BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
Original Application No. 444 of 2023

IN THE MATTER OF:
Paryavaran Vikash Sangh ... Applicant

vs.

State of Haryana & Ors. .. Respondents

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Place: New Delhi
Date: 21.03.2024

Filed By:-

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ADDITIONAL REPLY TO THE JOINT COMMITTEE REPORT ON BEHALF OF THE RESPONDENT N0.09-NEO CENTRA

Most Respectfully showeth as under: -

1. The present additional reply on behalf of Respondent no.9-Neo Centra to the Joint Committee Report is in addition to the reply dated 20.01.2024 and the contents of the same be read as part and parcel of the present reply and same are not being repeated for sake of brevity.

REPLY TO THE OBSERVATIONS, PRELIMINARY SURVEY AND INVESTIGATION REPORT AND CONCLUSION

2. That at the outset it is necessary to set out certain factual aspects as regards to the answering respondent that are relevant for the adjudication of the present OA. It is submitted that the Answering Respondent no.9 is an environmentally conscious, law-abiding company and had in bona fide interest applied for all clearances in accordance with the law and obtained all requisite approvals and permissions.

3. In the Action Taken report under the headings of the Observations at Sl No. 2 qua the respondent no. 9 (Page 59 of report) it is submitted that HWRA permission that has been obtained which is valid up to 24.08.2023. Further in the Preliminary Survey and Field Investigation Report and conclusions (Page 62,63,64 of the report) it is mentioned that the renewal of NOC has not been obtained. It is submitted that the R-9 has applied for renewal of the HWRA permission for dewatering and as such it is pending for approval. Respondent no.9 is not going to undertake any activity without obtaining the permission. The R-9 at the time seeking permission from HWRA at the first instance and also at the time of seeking renewal submitted the *Groundwater Impact Assessment Report For "Neo Centra" Commercial Colony Project* outlining the groundwater characteristics in and around the site and the manner of Utilization of pumped water. The HWRA has approved the measures proposed for utilization of pumped water from the site. The respondent no. 9 has applied for the renewal of dewatering permission as a part of the basement (approved layout plan) where STP is going to be situated has to be constructed. The casting of the roof, rafting and walls in this area is required to be constructed and to complete the same dewatering permission is required. The True copy of the Groundwater Impact Assessment Report For "Neo Centra" Commercial Colony Project is annexed herewith and marked as **Annexure -1.** The true copy of the layout plan for the basement is

annexed herewith and marked as **Annexure -2**. In view thereof, no further action is necessitated in the present OA qua the R-9.

Place: New Delhi
Date: 21.03.2024

Filed By:-

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AFFIDAVIT

I, Manish Bhola Age 43 years S/o Raj Kumar Bhola r/o S-30 Near Shahdara Metro Station New Delhi - 110032 do hereby solemnly affirm and declare as under:

1. That I am the authorised signatory of the R-9/ company and as such well competent to swear this affidavit.
2. That the accompanying additional reply on behalf of the respondent no.9 has been drafted by my counsel under my instructions and 1 understand the same in my vernacular language.
3. That annexure are the originals or the true copies of their respective originals.

NOTARY ALAKA NAYAK Advocate Reg. No.: 10639 Period 27/06/2019 to 27/06/2024 GOVT. OF INDIA

identify the Deponent who has signed/put T. I. it in my presence

DEPONENT

VERIFICATION:

Verified at New Delhi on 20th day of March, 2024 that the contents of above affidavit is true and correct to the best of my knowledge and understanding and nothing material has been concealed therefrom.

DEPONENT

CERTIFIED THAT THE DEPONENT
Shri/Smt./Km.....
S/o, W/o R/o.....
.....
Identified by Sh.....
Has solemn before me at
Delhi on 20 MAR 2024 at 2:13
That the contents of the affidavit which have been read & explained to him/her are true & correct to his/her knowledge

ANNEXURE-1

GROUNDWATER IMPACT ASSESSMENT REPORT

FOR

"NEO CENTRA"

COMMERCIAL COLONY PROJECT

Located in Revenue Estate of Village-Daultabad, Sector-103, Tehsil and District – Gurugram, Haryana

By

M/s Ocimum Estates Pvt. Ltd.

ENVIRONMENT CONSULTANT

OCEAO-ENVIRO Management Solutions (India) Pvt. Ltd.
QCI – NABET Certificate No: NABET/EIA/1821/IA 0033
2171st Floor, Sector 12, Judge Colony, Vasundhara, Ghaziabad, U.P 201012
www.oceaoenviro.com | info@oceaoenviro.com

CHAPTER-1
DESCRIPTION OF THE PROJECT

1.1 Introduction

M/s Ocimum Estates Pvt. Ltd. is developing a Commercial Colony is located in revenue estate of village- Daultabad, Sector-103, Tehsil and District – Gurugram, Haryana. On a land admeasuring 2.3063 acres (9333.31 m^2). Total built-up area is 25383.3 m^2. Basic details of the project are given in Table 1.

Table 1: Basic details of the project

S.No.	Particulars	Details
1	Total Plot area (sqm)	9333.31 (2.3063 acres)
2	Total Built-up area (sqm)	25383.3
3	Stories (No's)	G+06
4	Green area (sqm)	1857.33 (19.9% of total plot area)
5	Power requirement (KVA)	2236
6	Total water requirement (KLD)	192
7	Fresh water requirement (KLD)	61
8	Treated water (KLD)	131
9	Waste water generated (KLD)	107
10	Solid waste generated	670
11	Parking proposed	347

1.5 Site Location & Surroundings

Gurgaon district is situated on South eastern part of Haryana state has an area of 1200 sq.km. In the North, it is bordered by the Union Territory of Delhi, in the east by Faridabad, in the North west by Jhajjar and Rewari districts of Haryana and in the west by the Alwar district of Rajasthan state and south by the Mewat district of Haryana state. The study area is largely occupied by alluvial plains, traversed by elongated ridges of Delhi quartzites. The area is well connected by roads and railways. National Highway No. 8 connecting Delhi with Jaipur passes through the district. Major state highways are – No. 13, No 28, No 26 and No. 15A connecting Gurgaon – Alwar, Palwal – Sohna, Gurgaon – Rewari – Narnaul – Singhana road and Jhajjar – Farrukh Nagar – Gurgaon respectively. Almost all the villages are connected by metalled roads. Northern Railway Broad gauge main line Delhi – Gurgaon – Rewari and branch line Garhi – Harsaru – Farrukh Nagar meter gauge branch line was constructed as far back as in 1883 for the salt traffic of that area. Administratively, the district is divided in to four Blocks, namely, Gurgaon, Pataudi, Farrukh Nagar, Sohna, and one sub – divisions, Gurgaon. Gurgaon town is the headquarter of the district. ***Source:*** *CGWB report*, 2015.
Project is located located in revenue estate of village- Daultabad, Sector-103, Tehsil and District – Gurugram, Haryana. Site plan is attached with ***Annexure I***.

Geographical coordinates of the project site are given in **Table 1.6**

Table 1.6: Geographical Coordinates

S. No.	Particular	Latitude	Longitude
1	A	28°30'2.67"N	76°58'42.45"E
2	B	28°30'2.63"N	76°58'45.22"E
3	C	28°29'58.92"N	76°58'45.29"E
4	D	28°29'59.06"N	76°58'39.44"E
5	E (Center)	28°30'0.13"N	76°58'42.82"E

500 m buffer map on google earth and 5 Km buffer map on Toposheet attached as ***Annexure II & III*** respectively.

Site Photographs

Fig.1.4-1.7 Site Photographs

Site Surroundings

The site surroundings along with distance and direction is given below in Table 1.7.

Table 1.7: Site surroundings

S. No	Particulates	Name/Identity	Aerial Distance (km)	Direction
1.	Nearest Railway Station	Gurgaon Railway Station	3.27 Km	ESE
2.	Nearest Bus Stand	Dharampur Bus Stand	1.36 km	N
3.	Nearest State Highway/Any other road	State Highway 15A	3.34 km	SSW
		Daultabad Link Road	0.02 Km	N
4.	Nearest School/College	Delhi Public School	0.74 Km	SE
		Shikshiyan School	1.70 Km	NNE
5.	Nearest Temple	Radha Krishna Mandir	1.31 Km	ESE
6.	Nearest Hospital	Chirag Hospital	3.19 Km	E
		Monika Hospital	4.62 km	ENE
7.	Nearest Police Station	Rejendra Park Police Station	3.43 km	ESE
		Rajkiya Railway Police Thana	3.37 Km	ESE

8.	Nearest Fire Station	Bhim Nagar Fire Station	4.93 km	SE
9.	Nearest Water Body	Daultabad Pond	0.98 Km	E
		Najafgarh Jheel	2.37 Km	SW
10.	Nearest Village	Mohammad Heri Village	0.88 Km	ENE

1.6. Land Use Land Cover of the surrounding area, Percentage of LULC categories

1.6.1 Land use–description

The Landuse / land cover of the project site were done to identify the landuse pattern and land cover pattern of the study area. The study of land use in the area enables one to know about the land that can be used for various development activities envisaged in post project scenario. It also enables to envisage the scenario emerging due to the increase in demand for land with increase in population and the impacts arising due to the interface with the various project activities.

1.6.2 Methodology

The landuse / land cover pattern has been established based on the analysis of the data received from satellite imagery by making landuse/land cover map with the help of GIS technique. References have been taken from Survey of India toposheets (Toposheet No-53D14)**.** Landuse study was done within 5 km radius area with limited ground truth verifications. Ground and ancillary information have been used to identify the sensitive places within 5 km radius of the project.

1.6.3 Land Use Pattern Classification and description

The classification of landuse / land cover pattern of the study area is mainly dominated by the types - agricultural land, water bodies, settlements, open/barren land, forest and open scrub. The agricultural land covers the majority of the land which is about 85.59% of the study area. Settlements cover about 11.06 % of the total land within 5 km radius. Open/barren land is 0.084 % of total area in the study area. The land use data are presented in **Table 1.8** and also highlighted with a pie chart at **Figure 1.8.** The landuse /land cover map is attached as attached as ***Annexure IV.***

Table 1.8: Landuse/Land Cover Pattern of the Study area

Land-use Class	Area (Ha.)	Area %
Agriculture	6932.89	85.59
Open Land	6.84	0.084
Settlements	896.31	11.06
Forest	20.05	0.24
Water Body	69.06	0.85
Open scrub	174.03	2.14
Total	**8099.18**	**99.964**

1.7 Topography & Drainage

The area is conspicuously flat topography, however, in the north-eastern part small isolated hillocks of Precambrian rocks are exposed. The alluvial plain is formed by the sahibi river which is tributary of River Yamuna. Soils of the Gurgaon district are classified as tropical and brown soils, existing in the north western extreme, northern and north eastern parts of the district and water logged and salt affected soils in the southern parts of the district. The soils are medium textured loamy sand is the average texture in Gurgaon and Sohna blocks. In Pataudi and Sohna blocks the organic content of soils is lowest, just up to 0.20 per cent (very low category). In the rest of the district, organic contents is 0.2 to 0.40 percent and falls in low category.

Basic details of the district are given in **Table 1.9.**

Table 1.9: Basic Details of the District Faridabad

S.No.	Particulars	Details
1	Name of State	Haryana
2	Name of District	Gurugram
3	Geographical Area (sq.km.)	2766
4	Major Geological formation	Alluvium /Hard Rock
5	Major drainage system	Yamuna
6	Population (As on 2001)	16,57,669
7	No of Blocks	9
8	Existing Major / Medium irrigation projects	Gurgaon canal
9	Utilizable ground water resources (MCM)	718
10	Net ground water draft (MCM)	421
11	Stage of ground water development (%)	64
12	Average annual Rainfall (mm)	626
13	Range of Temperature (^{o}C)	51.0 – 40.0

14	Name of block showing intensive GW development	Gurugram, Farukh Nagar, Pataudi, Tauru

1.8 Climate & Rainfall

The climate of the district can be classified as tropical steppe, semi-arid and hot which is mainly characterized by the extreme dryness of the Air except during monsoon months, intensely hot summers and cold winters. During three months of south west monsoon from last week of June to September, the moist air of oceanic origin penetrate into the district and causes high humidity, cloudiness and monsoon rainfall. The period from October to December constitutes post monsoon season. The cold weather season prevails from January to the beginning of March and followed by the hot weather or summer season which prevails upto the last week of June. The normal annual rainfall in Gurgaon district is about 596 mm spread over 28 days. The south west monsoon sets in the last week of June and withdraws towards the end of September and contributes about 85% of the annual rainfall. July and August are the wettest months. 15% of the annual rainfall occurs during the non-monsoon months in the wake of thunder storms and western disturbances.

Table 1.10: Rainfall Details of the District Faridabad

S.No.	Particulars	Details
1	Normal Annual Rainfall	596 mm
2	Normal monsoon Rainfall	508 mm
3	Temperature	
a	Mean Maximum (May & June)	40°C
b	Mean Minimum (January)	5.1°C
4	Normal Rain days	28

Source: *CGWB report*, 2015

1.8.1 Drainage

The district is mainly drained by the rivers Yamuna, which is a perennial besides this a number of small streams originates from the hill ranges of the central parts of the district, which do not meet any major stream or Rivers but disappears in the permeable deposits of alluvial plains after traversing some distance. The drainage of the area is dendritic sub parallel to sub-angular pattern. The drainage map is attached as ***Annexure V.***

CHAPTER-2
GROUNDWATER SITUATION IN & AROUND THE PROJECT AREA INCLUDING WATER LEVEL AND QUALITY

2. 1 Brief geology of the area

The Gurgaon district is occupied by Quaternary alluvium and Pre-Cambrian meta- sediments of Delhi Super Group. The alluvium comprises of thick beds of fine to coarse-grained sand with alternating layers of thin clays. Soils of the Gurgaon district are classified as tropical and brown soils, existing in the north western extreme, northern and north eastern parts of the district and water logged and salt affected soils in the southern parts of the district. The soils are medium textured loamy sand is the average texture in Gurgaon and Sohna blocks. In Pataudi and Sohna blocks the organic content of soils is lowest, just up to 0.20 per cent (very low category). In the rest of the district, organic contents are 0.2 to 0.40 percent and falls in low category. The major river is Yamuna which is a perennial river.

2.2 Ground water quality

Water quality of ground water has been studied in order to assess proposed water-uses in manufacturing process, drinking, cooling and horticulture purpose.

2.2.1 Sampling Frequency and Sampling Techniques

Parameters for analysis of water quality were selected based on the utility of the particular source of water as per MoEF guidance. Hence quality of ground water was compared with IS: 10500: 1991 (Reaffirmed 1993 With Amendment NO -3 July 2010) for drinking purposes. Surface water quality was analysed for parameters as mentioned in the 'Methods of Monitoring & Analysis published by CPCB (in Annexure –IV of CPCB guidelines)' and it was rated according to the CPCB Water Quality Criteria against A, B, C, D & E class of water based on parameters identified in the criteria. Water samples were collected as Grab water sample from sampling location in a 5 liter plastic jerry can and 250 ml sterilized clean glass/pet bottle for complete physico-chemical and bacteriological tests respectively. The samples were analyzed as per standard procedure / method given in IS: 3025 (Revised Part) and standard method for examination of water and wastewater Ed. 21st, published jointly APHA, AWWA and WPCF.

The surface water quality is compared with CPCB water quality criteria mentioned in **Table 2.1.**

Table 2.1: Water Quality Criteria as per Central Pollution Control Board

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	Total Coli-forms Organism MPN/100ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6mg/l or more Biochemical Oxygen Demand 5 days 20°C 2mg/l or less
Outdoor bathing (Organized)	B	Total Coli-forms Organism MPN/100ml shall be 500 or less; pH between 6.5 and 8.5; Dissolved Oxygen 5mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	Total Coli-forms Organism MPN/100ml shall be 5000 or less; pH between 6 to 9; Dissolved Oxygen 4mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Propagation of Wild life and Fisheries	D	pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	pH between 6.0 to 8.5 Electrical Conductivity at 25°C micro mhos/cm Max.2250 Sodium absorption Ratio Max. 26 Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria

Source: CPCB Guidelines

Sampling was done by standard sampling technique as per the Standard Methods. Necessary precautions were taken for preservation of samples.

The water quality at the site and other locations within the 5 km impact study zone was monitored during pre monsoon season *i.e.* February, 2021. The location of groundwater sampling site and level ground water are presented in the **Table 2.2 & 2.3** respectively. The results of analysis of ground water are given in **Table 2.4.**

Table 2.2: Location of Ground Water Sampling Sites

Ground Water				
S. No.	**Particulars**	**Landuse**	**Latitude**	**Longitude**
GWQ1	On site	Project site	28°29'59.83"N	76°58'43.69"E

Table 2.3: Ground water level

S. No.	Particulates	Test Methods	Results	Units
1	Water level	By measurement	3.5	Meter

Fig 2.1: Groundwater Sampling & Water Level Measurement Photographs

2.3 Result & Conclusion:

The results of analysis of ground water are given in **Table 2.4.**

S. No.	Parameters	Units	Limits (as per IS:10500-2012)		Test Method	GWQ1
			Desirable Limit	Permissible Limit		Project Site
1.	Colour	Hazen	5	15	IS: 3025 (P-4)	< 1.0
2.	Odour	-	Agreeable	Agreeable	IS: 3025 (P-5)	Agreeable
3.	Taste	-	Agreeable	Agreeable	IS: 3025 (P-7)	Agreeable
4.	Electrical Conductivity	µS/cm	-	-	IS: 3025 (P-14)	3523.0
5.	pH	-	6.5-8.5	No Relaxation	IS: 3025 (P-11)	7.26
6.	Turbidity	NTU	1	5	IS: 3025 (P-10)	3.4
7.	Total Dissolved Solids,(TDS)	mg/l	500	2000	IS: 3025 (P-16)	2290
8.	Chlorine (Residual)	mg/l	0.2	1	IS: 3025 (P-26)	<0.1
9.	Fluoride,(F)	mg/l	1	1.5	IS: 3025 (P-60)	1.2
10.	Total Alkalinity,($CaCO_3$)	mg/l	200	600	IS: 3025 (P-23)	380
11.	Total Hardness,($CaCO_3$)	mg/l	200	600	IS: 3025 (P-21)	920
12.	Calcium,(Ca)	mg/l	75	200	IS: 3025 (P-40)	220.8
13.	Magnesium, (Mg)	mg/l	30	100	IS: 3025 (P-40)	89.7
14.	Chloride,(Cl)	mg/l	250	1000	IS: 3025 (P-26)	693.5

15.	Ammonia (Total)	mg/l	0.5	No Relaxation	IS: 3025 (P-34)	<0.1
16.	Nitrate,(NO_3)	mg/l	45	No Relaxation	IS: 3025 (P-34)	31.9
17.	Sulphate,(SO_4)	mg/l	200	400	IS: 3025 (P-24)	502.4
18.	Sulphide, (H_2S)	mg/l	0.05	No Relaxation	IS: 3025 (P-29)	<0.05
19.	Chromium,(Cr)	mg/l	Not Specified	Not Specified	EKO/CHEM/SOP-ICPMS/W-01	<0.005
20.	Phenolic compounds, (C_6H_5OH)	mg/l	0.001	No Relaxation	IS: 3025 (P-4)	<0.001
21.	Mercury (Hg)	mg/l	0.001	No Relaxation	EKO/CHEM/SOP-ICPMS/W-01	<0.001
22.	Boron, (B)	mg/l	0.5	2.4	IS: 3025 (P-57)	<0.25
23.	Selenium, (Se)	mg/l	0.01	No Relaxation	EKO/CHEM/SOP-ICPMS/W-01	<0.005
24.	Lead,(Pb)	mg/l	0.01	No Relaxation	EKO/CHEM/SOP-ICPMS/W-01	<0.005
25.	Copper (Cu)	mg/l	0.05	1.5	EKO/CHEM/SOP-ICPMS/W-01	<0.005
26.	Aluminium,(Al)	mg/l	0.03	0.2	EKO/CHEM/SOP-ICPMS/W-01	<0.005
27.	Arsenic,(As)	mg/l	0.01	0.05	EKO/CHEM/SOP-ICPMS/W-01	<0.005
28.	Cadmium, (Cd)	mg/l	0.003	No Relaxation	EKO/CHEM/SOP-ICPMS/W-01	<0.001

29.	Anionic Detergents (as MBAS)	mg/l	0.2	1.0	APHA 5540	<0.1
30.	Cyanide (CN)	mg/l	0.05	No Relaxation	APHA 4500 CN-K	Absent
31.	Zinc, (Zn)	mg/l	5	15	EKO/CHEM/SOP-ICPMS/W-01	0.095
32.	Faecal coliform	MPN/100ml	Shall Not Be Detectable		IS:1622	Absent
33.	*Escherichia coli*	MPN/100ml	Shall Not Be Detectable		IS:1622	Absent

The water quality in the impact zone was assessed through physico- chemical and bacteriological analysis of ground and surface water samples. The results have been compared with the drinking water quality standards specified in IS: 10500. It was observed that all the physico chemical parameters and heavy metals from surface and ground water samples are below stipulated drinking water standards. Test reports of ground water quality are attached as ***Annexure VI.***

Conclusion: *All the ground water samples analyzed can be considered fit for drinking purpose after treatment in the absence of alternate sources.*

Groundwater of the proposed project site is highly saline in nature. Pumped out water of 120 KL/day shall be utilized for dust suppression & it will not have any negative impact on environment.

2.4. Water quality of nearby water bodies

The location of surface water sampling site and result of the monitoring and analysis of ground water level & quality are presented in the **Table 2.5 & 2.6** respectively.

Table 2.5: Location of Surface Water Sampling Sites

S. No.	Particulates	Distance (Km)	Direction	Latitude	Longitude
1	Najafgarh Jheel	2.26 km	West	28°30'8.40"N	76°57'4.22"E

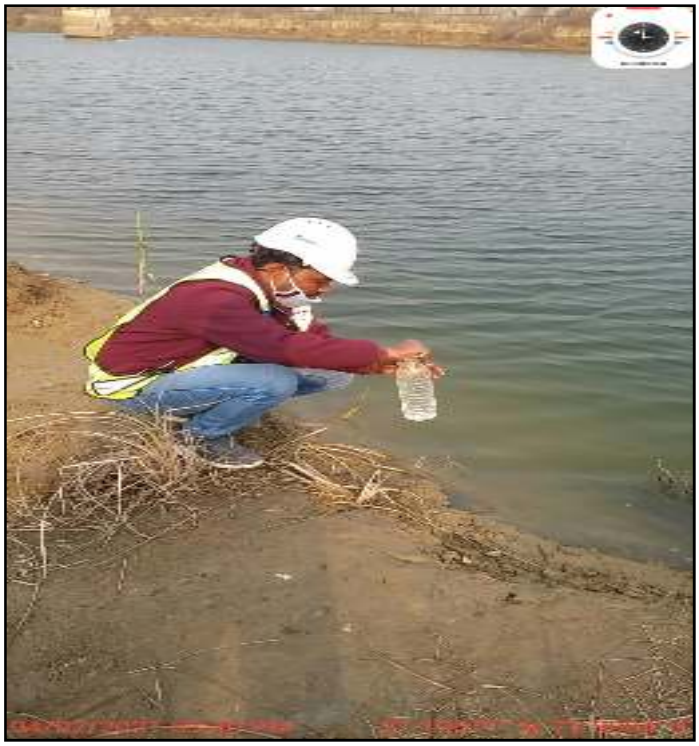

Fig 2.2: Surface water Sampling Photographs

Table 2.6: The result of analysis of surface water

S. No.	Parameters	Units	Test Method	Results (Lake Near Sarai Metro Station)	Limits as per IS : 2296-1982
1	Colour	Hazen	IS : 3025 (P-4)	30	300.0
2	Odour	•	IS : 3025 (P-5)	Agreeable	-
3	Turbidity	NTU	IS : 3025 (P-10)	11.5	-
4	pH	•	IS : 3025 (P-11)	8.06	6.5-8.5
5	Total Hardness (as CacO3)	mg/L	IS : 3025 (P-21)	2610.0	-
6	Chloride (as Cl)	mg/L	IS : 3025 (P-32)	2850.0	600.0
7	Iron	mg/L	EKO/CHEM/SOP-ICPMS/W-01	0.14	50.0
8	Residual Free Chlorine	mg/L	IS : 3025 (P-26)	<0.1	-
9	Fluoride (as F)	mg/L	IS : 3025 (P-60)	0.98	1.5
10	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	5280	1500.0
11	Calcium (as-Ca)	mg/L	IS : 3025 (P-40)	525	-
12	Magnesium (as Mg)	mg/L	IS : 3025 (P-46)	254.4	-
13	Copper (as Cu)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	0.034	1.5
14	Manganese (as Mn)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	0.028	-
15	Sulphate (as SO4)	mg/L	IS : 3025 (P-24)	905.2	400.0
16	Nitrate (as NO3)	mg/L	IS : 3025 (P-34)	24.8	50.0
17	Phenolic Compounds (as C6h5OH)	mg/L	IS : 3025 (P-43)	<0.001	0.005
18	Mercury (as Hg)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	<0.001	-
19	Selenium (as Se)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	<0.005	0.05
20	Arsenic (as As)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	<0.005	0.2
21	Cyanide (as CN)	mg/L	APHA 4500 CN - K	Absent	0.05
22	Lead (as Pb)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	0.032	0.1
23	Zinc (as Zn)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	0.45	15.0
24	Chromium (as Cr6+)	mg/L	IS : 3025 (P-52)	<0.05	0.05

25	Aluminium (as Al)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	<0.01	-
26	Alkalinity (as CacO3)	mg/L	IS : 3025 (P-23)	58.0	-
27	Boron (as B)	mg/L	IS : 3025 (P-57)	0.32	-
28	Potassium (as K)	mg/L	IS : 3025 (P-45)	7.28	-
29	Sodium (as Na)	mg/L	IS : 3025 (P-45)	1130.0	-
30	Cadmium (as Cd)	mg/L	EKO/CHEM/SOP-ICPMS/W-01	<0.001	0.01
31	Oil & Grease	mg/L	IS : 3025 (P-39)	<0.1	0.1
32	COD (as O2)	mg/L	IS : 3025 (P-58)	51.8	-
33	BOD @27^{o} for 3 days	mg/L	IS : 3025 (P-44)	11.0	3.0
34	Dissolved Oxygen	mg/L	IS : 3025 (P-38)	2.4	4.0 (Min)
35	Total Coliform	MPN/100mL	IS : 1622 :1981	1600	5000.0
36	*E. coli.*	Per 100mL	IS : 1622 :1981	Present	-

Comparing the values of pH, DO, BOD and total Coliforms with Use based classification of surface waters published by Central Pollution Control Board; it can be seen that the analyzed surface waters can be compared with class 'E'. Bacteriological examination of surface water indicates the presence of total coliforms, which may be due to human activities observed during the study period. Test reports of surface water quality are attached as ***Annexure VII.***

CHAPTER-3

DEWATERING PLAN & PROPOSED USAGE OF PUMPED WATER

Details of Dewatering Requirement are given in Table 3.1.

Table 3.1 Details of Dewatering Requirement & Proposed Structure Details

S.No.	Type of Structure/ Year of Construction	Depth (Meter)/Diameter(mm)	Depth to water level (mbgl)	Discharge (m^3/Hr)	Operational Hrs (Day)/ Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with water meter	Whether permission registered with CGWA
1	Excavated Pit	6.5 m	2.7	15	8 Hrs /Day & 195 Days /Year	Submersible Pump	3.5	-	-

- **Details of Pump-** One (01) pump of 3.5 HP shall be installed
- **Extraction Quantity** -15000 L/Hr.

Utilization of pumped water

- Total quantity of pumped out water is 120 m^3/Day
- 20 m^3/Day of pumped water will be utilized in dust suppression
- 100 m^3/Day of pumped water will be disposed off through private water tanker in Najafgarh drain which is at approx. 1.96 Km away from the project site in west direction

CHAPTER-4
RAIN WATER HARVESTING

4.1 Introduction

The storm water disposal system for the premises is self-sufficient to avoid any collection/stagnation and flooding of water. The amount of storm water run-off depends upon many factors such as intensity and duration of precipitation, characteristics of the tributary area and the time required for such flow to reach the drains. The drains are located near the carriage way along either side of the roads. Taking the advantage of road camber, the rainfall run off from roads shall flow towards the drains. Storm water from various blocks is connected to adjacent drain by a pipe through catch basins. As the ground water level in the area is below 35-40 meters bgl, we will change storage tank into the recharge pit by digging the bore.

It has been calculated to provide 3 rainwater harvesting pits at selected location, which catches the maximum run-off from the area.

1) Since the existing topography is congenial to surface disposal, a network of storm water pipe drains is planned adjacent to roads. All building roof water will be brought down through rain water pipes.
2) Proposed storm water system consists of pipe drain, catch basins and seepage pits at regular intervals for rain water harvesting and ground water recharging.

Rain water harvesting has been catered to and designed as per the guideline of CGWA. Peak hourly rainfall has been considered as 45 mm/hr. The recharge pit of 3 m diameter and 4 m depth is constructed for recharging the water. Inside the recharge pit, a recharge bore will be constructed of sufficient diameter and depth. The ground water level in the area is below 35-40 meters bgl. The bottom of the recharge structure is kept 5 m above this level. At the bottom of the recharge well, a filter media is provided to avoid choking of the recharge bore. Design specifications of the rain water harvesting plan are as follows:

- Catchments/roofs are accessible for regular cleaning.
- The roof have smooth, hard and dense surface which is less likely to be damaged allowing release of material into the water. Roof painting has been avoided since most paints contain toxic substances and may peel off.

- All gutter ends are fitted with a wire mesh screen and a first flush device would be installed. Most of the debris carried by the water from the rooftop like leaves, plastic bags and paper pieces will get arrested by the mesh at the terrace outlet and to prevent contamination by ensuring that the runoff from the first 10-20 minutes of rainfall is flushed off.
- No sewage or wastewater is admitted into the system.
- No wastewater from areas likely to have oil, grease, or other pollutants has been connected to the system. A site plan marked with location of RWH pits is attached as ***Annexure IX.***

Table 4.1: Calculation for Rainwater Harvesting (RWH) Pits

S.No.	Description	Details	Unit
A	**Calculation for Storm Water Load**		
1	**Total Plot Area**	**9333.31**	**Sqm**
2	**Roof-top area = Ground Coverage**	**5468.748**	**Sqm**
3	**Green Area**	**1857.33**	**Sqm**
4	**Total Paved Area & Road area**	**1455.20+552.03=2007.23**	**Sqm**
B	**Total Runoff Load**		
1	**Roof-top Area**	**5468.748× 0.045× 0.9 = 221.48**	**m^3/ hr**
2	**Green Area**	**1857.33** **1857.33× 0.045 × 0.2 = 16.71**	**m^3/ hr**
3	**Paved Area**	**2007.23× 0.045× 0.7 = 63.22**	**m^3/ hr**
4	**Total Runoff Load**	**221.48 +16.71+63.22 = 301.41**	**m^3/ hr**
D	**Total for all areas - volume of runoff & Calculation for RWH**		
1	**Total Volume of runoff generated from the proposed Project, Taking 15 minutes Retention Time,**	**75.35**	**m^3/ hr**

2	**Volume of a single Recharge Pit (Taking the effective dia. (3 m) and depth of a Recharge pit 4 m respectively)**	**28.26**	**m^3**
3	**No. of pits required**	**2.66~3**	**No's**

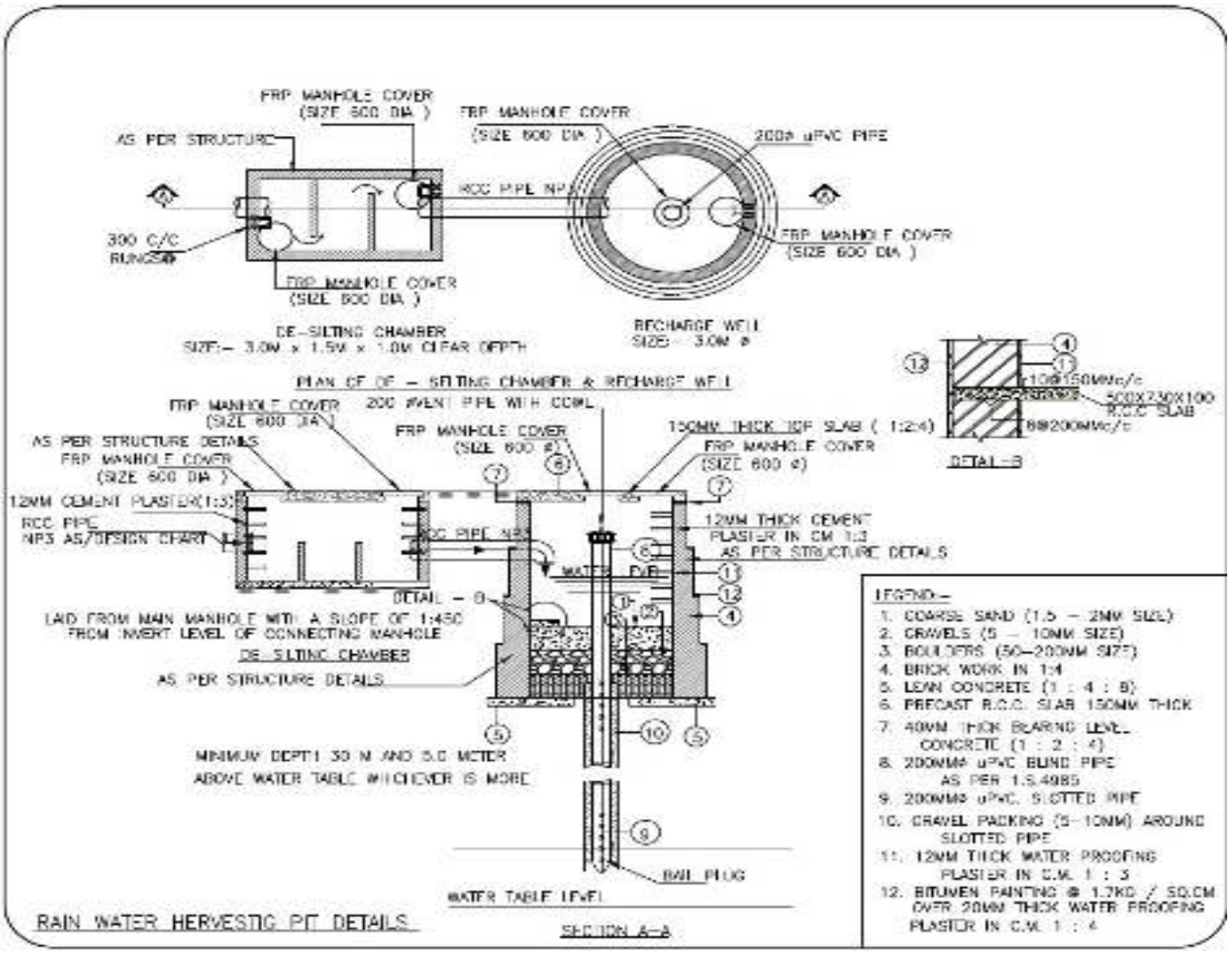

Figure 4.1: Typical Rain Water Harvesting Pit Design

Table 4.2: Routine Maintenance Activities for Rainwater Harvesting System

No.	Maintenance Task	Frequency Task
1.	Inspect and clean filters and screens, and replace as needed.	Every 3-6 months
2.	Inspect and clean debris from roof or other collection surface.	Every months
3	Inspect for repair leaks	Every 3-6 months
4.	If rainwater is provided for indoor use, inspect and verify that treatment systems are operational and maintaining minimum water quality requirements as determined by local health officials.	Every 3-6 months
5.	Inspect all components, including backflow prevention systems.	Annually

CHAPTER-5
SOCIO-ECONOMIC ASPECT

Socio-economic impact assessment is a technique to get acquainted with social, cultural and economic conditions of stakeholders, which includes individuals, groups, communities and organizations. The above assessment is made through a socio-economic survey conducted by a team of experts that often consist of a demographer, statistician, econometrician, social scientist, health expert and gender specialist. The scope of the socio-economic study is as under.

a. To assess the prevailing socio-economic conditions in the study area
b. To analyze the possible impact of the project on the prevailing socio-economic environment in the study area.
c. To analyze awareness and perception of the people about the project.
d. To suggest steps to annul the adverse effects of the project on the people in the area.

Besides the above data is collected from secondary sources so that post construction evaluation and impact assessment could be undertaken more effectively in order to obtain realistic outcome.

5.1 Settlements and population dynamics around project area

As the entire study area has got completely urbanized an attempt has been made to estimate the population of the study area by using the census 2011. Around 19 villages falls in 5 Km radius of the project site & the demographic composition is given in **Table 5.1.**

Table 5.1 Urban Population of the study area based on Census Data 2011

S. No.	Name of Village	Total Geographical Area (ha)	Population		
			M	F	TOTAL
1.	Mohammad Heri	120	362	329	691
2.	Babupur	197	338	330	668
3.	Tikampur	84	4	0	4
4.	Dharampur	204	822	669	1491
5.	Sarai Allwardi	127	779	687	1466
6.	Jhatikra	620.6	1088	971	2059
7.	Raghupur	216.6	64	69	133

8.	Budhera	1204	2001	1778	3779
9.	Masani	857	1577	1370	2947
10.	Gopalpur	361	86	84	170
11.	Chandu	327	1028	909	1937
12.	Kanganheri	580.2	2030	1799	3829
13.	Shikarpur	581	1532	1310	2842
14.	Khandevila	713	2051	1889	3940
15.	Basai Village	346	409	366	775
16.	Karola	794	1687	1561	3248
17.	Dhankot	503	1072	951	2023
18.	Kherki Majra	249	877	771	1648
19.	Nanak Heri Village	148.2	445	382	827
	Total	**8232.6**	**18252**	**16225**	**34477**

(Source: Census Data 2011)

5.2 Dependency on Sources of Water

Table: 5.2 Sources of Water

Sr. No.	Name of Village	Tap Water				Well		Hand Pump			Tube Wells/Borehole			Others		
		Treated	Functioning thru year	Functioning in Summers	Untreated	Covered	Uncovered	Total	Functioning All-round the year	Functioning in Summer months	Total	Functioning All-round the year	Functioning in Summer months	Spring	River/Canal	Tank/Pond/Lake
1	Mohammad Heri	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
2	Babupur	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
3	Tikampur	1	1	1	2	2	2	1	1	1	1	1	1	2	2	2
4	Dharampur	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
5	Sarai Allwardi	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
6	Jhatikra	1	1	1	2	2	1	1	1	1	1	1	1	2	1	1
7	Raghupur	1	1	1	2	2	1	1	1	1	1	1	1	2	1	1
8	Budhera	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
9	Masani	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
10	Gopalpur	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
11	Chandu	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
12	Kanganheri	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2
13	Shikarpur	1	1	1	2	2	1	1	1	1	1	1	1	2	1	1
14	Khandevila	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
15	Basai Village	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
16	Karola	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2

17	Dhankot	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
18	Kherki Majra	1	1	1	2	2	2	1	1	1	2	-	-	2	2	2
19	Nanak Heri Village	2	2	2	2	1	2	1	1	1	1	1	1	2	2	1
	Total	**20**	**20**	**20**	**38**	**37**	**35**	**19**	**19**	**19**	**33**	**7**	**7**	**38**	**35**	**34**

Drinking Water Facilities

In the study area the main source of drinking water is tap water. The area faces water shortage during dry season when water supply gets erratic. The local government is emphasizing on setting up of rainwater harvesting structures for storing and recharging of groundwater.

CHAPTER-6
WATER REQUIREMENT & WASTEWATER GENERATION

6.1 Water Requirement and Supply System

The total water requirement for operational phase is approx. 192 KLD. Fresh water requirement is approx. 31 KLD.

Table 6.1: Summary of Water and Wastewater

S. No.	Particulars	In KLD
1	Total Water Requirement	192
2	Fresh Water Requirement	31
3	Treated Water	131
4	Wastewater Generated	107
5	STP Capacity (MBBR Technology)	125

6.2 Sullage Generation & Treatment

The project generates approx. 107 KLD of Sullage. The Sullage will be treated in the STP of MBBR technology having Capacity 125 KLD provided within the complex generating 131 KLD of recoverable water from STP which is recycled within the project for the purpose of Horticulture, Flushing & DG cooling which leads to zero liquid discharge. A water balance diagram is shown in **Figure 6.1.**

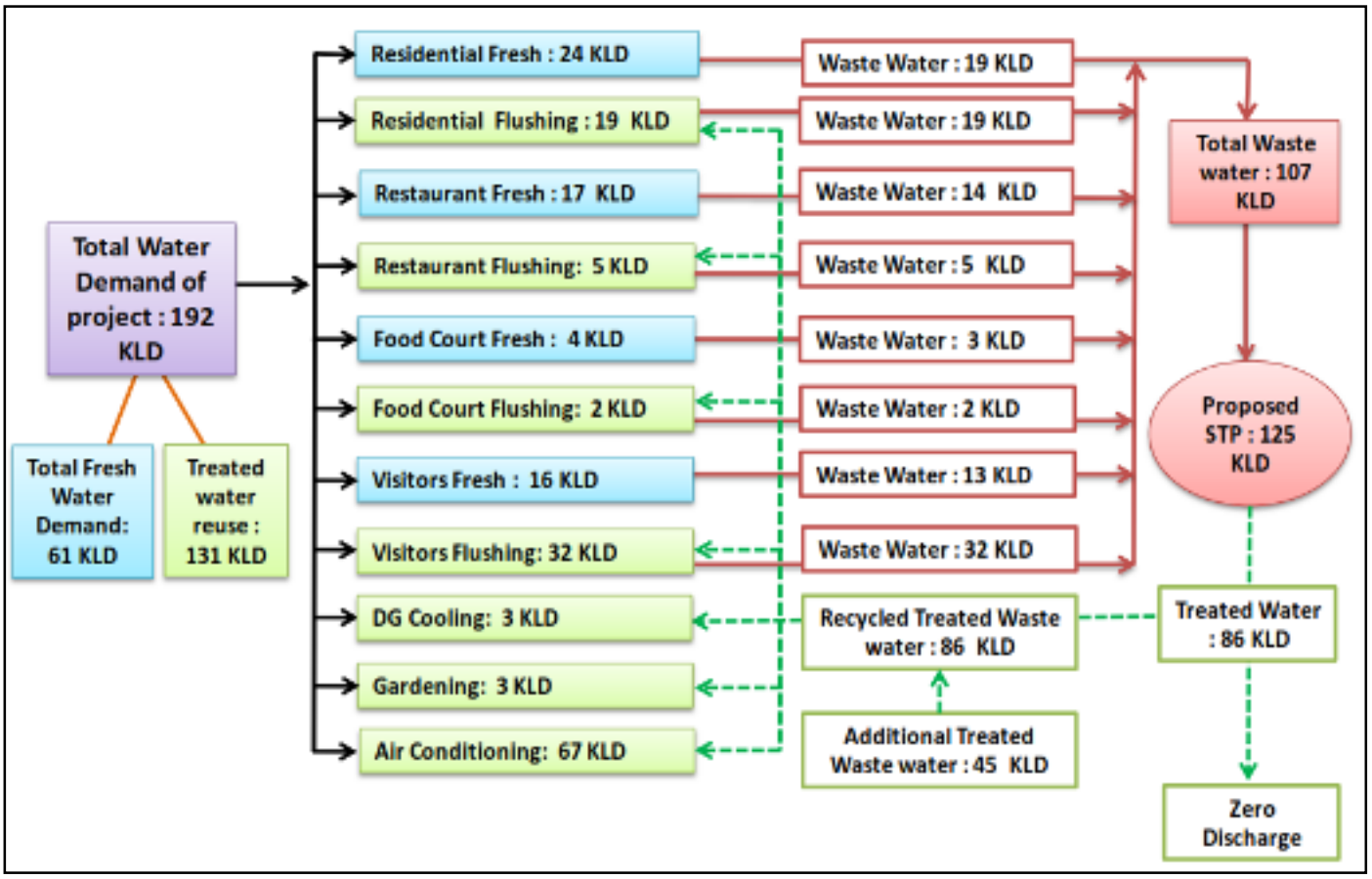

Figure 6.1: Water Balance Diagram

6.3 SEWAGE TREATMENT TECHNOLOGY

MBR TECHNOLOGY (Capacity 125 KLD)

Sewerage System

An external sewage network shall collect the sewage from all units, and flow by gravity to the sewage treatment plant.

Following are the benefits of providing the Sewage Treatment Plant in the present circumstances:

- Reduced net daily water requirements, source for Horticultural purposes by utilization of the treated sullage.
- Reduced dependence on the public utilities for water supply and sewerage systems.
- Sludge generated from the Sewage Treatment Plant shall be rich in organic content and an excellent fertilizer for horticultural purposes.

a. Sullage Details

(a)	Daily load	:	107 KLD
(b)	Duration of flow to STP	:	24 hours
(c)	Temperature	:	Maximum 32^{o}C
(d)	pH	:	7 to 9.5
(e)	Colour	:	Mild
(f)	T.S.S. (mg/l)	:	100-400 mg/l
(g)	BOD_5 (mg/l)	:	200-300 mg/l
(h)	COD (mg/l)	:	500-700 mg/l

b. Final discharge characteristics

(a)	pH	:	6.5 to 7.5
(b)	Oil & Grease	:	<10 mg/l
(c)	B.O.D.	:	<5 mg/l
(d)	C.O.D.	:	<100 mg/l
(e)	Total Suspended Solids	:	<10 mg/l

c. Treatment Technology

Sewage Treatment Plant

A) Physical treatment (Primary treatment)

The treatment will include the following units / equipment's,

1. Bar Screen Chamber
2. Oil & Grease trap
3. Collection /Equalization Tank
4. Raw Sewage Transfer pumps

All the Sewage generated will be passed through Bar Screen followed by Oil & Grease Trap for removal of oil and grease in sewage. The Bar screen will take care of any floatable matter, which will be removed out and collected in drums. Bar screen comprise of screen to trap floatable matter. The screened Sewage shall be collected in Collection tank. The sewage will be pumped at a uniform rate by sewage transfer pumps to Biological Treatment.

B) Biological treatment (Secondary treatment)

This includes the following,

1. Bioreactor with MBBR Media
2. Secondary Tube settler with hopper bottom
3. Sludge Digester tank.

In Bioreactor, aerobic process in which Oxygen supplied to the reactor through fine bubble diffuser, Bio-degradation occurs through activated sludge process. Microbial culture maintained in bioreactor results in Biological degradation of organic matter.

The stabilized Sewage overflow into secondary Tube settler. The arrested sludge pumped back to the Bioreactor Tank to maintain the growth of biomass in system and excess sludge taken to the Sludge holding tank. Collected sludge gets digested and get dried off and excess.

C) Tertiary treatment: The treatment includes the following units / equipments,

1. Polishing Tank
2. Pressure Sand Filter (PSF)
3. Activated Carbon Filter (ACF)

Treated water from secondary tube settler is collected to Polishing Tank & after oxidation pumped to PSF Followed by ASF for removal of suspended particles. Finally the treated water shall be used for Toilet flushing & Gardening.

Advantages of MBBR Technology:

- Compact Design - A fraction of the size of conventional systems
- Expandable - Capacity can be easily upgraded by simply increasing the fill fraction of bio film carriers Minimal Maintenance - No F/M (Food to Microorganism) ratios or MLSS levels to maintain.

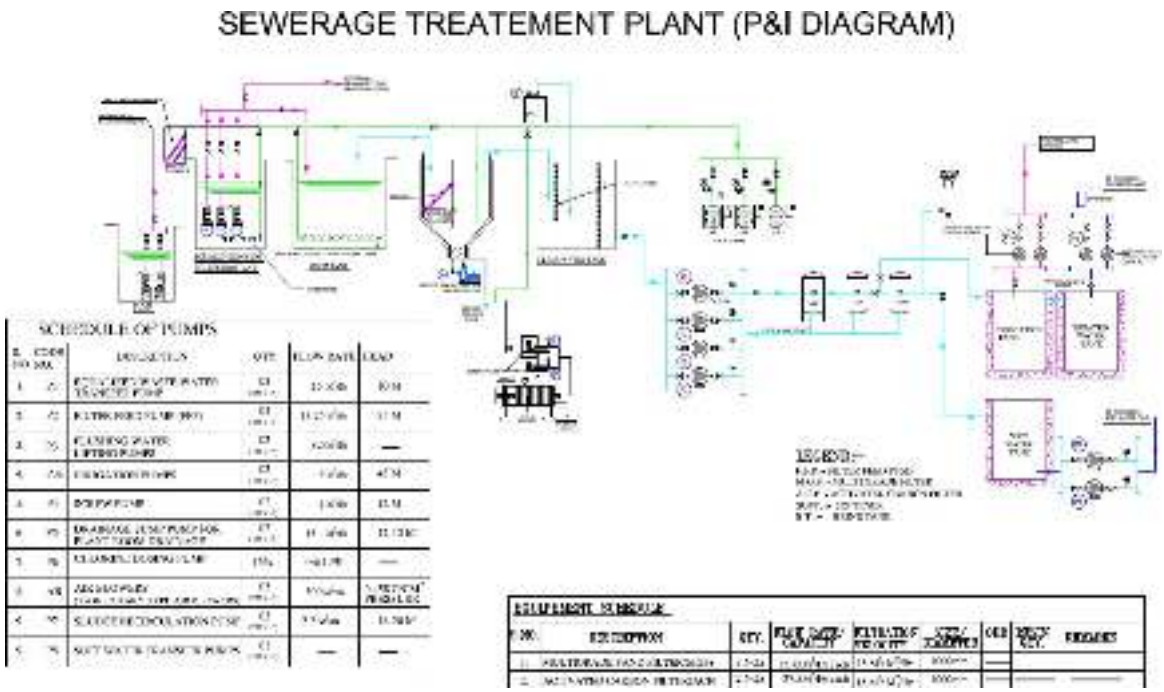

Figure 6.2: Schematic Diagram of STP

CHAPTER-7
CONCLUSION

Area details of the project are given in Table 1.

Table 1: Basic details of the project

S.No.	Particulars	Area (sqm)
1	Total Plot Area	9333.31 (2.3063 acres)
2	Total Built-up Area	25383.3
3	Ground Coverage	5468.748
4	Paved Area	1455.20
5	Road Area	552.03
6	Green Area	1857.33 (19.99% of total plot area)
7	Basement	One basement of 6863.675 sqm area has been proposed at site. Basement plan is enclosed as Annexure in online application.

Details of Groundwater level depth & Excavation depth are given in Table 2.

Table 2: Details of Groundwater level depth & Excavation depth

S.No.	Particulars	Pre-monsoon (m)	Post-monsoon (m)
1.	Ground Level	1.7	
2.	Depth of Water Table/groundwater Level	3.5	2.7
3.	Depth of intersection		
a	Minimum	1.80	1.00
b	Maximum	1.80	1.00
4.	Maximum depth of excavation	6.5	
5.	Maximum depth proposed to dewater	3.00	3.80

Details of Type of Structure are given in Table 3.

Table 3: Details of Type of Structure

S.No.	Type of Structure/Year of Construction	Depth (Meter)/Diameter(mm)	Depth to water level (mbgl)	Discharge (m^3/Hr)	Operational Hrs (Day)/ Days (Year)	Mode of Lift Name	Horse Power of Pump
1	Excavated Pit	3.8 m	2.7	15 m^3/Hr & 120 m^3/Day	8 Hrs /Day & 195 Days /Year	Submersible Pump	3.5

Utilization of pumped water

- Total quantity of pumped out water is 120 m^3/Day
- 20 m^3/Day of pumped water will be utilized in dust suppression
- 100 m^3/Day of pumped water will be disposed off through private water tanker in Najafgarh drain which is at approx. 1.96 Km away from the project site in west direction

The project does not call for any land acquisition and no change in the existing land use pattern. The execution of the project will not disturb the people living in the area as there will be no blasting and large scale digging. The project will generate employment opportunities for both skilled and unskilled workers in the vicinity, which will produce multiple effects on the life and economy of the local people. Thus from socio-economic point of view the project is beneficial to the people and can be executed with no hesitation.

There will not be any impact on land use because development activities will be carried out only in restricted area of the boundary of proposed site. The geology and lithology of the area will also enhance the natural recharge in the area. Constant monitoring of ground water levels and quality is proposed during coming years. It can be concluded that activities within the premises of the project site will not have any deleterious effect on the ground water regime of the area.

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ANNEXURE-2

651

BASEMENT PLAN

-4.80 FFL

GENERAL NOTES -

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONS ARE TO BE READ AND NOT TO BE SCALED.
3. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE AND REFER THE RELEVANT STRUCTURAL AND OTHER CONSULTANT'S DRAWINGS BEFORE COMMENCING ANY WORK OR PREPARING ANY SHOP DRAWING, AND IN CASE ANY DISCREPANCY IS NOTICED THE SAME SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT AND SHALL BE CLARIFIED BEFORE EXECUTION OF WORK.
4. REFER THIS DRAWING ALONG WITH THE OTHER RELEVANT ARCHITECTURAL, STRUCTURAL AND THE OTHER SERVICES DRAWINGS BEFORE THE EXECUTION OF WORK RELATED TO THIS DRAWING AT SITE.

REV.	DESCRIPTION	DATE	DWN	CHKD	APPD

Services Consultants :

PARADISE CONSULTANTS
PLOT NO. 96, BASEMENT, NEAR LIVING STYLE MALL, JASOLA VIHAR NEW DELHI - 110025
LANDLINE+91-11-29943601,26943216
E-mail: paradiseconsultants@gmail.com

Structural Consultants :

NNC Design International
G-70, 2nd FLOOR, JASWANT PLAZA, NEAR KALINDI KUNJ, MAIN SARITA VIHAR ROAD, OKHLA, NEW DELHI - 110025
LANDLINE+91-11-26940734/5/6/7

PROJECT ARCHITECT:

Ichinen
ARCHITECTS PRIVATE LIMITED
127 U.S. COMPLEX, NEW DELHI—110017
EMAIL Info@ichinenarchitects.com

Project:
PROPOSED BUILDING PLAN for COMMERCIAL COLONY MEASURING 2.38125 ACRES (LICENCE NO. 144 OF 2014 DATED 01.09.2014) IN SECTOR-103, GURUGRAM MANESAR URBAN COMPLEX BEING DEVELOPED BY M/S OCIMUM ESTATES PRIVATE LIMITED.

Client:
M/S OCIMUM ESTATES PRIVATE LIMITED

SCALE: 1:200	DRAWN: K.K.	DATE 10.09.2020
CHECKED: R.J.	APPROVED: R.J.	WORKING DRAWINGS

N

TITLE
BASEMENT PLAN

Gmail Jitender Chaudhary, advocate <jurisconsult2006@gmail.com>

RE: ORIGINAL APPLICATION 444/2023-PARYAVARAN VIKASH SANGH VS STATE OF HARYANA

1 message

Jitender Chaudhary, advocate <jurisconsult2006@gmail.com> Thu, Mar 21, 2024 at 8:14 AM
To: hspcbrogrs@gmail.com, advprakashpande@gmail.com

In the above-captioned matter before Ld. NGT, Principal Bench we represent R-9-Neo Centra. Please find attached by way of advance service additional reply on behalf of Respondent no.9-Neo Centra.

Kindly acknowledge the receipt of the email.

Regards

Jitender Chaudhary, Advocate

--

Juris Consult
Advocates and Legal Consultants
B-22, First Floor, Jangpura Extension
New Delhi-110014

R-9-ADDITIONAL REPLY TO JOINT COMMITTEE REPORT.pdf
2651K