हुए सादुलशहर बीड में मिलता है, इस मुद्दे को हल करने के लिए हम एक व्यवहार्यता अध्ययन करने और उचित समाधान तलाशने का संकल्प करते हैं।



6 हम मल गाद और अपशिष्ट जल प्रबंधन के बारे में समुदाय में जागरूकता फैलाने के लिए आईईसी अभियानों को पूरा करने का संकल्प लें।

उपरोक्त प्रस्ताव नगरपालिका सादुलशहर के सभी वार्ड काउंसलर्स, उपाध्यक्ष, अध्यक्ष और कार्यकारी अधिकारी की उपस्थिति में लिया गया है और तत्काल प्रभाव से इसकी पुष्टि की जाएगी।



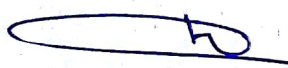
अध्यक्ष

नगरपालिका सादुलशहर

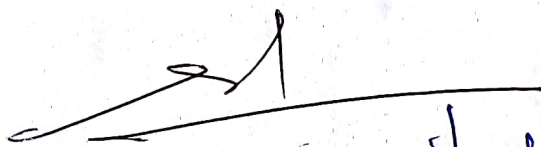


अधिसासी अधिकारी

नगरपालिका सादुलशहर

 मध्यम प्रमुख  
अभि प्रमुख  
अभि प्रमुख

DA Mary Meeli



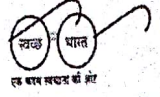
मध्यम

Ashole washing  
जयवीर सिंह  
Pariyanka  
ममता रानी

Sunita Rani  
जयवीर सिंह  
जयवीर सिंह



# कार्यालय नगर पालिका सादुलशहर, जिला श्रीगंगानगर



फोन: 01503-222088 फैक्स: 01503-222588 ईमेल: [nagarpalikasds@yahoo.in](mailto:nagarpalikasds@yahoo.in)

क्रमांक:- 2692

दिनांक:- 24-1-18

श्रीमान निदेशक महोदय,  
स्वायत्त शासन विभाग,  
राजस्थान, जयपुर।

विषय:- FSSM DPR समीक्षा एवं तकनीकी मंजूरी बाबत।

प्रसंग:- आपका पत्रांक एफ 55 ( ) Engg./CE/DLB/17/4199 दिनांक 15.01.18  
के सन्दर्भ में।

महोदय,

उपरोक्त विषयान्तर्गत निवेदन है कि प्रोजेक्ट सलाहाकार द्वारा एफएसटीपी के संबंध में निकाय मण्डल के सदस्यों के समक्ष DPR प्रस्तुत की गई संदर्भानुसार निकाय स्तर पर तकनीकी एवं वित्तीय विश्लेषण के आधार पर सर्वसम्मति से यह निर्णय लिया गया कि FSSM प्रोजेक्ट के लिए आवश्यक राशि की व्यवस्था FFC/SFC तथा निकाय के स्वयं के स्रोतों से की जावेगी। श्रीमानजी को उक्त डीपीआर समीक्षा हेतु प्रस्तुत की जा रही है।

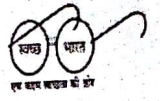
अतः आप से अनुरोध है कि उक्त डीपीआर की समीक्षा करके शीघ्र तकनीकी मंजूरी प्रदान करवाने की कृपा करावें। जिसके उपरान्त अग्रिम कार्यवाही की जा सके।

अध्यक्ष

नगरपालिका सादुलशहर

अधिसाषी अधिकारी

नगरपालिका सादुलशहर



बैठक कार्यवाही विवरण

आज दिनांक 24.01.2018 को श्रीमान निदेशक एवं संयुक्त सचिव महोदय, स्वायत्त शासन विभाग, राजस्थान जयपुर की पालना में नगरपालिका कार्यालय सभागार में निम्न महानुभाव उपसिद्धि हुये। जिसमें **FSSM** की डीपीआर सी.डी.डी. सोसायटी द्वारा तैयार कर बैठक में प्रस्तुत की गई सिमें स्वीकृत करने का प्रस्ताव सर्वसम्मति से पारित किया गया।

क्रमांक:-

दिनांक:-

प्रतिलिपि सूचनार्थ :-

1	स. गुरजन्त सिंह बराड	माननीय विधायक (विधानसभा क्षेत्र सादुलशहर)
2	श्रीमान उपखण्ड अधिकारी महोदय, सादुलशहर	
3	श्री विशन कुमार	अध्यक्ष
4	श्री रामअवतार यादव	उपाध्यक्ष
5	श्री नरेन्द्र कुमार खीचड़	पार्षद
6	श्री जसविन्द्र सिंह	पार्षद
7	श्री दौलत राम	पार्षद
8	श्री भोजराज शर्मा	पार्षद
9	श्रीमति प्रियंका रानी	पार्षद
10	श्री सुनील कुमार यादव	पार्षद
11	श्री श्यामस्वरूप जांगु	पार्षद
12	श्रीमति मिनाक्षी	पार्षद
13	श्रीमति ममता रानी	पार्षद
14	श्री अमन कुमार मक्कड़	पार्षद
15	श्रीमति चंचल	पार्षद
16	श्री महेताब गुरिया	पार्षद
17	श्री अशोक कुमार वधवा	पार्षद
18	श्री पृथ्वी सिंह	पार्षद
19	श्रीमति जसवीर कौर	पार्षद
20	श्री ललित कुमार	पार्षद
21	श्रीमति सुनीता देवी	पार्षद
22	श्री सुरेन्द्र कुमार	पार्षद
23	श्री बट्टीविशाल शर्मा	मनोनीत पार्षद
24	श्री जसपाल सिंह	मनोनीत पार्षद
25	श्री मनोज मोदी	मनोनीत पार्षद
26	श्रीमति कमलेश सिंघल	मनोनीत पार्षद

QTN	GMTQN201883
Date	8/3/2018
Payment Terms	100% Advance
Delivery	Depend upon quantity
Shipping Terms	As per Agreed
Sales Person	Ms. bhavna
Order No	
Currency Code	INR

## QUOTATION

### Greenmax Technology

Plot No. 8 Amaltas Colony  
Chunabhatti Kolar Road  
Bhopal, Madhya Pradesh  
462016 India

Ph: 0755-4277168,  
Mob: 8827375648

<http://www.solarpumpindia.net>

Email:sales04@greenmaxtechnology.co.in

Ship To...

Model	Description	MOQ Qty	Per Unit Price	Amount
<u>GMTSS-1/2.3/100</u>	1hp 48v Dc Pump Max Head = 100M Max Flow = 2.3m3LPH Panel = 900w (24v 225w x 4pcs) MPPT Controller 48v Outlet = 0.75"	1pcs	Rs.1,40,000/-	Rs.1,40,000/-
<u>GMTSS-1/5/55</u>	1hp 48v Dc Pump Max Head = 55M Max Flow = 5.0m3LPH Panel = 900w (24v 225w x 4pcs) MPPT Controller 48v Outlet = 1.25"	1pcs	Rs.1,40,000/-	Rs.1,40,000/-
	Transportation and installation charges are excluded			

Sub Total

GST

Freight

Grand Total

5 %

QTN	GMTQN201883
Date	8/3/2018
Payment Terms	100% Advance
Delivery	Depend upon quantity
Shipping Terms	As per Agreed
Sales Person	Ms. bhavna
Order No	
Currency Code	INR

## QUOTATION

### Greenmax Technology

Plot No. 8 Amaltas Colony  
Chunabhathi Kolar Road  
Bhopal, Madhya Pradesh  
462016 India

Ph: 0755-4277168,  
Mob: 8827375648

<http://www.solarpumpindia.net>

Email:sales04@greenmaxtechnology.co.in

Ship To...

Model	Description	MOQ Qty	Per Unit Price	Amount
<u>GMTSS-1/2.3/100</u>	1hp 48v Dc Pump Max Head = 12 M Max Flow =90000.LPD Panel = 900w MPPT Controller 48v Outlet = 1.5"  Transportation and installation charges are excluded	1pcs	Rs.1,40,000/-	Rs.1,40,000/-
<b>Sub Total</b>				
<b>GST</b>				<b>5 %</b>
<b>Freight</b>				
<b>Grand Total</b>				



# Quote

Environmental Solution

Date: 22/02/2018  
Ref: # EMEPL/MKT/2017-18/126

TO **The CDD Society**  
**Jaipur-Rajasthan**

Salesperson	Price	Shipping Method	Shipping Terms	Delivery Period	Payment Terms	Validity
Pankaj Gupta	FOR	By Road	Inclusive	within 45 days from the date of work order	50 % advance and balance before dispatch	60 days

Sr. No.	Item # Description	Line Total
1	<b>Supply &amp; Delivery of Sewer Suction machine of 3500 liters capacity with imported vacuum pump mounted on suitable BS-IV chassis.</b>	18,20,000.00

**GST** : @28% Inclusive.  
**Warranty** : One year from the delivery.

Quotation prepared by: PANKAJ GUPTA (+91- 94624 20262)

This is a quotation on the goods named, subject to the conditions noted below: (Describe any conditions pertaining to these prices and any additional terms of the agreement. You may want to include contingencies that will affect the quotation.)

*Thank you for your business!*

Ensol Multiclean Equipments Pvt. Ltd. 401, Neelkanth, Opp. Sahakar Bhawan, Bhawani Singh Road., Jaipur-302001  
Phone 0141-2222854, 2226933 Fax 0141-2226934 info@ensolindia.com



# QUALITY ENVIRO ENGINEERS

An ISO 9001:2008 Certified Company

## OFFER

To,  
Assistant Manager  
Tata Consulting Engineers  
Delhi, NCR  
India

Ref: QEEU/A.M/T.C.E/2016  
Date: 13/6/2016

Sub: Our offer for Supply of 3000 ltr, 4000ltr, 5000ltr Trailer Mounted Sewer Suction machine

S.No.	Description of Material / Item	Qty Each.	Rate (Rs.)	Amount in Rs.
A.	Our offer for Supply of 3000 ltr Trailer Mounted Sewer Suction machine	1	550,000.00	550,000.00
B.	4000Ltr Sewer Suction Machine	1	600,000.00	600,000.00
C.	5000ltr Sewer Suction Machine	1	650,000.00	650,000.00
D.	<b>Add: CENTRAL V.A.T @14.5%</b>			79,750.00 87,000.00 94,250.00
			<b>Total</b>	<b>2,061,000.00</b>
				<b>2,061,000</b>

(Twenty lacs Sixty One Thousand Only)

### Terms and Conditions:

- 1) PAYMENT TERMS: 50% ADVANCE ALONG WITH ORDER AND BALANCE 50% AGAINST INSPECTION AT OUR WORKS BEFORE DELIVERY
- 2) DELIVERY PERIOD: 2 WEEKS AFTER RECEIPT OF WORK ORDER ALONG WITH ADVANCE
- 3) VALIDITY: 2 Months
- 4) MODE OF DELIVERY: BY ROAD
- 5) ROAD PERMIT: REQUIRED
- 6) Transportation Charges At actual Customer Scope
- 7) CST 2% Against Form C

For Quality Enviro Engineers

Authorised Signatory

Head Office : Plot No. 67, Flat No. SFD, Vikram Enclave, Shalimar Garden, Ghaziabad-201005  
Bihar Office : New Police Line, Saraswati Nagar, Bairiya, P.S. Ahiyapur, P.O. M.I.T. Muzaffarpur-242003  
Contact : 0120-2900980, 8808088807 E-mail : query@qualityenviroengineers.com,  
Web : www.qualityenviro.in www.qualityenviroengineers.com



# QUALITY ENVIRO ENGINEERS

An ISO 9001:2008 Certified Company

## OFFER

To,  
Assistant Manager  
Tata Consulting Engineers  
Delhi, NCR  
India

Ref: QEEU/A.M/T.C.E/2016  
Date: 13/6/2016

Sub : Our offer for Supply of 10000 ltr Sewer Suction machine Mounted on 16 Ton GVW

S.No.	Description of Material / Item	Qty Each.	Rate (Rs.)	Amount in Rs.
A.	Our offer for Supply of 10000 ltr Sewer Suction machine	1	1,500,000.00	1,500,000.00
B.	16 Ton GVW Truck Chassis :	1	1,200,000.00	1,200,000.00
C.	Add: CENTRAL V.A.T @14.5%			217,500.00
				-
				-
			<b>Total</b>	<b>2,917,500.00</b>
				<b>2,917,500</b>

**(Twenty Nine lacs Seventeen Thousand Five Hundred Only)**

### Terms and Conditions:

- 1) PAYMENT TERMS: 50% ADVANCE ALONG WITH ORDER AND BALANCE 50% AGAINST INSPECTION AT OUR WORKS BEFORE DELIVERY
- 2) DELIVERY PERIOD: 2 WEEKS AFTER RECEIPT OF WORK ORDER ALONG WITH ADVANCE
- 3) VALIDITY: 2 Months
- 4) MODE OF DELIVERY: BY ROAD
- 5) ROAD PERMIT: REQUIRED
- 6) Transportation Charges At actual Customer Scope
- 7) CST 2% Against Form C

For Quality Enviro Engineers

Authorised Signatory

Head Office : Plot No. 67, Flat No. SFD, Vikram Enclave, Shalimar Garden, Ghaziabad-201005  
Bihar Office : New Police Line, Saraswati Nagar, Bairiya, P.S. Ahiyapur, P.O. M.I.T. Muzaffarpur-242003  
Contact : 0120-2900980, 8808088807 E-mail : query@qualityenviroengineers.com,  
Web : www.qualityenviro.in www.qualityenviroengineers.com





# QUALITY ENVIRO ENGINEERS

An ISO 9001:2008 Certified Company

## OFFER

To,  
Assistant Manager  
Tata Consulting Engineers  
Delhi, NCR  
India

Ref: QEEU/A.M/T.C.E/2016  
Date: 13/6/2016

Sub : Our offer for Supply of 12000 ltr Sewer Suction machine Mounted on 16 Ton GVW

S.No.	Description of Material / Item	Qty Each.	Rate (Rs.)	Amount in Rs.
A.	Our offer for Supply of 12000 ltr Sewer Suction machine	1	1,500,000.00	1,500,000.00
B.	Truck Chassis :	1	1,300,500.00	1,300,500.00
C.	Add: CENTRAL V.A.T @14.5%			217,500.00
				-
				-
			<b>Total</b>	<b>3,018,000.00</b>
				<b>3,018,000</b>

(Thirty lacs Eighteen Thousand Only)

### Terms and Conditions:

- 1) PAYMENT TERMS: 50% ADVANCE ALONG WITH ORDER AND BALANCE 50% AGAINST INSPECTION AT OUR WORKS BEFORE DELIVERY
- 2) DELIVERY PERIOD: 2 WEEKS AFTER RECEIPT OF WORK ORDER ALONG WITH ADVANCE
- 3) VALIDITY: 2 Months
- 4) MODE OF DELIVERY: BY ROAD
- 5) ROAD PERMIT: REQUIRED
- 6) Transportation Charges At actual Customer Scope
- 7) CST 2% Against Form C

For Quality Enviro Engineers

Authorised Signatory

Head Office : Plot No. 67, Flat No. SFD, Vikram Enclave, Shalimar Garden, Ghaziabad-201005  
Bihar Office : New Police Line, Saraswati Nagar, Bairiya, P.S. Ahiyapur, P.O. M.I.T. Muzaffarpur-242003  
Contact : 0120-2900980, 8808088807 E-mail : query@qualityenviroengineers.com,  
Web : www.qualityenviro.in www.qualityenviroengineers.com

**DESIRE**

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

Ref No. : DESPL/SP/16022018

Date: 16-02-2018

To,  
 Jyoti Prasad ji  
 CCD Society  
 Bangalore,india  
 Subject : Techno commercial proposal for the Solar based water pumping system

Dear Sir,

We are pleased to represent our self one of Leading ESCO Company and MNRE Approved channel partner for solar systems. We are having experience of supply and Installation of more than 1000 Nos. Solar pumping systems. Please find herewith our best competitive Quotation for the required pumping system, based on the details provided by you.

Sr. No.	Product	Qty.	BOM	Specifications	TotalPrice (INR)
1	2 HP Bore-well solar pump SYSTEM	1	1200 Wp Solar Module	300Wp , 6 Nos. MNRE Approved Solar PV Modules, With 25 Years performance warranty	
			2 HP SOLAR Drive	2 HP Drive with inbuilt MPPT System, and IP 52 Protection	
			2 HP AC Solar Pump	Energy Efficient Solar Pump and Motor (As per site requirement H&Q)	
			Structure for Module Mounting	1 Nos. Galvanized (0.8 μm) Structure with Manual Tracking and seasonal tilt of 190kg. total weight.	
			Delivery Pipe	HDPE 6kg pressure 50MM Delivery pipe based on required head of pump	
			AC Cable	2.5 SQ MM 3 core efficient Flat cable	
			Other accessories	Rope, Conduit Pipe, Knots, connection wire etc. Installation and transportation	
				Total Price	1,87,500.00

**Desire Energy Solutions Pvt. Ltd.**

Corp. Off. : 401, Man Upasna Tower, C-Scheme, Jaipur (Raj.) INDIA

Sales Off. : LG-29, Mayank Trade Centre, Station Road, Jaipur (Raj.) INDIA

Phone : 0141-6550855, 4050855 • E-mail : info@desireenergy.com • Visit us : www.desireenergy.com

CIN No. U40106RJ2011PTC034878



**DESIRE**

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

Sr. No.	Product	Qty.	BOM	Specifications	Total Price (INR)
1	1HP Sewage Sludge SOLAR PUMPING SYSTEM	1	1200 Wp Solar Module	300Wp , 4 Nos. MNRE Approved Solar PV Modules, With 25 Years performance warranty	
			HP SOLAR Drive	1 HP Drive with inbuilt MPPT System, and IP 52 Protection	
			1 HP AC Solar Pump	Energy Efficient Solar Pump and Motor (As per site requirement H&Q)	
			Structure for Module Mounting	1 Nos. Galvanized (0.8 μm) Structure with Manual Tracking and seasonal tilt of 190kg. total weight.	
			Delivery Pipe	HDPE 6kg pressure 50MM Delivery pipe based on required head of pump	
			AC Cable	2.5 SQ MM 3 core efficient Flat cable	
			Other accessories	Rope, Conduit Pipe, Knots, connection wire etc. installation and transportation	
				Total Price	1,50,000.00

**Desire Energy Solutions Pvt. Ltd.**

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CIN No. U40106RJ2011PTC034878



**DESIRE**

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

Sr. No.	Product	Qty.	BOM	Specifications	Total Price (INR)
1	1HP Sump SOLAR PUMPING SYSTEM	1	1200 Wp Solar Module	300Wp , 4 Nos. MNRE Approved Solar PV Modules, With 25 Years performance warranty	
			HP SOLAR Drive	1 HP Drive with inbuilt MPPT System, and IP 52 Protection	
			1 HP AC Solar Pump	Energy Efficient Solar Pump and Motor (As per site requirement H&Q)	
			Structure for Module Mounting	1 Nos. Galvanized (0.8 μm) Structure with Manual Tracking and seasonal tilt of 190kg. total weight.	
			Delivery Pipe	HDPE 6kg pressure 50MM Delivery pipe based on required head of pump	
			AC Cable	2.5 SQ MM 3 core efficient Flat cable	
			Other accessories	Rope, Conduit Pipe, Knots, connection wire etc. installation and transportation	
				Total Price	1,50,000.00

**Desire Energy Solutions Pvt. Ltd.**

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# DESIRE

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

Sr. No.	Product	Qty.	BOM	Specifications	Total Price (INR)
1	1HP Sewage Sludge SOLAR PUMPING SYSTEM	1	1200 Wp Solar Module	300Wp , 4 Nos. MNRE Approved Solar PV Modules, With 25 Years performance warranty	
			HP SOLAR Drive	1 HP Drive with inbuilt MPPT System, and IP 52 Protection	
			1 HP AC Solar Pump	Energy Efficient Solar Pump and Motor (As per site requirement H&Q)	
			Structure for Module Mounting	1 Nos. Galvanized (0.8 μm) Structure with Manual Tracking and seasonal tilt of 190kg. total weight.	
			Delivery Pipe	HDPE 6kg pressure 50MM Delivery pipe based on required head of pump	
			AC Cable	2.5 SQ MM 3 core efficient Flat cable	
			Other accessories	Rope, Conduit Pipe, Knots, connection wire etc. installation and transportation	
				Total Price	1,50,000.00

### Desire Energy Solutions Pvt. Ltd.

Corp. Off. : 401, Man Upasna Tower, C-Scheme, Jaipur (Raj.) INDIA

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**DESIRE**

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

### Terms and Conditions

1. Payment: 100% payment along with purchase order
2. Tax & Duties: 5% GST extra
3. Delivery Time: Material will be supplied with in 5-7 working days after confirmation of order and advance payment.
4. Warranty: as per MNRE Guidelines controller 5year and pumps warranted for 2 year.
5. Quotation valid for a Period of 15 Days only.
6. Civil work will be customer scope.
7. We are looking forward for your valuable order.

For,

Desire Energy Solutions Pvt.

Ltd. Devendra kaushik

Executive (Marketing)

7340661015

Jaipur (Raj.)

### Desire Energy Solutions Pvt. Ltd.

Corp. Off. : 401, Man Upasna Tower, C-Scheme, Jaipur (Raj.) INDIA

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CIN No. U40106RJ2011PTC034878



**DESIRE**

Complete Energy Solutions

ESCO : SOLAR : LED



An ISO 9001:2008 Certified Company

Ref. No. DESPL/SOLAR/16/02/2018

Date : 16-02-2018

**Quotation for Solar Street lighting**

Dear Sir,  
Greetings From Desire Energy Solutions Pvt. Ltd.,

Please find our lowest quotation for Solar Street Lighting to your requirement.

Sr. No.	Product Group	Product Name/Watt	No.	Our Price Per Pc.
1	Solar Street Light	50 Watt Panel	1	2,050.00
2		40 Ah Bettery	1	5,000.00
3		12 Watt LED	1	2,250.00
4		Pole 5 Meter	1	3,650.00
5		Installation & Transportation	1	2,000.00
			Total	14,950.00
		With GST 5%	Total	15,698.00

Looking forward for your response , please feel free to contact undersign at any time for any detail and clarification .

**Terms & Conditions :**

1. 1 YEAR Warranty on manufacturing defect of electronics or non functioning of system.
2. Delivery time will be minimum 3 days from the order acceptance.
3. 100% Advance shall be paid before delivery of goods.
4. Freight : Will be charged extra as actual
5. Quotation valid for a Period of 15 Days only.

All civil work required at site will be in customer scope, however we will provide the required drawings for the same

**Desire Energy Solutions Pvt. Ltd.**

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Sales Off. : LG-29, Mayank Trade Centre, Station Road, Jaipur (Raj.) INDIA

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CIN No. U40106RJ2011PTC034878







# HYDROGEOLOGICAL FIELD INVESTIGATION WORK ESTIMATE

Date : 13. 01. 2017  
Place : Tiruchirappalli

## SERVICE PROVIDER

**S. SIVAKUMAR**  
ASSOCIATE PROFESSOR  
DEPARTMENT OF GEOLOGY  
NATIONAL COLLEGE  
TIRUCHIRAPPALLI - 620001  
Phone: (0431) 2482422, Cell: 8220669750  
email: ostrasiva@gmail.com

## CUSTOMER

**Mr. SANTOSH RAGAVAN**  
INDIAN INSTITUTE FOR  
HUMAN SETTLEMENTS (IHS)  
WORKFELLA BUSINESS CENTER,  
1 ST FLOOR, 37 TTK ROAD,  
ALWARPET,  
CHENNAI - 18

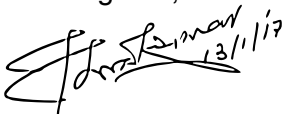
**Work Description:** Hydrogeodynamics of the subsurface in favour of good ground water potential required for your sanitation plant could be predicted by conducting Geophysical Vertical Electrical Sounding Technique usually at four points with in the entire site. The thickness, gradient and resistance of every layer is compared after acquiring all data through resistivity meter for a potential point to be bored for ground water extraction.

Sl.N	Description	Sites	Per site Rs.	Total Rs.
1	To measure the Electrical Resistance of every layer at a site to the required depth.	3	4700	14100.00
		No. of NMRs	Labour/ NMR Rs.	Total Rs.
2	NMRs required to carry out the whole survey	4	500.00	2000.00
3	Accessories like Batteries, porous pot CuSO <sub>4</sub> solution			1000.00
4	To and fro transport expenses for all equipments and NMRs			2000.00
			Sub Total	19100.00
			Tax Rate	5730.00
		Total Estimated Job Cost		<b>24830.00</b>

### Note:

- This is an estimation, not a contract for services. This estimate is for completing the job as described above. It is based on our usual evaluation procedure and the number of sites may be increased if no suitable site is found causing additional charges to you.
- Final report will be given with in a week time after the survey.
- 20 litres of ordinary plain water is needed before commencing the survey.
- An advance sum of Rs. 10,000/- is required to arrange and fix up a date for the Geophysical survey.

With regards,

 13/1/17

MOB: 9844042669  
9844836118  
9620836118

**V.CHANDRASHEKAR**  
PROPRIETER:

## SARAVANA ENTERPRISES

### LIGHT WEIGHT CINDER SUPPLIERS

ADDRESS: # 49, MEC Road, Next To Ullas Theatre, Yeshwantpur Bangalore-560022

DATE: 06 Mar 2018

**REF:**

Quotation For cinder

Dear Sir,

Supplying of light weight cinder at Bangalore Location. Prices quoted below

10/20 MM and 40mm + cinder Rs 2200 per Ton. (Approx for 10 tons)

+18% GST

**Terms and conditions,**

The Above rate includes Transport, loading, Unloading charges

Additional charges for transportation and Unloading shall be paid if needed i.e. for small quantity

Payment Terms: Against the Delivery

Regards,

V. Chandrashekar