(4) -576- 307.14

	Haryana by M/s K2 Ethanol Pvt. Ltd. **Proposal For:** Amendment in ToR **Activity:** 5(g) Distilleries **Sector:** IND2			
9	**Proposal No** :SIA/HR/INFRA2/493104/2024 **File No** :SEAC/HR/2024/262 **Project Name** :Revision and Expansion of Mixed Use Development Project **Proposal For:** Fresh EC **Activity:** 8(b) Townships/ Area Development Projects / Rehabilitation Centres **Sector:** INFRA2	**State:** HARYANA **District:** GURUGRAM	20/12/2024	GURGAON REALTECH LIMITED
10	**Proposal No** :SIA/HR/MIN/513679/2024 **File No** :SEAC/HR/2024/263 **Project Name** :Pichopa Kalan-2 Stone Mine at Village- Pichopa Kalan Tehsil—Charkhi Dadri, District : Charkhi Dadri **Proposal For:** Fresh EC **Activity:** 1(a) Mining of minerals **Sector:** MIN	**State:** HARYANA **District:** CHARKI DADRI	20/12/2024	THE warrier mining minerals & infra private limited
11	**Proposal No** :SIA/HR/INFRA2/498759/2024 **File No** :SEAC/HR/2024/210 **Project Name** :Proposed Commercial Colony Project at revenue estate of village-Nawada Fatehpur, Sector-86, District-Gurugram Urban Manesar Urban Complex by Manish Buildwell Pvt. Ltd. and Others **Proposal For:** Fresh EC **Activity:** 8(a) Building / Construction **Sector:** INFRA2	**State:** HARYANA **District:** GURUGRAM	20/12/2024	MANISH BUILDWELL PRIVATE LIMITED
12	**Proposal No** :SIA/HR/INFRA2/514022/2024 **File No** :SEAC/HR/2024/264 **Project Name** :Revision & Expansion of Mix Land Use Colony (Residential 90% And Commercial 10%) Project Under TOD Policy Dated 09.02.2016 by M/s Forever Buildtech Pvt. Ltd. **Proposal For:** Fresh EC **Activity:** 8(a) Building / Construction **Sector:** INFRA2	**State:** HARYANA **District:** GURUGRAM	20/12/2024	FOREVER BUILDTECH PRIVATE LIMITED
13	**Proposal No** :SIA/HR/INFRA2/514135/2024 **File No** :SEAC/HR/2024/265 **Project Name** :Hotel and Resort Building Project Village-Nimoth, Tehsil Sohna, District, Gurugram, Haryana by M/s Prime Plaza Hotels Pvt. Ltd. **Proposal For:** Fresh EC **Activity:** 8(a) Building / Construction **Sector:** INFRA2	**State:** HARYANA **District:** GURUGRAM	20/12/2024	prime plaza hotels private limited
14	**Proposal No** :SIA/HR/INFRA2/496874/2024 **File No** :SEAC/HR/2024/266 **Project Name** :Industrial Plotted Colony at Village Shidrawali, Tehsil-Manesar, District-Gurugram, Haryana by M/s Signatureglobal India Limited	**State:** HARYANA **District:** GURUGRAM	20/12/2024	SIGNATUREGLOBAL INDIA LIMITED

SIGNATURE GLOBAL
REALTY. RELIABILITY. RESPONSIBILITY.

Date: 12.09.2024

To,
The Member Secretary,
State Level Expert Appraisal Committee (SEAC),
Bays No. 55-58, Sector-2,
Panchkula, Haryana

Sub: Regarding Environment Clearance for Industrial Plotted Colony Project at Village – Shidrawali, Tehsil –Manesar, District -Gurugram Haryana by M/s Signatureglobal India Limited.

Dear Sir,

This is in reference with the above mentioned subject, it is kindly intimated that we had applied an application for Terms of Reference to SEAC, Haryana on 10/09/2024 (Proposal No. SIA/HR/INFRA2/494250/2024).

Then, SEAC, Haryana awarded the standard TOR Letter vide letter no. TO24B3813HR5427969N dated 10/09/2024. We have already generated baseline data considering monitoring period of winter season from December 2023 to February 2024 for the preparation of Final EIA/EMP report.

As per the guidelines of MOEFCC vide (S.O 1533 E) dated 14.09.2006 & its amendment till date "All projects and activities listed as category "B" in item 8 of the Schedule (Construction or Township or Commercial Complexes or Housing)" shall require Environmental Clearance from State level.

Hence, we are herewith submitting EIA/EMP report as per the latest guidelines and Notification along with compliance to the Standard Terms of Reference issued by SEAC, Haryana for your kind perusal.

Kindly consider the case and award the Environmental Clearance at your earliest.

Thanking you,

Yours truly,

For M/s Signatureglobal India Limited

Name: Vineet Kumar
Designation: **Authorized Signatory**
Encl: As stated

Environment Impact Assessment & Environment Management Plan Report

w.r.t.

INDUSTRIAL PLOTTED COLONY PROJECT

At

Village- Shidrawali, Tehsil-Manesar, District- Gurugram, Haryana

Schedule: 8(b), Category: B1
Sector-39 as per QCI/NABET Scheme
Built-up area = 7,24,895.645m²
(Study Period – Dec. 2023 to Feb. 2024)
(Submission Period – September 2024)

Project Proponent:

M/s Signatureglobal India Limited

Environment Consultant:

GRASS ROOTS RESEARCH & CREATION INDIA (P) LTD

QCI Certificate no. NABET/EIA/21-24/SA 0211

Validity Extension letter no. QCI/NABET/ENV/ACO/24/3338

Valid till-11th Nov, 2024
F-374 & 375, Sector-63, Noida, U.P.
Ph.: 0120- 4044630, Telefax: 0120- 2406519
Email: info@grc-india.com
Website: http://www.grc-india.com

GRC INDIA TRAINING & ANALYTICAL LABORATORY
(NABL ACCREDITED & MoEFCC NO. S.O. 388 (E))
A unit of GRC India

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Annexure – VII

Declaration by Experts contributing to the EIA report of Industrial Park Project at Village- Shidrawali, District- Gurugram, Haryana by M/s Signature Global (India) Limited. (Category - B Project as Per EIA Notification 2006)

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

EIA coordinator: Mr. Sonu

Signature and Date:

Period of involvement: December 2023 to till date

Functional area experts:

S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and date
1	AP*	Ms. Monika Gupta	December 2023 to February 2024	
2	WP*	Mr. Sonu	December 2023 to February 2024	
3	SHW*	Dr. Dhiraj Kr Singh	December 2023 to February 2024	
4	SE*	Mr. Rajiv Rastogi	December 2023 to February 2024	
5	EB*	Dr. Ashok Kr Rathoure	December 2023 to February 2024	
6	HG*	Prof. Tapan Majumder	December 2023 to February 2024	
7	GEO*	Prof. Tapan Majumder	December 2023 to February 2024	
8	SC*	Mr. N P S Varde	December 2023 to February 2024	
9	AQ*	Mr. Sonu	December 2023 to February 2024	
10	NV*	Mr. K.D. Choudhury	December 2023 to February 2024	
11	LU*	Mr. N. P. S. Varde	December 2023 to February 2024	
12	RH*	Mr. K.D. Choudhury	December 2023 to February 2024	

*One TM against each FAE may be shown



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13.	EB* (Category II Expert)	Ms. Kavita Chopra	December 2023 to February 2024 (Assisting in EB report preparation)	Chopra
14.	Team Member: AP	Ms. Kavita Chopra	December 2023 to February 2024 (Assisting in Air pollution under approved Expert Ms. Monika Gupta)	Chopra

*One TM against each FAE may be shown
**Please attach additional sheet if required

Declaration by the Head of the accredited consultant organization/ authorized person

I, Dr. Dhiraj Kr. Singh hereby, confirm that the above-mentioned experts prepared the EIA of Industrial Park Project at Village- Shidrawali, District- Gurugram, Haryana by M/s Signature Global (India) Limited.

I also confirm that EIA Coordinator (EC) has gone through the report, and the consultant organization shall be fully accountable for any misleading information.

It is certified that no unethical practices, plagiarism involved in carrying out the work and external data / text has not been used without proper acknowledgement while preparing this EIA report.

Signature:

Name: **Dr. Dhiraj Kr. Singh**

Designation: **Managing Director**

Name of the EIA consultant organization: **Grass Roots Research & Creation India (P) Ltd**

NABET Certificate No. & Issue Date: **NABET/EIA/2124/SA 0211 dated: - 18.12.2023 and valid till:- 15.08.2024**

Plagiarism Checker X - Report

Originality Assessment

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Overall Similarity

Date: Sep 14, 2024
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Sources: 134

Remarks: Low similarity detected, check with your supervisor if changes are required.

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CERTIFICATE OF PLAGIARISM CHECK

Title of EIA Report:	Industrial Plotted Colony Project at Village-Shidrawali, Tehsil –Manesar, District-Gurugram, Haryana by M/s Signatureglobal India Limited
Name of Accredited Organization:	M/s GRC India Pvt. Ltd, Noida
Name of EIA Coordinator:	Mr. Sonu
Name of the Software:	Plagiarism Checker X
Date of Check:	14.09.2024
Time of Check:	4.30 PM

EIA Co-ordinator:

Name : Mr. Sonu

Signature :



Head of ACO / authorised person:

Name : Dr. Dhiraj Kr. Singh (MD)

Signature :



Name of the EIA Consultant Organization: M/s GRC India Pvt. Ltd, Noida, 201301

NABET Certificate no. & Issue date: NABET/EIA/24-27/RA 0354 dated Nov 11, 2024 valid till Aug 16, 2027.

*Note – The ACO may use / take help of appropriate software to detect plagiarism issues of the EIA content.

सत्यमेव जयते

File No.: SEAC/HR/2024/190
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Level Expert Appraisal Committee(SEAC), HARYANA)

***

Dated **10/09/2024**

To,

M/s Sungold Height and Developers LLP in Collaboration with M/s SIGNATUREGLOBAL INDIA LIMITED
13th Floor, Dr. Global Das Bhawan, 28 Barakhamba Road , 28 Barakhamba Road, Connaught Place, New Delhi, GURUGRAM, HARYANA, 110001
vineet.signatureglobal@gmail.com

Subject: Standard Terms of Reference (ToR) to the proposed Industrial Plotted Colony at Village Shidrawali, Tehsil Manesar District Gurugram, Haryana Project under the EIA Notification 2006-and as amended thereof-regarding.

Sir/Madam,

This is in reference to your application submitted to SEAC vide proposal number SIA/HR/INFRA2/494250/2024 dated 10/09/2024 for grant of Terms of Reference (ToR) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below ;

(i) ToR Identification No.	TO24B3813HR5427969N
(ii) File No.	SEAC/HR/2024/190
(iii) Clearance Type	Fresh ToR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	8(b) Townships/ Area Development Projects / Rehabilitation Centres,8(b) Townships/ Area Development Projects / Rehabilitation Centres
(vii) Name of Project	Industrial Plotted Colony at Village Shidrawali, Tehsil-Manesar, District-Gurugram, Haryana by M/s Signatureglobal India Limited
(viii) Name of Company/Organization	SIGNATUREGLOBAL INDIA LIMITED
(ix) Location of Project (District, State)	GURUGRAM, HARYANA
(x) Issuing Authority	SEAC
(xii) Applicability of General Conditions	NO

3. The **SEAC** has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after detailed examination hereby decided to grant Standard Terms of Reference to the instant proposal of **M/s. SIGNATUREGLOBAL INDIA LIMITED** under the provisions of the aforementioned Notification.

4. The brief about products and by products as submitted by the Project proponent in Form-1 (Part A, B) and Standard Terms of Reference are annexed to this letter as Annexure (1).

5. The Ministry reserves the right to stipulate additional TORs, if found necessary.

6. The Standard Terms of Reference (ToR) to the aforementioned project is under provisions of EIA Notification, 2006 and as amended thereof. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

7. The granted letter, all the documents submitted as a part of application viz. Form-1 Part A and Part B are available on PARIVESH portal which can be accessed by scanning the QR Code above.

Copy To
vineet.signatureglobal@gmail.com
scy.seachr@gmail.com

Annexure 1

Standard Terms of Reference for conducting Environment Impact Assessment Study for Townships/ Area Development Projects / Rehabilitation Centres and information to be included in EIA/EMP report

1. Project Details

Sr. No.	Terms of Reference
1.1	Need and benefits of the project.
1.2	Submit data for built-up area for each building, the use and occupancy classification in line with NBC 2016 also to be indicated [for differential functional requirements].
1.3	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

2. Land Environment

Sr. No.	Terms of Reference
2.1	Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.

3. Land acquisition and R&R

Scanned with OKEN Scanner

Sr. No.	Terms of Reference
3.1	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.

4. Environmental Monitoring and Management

Sr. No.	Terms of Reference
4.1	Examine baseline environmental quality along with projected incremental load due to the project.
4.2	Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
4.3	Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
4.4	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
4.5	Possible carbon footprint contribution from each activities and mitigation measures proposed shall be included as part of Environment Management Plan.

5. Drainage

Sr. No.	Terms of Reference
5.1	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.

6. Forest

Sr. No.	Terms of Reference
6.1	Submit the details of the trees to be felled for the project, if any .
6.2	Submit the present land use and permission required for any conversion such as forest, agriculture etc.

7. Water Environment

Sr. No.	Terms of Reference
7.1	Ground water classification as per the Central Ground Water Authority.

8. Water Management

Sr. No.	Terms of Reference
8.1	Examine the details of Source of water, water requirement, use of treated waste water and prepare a water

Sr. No.	Terms of Reference
	balance chart.
8.2	Rain water harvesting proposals should be made with due safeguards for ground water quality.
8.3	Maximize recycling of water and utilization of rain water. Examine details.
8.4	Examine soil characteristics and depth of ground water table for rainwater harvesting
8.5	Permission from CGWA for abstraction of groundwater, if any, including dewatering during basement excavation.

9. Waste Management

Sr. No.	Terms of Reference
9.1	Examine details of solid waste generation treatment and its disposal.
9.2	Construction & Demolition Waste Management Plan shall be prepared as part of EMP providing details of demolition activities involved along with quantification and disposal mechanism.

10. Energy Requirements

Sr. No.	Terms of Reference
10.1	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
10.2	Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.
10.3	DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment.

11. Road and Traffic

Sr. No.	Terms of Reference
11.1	Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
11.2	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
11.3	Examine the details of transport of materials for construction which should include source and availability.

12. Disaster Management Plan

Sr. No.	Terms of Reference
12.1	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster. This should cover details of vulnerabilities due to natural and manmade hazards (earthquake, flooding, cyclone, landslides, fire etc.) and details of disaster mitigation efforts for buildings and infrastructure through structural sufficiency and Fire and Life Safety compliance in line with National Building Code NBC, 2016.

13. Court Cases

Sr. No.	Terms of Reference
13.1	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

14. Miscellaneous

Sr. No.	Terms of Reference
14.1	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website http://moef.nic.in/Manual/Townships.

Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Built up area	By-Product	72.48	Hectares (Ha)	Road	---

File No. TO24B3813HR5427969N dated 10.09.2024.

POINT-WISE COMPLIANCE OF TERMS OF REFERENCE CONDITIONS

S. No	Standard ToR Points	ToR Compliance	Reference
1.	**Project Details**		
1.1	Need and benefits of the project.	**Need of the project:** The project will provide direct or indirect employment opportunities for a large section of society. The employment will have positive impact thereby improving the standard of living. The project need details are discussed in Chapter 2 section 2.2. **Benefits of the Project:** The proposed project will generate employment opportunities, improves physical infrastructure, social infrastructure, etc. The details of benefits are discussed in Chapter 8.	Details are covered in Chapter 2 of EIA/EMP Report. Details are covered in Chapter 8 of EIA/EMP Report.
1.2	Submit data for built-up area for each building, the use and occupancy classification in line with NBC 2016 also to be indicated [for differential	Details of built-up area for each building, its use and its occupancy in line with NBC are covered in Chapter 2.	Details are covered in Chapter 2 of EIA/EMP Report.

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	functional requirements].		
1.3	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Cost of the project is estimated to be about Rs. 1593.7 crore and Cost for EMP is furnished in EIA/EMP report.	Details are covered in Chapter 10 of EIA/EMP Report.
2.	**Land Environment**		
2.1	Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.	Proposed Project will be developed as per the Master Plan of the region. Details of land use study of 10 km radius of the project site with the satellite imagery is provided in Chapter 3.	Details are covered in Chapter 3 of EIA/EMP report
3.	**Land acquisition and R&R**		
3.1	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.	Details of environmentally sensitive places are provided in Chapter 3 of the report. The License is attached as **Annexure -II** There are no human settlements at site, so rehabilitation of communities/village is not involved.	Details are covered in Chapter 3 of EIA/EMP report. Annexure-II
4.	**Environmental Monitoring and Management**		
4.1	Examine baseline environmental quality along with projected	Details of Baseline environmental quality with respect to major environmental	Details are covered in Chapter 3 & 4.

	incremental load due to the project.	components, viz. air, noise, water, land, soil, biological and socio-economic components is provided in chapter 3 & details of projected incremental load due to the project is provided in chapter 4. The baseline environment study for the project has been done during Winter season (1st Dec, 2023 to 29th Feb, 2024).	The baseline data study report is attached as **Annexure-III.**
4.2	Environmental data to be considered in relation to the project development would be: (a) land, (b) groundwater, (c) surface water, (d) air, (e) biodiversity, (f) noise and vibrations, (g) socio economic and health.	Environmental data has been considered in relation to the project development with respect to (a) land, (b) groundwater, (c) surface water, (d) air, (e) biodiversity, (f) noise and vibrations, (g) socio economic and health. The description of the environment is furnished in EIA/EMP report.	Details are covered in Chapter 3 of EIA/EMP report. The baseline data study report is attached as **Annexure-III.**
4.3	Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.	The Company has a well-defined Environment policy. Structure of Environment Management Cell (EMC). EMC will be responsible for the following: 1. Interaction with the State Pollution Control Board 2. Provide Training	Details are covered in Chapter-10 of EIA/EMP report
4.4	Examine separately the details for	A budget for monitoring of Air, water, Noise	Details are covered in Chapter-6

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	construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.	and Soil will be Rs. 7.0 Lakhs (during construction Phase) and Rs. 9.0 Lakhs (during Operation Phase) to be incurred by the project proponent for undertaking pollution prevention measures during the construction and operation activities. The capital cost for environmental management of the proposed project is estimated to be Rs.3187 lakhs. Rs.444 lakhs per year will be required as annual recurring expenses to meet the recurring expenditure for implementing the measures.	&10 of EIA/EMP report
4.5	Possible carbon footprint contribution from each activities and mitigation measures proposed shall be included as part of Environment Management Plan.	To reduce the carbon footprint from the township a total area of **37,241.664** sqm is proposed for landscape which will be area under tree plantation within the project site and area under organized. 6730 no. of trees are proposed to be planted within project site which will sequester the carbon emissions from project.	--
5.	**Drainage**		
5.1	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.	The Geology of the study area and contour plan with slopes, drainage Pattern of the study area and drainage map of the site and surrounding area has been furnished in EIA/EMP report.	Geology of the study area and Contour Map is covered in Chapter-3 of EIA/EMP report Drainage Pattern of the study area

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			and drainage map is covered in Chapter-3 of EIA/EMP report
6.	**Forest**		
6.1	Submit the details of the trees to be felled for the project, if any.	There are few trees present at the project site which will be transplanted in the greenbelt.	---
6.2	Submit the present land use and permission required for any conversion such as forest, agriculture etc.	The proposed project will be developed within 54.92 ha. Land has been purchased by M/s Signatureglobal India Limited for Industrial plotted colony Project. No change in land use is proposed.	License is attached as **Annexure-II.**
7.	**Water Environment**		
7.1	Ground water classification as per the Central Ground Water Authority.	As per the Central Ground Water Authority ground water classification, the project falls in over exploited zone.	Details are covered in Chapter-3 of EIA/EMP report
8.	**Water Management**		
8.1	Examine the details of Source of water, water requirement, use of treated wastewater and prepare a water balance chart.	Water supply will be provided through private water tankers and during Operational phase, the source of water will be GMDA. Further details of water requirement, use of treated wastewater and a water balance chart is furnished in EIA/EMP Report.	Details of water requirement is given in Chapter-2
8.2	Rainwater harvesting proposals should be made with due safeguards	65 no. of pits proposed for artificial ground water recharge.	Details of Rainwater harvesting scheme is provided in Chapter 2 of

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	for ground water quality.		EIA/EMP report
8.3	Maximize recycling of water and utilization of rainwater. Examine details.	65 no. of pits proposed for artificial ground water recharge.	Details of Rainwater harvesting scheme is provided in Chapter 2 of EIA/EMP report
8.4	Examine soil characteristics and depth of ground water table for rainwater harvesting.	Details of soil characteristics is provided in chapter 3. Details of Rainwater harvesting scheme is provided in Chapter 2.	Details are covered in Chapter-2 & 3 of EIA/EMP report
8.5	Permission from CGWA for abstraction of groundwater, if any, including dewatering during basement excavation.	Not Applicable. The source of water supply will be from GMDA.	--
9.	**Waste Management**		
9.1	Examine details of solid waste generation treatment and its disposal.	Total Solid waste generated in operation Phase is 18139 kg/day. Treatment: **Bio-degradable waste** 1. Bio-degradable waste will be subjected to composting through Organic Waste Converter and the compost will be used as manure. 2. STP sludge is proposed to be used in horticulture. 3. Horticultural Waste is proposed to be	Details are covered in Chapter-2 of EIA/EMP report

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		composted and used for gardening. **Recyclable waste** i. Recyclable waste like paper, plastic, metal etc. will be disposed through local approved recyclers. Waste will be handled inline to 5R principle and we will try to attain Zero waste to Landfill. Details of generation of Solid waste, treatment & its disposal is Provided in chapter 2.	
9.2	Construction & Demolition Waste Management Plan shall be prepared as part of EMP providing details of demolition activities involved along with quantification and disposal mechanism.	Demolition is not involved. A budget for monitoring of Air, water, Noise and Soil will be Rs. 7.0 Lakhs (during construction Phase) and Rs. 9.0 Lakhs (during Operation Phase) to be incurred by the project proponent for undertaking pollution prevention measures during the construction and operation activities.	Details are covered in Chapter-6 of EIA/EMP report
10.	**Energy Requirements**		
10.1	A certificate of adequacy of available power from the agency supplying	The total load of the project is 12883 kW. The power will be supplied by State	Details of power requirement is given in Chapter-2.

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	power to the project along with the load allowed for the project.	Electricity Board.	
10.2	Examine and submit details of use of solar energy and alternative source of energy to reduce fossil energy consumption. Energy conservation and energy efficiency.	To conserve the energy resources, good practices will be followed during the construction phase such as turning off lights when not in use, ensuring fuel efficiency of motors and vehicles through proper maintenance and minimal work at night. The principles of energy conservation will also be embedded in the buildings through use of energy efficient fixtures, maximum availability of natural light and use of solar energy for street lighting.	Details are covered in Chapter-7 of EIA/EMP report
10.3	DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment.	There is provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion. 24-hours average maximum Incremental GLC of NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO were 0.66	Details are covered in Chapter-4 of EIA/EMP report

		µg/m³, 0.07µg/m³, 0.68µg/m³, 0.43 µg/m³ & 0.73 µg/m³, occurred respectively at (700m distance) from the DG sets occurred at the same distance. It was found that GLC of SO_2 was less than the permissible limit of 80µg/m³ (as per CPCB guidelines) under worst meteorological condition with meteorological data monitored from 1st Dec,2023 to 29th Feb 2024	
11.	**Road and Traffic**		
11.1	Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble-free system to reach different destinations in the city.	The Nearest Highway is NH-48 which is adjacent to the 8.7 km site in North west directi3.8 km28 is 0.58 km towards SW direction, SH-25 which is 4.1 km (S), NH-919 is 3.8 km towards S direction, Western Peripheral Expressway is 8.7 km towards NE direction, MDR 132 is 5.1km towards NE direction, & NH-352W which is 9.8 km (S) direction away from project site. The nearest railway station being Inchhapuri Railway Station is about 12.6 km (NW) away from the project site. The nearest Airport is Indira Gandhi International Airport 40 km (NE) from the project site.	Details are covered in Chapter-7 of EIA/EMP report

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11.2	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.	Traffic Management Plan is provided in chapter 7.	Traffic Management Plan is provided in chapter 7.
11.3	Examine the details of transport of materials for construction which should include source and availability.	Construction materials will be purchased from local supply chain.	--
12.	**Disaster Management Plan**		
12.1	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster. This should cover details of vulnerabilities due to natural and manmade hazards (earthquake, flooding, cyclone, landslides, fire etc.) and details of disaster mitigation efforts for buildings and infrastructure through structural sufficiency and Fire and Life Safety compliance in line with National Building Code NBC, 2016.	Details of Disaster Management plan including emergency evacuation during natural and man-made disaster is provided in chapter 7.	Details are covered in Chapter-7 of EIA/EMP report
13.	**Court Cases**		
(xxv)	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No Litigation is pending against the project.	

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14.	Miscellaneous		
14.1	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Townships".	Complied	--

CHAPTER-1 : INTRODUCTION

1.1 PREAMBLE

1.1.1 General

Early identification and characterization of critical environmental impacts allow the public and the government to form a view about the environmental acceptability of a developmental project and what conditions should apply to migrate or reduce those risks and impacts.

EIA is technical exercise, to establish baseline environmental conditions to predict environmental impacts assess their significance and provide recommendations for their mitigation. The impact assessment covers both construction and operation phase of the development. The report covers areas such as noise, air quality, ecology, water quality & hydrology, local architecture, landscape & visual character, sustainability and socio-economics. The report describes how the project has been improved, through the EIA process. This report has been prepared as per the EIA Notification, 2006 & amendments, EIA Guidance manual for Building, Construction and Area Development projects as guiding documents.

1.2 PURPOSE OF REPORT

The Industrial Plotted Colony projects have the potential in altering environmental resources of any area. They cause stress on local environmental assets of the rural area and thus become the potential source for limiting the growth of the city. Unplanned construction and operation of such projects usually result in impacts on various facilities of the Environment. Keeping the above issues under consideration, an Environmental Impact Assessment (EIA) study is conducted.

The basic objective of this EIA study is to collect the baseline data within the impact zone to identify the associated impacts and propose suitable mitigation measures due to the construction and operation of the development. The objectives of the EIA study can be summarized as follows:

- To identify and describe the elements of surroundings and environment likely to be affected by the project
- To establish the baseline environmental and social scenario of the project surroundings
- To identify, predict and evaluate environmental and social impacts expected to arise during the construction and operation phase of the project in relation to the sensitive receptors.
- To develop EMP mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operation of the project.
- To design and specify the monitoring and auditing requirements necessary to ensure the implementation and effectiveness of the mitigation measures adopted.

The Ministry of Environment, Forests & Climate Change (MoEFCC) introduced the Environment Impact Assessment (EIA) Notification, 2006 on 14th September 2006, which not only re-engineered the entire Environment Clearance (EC) process specified under the EIA notification 1994, but also introduced a number of new developmental sectors which would require prior environmental clearance. The EIA Notification, 2006, and its amendments has notified a list of developmental Sectors which have been further categorized as A or B based on the spatial extent of potential impacts and potential impacts on human health and natural and manmade resources.

Category B projects have been categorized as B1 and B2. In this regard, township and area development projects are covered in Category-B1, Schedule 8 (b) and require clearance from Ministry of Environment, Forests & Climate Change (MoEFCC).

1.3 IDENTIFICATION OF PROJECT & PROJECT PROPONENT

1.3.1 Identification of Project

M/s Signatureglobal India Limited aims to develop an Industrial Plotted Colony Project keeping in mind the growing demand of the local population. We will propose Category B industries.

The Project site is located Village- Shidrawali, Tehsil –Manesar, District- Gurugram, Haryana on a land measuring 54.92 ha or 5,49,258.716 m².

The project facilities include:

- Industrial Plotted Development
- Residential Plotted Development
- Community facilities
- Commercial facilities

The baseline environment study was done for the period from December 2023 to February, 2024 as per standard ToR of MoEFCC.

Standard ToR application was online submitted to MoEFCC, New Delhi vide online application No. SIA/HR/INFRA2/494250/2024 on 10.09.2024.

Standard ToR letter issued by SEAC Haryana vide Letter No. TO24B3813HR5427969N dated 10.09.2024. (Copy attached as Annexure-I).

EIA/EMP report is being submitted to SEIAA, Haryana for grant of EC to the project.

Environment in EIA context mainly focuses, but is not limited to physical, chemical, biological, geological, social, economical and aesthetic dimensions along with their complex interactions, which affect individuals, communities and ultimately determines their forms, character, relationship and survival. In EIA context, effect and impact can

often be used interchangeably. However, impact is considered as a value judgment of the significance of an effect.

1.3.2 Project Proponent

M/s Signatureglobal India Limited, is promoted by a group of experienced businessmen.

The registered address of M/s Signatureglobal India Limited is 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, New Delhi- 110001.

Table 1-1 Details of PP

Name	Designation
Mr. Vineet Kumar	Authorised Signatory, M/s Signatureglobal India Limited

1.4 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT AND ITS IMPORTANCE TO THE COMPANY REGION

1.4.1 Nature & Size of Project

The present proposal is for construction of Industrial Plotted Colony Project with Plot area = 5, 49,258.716 m² (135.7250 acre) and total built-up area = **7,24,895.645**m²

Total Project cost is INR 1593.7 Cr including Land, Development and Machinery Cost.

1.4.2 Location of Project

The project site is located at Village- Shidrawali, Tehsil –Manesar, District- Gurugram, Haryana.

The geographical co-ordinates of centre of project site are 28° 14' 59.529" N and 76° 49' 48.329"E.

The Co-ordinates of the project site are given below:

Table 1-2 Pillar Co-ordinates of Project Site

Pillar No.	Longitude	Latitude
1	28° 14' 59.529" N	76° 49' 48.329" E
2	28° 14' 53.282" N	76° 49' 31.206" E
3	28° 15' 6.792" N	76° 49' 28.441" E
4	28° 14' 56.620" N	76° 49' 6.138" E
5	28° 14' 50.247" N	76° 49' 1.477" E
6	28° 14' 40.487" N	76° 48' 59.748" E
7	28° 14' 37.528" N	76° 49' 7.433" E
8	28° 14' 40.625" N	76° 49' 20.454" E
9	28° 14' 41.016" N	76° 49' 33.251" E
10	28° 14' 38.555" N	76° 49' 40.599" E
11	28° 14' 32.254" N	76° 49' 51.380" E
12	28° 14' 41.918" N	76° 49' 51.222" E

13	28° 14' 49.836" N	76° 49' 46.127" E

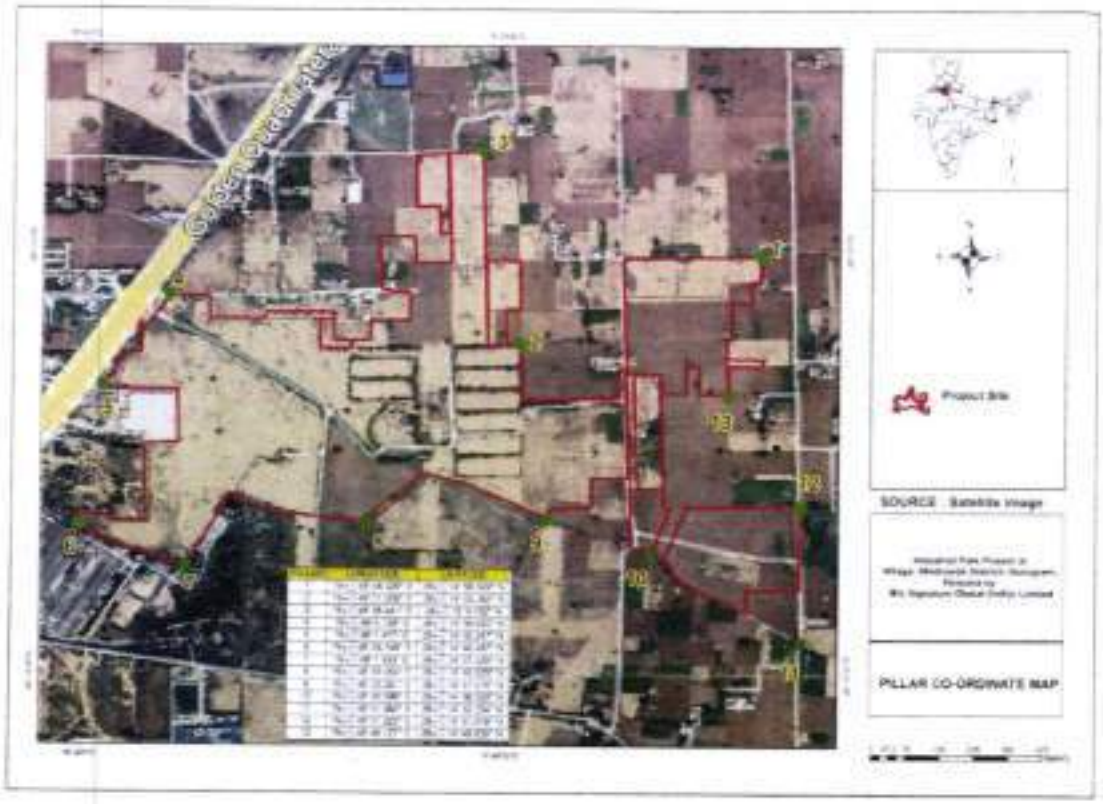


Figure 1-1 Pillar Co-ordinate Map of Site

1.4.3 Importance of Project

The project is being developed to meet the growing demand of industrial Plotted Colony projects of the local community in the region.

1.5 SCOPE OF THE STUDY

1.5.1 Environmental Clearance Process

The Ministry of Environment, Forests & Climate Change, Govt. of India, through EIA notification No. SO.1533 (E) dated 14th September 2006 and subsequent amendments under the Environment Protection Act 1986 have placed Townships and Area Development Projects at Sl. No. 8(b) in the list of projects requiring prior environmental clearance. Further, as the built-up area of the of the proposed project is more than 1,50,000 m^2, it falls under category 'B' of the schedule and shall require prior environmental clearance from the State Environment Impact Assessment Authority.

The Environmental Clearance process for the project will comprise of three stages. These stages in sequential order are given below:

1. Screening
2. Scoping
3. Appraisal

Screening and Scoping of the project has already been completed and it has been granted Standard Terms of Reference (ToR) by MoEF&CC, New Delhi.

M/s Signatureglobal India Limited has engaged M/s GRC India Pvt. Ltd., Noida to carry out Environmental Impact Assessment (EIA) Study for the project. The assessment covers the baseline data generation, predictions and evaluation of impact on various environmental components and formulation of Environmental Management Plan and Disaster Management Plan.

The EIA report has been prepared as per the Generic Structure of Environmental Impact Assessment Notification, 2006 (Appendix III) and Standard Terms of Reference issued by SEAC Haryana.

The report has been prepared based on the following reference documents:-

- ✓ Technical EIA Guidance Manual for Building & Construction project, Prepared by Ministry of Environment and Forests.
- ✓ National Building Code

The EIA/EMP study consists of the following elements:-

1. To generate baseline information regarding status of environment by carrying out (a) baseline survey of environmental parameters like air, water, noise and soil and (b) secondary data required for impact assessment from the available sources.
2. To identify set of activities which have a potential impact on the environment or the public and to provide the mitigation measures for the same, on the basis of the details of the project
3. To carry out Land Use / Land Cover (LULC) pattern studies in project site and within 10 km radius study area to identify the impact on land due to the operation of the plant
4. To predict pollution load/stress level in air, water, land and other environmental matrixes due to the sources identified.
5. To examine the availability and adequacy of the envisaged measures for control of pollution/sources of stress, so as to meet the statutory provisions, and propose mitigate measures, if needed
6. To analyze the consequences of potential accidents and the steps adopted to avert accidents and the plans to mitigate consequences in the case of severe accidents.
7. To specify the environmental monitoring required in the operational phase of the plant to evaluate the effectiveness of the various environmental control measures adopted.
8. To assess the benefits arising from the project
9. To delineate the administrative mechanisms warranted to oversee (a) the implementation of control/EMP mitigative measures during operation of the plant, (b) operation and maintenance of such systems subsequently, (c) compliance with monitoring programs and (d) provision of required budget

1.6 STRUCTURE OF EIA REPORT

The EIA report has been structured as per Appendix-III of the EIA Notification, 2006 complying with Standard ToR prescribed by SEAC, Haryana. Structure of the EIA report is as below:

CHAPTER 1 – INTRODUCTION

The chapter provides description of project background, site and surroundings, objectives, scope and organization of the study.

CHAPTER 2 – PROJECT DESCRIPTION

This chapter provides information on project and capacity; need for the project; location; size or magnitude of operation; technology and process description; maps showing project layout, component of projects etc.

CHAPTER 3 – DESCRIPTION OF THE ENVIRONMENT

This chapter deals with the methodology and findings of field studies undertaken with respect to ambient air quality, meteorology, water quality, soils characteristics, noise levels and ecology to define the various existing environmental status in the area of the project. This also deals with the infrastructural development as a part of project and sources of pollution from the proposed new project.

CHAPTER 4 – ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

In this chapter, the potential impacts of the proposed new project, which could cause significant environmental concerns, are identified and discussed. This discussion will form the basis for environmental management activities.

CHAPTER 5 – ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

Not prescribed in Standard ToR letter issued by SEAC, Haryana

CHAPTER 6 – ENVIRONMENTAL MONITORING PROGRAM

This chapter will include ascertaining the environmental impacts; state of pollution within the project area and in its vicinity; planning for predictive or corrective actions in respect of pollution to keep it within permissible limits.

CHAPTER 7 – ADDITIONAL STUDIES

This chapter will include outcomes of public consultation, Identification of hazards and risk assessment, social impact assessment, R&R action plan, biodiversity conservation plan, watershed management etc.

CHAPTER 8 – PROJECT BENEFITS

This chapter deals with improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits due to proposed project activity.

CHAPTER 9 – ENVIRONMENTAL COST BENEFIT ANALYSIS

Not prescribed in Standard ToR letter issued by SEAC, Haryana

CHAPTER 10 – ENVIRONMENTAL MANAGEMENT PLAN

This chapter will include the description of administrative aspects of ensuring that the mitigation measures suggested are implemented and their effectiveness is monitored after approval of the EIA.

CHAPTER 11 – SUMMARY& CONCLUSION

This will constitute the summary of the EIA Report.

CHAPTER 12 – DISCLOSURE OF CONSULTANT

This will include the names of the consultants engaged in preparation of EIA and nature of consultancy rendered by the experts.

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CHAPTER-2 : PROJECT DESCRIPTION

2.1 GENERAL DESCRIPTION

2.1.1 Type of the Project

M/s Signatureglobal India Limited aims to develop Industrial Plotted Colony Project. We will propose Category B industries.

The Project site is located Village- Shidrawali, Tehsil –Manesar, District- Gurugram, Haryana on a land measuring 54.92 ha or 5,49,258.716 m².

The company has vast experience in planning and construction of Industrial Plotted Colony. The project facilities include:

- Plotted Development
- Community facilities
- Commercial facilities
- Plotted Industries

2.1.2 Salient Features of the Project

Salient features of the Project are given below in Table-2.1:

Table 2-1 Salient Features of the Proposed Project

S. N.	Items	Details
1	Name of the Project	Industrial Plotted Colony Project
2	S. No. in the schedule	8 (b), Townships and Area Development Projects
3	Proposed capacity / area / length /tonnage to be handled/command area/lease area/number of wells to be drilled	Plot Area = 5,49,258.716 m²(135.7250 acres) Built-Up Area = **7,24,895.645**m²
4	Category of Project	Category B1
5	Toposheet	H43W16_53D16 & H43W15_53D15
6	Sanctuaries / National Parks/ Biospheres, etc	No Sanctuaries / National Parks/ Biospheres, etc. falling within 10 km of the project site.
7	Project Cost	INR 1593.7 Cr
8	Nearest Airpoprt	IGI Airport is approx. 40 km (NE)
9	Nearest Railway Station	Inchhapuri Railway Station is approx. 12.6 km (NW)
10	Road Connectivity	NH-48 adjacent (NW), SH 28 approx. 0.58 km (SW), SH 25 approx. 4.1 km (S), NH 919 approx. 3.8 km (S) NH 352W approx.. 9.5 km (NW)

		Western Periphery Expressway approx. 8.7 km (NE)

2.2 NEED OF THE PROJECT

The project will provide direct or indirect employment opportunities for a large section of society.

Employment will have positive impact thereby improving the standard of living.

2.3 LOCATION OF THE PROJECT (MAPS SHOWING GENERAL LOCATION, SPECIFIC LOCATION, PROJECT BOUNDARY & PROJECT SITE LAYOUT)

The project site is located at Village-Shidhrawali, Tehsil-Manesar, District Gurugram, Haryana.

The Nearest Highway is NH-48 which is adjacent to the project site , SH-28 is 0.58 km towards SW direction, SH-25 which is 4.1 km (S), NH-919 is 3.8 km towards S direction, Western Peripheral Expressway is 8.7 km towards NE direction, MDR 132 is 5.1km towards NE direction, & NH-352W which is 9.5 km (S) direction away from project site.

The nearest railway station being Inchhapuri Railway Station is about 12.6 km (NW) away from the project site.

The nearest Airport is Indira Gandhi International Airport 40 km (NE) from the project site.

The geographical co-ordinates of centre of project site are 28° 14' 59.529" N and 76° 49' 48.329"E.

2.4 JUSTIFICATION FOR THE PROJECT SITE

The operation of project and other allied facilities will provide direct or indirect employment opportunities for a large section of society. The employment will have positive impact thereby increasing the quality of life.

The other factors considered while selecting the project site are:

a) Availability of adequate land.
b) Availability of required quantity of water throughout the year
c) Good connectivity to the highway
d) Availability of local labour during construction phase
e) No environmentally sensitive location in vicinity
f) Good law and order situation

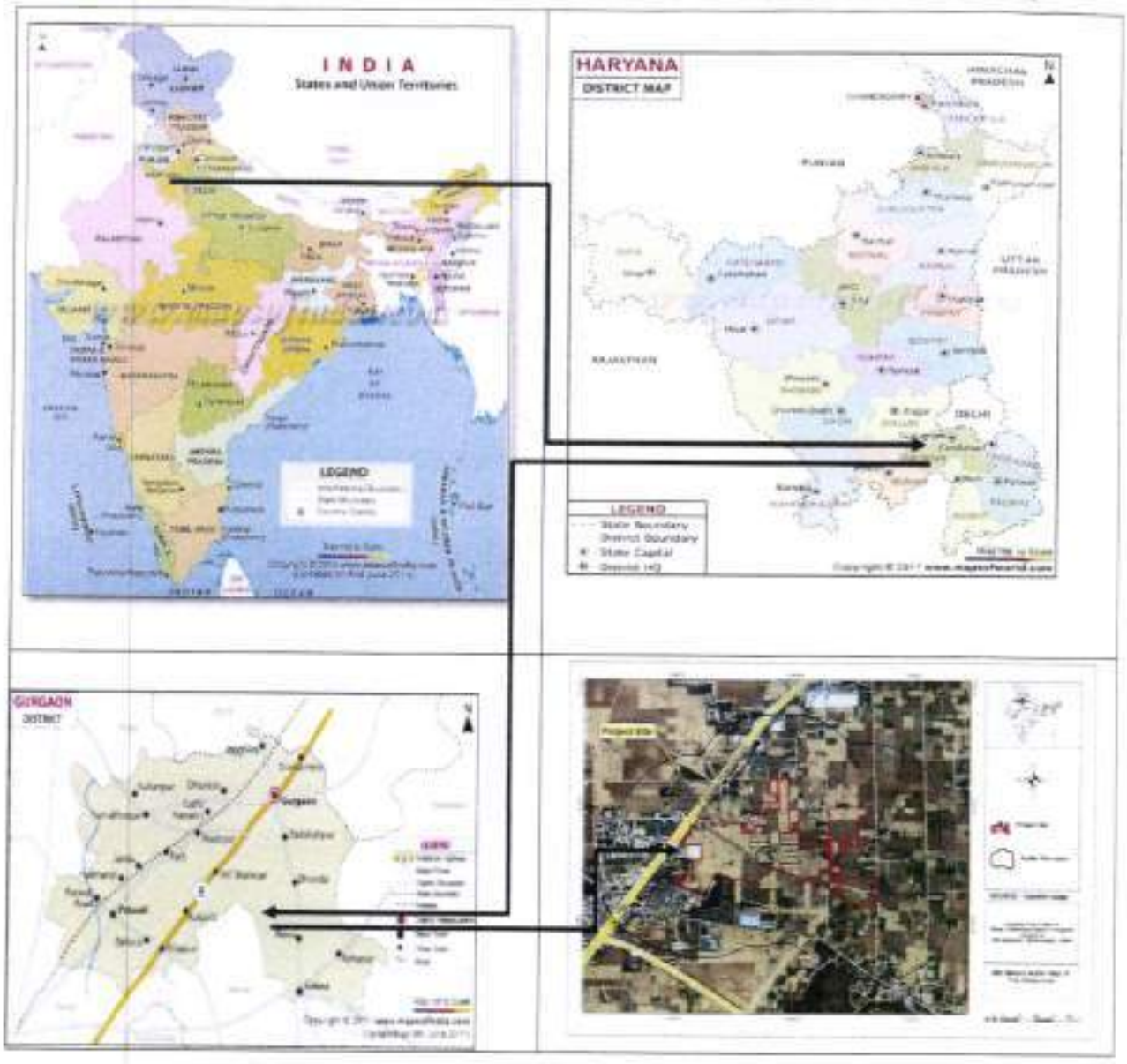


Figure 2-1 Location of the Project Site

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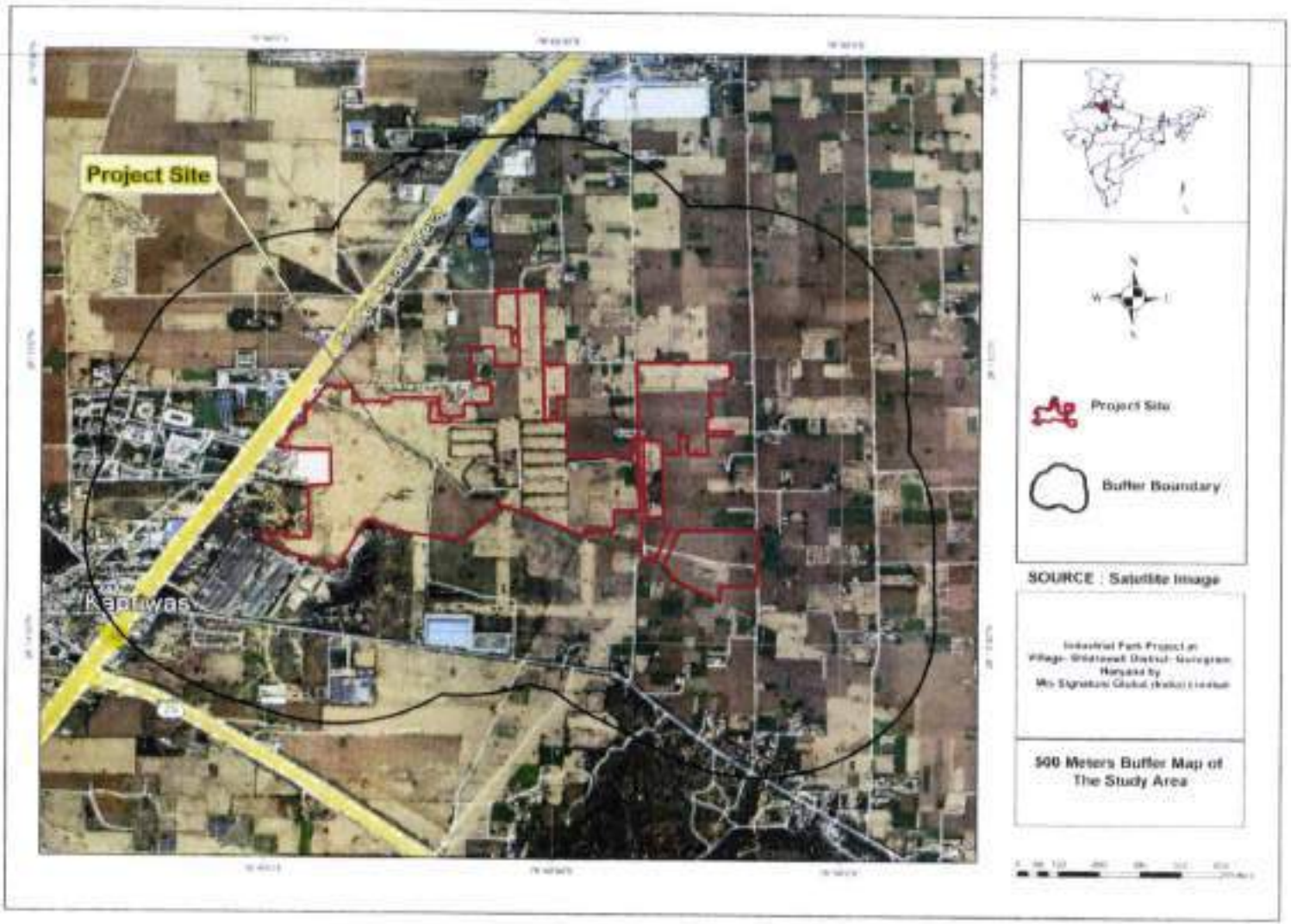


Figure 2-2: 500 m radius map

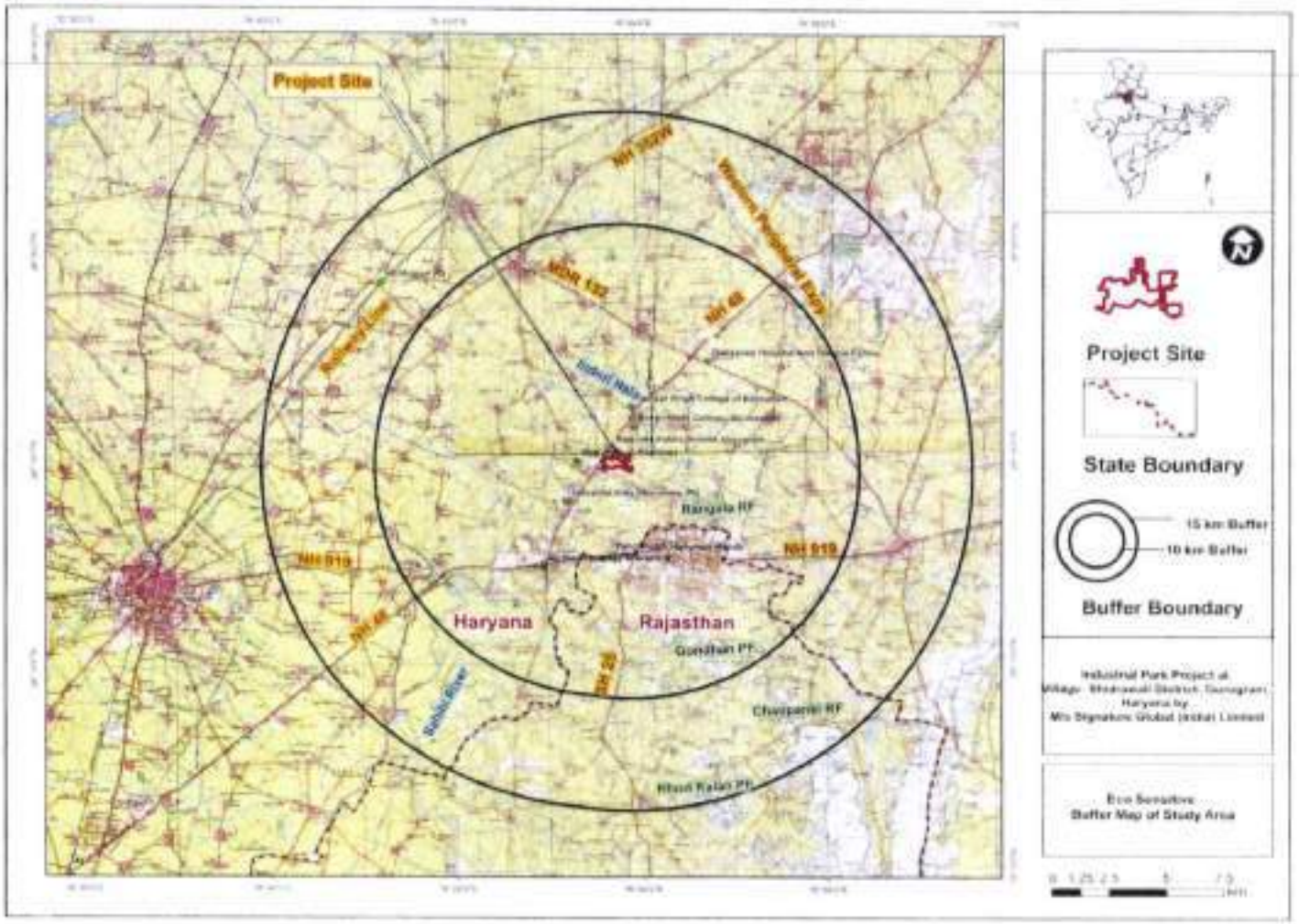
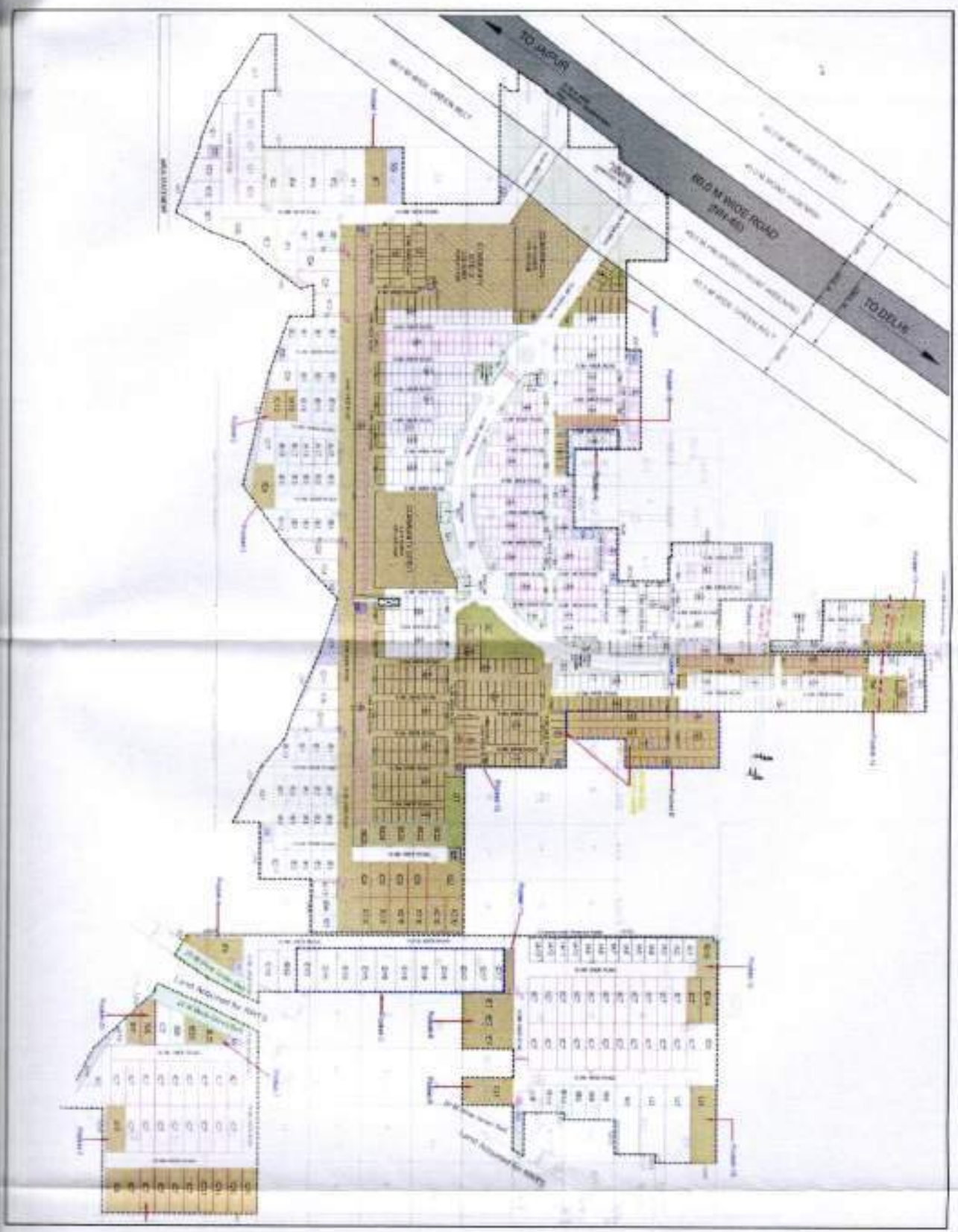


Figure 2-3 10 & 15 km radius around Project Site

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TO JAIPUR
60.0 M WIDE ROAD
TO DELHI

2.5 SIZE OR MAGNITUDE OF OPERATION

2.5.1 Complete Area Statement

The total area of the site is 5,49,258.716 **m² (135.7250 acre).** The detailed Area Statement is provided below in Table 2.2:

Table 2-2 Detailed Area Statement

S. No.	Particulars	Area (in m²)
1.	**Total Licensed area**	**5,49,258.716**
2	Area under Road (Delhi –Jaipur Road) Widening	10,194.015
3	Area under proposed Green Belt of Delhi –Jaipur Road (considering 60 m wide on either side)	13677.139
4	Area under green belts of RRTS (considering 20m on either side)	5293.280
5.	Total area to be deducted (2+3+4)	29,164.434
6.	**Balance area (1-5)**	**5,20,094.282**
7.	**50% benefit of area under road** (Delhi –Jaipur Road) Widening, Green Belt of Delhi –Jaipur Road & green belts of RRTS	**11,935.577**
8.	**Net Area (6+7)**	**5,32,029.859**
9.	Area under undetermined use	5,516.641
10.	**Net Planned area (8-9)**	**5,26,513.219**
11.	**Proposed Area under plots**	**319,416.066**
	• Area under Industrial Plots	1,84,280.882
	• Area under Residential plots	1,27,433.845
	• Area under Commercial plots	7701.339
12.	**Total Permissible FAR**	**5,78,220.453**
	• Industrial Permissible FAR (1.250)	2,30,351.102
	• Commercial Permissible FAR (4.2857/Plot)	11,417
	• Residential Permissible FAR (2.64)	3,36,452.351
13.	**Total Proposed FAR**	**5,78,220.453**
	• Industrial FAR	2,30,351.102
	• Commercial FAR	11,417
	• Residential FAR	3,36,452.351
14.	NON-FAR Area	**1,46,675.192**

15.	**Total Built up area**	**7,24,895.645**
16.	**Green Area (7.073% of Plot area)**	**37,241.664**
	❖ Green Area under DDJAY	14942.433
	❖ Green Area under Green Belt	13677.139
	❖ Green Area Metro/RRTS Green Belt	5293.280

Table 2-3 Land use break-up of Site

S. No	Description	Area (acre)	Area (m^2)	Percentage of Net planned area (%)
1	Area under Industrial Plots	45.537	1,84,280.882	33.55
2	Area under DDJAY Residential Component	31.490	1,27,433.845	23.02
3	Area under Commercial Plots	1.903	7701.339	1.402
4	Area under Road/Road widening/Open/Green /Public Facilities etc	56.795	2,29,842.913	41.84
	Total land area	135.7250	**5,49,258.716**	**100**

2.5.2 Total Population Details

The total population of the project will be 61,489 persons. The detailed population breakup is given below in the following **Table 2-4.**

Table 2-4: Population Break-up

Table 2-4(a): Population Break-up for Residential Population

S. No.	Description	Total no. of floors per plot	DUs/FAR (sqm)	PPU	Total Population
A.	**Residential plots (Type 1)**				
1.	Residential plots	4	285	18	5130
2.	Visitor's	10% of Residential population			513
3.	Staff (Operation & Maintenance)				200
B.	**Residential plots (Type 2)**				
4.	Residential plot Population	4	677	18	12186
5.	Visitor's	10% of Residential population			1219
6.	Staff (Operation & Maintenance)				200
	Grand Total of Residential Population				**19,448**

Table 2-4(b): Population Break-up for Community buildings, Commercial & Population

S. No.	Description	Area (m^2)	PPU/ Person/m^2 FAR	Total Population
C.	**Community Building -1**			
7.	**Community Building Population**	9351.919	1.4	**6680**
8.	**Staff**	10% of Community Building 1 population		668
9.	**Visitors**	90% of Community Building 1 population		6012
D.	**Community Building -2**			
10.	**Community Building Population**	10290.508	1.4	**7351**
11.	**Staff**	10% of Community Building 2 population		736
12.	**Visitors**	90% of Community Building 2 population		6615
	Total Community buildings population			**14,031**
E.	**Commercial Building**			
13.	**Retail Shops (Ground Floor)**	4,566.8	(@ 1 Person/3 m^2)	**1522**
	• Staff	(@10% of the Retail shop population)		152
	• Visitors	(@90% of the Retail shop population)		1370
14.	**Retail Shops (Above Floors)**	6,850.2	(@ 1 Person/6m^2)	**1142**
	• Staff	(@10% of the Retail shop population)		114
	• Visitors	(@90% of the Retail shop population)		1028
	Total Commercial building population			**2664**
	Grand total of Community buildings & Commercial buildings population			**16,695**

Table 2-4(c): Population Break-up for Industrial Population

S. No.	Description	Area (m^2)	PPU/ Person/m^2 FAR	Total Population
F.	**Industrial Plots**			

	Industrial plots population	2,30,351.102	(@ 1 Person/10 m^2)	23,035
	Visitors	10% of Industrial plots population		2303
	Total Industrial plots population			**25,338**

2.5.3 Water Requirement

During the Construction Phase the Source of water will be Ground water. During operation phase, the source of water supply will be GMDA. The total water requirement for the project will be approx. 3475 KLD.

The domestic water demand for Residential (Type 1 & 2), Community Buildings, Commercial Buildings, & industrial Plots is 2905 KLD. The freshwater requirement for Residential (Type1 &2), Community Buildings, Commercial Buildings, & industrial Plots will be 1943 KLD. However, one-time freshwater demand for the project will be 3475 KLD.

The calculation of daily water requirement and wastewater is given below in Table 2-5 to 2-8 respectively.

Table 2-5: Calculations for Daily Water Demand

S. No.	Description	Occupancy	Rate of water demand (lpcd)		Total Water Requirement (KLD)		
			Fresh	Flushing	Fresh	Flushing	Total
A.	**Domestic Water for Residential plots (Type 1)**						
	Residential plots	5130	@ 65 lpcd	@ 21 lpcd	333	108	441
	• Staff	200	@25 lpcd	@20 lpcd	5	4	9
	• Visitors	513	@ 10 lpcd	@5 lpcd	5	3	8
					343 KLD	**115 KLD**	**458 KLD**
	Total Domestic Water= 458 KLD						
B.	**Domestic Water for Residential plots (Type 2), Community buildings, & Commercial buildings**						
	Residential plots (Type 2)	12186	@ 65 lpcd	@ 21 lpcd	792	256	1048
	• Staff (for Community buildings, Operation & Maintenance for residential plots (type	1870	@25 lpcd	@20 lpcd	47	37	84

	2) & Commercial building)						
	• Visitors (for Community buildings, Residential Plots, & Commercial building)	16,244	@ 10 lpcd	@5 lpcd	162	81	243
					1001 KLD	**374 KLD**	**1375 KLD**
Total Domestic Water for Residential plots (Type 2), Community buildings & Commercial Buildings = 1375 KLD							
C.	**Domestic Water for Industrial plots**						
	• Industrial Plots	23,035	@25 lpcd	@20 lpcd	576	461	1037
	• Visitors (for Industrial plots)	2303	@ 10 lpcd	@5 lpcd	23	12	35
					599 KLD	**473 KLD**	**1072 KLD**
	Total Domestic Water for Industrial plots						**1072 KLD**
D.	**Horticulture**	37,241.664 m^2	3 l/sqm		112 KLD		
Grand Total (A+B +C+D) 3,475 KLD							

Table 2-6: Wastewater Calculation for Residential plots (Type 1)

Domestic Water	**458 KLD**
• Fresh water	343 KLD
• Flushing water	115 KLD
Waste water [@80% fresh + 100% flushing]	274.4 +115 = **389 KLD**
STP Capacity	500 KLD

Table 2-7: Wastewater Calculation for Residential plots (Type 2), Community buildings, & Commercial buildings

Domestic Water	**1375 KLD**
• Fresh water	1001 KLD
• Flushing water	374 KLD
Waste water [@80% fresh + 100% flushing]	801 + 374= **1175 KLD**
STP Capacity	1410 KLD

Table 2-8: Wastewater Calculation for Industrial plots

Domestic Water	**1072 KLD**
• Fresh water	599 KLD
• Flushing water	473 KLD
Waste water [@80% fresh + 100% flushing]	479 + 473= **952 KLD**
STP Capacity	1150 KLD

WASTE WATER & TREATEMENT

Approx. 2516 KLD wastewater will be generated from the **Residential plots (Type 1 & 2), Community buildings, Commercial buildings & Industrial plots**. Wastewater will be treated in an in-house STP of total capacity 3060 KLD (500 KLD +1410 KLD +1150 KLD).

STP 1 [For Residential plots (Type 1)]: 500KLD

STP 2 [For Residential plots (Type 2), Community buildings, & Commercial buildings]: 1410 KLD

STP 3 [For Industrial plot]:1150 KLD

Treated wastewater will be used for flushing and horticulture and remaining water will discharge to External sewer.

Water balance diagram for summer, monsoon & winter season is presented below:

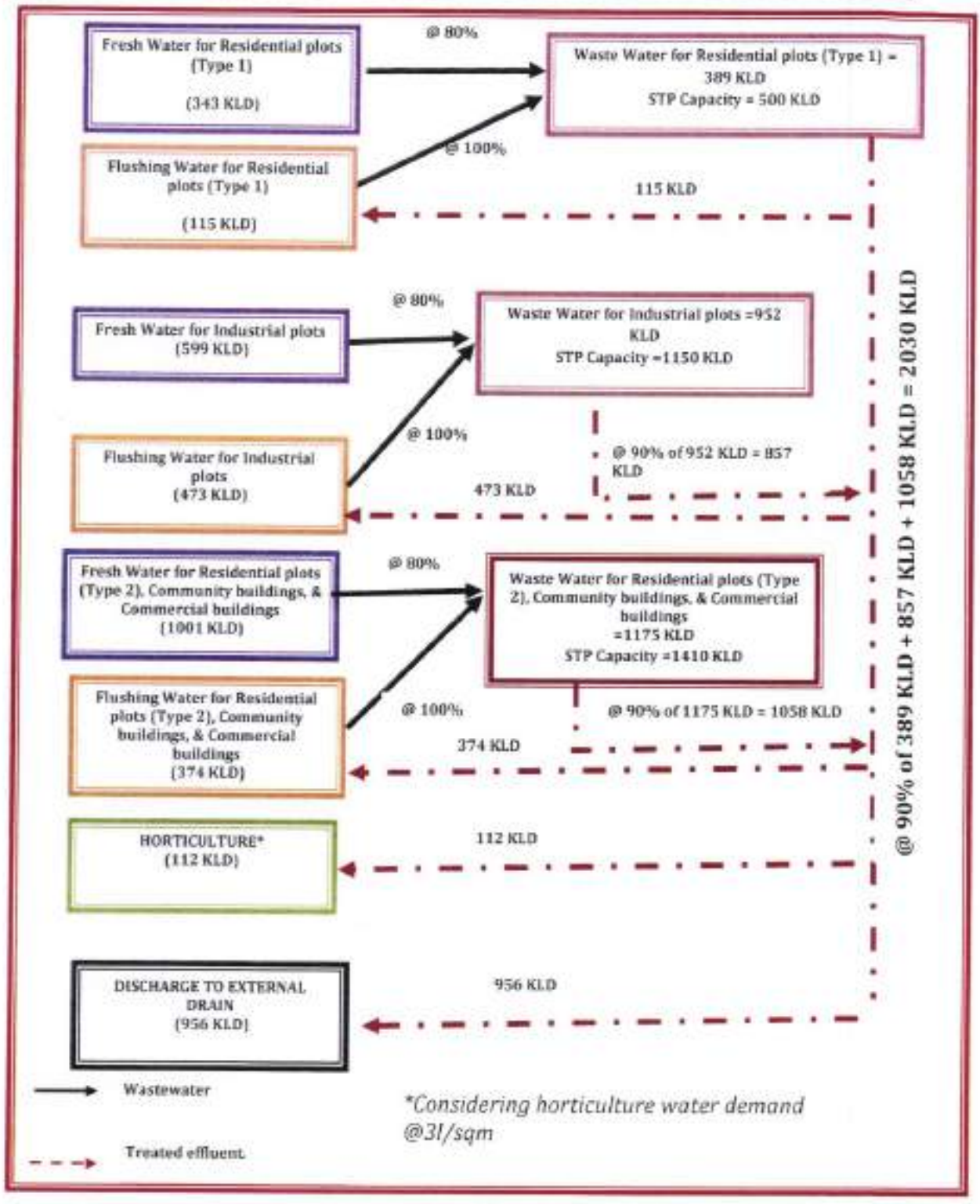


Figure 2-6: Water Balance Diagram (Summer Season)

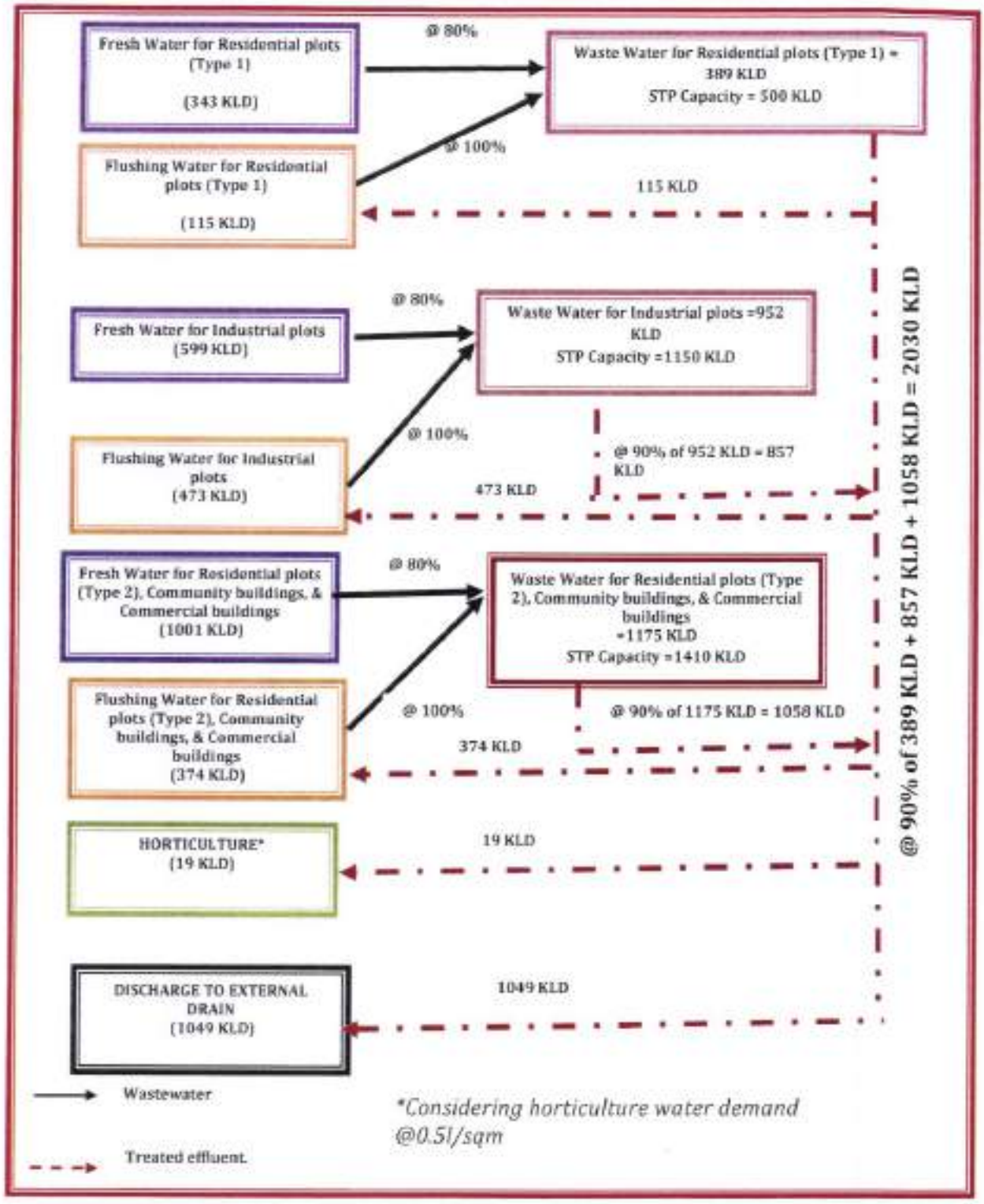


Figure 2-7: Water Balance Diagram (Monsoon Season)

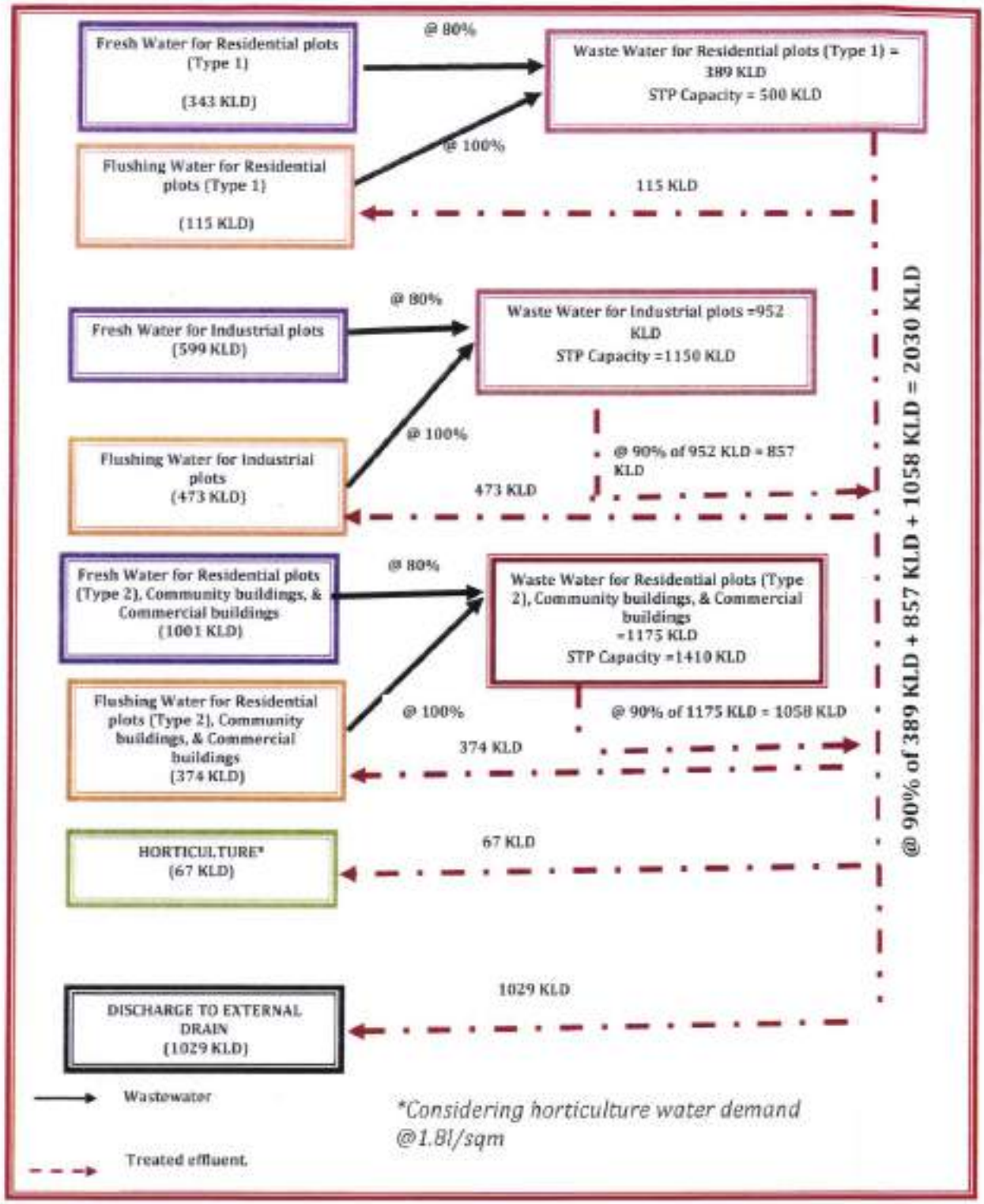


Figure 2-8: Water Balance Diagram (Winter Season)

2.6 SEWAGE TREATMENT TECHNOLOGY

MBBR TECHNOLOGY

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:

- The process has long retention time and can absorb shock load situation.
- Reduced net daily water requirements, source for Flushing and Horticultural purposes by utilization of the treated waste water.
- Reduced dependence on the public utilities for water supply and sewerage systems.
- The process produces a well-oxidized sludge in small quantities only, which can be removed and used as manure.

a. ***Wastewater Details***

(a)	Daily load	:	2516 KLD
(b)	Duration of flow to STP	:	24 hours
(c)	Temperature	:	Maximum 32°C
(d)	pH	:	6.5-8.5
(e)	Colour	:	Mild
(f)	T.S.S. (mg/l)	:	250-400 mg/l
(g)	BOD_5 (mg/l)	:	300-400 mg/l
(h)	COD (mg/l)	:	600-700 mg/l

1 **Treated effluent**

(a)	pH	:	6.0 to 8.5
(b)	B.O.D.	:	<10 mg/l
(c)	C.O.D.	:	<30 mg/l
(d)	Total Suspended Solids	:	<20mg/l

c. **Treatment Technology**

MBBR TECHNOLOGY

Moving bed biofilm reactor technology is based on the principle of attached growth process. Raw sewage will be collected under gravity into the equalization tank after allowing to pass through the bar screen. Screens will be provided in screen chambers

and it will be manually cleaned by going down to a platform. The bar screen, by removing coarse solids from the sewage help in protecting the raw sewage pump.

Fully submersible centrifugal non clog sewage handling pump will be provided in the collection cum equalization tank to pump the collected waste water to the next MBBR tanks. Automatic level controller will be provided in the tank to turn the pump off at the low water level in the tank and to start the pump when water level is high automatically. Air will be introduced in this tank to prevent any potential foul smell problem & to provide the mixing of wastewater to avoid the sedimentation of solids in this tank. Air Grid used for aeration purpose shall be non-clog.

The sewage collected in equalization tank is pumped the moving bed bioreactor. There shall be two nos. of bioreactors in series for the efficient working and removal of BODs for the required retention time. The process inside the moving bed bioreactors consists of adding small cylindrical-shaped polyethylene/polypropylene carrier elements in aerated basins to support biofilm growth. The small cylinders are provided with a cross inside the cylinder and longitudinal fins on the outside. The biofilm carriers are maintained in the reactor by the use of a perforated plate with appropriate slot at the tank outlet. Air agitation or mixers are applied in a manner to continuously circulate the packing. The packing may fill 25 to 50 percent of the tank volume. Specific surface area of the packing is about 450-500m^2/m^3 of bulk packing volume. The waste water from first bioreactor flows by gravity through the perforated plate/mesh to the next bioreactor kept in series. Inside the bioreactors, aerobic bacteria grow in an attached growth from around the moving plastic media inside the reactors. The bacteria have to reduce BOD & COD of waste water in the presence of oxygen provided through the air grids located at the bottom of the reactors. The Process does not require any return activated sludge flow or backwashing.

From the bio-reactors, the effluent passes by gravity into the clarifier (Tube Settling Tank). Clarifier will be a hopper bottom sedimentation tank provided with appropriate size PVC tube deck media. The suspended solids will settle at the bottom of the tank & clear supernatant will overflow to filter feed tank through outlet launder. The collected sludge at bottom shall be transferred through pumps to sludge holding tank.

The clear supernatant after clarifier will be collected in to filter feed tank. This tank will act as housing tank for filter feed pumps. The clarified & dis-infected water will be then fed to filtration unit.

Filtration unit consisting of Dual Media sand filter, activated carbon filter and ultra-filtration system (optional) will remove the residual impurities such as odor/color, suspended solids, BOD/COD. The treated water after the filtration unit will be collected in Irrigation cum Flushing water storage tank from where it is transferred to flushing water tank at terrace & Irrigation System.

Excess sludge from the bottom of the settling tank will be removed and transferred to sludge holding tank. Air grid shall be provided in this tank to avoid conversion into anaerobic conditions, thickening of sludge and keep sludge in homogenous condition. The digested & thickened sludge shall be further thickened through Sludge Dewatering System (Filter press with screw pump) and disposed-off periodically through closed tanker or can be reused as manure.

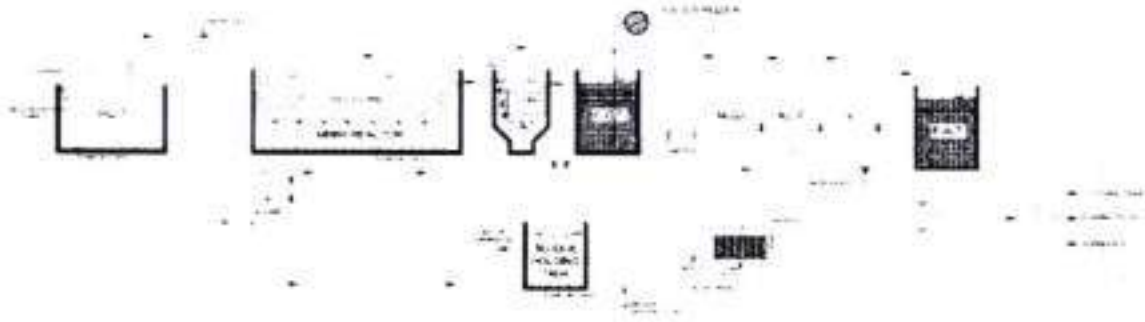


Figure 2-9: Schematic Diagrams for STP Based on MBBR Technology

2.7 POWER REQUIREMENT& BACKUP

The power shall be supplied by the State Electricity Board. The maximum load demand for the project will be approx. 12,883 KW.

Details of D.G Sets

There is provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

2.8 VEHICLE PARKING & FACILITY

Adequate provision will be made for car/vehicle parking at the project site. There shall also be adequate parking provisions for visitors so as not to disturb the traffic and allow smooth movement at the site.

For plotted development the parking shall be within the plots by the individual plot owners.

2.9 SOLID WASTE GENERATION

Solid waste would be generated both during the construction as well as operation phase. The solid waste expected to be generated during the construction phase will comprise of excavated materials, used bags, bricks, concrete, MS rods, tiles, wood, etc. which would be managed in accordance with Construction & Demolition Waste Management Rules, 2016. The following steps are proposed to be followed for the management of solid waste:

- Construction yards are proposed for storage of construction materials within site
- The excavated material such as topsoil and stones will be stacked for reuse during later stages of construction
- Top soil will be stored in temporary constructed soil bank and will be reused for landscape development and
- Remaining soil shall be utilized for refilling / road work / rising of site level at locations/ selling to authorize agency for disposal at designate sites

Following figure depicts Solid Waste Management scheme during Construction Phase of the project:

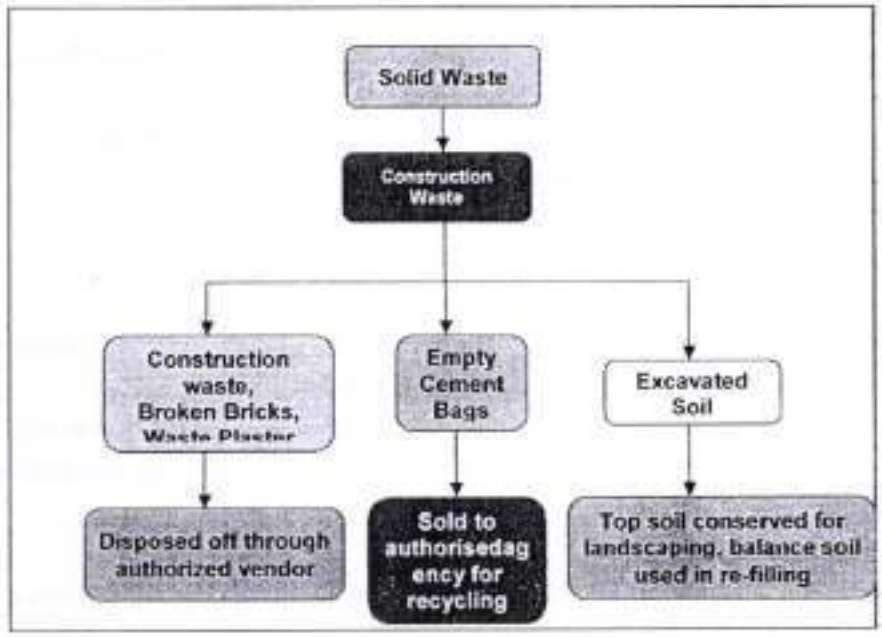


Figure 2-10 Solid Waste Management Scheme (Construction Phase)

During the operation phase, approx. 18,139 kg/day of domestic waste will be generated. Calculation for domestic solid waste is provided in table below:

Table 2-9: Daily Solid Waste Generation

S. No.	Description	Occupancy	Norms (kg/capita/day)	Waste Generated (kg/day)
1.	**Domestic Solid Waste for Residential plots**			
	• Residential plots	17316	0.5	8658
2.	**Domestic Solid Waste for Industrial plots**			
	• Industrial Plots	23035	0.25	5759
3.	Staff (Residential Maintenance, Community, Commercial, & Industrial)	2070	0.25	518
4.	Visitors(Residential, Community, Commercial, & Industrial)	19060	0.15	2,859
5.	Horticultural Waste (9.20 acres)	@ 0.2 kg/acre/day		1.84
6.	STP Sludge	Sludge generated x 0.35 x B.O.D difference/1000		343.434
Total Solid Waste Generation = 18,139kg/day				

Following arrangements will be made at the site in accordance to Solid Waste Management Rules, 2016:

❖ **Collection and Segregation of waste**

1. Door to door collection system will be provided for collection of domestic waste.
2. Separate colored bins will be provided for Dry recyclable and Bio-Degradable waste.
3. Local vendor will be hired for collection and disposal of waste.
4. Litter bin will also be provided in open areas like parks etc.

❖ **Treatment of waste**

- Bio-Degradable waste

1. Bio-degradable waste will be subjected to composting by organic waste converter and the compost will be used as manure.
2. STP sludge is proposed to be used for horticultural purposes as manure.
3. Horticultural Waste is proposed to be composted and will be used for gardening purposes.

- Recyclable waste

i. Grass Recycling – The cropped grass will be spread on the green area. It will act as manure after decomposition.

ii. Recyclable waste like paper, plastic, metals etc. will be sold off to recyclers.

❖ **Disposal**

Recyclable and non-recyclable waste will be disposed of through a local agency. Solid waste management scheme is depicted in the following figure:

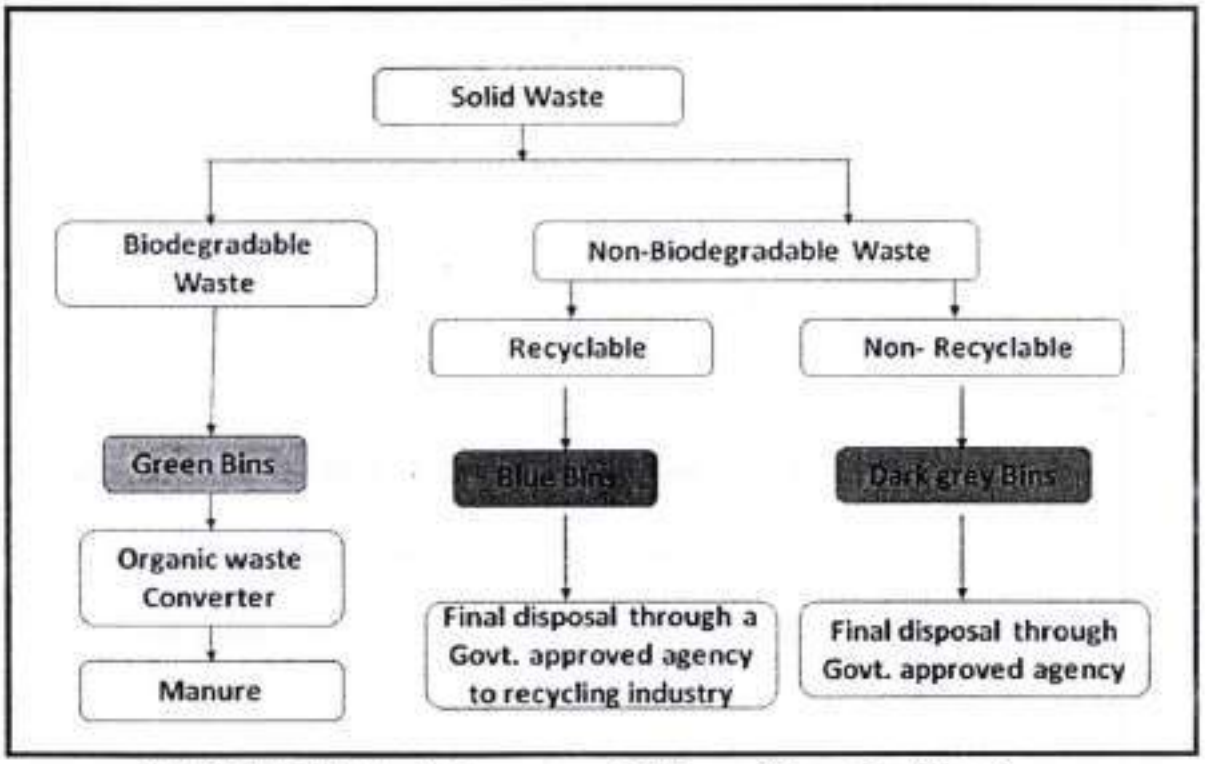


Fig. 2-11: Solid Waste Management Scheme (Operation Phase)

Organic Waste Converter

A waste converter is a machine used for the treatment and recycling of solid and liquid refuse material. A converter is a self-contained system capable of performing the following functions: pasteurization of organic waste; sterilization of pathogenic or biohazard waste; grinding and pulverization of refuse into unrecognizable output; trash compaction; dehydration.

Benefits of organic waste converter:

1. Large quantity of solid waste is converted to manure in a very short period
2. Manure can be used as compost for gardening
3. Machine requires less space, and the efficiency is high
4. Manpower and maintenance are very less
5. This is one of the latest techniques of managing biodegradable solid waste.

Organic Waste Converter - 300 (Dim. 3m × 4m) 2 machines are proposed to be used for composting waste 120kg/batch or 3000 kg/day & it requires electricity of about 13.5 HP.

No. of batches /day = 3000/120 = 25

Biodegradable Waste to be converted = 40% of total solid waste generated = 7256 kg/ day
Taking 20% higher = 8707kg
No. of batches to convert 8707 kg = 8707 /120 = 73

Operation Cost-monthly per capita:

The operating cost of OWC - 300 = 1, 80,000 INR/month
Cost/day = 1, 80,000/30
= 6000/-
1 batch/day cost = 6000/25
= 240 INR
Cost for 73 batch/day = 73 × 240/-
= 17520 /-
Monthly operating cost = 30 ×17520
= INR 5, 25,600 /- per month

2.10 GREEN AREA

Total green area measures **37,241.664** m^2 which will include green belt, Avenue plantation and lawn.
Evergreen tall and ornamental trees have been proposed to be planted inside the premises.
No. of trees required = 1 tree/80 sq.m. of plot area =5,49,258.716/80 = 6866 Nos
No. of trees proposed to be planted = 6,870 trees.

There are few trees present at the project site which will be transplanted in the greenbelt.

As per OM dated 24.07.2024 we will plant one additional tree "EK Ped Maa Ke Naam."

2.11 RAIN WATER HARVESTING

The storm water collection system for the premises shall be 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 shall be located near the carriageway along either side of the roads. Taking advantage of road camber, the rainfall run off from roads shall flow towards the drains. Storm water from various plots/shall be connected to adjacent drain by a pipe through catch basins. Therefore, it has been calculated to provide 65 rainwater harvesting pits at selected locations, which will catch the maximum run-off from the site.

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 rainwater pipes.
2) Proposed storm water system consists of pipe drain, catch basins and seepage pits at regular intervals for rainwater harvesting and ground water recharging.
3) The peak hourly rainfall of 45 mm/hr shall be considered for designing the storm water drainage system.

Rainwater 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 2.5m diameter and 4 m depth is constructed for recharging the water. Inside the recharge pit, a recharge bore is constructed having adequate diameter and depth. The bottom of the recharge structure will be 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 rainwater harvesting plan are as follows:

- Catchments/roofs would be accessible for regular cleaning.
- The roof will have a smooth, hard and dense surface which is less likely to be damaged allowing the release of material into the water. Roof painting has been avoided since most paints contain toxic substances and may peel off.
- All gutter ends will be 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 20 minutes of rainfall is flushed off.
- No sewage or wastewater would be admitted into the system.
- No wastewater from areas likely to have oil, grease, or other pollutants has been connected to the system.

Calculations for storm water load:

Green Area = 37,241.664m^2

Paved Area = 1,69,855.489m^2

Mean monthly rainfall for District as per IMD = 45 mm

Run-off from Green area = 37,241.664 x 0.045 x 0.20

= 335.174m^3

Run-off from Paved area = 1, 69,855.489 x 0.045 x 0.70

= 5,350.447m^3

Total runoff load from green and paved area = 335.174 + 5,350.447= **5,685.621m^3**

Taking 20 minutes Retention Time, Total volume of storm water = 5,685.621/3

= 1,895.207m^3

Taking the effective diameter and depth of a Recharge pit 2.5m and 4 m respectively,

Volume of a single Recharge pit = $\pi r^2 h$ = 3.14 × 1.25× 1.25× 4= 29 m^3

Hence No. of pits required = 1,895.207/29 = 65 pits

A total of 65 no. of pits proposed for artificial ground water recharge.

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CHAPTER-3 : DESCRIPTION OF THE ENVIRONMENT

3.1 INTRODUCTION

Before proceeding for baseline data generation, it is important to know the boundary limits and framework, so that the data generated can be effectively utilized for impact assessment. Baseline data of study area of 10 km radius around the project site is considered for EIA study. Impact zone for industrial actions has been classified into three parts; Core Zone (Project Site), and Buffer Zone (10 km radius from periphery of project site) as illustrated below.

Knowledge of the significance of environmental attributes is useful in selecting appropriate and judicious technique of baseline data generation, so that the generated data is rationally applied for Impact Assessment. The environmental attributes with respect to the consequences of proposed action are pointed below:

AIR ENVIRONMENT

- Determination of impact zone by screening model and developing ambient air quality monitoring network
- Monitoring and analysis of the pollutants as per prescribed procedures within the impacted zone
- Monitoring the site-specific meteorological data
- Estimation of quantities of point source emissions from the proposed actions based on engineering details
- Estimation of quantities of fugitive emissions from the proposed actions and projected emissions from the vehicular traffic
- Prediction of changes in the ambient air quality due to air emissions by following the Guidelines developed by Central Pollution Control Board (PROBES/70/1997-98)
- Evaluation of the adequacy of the proposed air pollution control measures to meet the national standards
- Assessment of impacts of air pollution on historical, cultural and archaeological sites within the impact zone
- Recommendation of air pollution mitigation measures at source, pathways and receptors

NOISE ENVIRONMENT

- Monitoring the present status of noise levels within the impact zone by following standard procedures
- Estimation of noise levels from the proposed actions based on engineering details
- Prediction of changes in the ambient noise quality due to the actions by following noise prediction models

- Evaluation of the adequacy of the proposed noise pollution control measures to meet the national standards
- Recommendation of noise mitigation measures at source, pathways and receptors

WATER ENVIRONMENT

- Study of existing surface water and groundwater resources within the impact zone of the action with respect to quality and quantity as per Primary and Biological Water Quality Criteria developed by CPCB and Drinking Water Quality Standards prescribed by Bureau of Indian Standards
- Prediction of changes in the water quality due to the effluent discharge into water bodies from proposed actions by following water quality prediction models
- Evaluation of the adequacy of the proposed water pollution control measures, wastewater treatment system and other water conservation measures, like recycling and reuse, to meet the various water quality criteria
- Recommendation of water pollution mitigation measures at source, pathways and receptors

BIOLOGICAL ENVIRONMENT

- Survey of terrestrial and aquatic flora and fauna present within the impact zone clearly delineating season and duration
- Assessment of potential damage to terrestrial and aquatic flora and fauna due to the discharge of air and water pollutants and due to landuse and landscape changes
- Recommendation of mitigation measures at source, pathways and receptors to reduce and I or prevent the damage.

LAND ENVIRONMENT

- Survey of existing landuse and topography, geology and hydrogeology, landscape and drainage pattern within the impact zone
- Estimation of impacts of the action on landuse and topography, geology and hydrogeology landscape and drainage pattern within the impact zones
- Qualitative and quantitative characterizations of solid and hazardous wastes and delineation of solid waste management options for minimization of waste, reuse of waste and environment friendly disposal practices
- Study of soil characteristics of the impact zone and impact on it due to the action
- Identification of potential utility of treated wastewater in land application and subsequent impacts
- Identification of land suitable for solid and hazardous waste disposal and subsequent impacts.

3.2 STUDY PERIOD

The standard ToR application was submitted on 10.09.2024 at MoEFCC, New Delhi vide Proposal No- SIA/HR/INFRA2/494250/2024 and the Standard ToR letter was issued by SEAC Haryana on 10.09.2024 vide ToR identification No – TO24B3813HR5427969N.

Accordingly, the baseline environmental study has been done for the period 1st December, 2023 to 29th February, 2024, as well as secondary data also collected from different sources. Baseline data has been collected by M/s GRC India Training & Analytical Laboratory, Noida (NABL Accredited Lab, Certificate No. TC - 7501 & MOEFCC No. S.O. 388 (E) (Certificate enclosed as **Annexure II**)).

The impact identification always commences with the collection of baseline data such as Ambient Air Quality, Micro-Meteorology, Ground and Surface Water Quality, Noise levels, Soil Quality, Land use pattern, Biological Environment and Socio-economic aspects, Solid and Hazardous waste, Risk Assessment, Geology and Hydrology within the study zone of 10 km radius.

3.3 ESTABLISHMENT OF BASELINE FOR VALUED ENVIRONMENTAL COMPONENTS, AS IDENTIFIED IN THE SCOPE

3.3.1 Meteorological Data

Assessment of the micro and macro meteorology is important from the standpoint of understanding the nature and extent of air pollution in the study area. Climate has an important role in the build-up of pollution levels. The climatic condition of the area may be classified as moderately or seasonally dry, tropical or temperate savanna climate with four seasons in a year. Winter is critical for air pollution build-up because of frequent calm conditions with temperature inversions resulting in poor atmospheric mixing, natural ventilation and high emission loads.

The metrological station was set-up at the project site and baseline data was collected which are reproduced as under:

3.3.2 Climate Condition

The meteorological data recorded during the monitoring period is very useful for proper interpretation of the baseline information as well as for input prediction models for air quality dispersion. A meteorological station equipped with continuous monitoring equipment was installed on at project site, at a height 10 m above ground level to record wind speed, wind direction, relative humidity and temperature.

3.3.3 Regional Meteorology

Historical data on meteorological parameters will play an important role in identifying the general meteorological will also play an important role in identifying the general meteorological regime of the region. The district received an average annual rainfall of 1635 cum. Period from June to September is well known for monsoon. The monthly rainfall data shows that 85% of rainfall comes during monsoon period.



Figure 3-1Wind Rose Diagram of 1st Dec 2023 to 29th Feb, 2024

3.3.6 Cloud Cover

The area remains cloudy between June-September, which is the active period of the monsoon season. The average cloud cover for the study area for the Winter season is 2.2oktas.

3.3.7 Temperature

There is a meteorological observatory in Gurugram. Temperatures begin to increase rapidly from about the beginning of March. June is usually the hottest month with the mean daily maximum temperature at 44.9°C & 21.6°C minimum during December. The heat in May and the early part of June till the onset of monsoon is tiring. The onset of monsoon by about mid-June brings some relief as the temperature decreases appreciably. The temperature begins to decrease rapidly after October. December and January are generally the coldest months. The district is sometimes affected by cold waves in association with passing western disturbances across north India and then the minimum temperature drops down to 2.4°C.

3.3.8 Relative Humidity

The relative humidity (RH) data at Gurugram IMD Station shows highest during January month (82% at 8:30 hr) and lowest during May month (28 % at 17.30 hr).

3.4 AIR QUALITY

3.4.1 Analytical Techniques for Air Quality Monitoring

Criteria pollutants like Fine Particulate Matter ($PM_{2.5}$), Respirable Suspended Particulate Matter (PM_{10}), Sulphur dioxide (SO_2), Nitrogen dioxide (NO_2) and Carbon Monoxide (CO) are monitored within the study area by following CPCB guidelines.

The year broadly is divided into four seasons:-

- Winter season : December to February
- Pre – Monsoon : March to May
- Monsoon Season : June to September
- Post – monsoon : October to December

3.3.4 Wind

Regional meteorological scenario helps to understand the trends of the climatic factors. It also helps in determining the sampling stations and in predicting the post project environmental scenario. Meteorological scenario exerts a critical influence on Air Quality as the pollution arises from the interaction of atmospheric contaminants with adverse meteorological conditions such as temperature inversions, atmospheric stability and topographical features like hills, and valleys.

The critical weather elements that influence air pollution are wind speed, wind direction, temperature, which together determines atmosphere stability. Hence it is an indispensable part of any air pollution studies and required for interpretation of base line information. Wind speed and direction data recorded during the study period is useful in identifying the influence of meteorology on the air quality of the area.

3.3.5 Wind Rose

The meteorological data was collected at the site by installing an automatic weather station during Winter season (Dec, 2023 to Feb 2024). Due care was taken in establishing the monitoring station to ensure free flow of winds without any obstructions.

Wind Speed, Wind Direction, Temperature and Relative Humidity were recorded for the total study period. The data on wind patterns are pictorially represented by means of wind rose diagrams for study period 1st December, 2023 to 29th February, 2024. Wind rose from collected data was compared with IMD data based wind rose, which is shown in **Figure 3-1.**

The metrological data reflecting minimum, maximum temperature in °C, relative humidity in %, rainfall in mm/hr, wind speed in m/s, for the year 2024 has been appended as **Table-3-1.**

Monitoring is carried out using Respirable& Fine Dust Sampler with attachment for gaseous sampling.

Selections of ambient air quality monitoring stations - Ambient air quality monitoring stations are selected within the impact zone by knowing the upwind and downwind direction (obtained from IMD and previous EIA reports and screen modeling technique). Logistics for operating the instrument like accessibility, electricity connection, security and safety of instruments etc. is another main factor that is used to locate the station. Sampler is not operated using petrol/ diesel Generator Sets and not located on ground or along the road-side. The three broad criteria for selection of ambient air quality monitoring stations are given below.

- **Sampling Height** - Sampler should be located 3 m to 5 m height from ground level
- **Sampling Location** - Sampler should be located >500 m distance from the roads
- **Aerial Clearance** - Minimum clearance satisfactory for sampling is 270°.There should be no high rise structures above the sampler height, like tall trees, tall buildings, hordings or other high obstructions around the sampler (in a circle of 500 m radius)

Eight Ambient Air Quality Monitoring stations were located in the impact area during Winter season (1st December 2023 to 29th February 2024). Standard procedures and frequency prescribed by CPCB were used. The monitoring locations are shown below **Table 3-2.** The summary of AAQ results is shown in **Table 3-3.**

Table 3-1 Techniques Used For Air Quality Monitoring

Parameter	Technique	Technical Protocol	Detectable Limit
Fine Particulate Matter ($PM_{2.5}$)	Gravimetric Method	CPCB	5 µg/m³
Respirable Particulate Matter (PM10)	Gravimetric Method	CPCB	5 µg/m³
Sulphur Dioxide (SO_2)	West & Geake Method	IS:5182(P2)	4.0 µg/m³
Oxides of Nitrogen (NO_2)	Jacob & Hochheisser	IS:5182(P6)	9.0 µg/m³
Carbon Monoxide (CO)	Gas Chromatography	IS:5182(P-10)	100 µg/m³

3.4.2 Methodology adopted for the study

The baseline status of the ambient air has been established through a scientifically designed ambient air quality monitoring network. The following criteria were taken into account during selection of the sampling stations:

- Topography of the area
- Human settlements within the study area

- Safety, accessibility and non-interference with general routine of the people residing near the station
- Prediction of maximum concentration of the air pollutants through dispersion modeling for the proposed source details using prevailing meteorological conditions in the region

Table 3-2 Ambient Air Sampling Stations

Code	Location	Description	Distance & Direction from Plant	Latitude /Longitude
AAQ-1	Project Site	Centre	0 km	28° 14' 54.426" N 76° 49' 15.1E
AAQ-2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Upwind	Approx 1.3 km, SE	28° 13' 56.477" N 76° 50' 22.8"E
AAQ-3	Downtown, Palasoli	Down Wind	Approx 2.2 km, NW	28° 15' 35.973" N 76° 47' 55.6" E
AAQ-4	Indraprastha Gas Limited CNG Station, Malpura	Crosswind	Approx 2.5 km, SW	28° 13' 38.848" N 76° 48' 4.47" E
AAQ-5	Near BMU D Block crossing	Downwind	Approx 0.6 km, NW	28°14'55.45"N 76°48'39.86"E

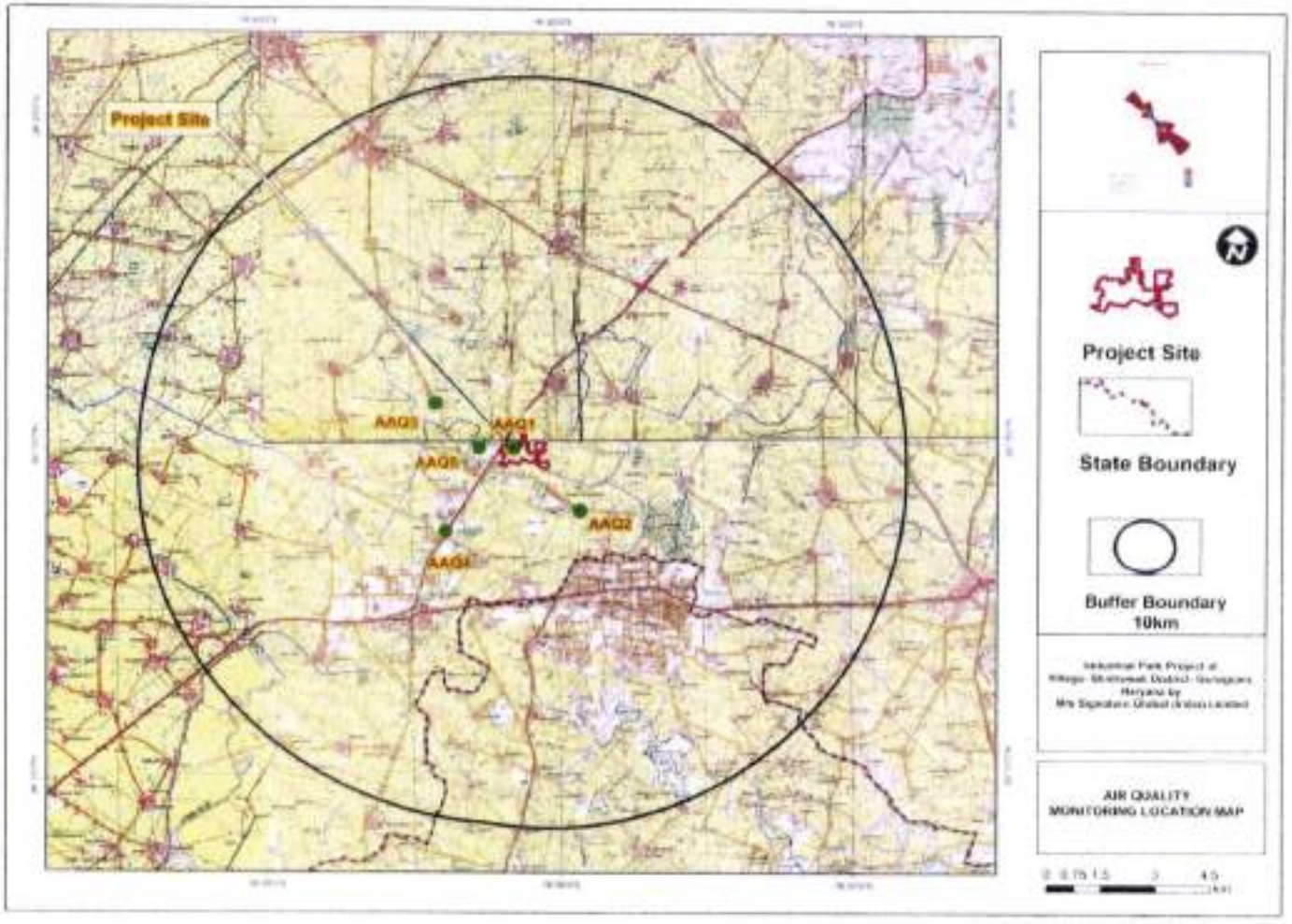


Figure 3-2 Ambient Air Quality Monitoring Location Map

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3.4.3 Ambient Air Quality of Study Area

The ambient air quality data is presented in following tables and the analysis reports are attached as **Annexure.**

Table 3-3 Summary of Ambient Air Quality Concentration in the Study Area (1st Dec 2023 to 29th Feb, 2024)

Parameters	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	CO (µg/m³)
AAQM Norms	**100**	**60**	**80**	**80**	**4000**
Project Site					
Min	151.5	78.3	8.6	30.3	710.0
Max	183.7	97.6	11.1	49.7	1030.0
Mean	167.2	87.4	9.7	42.0	903.8
98 Percentile	182.3	97.2	11.0	49.4	1030.0
Bharat Petroleum Petrol Pump, Akerabhiwadi					
Min	117.2	59.7	8.2	26.3	470
Max	145.1	73.9	9.9	35.1	830
Mean	129.8	67.7	9.0	30.5	701
98 Percentile	142.8	73.8	9.9	35.0	830
Downtown, Palasoli					
Min	138.7	68.0	8.2	29.9	450.0
Max	173.2	85.5	10.7	48.6	810.0
Mean	156.2	76.1	9.3	41.6	654.6
98 Percentile	171.9	85.3	10.6	48.6	796.2
Indraprastha Gas Limited CNG Station, Malpura					
Min	147.2	82.5	9.4	32.4	750.0
Max	186.5	103.7	12.7	50.1	1030.0
Mean	165.8	91.3	11.2	43.1	912.1
98 Percentile	185.7	102.7	12.6	50.1	1030.0
Near BMU D Block crossing					
Min	140.7	64.2	9.6	32.9	680.0
Max	174.3	83.4	12.3	41.6	940.0
Mean	155.9	72.6	11.1	36.7	765.4
98 Percentile	170.6	81.5	12.3	41.2	935.4

3.4.4 OBSERVATIONS

Ambient Air Quality Monitoring reveals that the minimum and maximum concentrations of $PM_{2.5}$ for all the 05 AAQM stations were found to be 59.7 µg/m³ to 103.7 µg/m³ respectively, while for PM_{10} it varies between 117.2 µg/m³ to 183.7 µg/m³.

As far as the gaseous pollutants SO_2 and NO_2 are concerned, the prescribed CPCB limit of 80 µg/m³ for residential, rural and industrial areas has never surpassed at any station. The minimum and maximum concentrations of SO_2 were found to be 8.2 µg/m³ to 12.7 µg/m³

respectively. The minimum and maximum concentrations of NO_2 were found to be 26.3 µg/m³ to 50.1 µg/m³ respectively. Also, the minimum and maximum concentrations of CO were found to be 450µg/m³ to 1030µg/m³ respectively.

High concentration of $PM_{2.5}$ and PM_{10} may be attributed to Vehicular emission and nearby construction activities in the area.

3.5 NOISE ENVIRONMENT

The proposed project is the Industrial Park Project and hence requires movement of raw materials, products, fuels, tools & tackles required for its construction process and also transportation of products to its destination. The movement of personnel from their residence to industry would also result in a moderate increase in the traffic, which would not result in any drastic change in the existing traffic pattern or noise levels of the area. Background noise levels were measured using integrated sound level meter in 05 locations.

Table 3-4 Noise Monitoring Locations were located within the study area

Code	Location	Description	Direction and Distance	Latitude/Longitude
NQ-1	Project Site	Commercial Area	0 km	28° 14' 54.426" N 76° 49' 15.1E
NQ-2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Commercial Area	Approx 1.3 km, SE	28° 13' 56.477" N 76° 50' 22.8E
NQ-3	Downtown, Palasoli	Residential Area	Approx 2.2 km, NW	28° 15' 35.973" N 76° 47' 55.6 E
NQ-4	Indraprastha Gas Limited CNG Station, Malpura	Commercial Area	Approx 2.5 km, SW	28° 13' 38.848" N 76° 48' 4.47 E
NQ-5	Samrat hotel, Bilaspur NH 8, Rathiwas mod	Commercial Area	Approx 3.2 km, NE	28° 16' 31.587" N 76° 50' 38.3E

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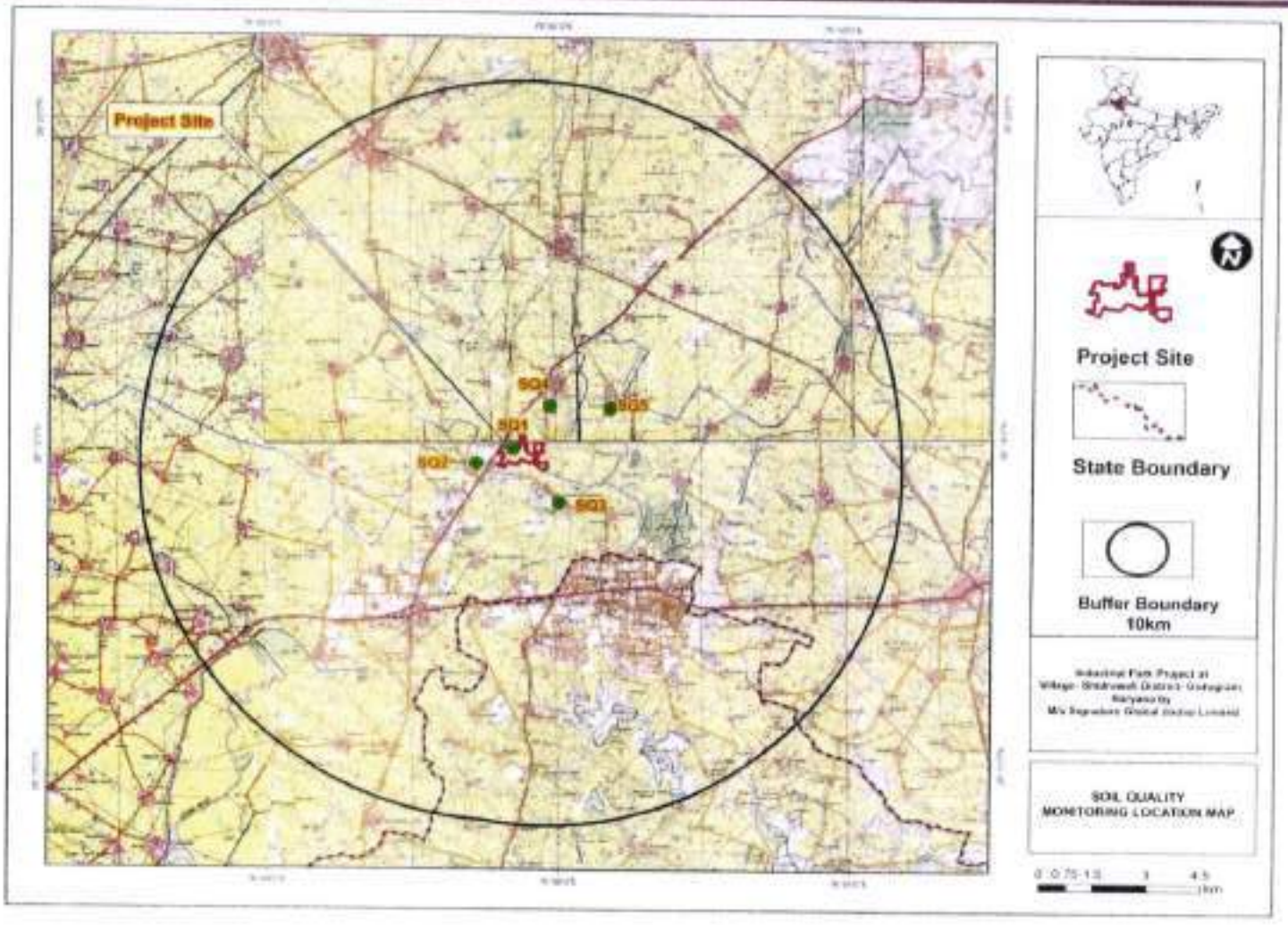


Figure 3-3 Ambient Noise Quality Monitoring Locations

3.5.1 Observations

The baseline noise levels have been monitored at different locations as indicated in Table **3.6** and graphical representation is given in **Figure-3.5**. In rural areas wind blowing and chirping of birds would contribute to noise levels especially during the nights. Assessment of day noise levels around the study area range between 50.5 to 63.6dB(A) during study period whereas the night equivalents were in the range of 42.7 to 52.9 dB (A).

Day and Night equivalents were within the Ambient Noise standards.

Noise Report is attached as **Annexure III.**

Table 3-5 Noise Levels in Study Area

Noise Quality data (DEC-2023)						
S. No.	Locations	ZONE	LIMIT as per CPCB Guidelines Leq, dB(A)		Observed value Leq, dB(A)	
			DAY*	NIGHT**	DAY*	NIGHT*
1	Project Site	Commercial Area	65	55	56.8	47.3
2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Commercial Area	65	55	50.5	42.7
3	Downtown Palasoli	Residential Area	55	45	53.2	43.5
4	Indraprastha Gas Limited CNG Station, Malpura	Commercial Area	65	55	63.6	52.9
5	Samrat Hotel, Bilaspur NH-8 Rathiwas Mod	Commercial Area	65	55	60.9	50.5
*	Day time (6.00AM TO 10.00PM)					
**	Nighttime (10.00PM TO 6.00AM)					

3.6 WATER ENVIRONMENT

3.6.1 Reconnaissance Survey

The impact has been assessed on randomly selected surface and ground water sources falling within the impact zone. In order to assess the existing water quality, the water samples were collected from ten different locations within the study area and analyzed as per the procedure specified in standard methods for examination of water and wastewater published by American Public Health Association and Bureau of Indian Standards (APHA/BIS).

Selected water quality parameters for water resources of the study area have been used for describing the water environment and assessing the impacts on it. To assess the water quality impacts, water resources in the impact area have been grouped into 2 classes.

- Ground water resources in the deeper strata of the ground.
- Surface water resources

About 5 ground water and 5 surface water samples were collected from the study area to assess the water quality during the study period. The ground water samples were drawn from the hand pumps and open wells being used by the villagers for their domestic needs. Surface water sampling was carried out from Indori nala, Sahibi river and Untwan village pond within 10 km of the proposed project site.

The details of the locations are given in **Table 3-6** & Lab reports are attached as **Annexure-III.**

Table 3-6 Water Sampling Locations (Surface & Ground Water)

Code	Location	Distance from site (Km)	Direction	Latitude	Longitude
	Ground Water				
GW-1	Near Project Site	0 km	Centre	28°14'54.74"N	76°49'15.44"E
GW-2	Borewell Village Kapriwas	Approx. 0.6 km	W	28°14'40.88"N	76°48'37.63"E
GW-3	Borewell Village Gurjar Ghatal	Approx. 0.9 km	SE	28°14'4.46"N	76°50'3.13"E
GW-4	Borewell Village Sidhrawali	Approx. 1 km	N	28°15'33.36"N	76°49'55.20"E
GW5	Borewell Village Rathiwas	Approx. 2 km	NE	28°15'30.82"N	76°50'56.94"E
	Surface Water				
SW-1	Indori nala u/s	Approx. 2.8 km	N	28° 16' 29.251" N	76° 48' 56.095" E
SW-2	Indori nala d/s	Approx. 2.9 km	NE	28° 15' 34.801" N	76° 51' 13.415" E
SW-3	Sahibi river u/s	Approx. 8.7 km	SW	28° 12' 1.691" N	76° 44' 36.184" E
SW-4	Sahibi river d/s	Approx. 8.8 km	SW	28° 11' 30.345" N	76° 45' 7.498" E
SW-5	Untwan village pond	Approx. 4.6 km	E	28° 15' 4.792" N	76° 52' 35.990" E

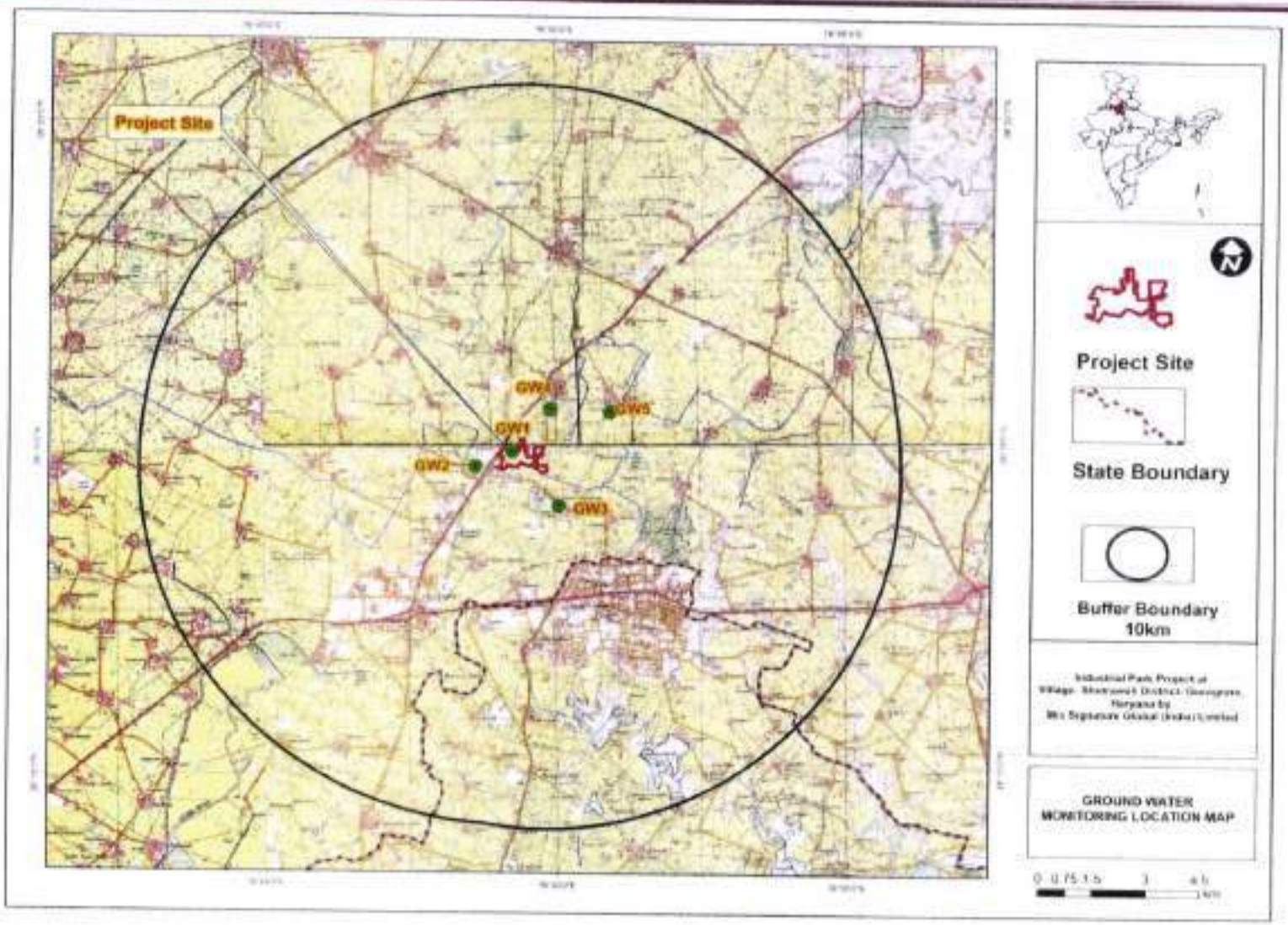


Figure 3-4 Ground Water Sampling Locations

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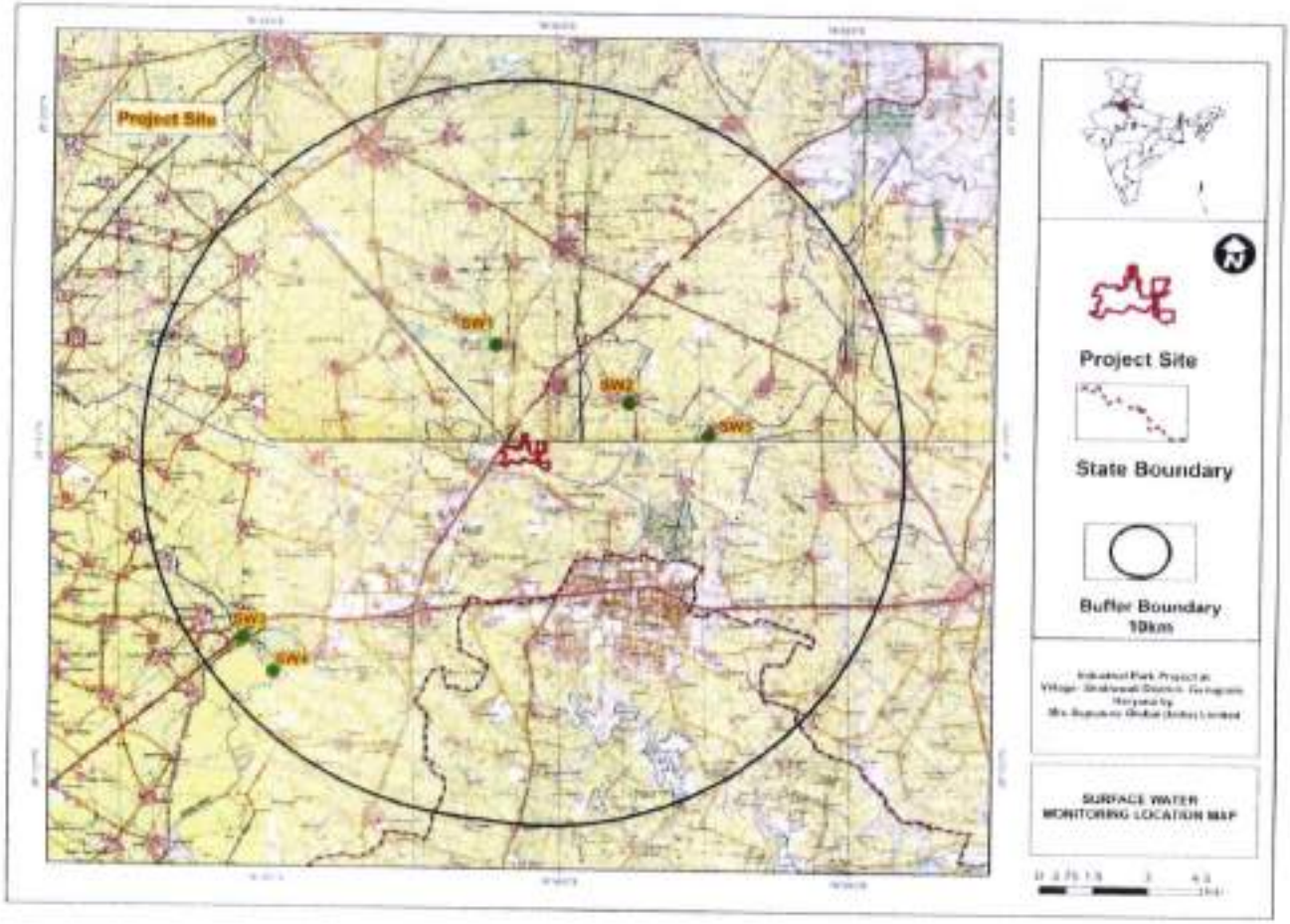


Figure 3-5 Surface Water Quality Monitoring Locations

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Table 3-7 Water Quality Analysis Result (Ground Water Dec -2023)

S.No	Parameter	Unit	Standard Limit (IS-10500:2012, RA 2018)		GW-1	GW-2	GW-3	GW-4	GW-5
			Desirable Limit	Permissible Limit	Near Project Site	Borewell Village Kapriwas	Borewell Village Gurjar Ghatal	Borewell Village Sidhrawali	Borewell Village Rathiwas
1	Colour	Hazen	5	15	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	1	5	<1	<1	<1	<1	<1
4	pH	-	6.5-8.5	No Relaxation	7.88	7.93	7.89	7.92	7.89
5	Total Dissolved Solids (TDS)	mg/l	500	2000	1420	1450	1440	1480	1580
6	Total Hardness (as CaCO3)	mg/l	200	600	413	447	458	439	466
7	Total Alkalinity (as CaCO3)	mg/l	200	600	426	478	487	467	487
8	Chlorides (as Cl)	mg/l	250	1000	343	330	335	363	378
9	Fluoride (as F)	mg/l	1	1.5	0.7	0.6	0.5	0.7	0.06
10	Calcium(as Ca2+)	mg/l	75	200	100	107	110	105	112
11	Magnesium (as Mg2+)	mg/l	30	100	40	43	44	42	45
12	Sulphate (as SO4)	mg/l	200	400	160	154	136	146	170
13	Nitrate(as NO3)	mg/l	45	No Relaxation	18	20	19	21	17
14	Iron (as Fe)	mg/l	1	No Relaxation	0.68	0.56	0.63	0.54	0.49
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	<0.01	<0.01	<0.01	<0.01

16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	<0.01	<0.01	<0..1	<0.01
18	Boron (as B)	mg/l	0.5	1	<0.01	<0.01	<0.01	<0.01	<0.01
19	Zinc (as Zn)	mg/l	5	15	<0.01	<0.01	<0.01	<0.01	<0.01
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	<0.01	<0.01	<0.01	<0.01
30	Silica (as SiO_2)	mg/l	,---	,---	5.4	5.1	5.3	4.8	5.7
31	Phosphate (as PO_4)	mg/l	,---	,---	1.1	1.3	1.1	1.3	1.2
32	Specific Conductivity	µS/cm	,---	,---	2130	2170	2150	2220	2360
Bacteriological Parameter									
1	Total Coliform	MPN/100ml	Shall not be detectable in any 100ml Sample		Not Detected (<2)	Not Detected (<2)	Not Detected	Not Detected	Not Detected

						(<2)	(<2)	(<2)
2	E.coli	MPN /100ml	Shall not be detectable in any 100ml Sample	Absent (<2)	Absent (<2)	Absent (<2)	Absent (<2)	Absent (<2)

Table 3-8 Water Quality Analysis Result

SURFACE WATER QUALITY STUDY (Dec 2023)							
S.No.	Parameter	Unit	S.W.1 Indori Nala Upstream	S.W.2 Indori Nala Downstream	S.W.3 Sahibi River Upstream	S.W.4 Sahibi River Downstream	S.W.5 Untwan Village Pond
1.	Color	Hazen	6	7	7	8	5
2.	Turbidity	NTU	18	24	44	56	23
3.	Temperature	^0C	18.7	19.1	18.7	19.3	19.7
	pH Value	-	7.75	7.78	7.43	8.2	8
5.	Dissolved Oxygen	mg/l	3.8	3.2	1.2	1	5.2
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	8.3	8.6	20.4	26.2	6.8
7.	Chemical Oxygen Demand	mg/l	22.8	24.5	62.4	76.4	22.4
8.	Total Dissolved Solids	mg/l	940	950	1200	1350	720
9.	Total Hardness (as $CaCO_3$)	mg/l	367	370	380	410	240
10.	Total Alkalinity (as $CaCO_3$)	mg/l	460	463	360	390	230
11.	Chlorides (as Cl)	mg/l	138	140	280	320	160
12.	Fluoride (as F)	mg/l	0.7	0.7	0.8	0.9	0.7
13.	Calcium (as Ca^{2+})	mg/l	88	89	91	98	58
14.	Magnesium (as Mg^{2+})	mg/l	35	36	36	40	23
15.	Sodium (as Na^+)	mg/l	190	192	218	245	169
16.	Potassium (as K^+)	mg/l	20.4	22.5	25.6	28.4	18.6

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17.	Sulphate (as SO_4)	mg/l	110	113	180	210	106
18.	Total Kjeldahl Nitrogen (as N)	mg/l	3.8	4.2	5.2	6.5	2.4
19.	Free Ammonia (as NH_3)	mg/l	1.3	1.6	1.9	2.4	1.3
20.	Nitrate (as NO_3)	mg/l	12.6	12.8	24	26	13.3
21.	Silica (as SiO_2)	mg/l	19	22	9.2	9.3	7.5
22.	Phosphate (as PO_4)	mg/l	1.7	2.2	2.8	3.2	1.6
23.	Iron (as Fe)	mg/l	0.87	0.89	0.53	0.56	0.59
24.	Aluminum (as Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
25.	Boron (as B)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
26.	Copper (as Cu)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Manganese (as Mn)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28.	Zinc (as Zn)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29.	Selenium (as Se)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
30.	Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
31.	Cadmium (as Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Cyanide (as CN)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
34.	Lead (as Pb)	mg/l	0.06	0.07	<0.01	<0.01	<0.01
35.	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
36.	Nickel (as Ni)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
37.	Total Suspended Solids	mg/l	38.2	39.6	180	220	40
38.	Sodium Adsorption Ratio	-	3.1	3.2	4.3	4.8	3.2
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	0.06	0.07	<0.001	<0.001	0.002
40.	Anionic Detergent (as MBAS)	mg/l	0.07	0.08	<0.01	<0.01	0.03
41.	Specific Conductivity	µS/cm	1410	1425	1790	2025	1075

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42.	Total Coliform	MPN/100ml	1600	1600	1600	1600	840
43.	Faecal Coliform	MPN/100ml	1600	1600	1600	1600	380

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3.6.2 Observations

Analysis of results of ground water is as follows;

- pH varies from to 7.88 to 7.93.
- Total Hardness varies from 413 to 466 mg/L.
- Total Dissolved Solids varies from 1420 to 1580 mg/L.

Review of the ground water quality results indicate that there is some variation in chemical composition of water tapped from different sources and the ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed for drinking water standards promulgated by Indian Standards (IS: 10500).

Analysis of results of surface water is as follows;

- pH varies from to 7.75 to 8.2
- Dissolved Oxygen varies from 1 to 5.2 mg/L
- COD varies from 22.4 to 76.4 mg/L.

Review of the surface water quality results indicate that all the parameters are within the limits specified in Surface Water Standard IS: 2296. With regard to heavy metals, except Arsenic, Mercury, Nickel and Cadmium, all the others were not traceable.

3.7 SOIL ENVIRONMENT

Soil of the Gurugram district are classified as tropical and brown soil, 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 soil are medium textured loamy sand is the average texture in Gurugram and Sohna blocks.

3.7.1 Soil Quality

The present study on soil quality establishes the baseline characteristics in the study area surrounding the project site. The study has been addressed with the following objectives.

- To determine the base line characteristics
- To determine the soil characteristics of proposed project site
- To determine the impact of industrialization/urbanization on soil characteristics
- To determine the impacts on soils from agricultural productivity point of view

3.7.2 Criteria Adopted for Selection of Sampling Locations

For studying the soil types and soil characteristics, five sampling locations were selected to assess the existing soil conditions representing various land use conditions and geological features.

3.7.3 Methodology and Sampling

The homogenized soil samples collected at different locations were packed in a polyethylene plastic bag and sealed. The sealed samples were sent to laboratory for analysis. The physical, chemical parameter concentrations were determined from all samples.

3.7.4 Soil Sampling Locations

Details of the soil sampling locations are given in **Table 3-9.**

Table 3-9 Soil Sampling Location

Code	Location	Distance & Direction from Project Site	Latitude	Longitude
SQ-1	Project Site	0 km	28°14'54.74"N	76°49'15.44"E
SQ-2	NON-Agricultural Land Village Kapriwas	Approx. 0.6 km, W	28°14'40.88"N	76°48'37.63"E
SQ-3	NON-Agricultural Land Village Gurjar Ghatal	Approx. 0.9km, SE	28°14'4.46"N	76°50'3.13"E
SQ-4	Agricultural Land Village Sidhrawali	Approx. 1 km, N	28°15'33.36"N	76°49'55.20"E
SQ-5	Agricultural Land Village Rathiwas	Approx. 2 km, NE	28°15'30.82"N	76°50'56.94"E

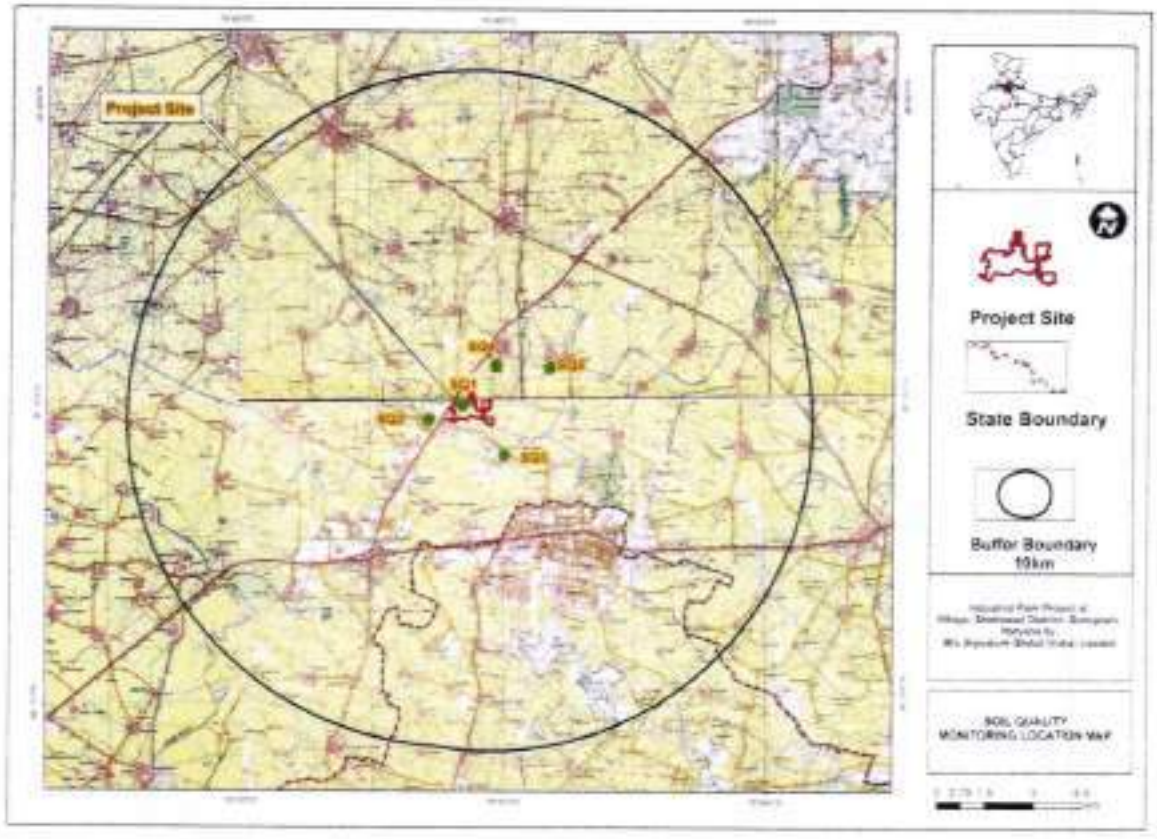


Figure 3-6 : Soil Monitoring locations

Table 3-10 Soil Quality Result

Soil Quality Data (DEC-2023)							
			SQ1	SQ2	SQ3	SQ4	SQ5
S.No	Parameter	Unit	Project Site	Non-Agricultural Land Village Kapriwas	Non-Agricultural Land Village Gurjar Ghatal	Agricultural Land Village Sidhrawali	Agricultural Land Village Rathiwas
1	Texture	-	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	Particle Size Distribution						
	Sand	%	63.7	65.3	67.5	63.5	63.8
	Silt	%	16.9	17.2	15.3	16.8	16.9
	Clay	%	19.4	17.5	17.2	19.7	19.3
3	pH (1:2 Suspension)	-	7.59	7.67	7.69	7.78	7.88
4	Electrical Conductivity (1:2 Suspension)	µS/cm	447	443	441	447	437
5	Moisture Content	%	6.9	6.8	6.5	8.7	8.6
6	Cation Exchange Capacity	meq/100gm	13.0	13.6	13.5	14.1	14.1
7	Available Potassium (as K)	mg/kg	69	67	71	87	89
8	Exchangeable Sodium (as Na)	mg/kg	117	114	115	121	127
9	Exchangeable Calcium (as Ca)	mg/kg	1901	1947	1938	2018	2023
10	Exchangeable Magnesium (as Mg)	mg/kg	341	386	378	395	387
11	Sodium Absorption Ratio	-	0.65	0.62	0.62	0.64	0.68
12	Organic Matter	%	0.71	0.83	0.83	0.46	0.68

13	Total Nitrogen (as N)	mg/kg	40	42	38	45	44
14	Nitrate (as NO3)	mg/kg	5.7	5.3	4.9	6.3	6.7
15	Total Phosphorus (as PO4)	mg/kg	6.3	6.1	5.1	6.8	6.9
16	Iron (as Fe)	mg/kg	5.5	4.8	3.2	9.7	10.8
17	Zinc (as Zn)	mg/kg	2.2	2.1	2.3	2.1	2.6
18	Copper (as Cu)	mg/kg	1.1	1.2	1.1	1.3	1.7
19	Boron (as B)	mg/kg	1.8	2.3	2.2	3.1	2.8
20	Manganese (as Mn)	mg/kg	7.6	7.4	6.8	8.9	10.1
21	Water Holding Capacity	%	25.7	25.3	26.4	27.1	26.7
22	Permeability	cm/hr	2.3	2.2	2.3	2.1	2.2
23	Porosity	%	38.7	39.8	39.7	32.6	33.1
24	Bulk Density	gm/cc	1.31	1.31	1.32	1.33	1.33

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3.7.5 Observations

Soil is the media for supplying the nutrients for plant growth. Nutrients are available to plants at certain pH and pH of soils can reflect by addition of pollutants in it either by air, or by water or by solid waste or by all of these. In order to establish the baseline status of soil characteristics, soil samples were collected at 05 sampling locations.

The analysis of results shows that soil is basic in nature as pH value ranges from 7.59 to 7.88 with Electrical Conductivity of 437 to 447 µmhos/cm. The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Sandy loam at project site.

The soil lab report is attached as **Annexure.**

3.8 LAND USE PATTERN

The project area and 10 km radius around project site are encompassing a total area of 35581.43 ha comes under Gurugram District of Haryana. Project site comes under H43X3 Survey of India topo-sheet.

3.8.1 Data Used

United States Geological Survey (USGS) Satellite Data: Landsat 8 cloud free data has been used for Land use /Land cover analysis, Satellite Sensor–OLITIRS multi-spectral digital data has been used for the preparation of land use/ land cover map of present study. Survey of India reference map on 1:50,000 scales have been used for the preparation of base map and geometric correction of satellite data. Ground truthing has been carried out to validate the interpretation accuracy and reliability of remotely sensed data, by enabling verification of the interpreted details and by supplementing with the information, which cannot be obtained directly on satellite imagery.

3.8.2 Methodology

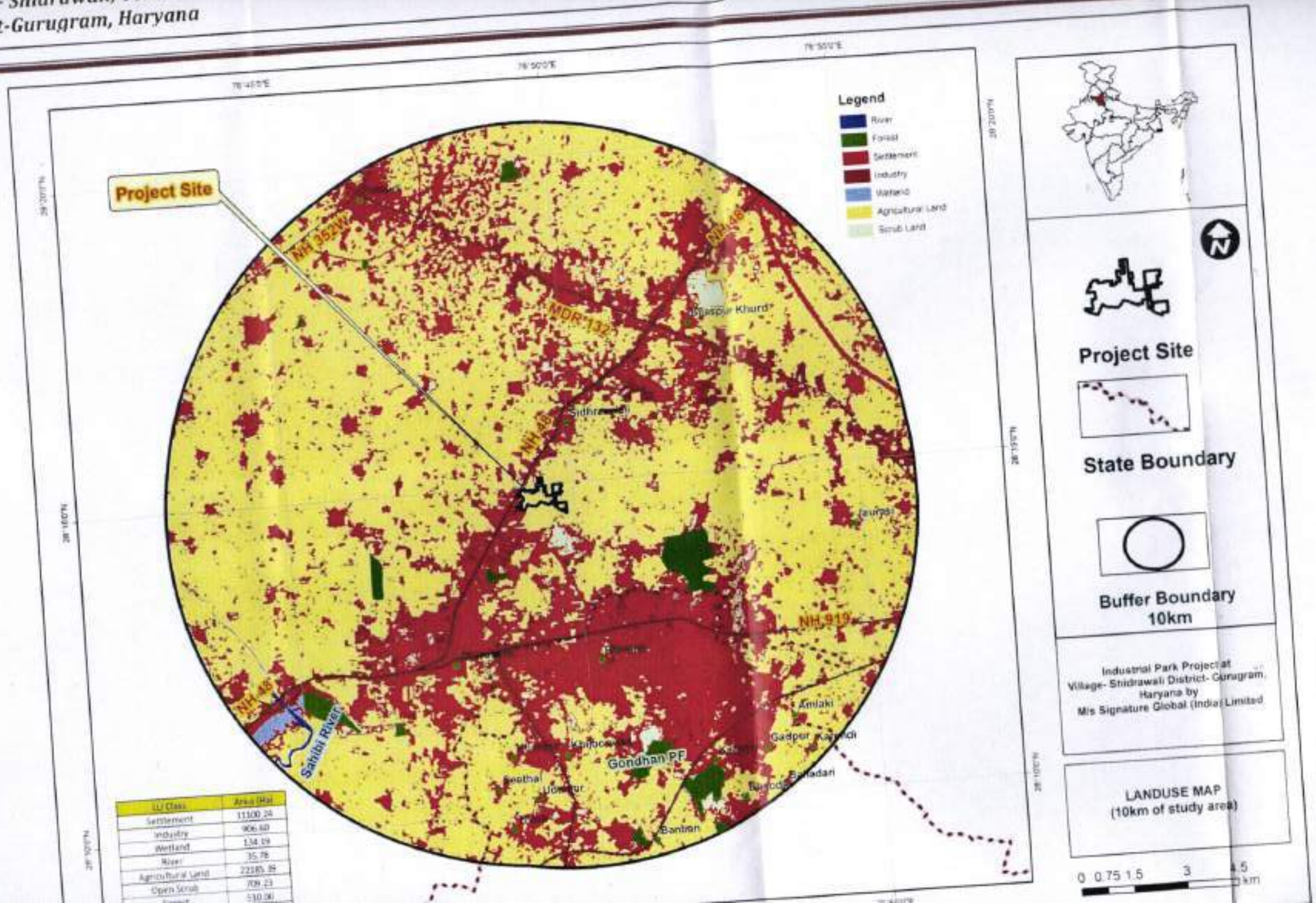
The methodology used for the study consists of following components. Thematic Data Extraction from the Satellite Imageries ERDAS image processing 10.0 software and ARC/GIS 10.0 software were used for the project. ERDAS 10.0 image processing software was used for digital processing of the spatial data. Digital image processing techniques were applied for the mapping of the land use land cover classes of the provided area from the satellite data. Methodology used for Land use Classification and Mapping is presented in Figure shown below.

3.8.3 Findings

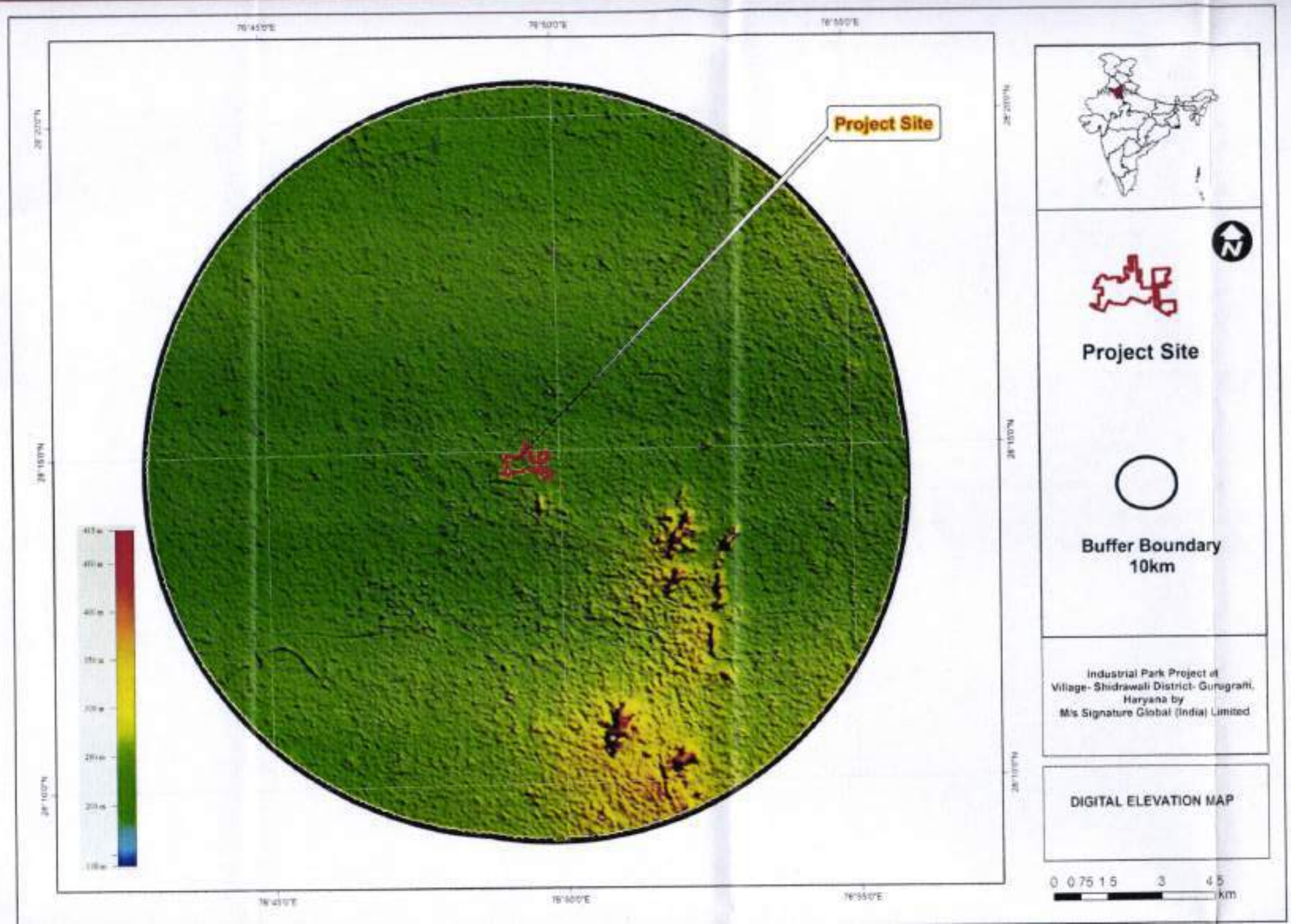
The spatial distribution of land use/ land cover is given in **Table 3-11 and Figure 3-9.** The data base on land use/ land cover belongs to project area and 10 km radius of the project area is discussed as follows:

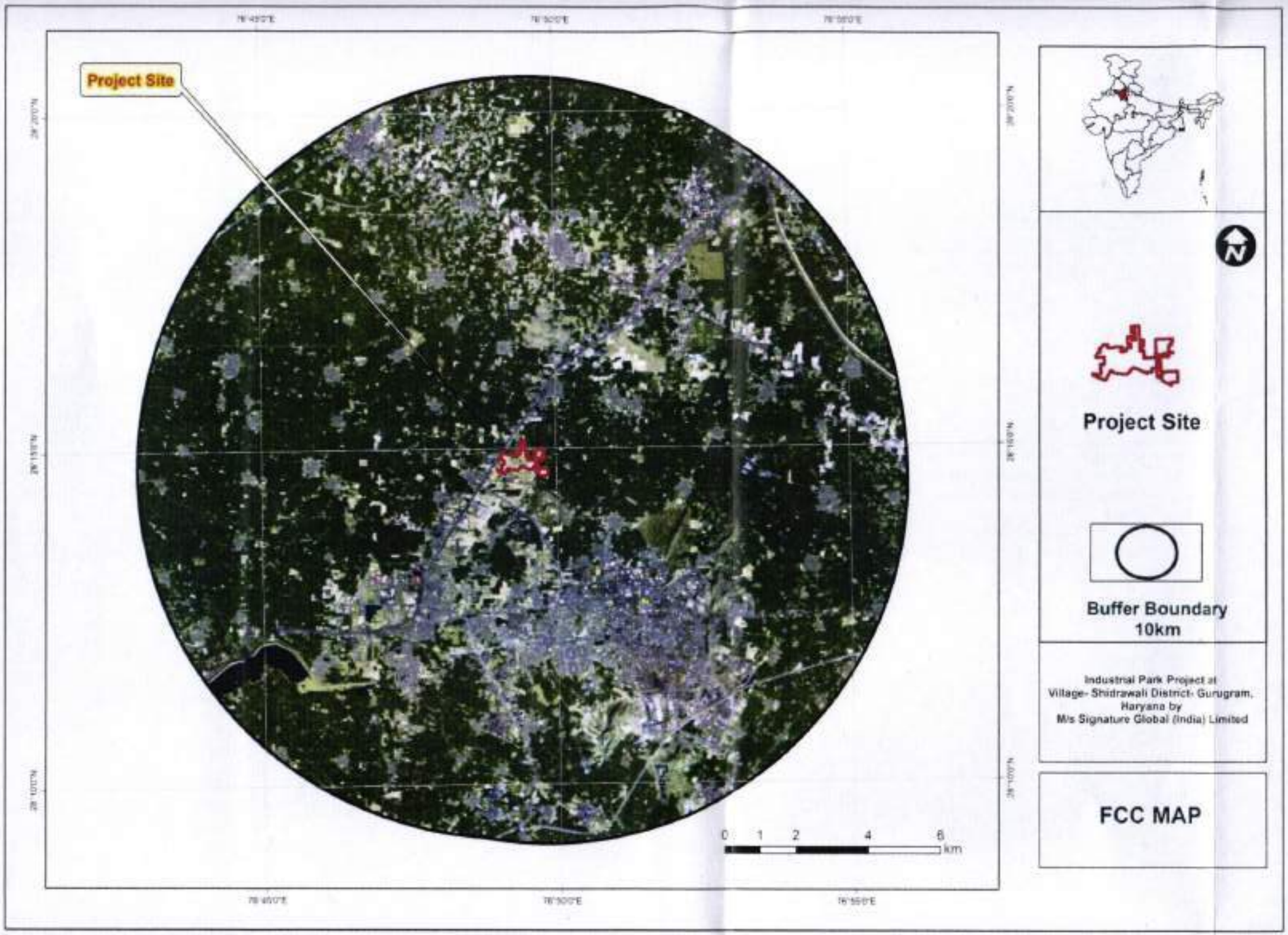
Table 3-11 Land Use/ Land Cover Analysis

LU Class	Area (Ha)
Settlement	11100.24
Industry	906.60
Wetland	134.19
River	35.78
Agricultural Land	22185.39
Open Scrub	709.23
Forest	510.00
Total	35581.43



LU Class	Area (Ha)
Settlement	11100.24
Industry	906.60
Wetland	134.19
River	35.78
Agricultural Land	22285.89
Open Scrub	709.23
Forest	530.06


Project Site
Project Site
Buffer Boundary
10km
Industrial Park Project at
Village- Shidrawali District- Gurugram,
Haryana by
M/s Signature Global (India) Limited
DIGITAL ELEVATION MAP
0 0.75 1.5 3 4.5
km


Project Site
0 1 2 4 6
km
Project Site
Buffer Boundary
10km
Industrial Park Project at
Village- Shidrawali District- Gurugram,
Haryana by
M/s Signature Global (India) Limited
FCC MAP

3.9 GEOLOGY

District Gurugram is located 30 km south of National Capital New Delhi, about 10 Kilometers from Dwarka sub-city and 268 Km south of Chandigarh, the State Capital. Over the past 25 years the city has undergone rapid development and construction. The District is one of Delhi's major satellite cities and is part of the National Capital Region. It is within commuting distance of Delhi via an expressway and Delhi Metro. The District is the second largest city in the Indian State of Haryana and is the industrial and financial centre of Haryana. It has the 3rd highest per capita income in India after Chandigarh and Mumbai. It is also the only Indian city to have successfully distributed electricity connections to all its households. It is also the IT hub & center of various BPO companies.

The District has been in existence since the times of Mahabharta. It is said that Yudhishter, the eldest brother among the pandavas, gave the village to his guru, Dronacharya, whose tank still exists on the west side of the Railway Road. Actual village "GURUGRAM" is about 1.5 Km. away from Gurugram town, where the temple of SHEETLA MATA, attracts devotees in large numbers on every Monday and Tuesday.

Gurugram District has witnessed a phenomenal growth in all spheres of developments, particularly in industry and urbanization. Today, it has become a hub of multinational companies, industries giants, call centres, software companies, shopping malls and skyscrapers. Gurugram is strategically located with its boundaries touching Rajasthan, Uttar Pradesh and Delhi. Its excellent connectivity with other state via Delhi- Jaipur-Ahmedabad broad gauge rail link and NH-8, brings thousands of people to Gurugram for the purpose of work, travel and entertainment. Infact with the collaboration of Suzuki Motors of Japan and Maruti Udyog Limited in early eighties, a new area of rapid industrialization of Gurugram started as a result of which the District came on the international map. Maruti Suzuki in India's largest passenger car company. The automobile industry of Gurugram is producing passenger cars, motor cycles, scooters and its components. The Gurugram- Manesar- Bawal belt has emerged as the auto hub of the country, thereby offering ample opportunities to the entrepreneurs. There are many prominent and prestigious units involved in the manufacturing of telecommunication equipments, electical goods, sports goods, rubber products readymade garments and in software development. Other industries include light engineering goods, pharmaceuticals, agro based and foods processing, leather, terry towels, air conditioners, shoes, pesticidies, insecticides, etc. The main industries in these fields are Cosco, Enkay Rubber, Perfetti, Haldiram, HFCL, Martin Haris, TERI, Ranbaxy Laboratories etc. With its rapid development, Gurugram has emerged as an important District in Haryana and has done the State proud with its achievements.

3.10 HYDROGEOLOGY

The Gurugram 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. The ground water in the Jhajjar district occurs in the alluvium of Quaternary age. The permeable granular zones comprising fine to

medium sand and occasionally coarse-grained sand and gravel. Their lateral as well as vertical extent is limited.

Ground water in the Gurugram block occurs in unconfined and semiconfined condition. The upper zone of saturation consists of fine sand with silt varying from place to place. The ground water in the Jhajjar district occurs in the alluvium of Quaternary age. The permeable granular zones comprising fine to medium sand and occasionally coarse grained sand and gravel. The lithological correlation clearly indicates the presence of clay layer at the top of the surface.

3.10.1 Depth to Water Level

During the pre-monsoon the water levels of 40 key observation wells are monitored and the water level ranges between 3.30 to 79.70 mbgl. The deeper water level is observed at Dundahera, Gurugram. . Water level is less than 10 m in small patches in northwestern and southeastern parts adjacent to Jhajjar and Faridabad district and between 10 and 20 m in northwestern and southeastern parts of the district. The water level ranges between 20 and 30 m in major parts viz. central southern and eastern parts of the district. Deepar water level has been observed in Gurugram and northern parts of Sohna blocks which is due to Infrastructural development and industrialization in these areas.

During the post-monsoon, the water levels range between 3.05 to 77.55 m bgl. The deeper water level is recorded at Dundahera, Gurugram.

3.10.2 Ground Water Flow

In general, the water table contours follow the surface topography. The altitude of water table ranges between 176.78 to 274.85 m AMSL. In North and Western parts of the Gurugram district, the water table slopes North and North-West of the area whereas in Southern part water table slopes toward South Eastern direction with an average hydraulic gradient of 1.5 m/km.

The elevation of the water table in the Jhajjar district varies from 206 m to 250 m above mean sea level. The average gradient of the water table is of the order of 0.48 m/km. The general slope of water table in the area is converging towards the center of the district or more precisely around Jhajjar. It is also observed that the flow of water in the Western part of the district is towards South- West to North- East and South-East to North-West.

3.10.3 Ground Water Resources

Ground Water Resources estimation of the district was done in 2009 for Gurugram district. Perusal of the Estimates reveals overall stage of ground water development in the block is of the order of 232% which has exceeded the replenishable recharge and thus the district has been categorized as over exploited. Net annual ground water availability of the district is 23261 ham and existing gross ground water draft for all users is 53927 ham. Details are shown below.

Ground Water Resources and Development Potential, Gurugram District, Haryana (as on 31-03-2009)

District Name	Assessment Unit/Block	Net Ground Water Availability (ham)	Existing Gross Ground Water Draft for irrigation (ham)	Existing gross Ground Water Draft for domestic and industrial water supply (ham)	Existing Gross Ground Water Draft for all uses (ham)	Allocation for domestic and industrial requirement supply upto next 25 years (ham)	Net Ground Water Availability for future irrigation development (ham)	Stage of ground water development %
Gurgaon	Farukhnagar	3649	8053	177	8230	177	-4581	276
	Gurgaon	7585	6254	17128	23382	17128	-15797	308
	Pataudi	7495	11455	438	11893	438	-4398	159
	Sohna	4532	10015	407	10422	407	-5890	230
	Total	23261	35777	18150	53927	18150	-30666	232

3.10.4 Status of Ground Water Development

The water supply to the Gurugram district is mainly based on groundwater through tubewells. 100% of the urban population is covered under drinking water supply scheme. The water supply to the villages is meet out with the installation of hand pumps by the villager as spot and convenient source of water.

The shallow tubewells for irrigation purpose in the district range from 45 to 70m. deep, tapping the aquifer from 31m to 50 m. with a discharge of 400 to 1000 lpm. Most of the shallow tube wells are run either by diesel engines or electric motors. As on February 2009 there are 22207 electric motors and 736 diesel operated tubewells are working. The major part of the district is being irrigated through ground water. The unit draft calculated for irrigation is 1.65 ham.

3.10.5 Water Conservation & Artificial Recharge

The stage of ground water development for the district is 232% that means the net annual withdrawal is more than the net annual recharge. During the last 20 years the ground water level has declined in whole of the area of the district and the decline is in the range of 0.77 to 1.07 m/yr. So, there is an urgent need to take measures to arrest the decline of ground water level and artificial recharge to ground water is one of such measures. Whole of the district is suitable for artificial recharge to ground water. Excess rainwater in agricultural field, surplus canal water and rooftop rain water can be recharged to ground water system. Recharging shafts and injection wells are the most viable recharging structures suitable for the district.

3.11 DRAINAGE PATTERN

There is no perennial river in the district. Seasonal streams are only a few, smaller in size and are inland. The drainage of the district is typical of the arid and semi-arid areas. Because of topographic diversity, the streams do no flow in any uniform direction. The Sahibi Nadi,

which rises in the Sewar hills of Jaipur (Rajasthan), also makes its presence in Gurugram tehsil before losing itself in the topographic depression of Jhajjar tehsil (Jhajjar district) after flowing in northern direction through Rajasthan State and Rewari district. The Nadi disappears in Gurugram tehsil near Rewari-Pataudi road. Owing to its long passage, through arid and sandy areas, the stream flows with strength only during rainy season. However, the stream moves into the level areas of the Gurugram district, its speed slackens and the load deposited raises the bed of stream and checks its flow. Consequently, the stream sometimes changes its course and wanders aimlessly. The Indori Nadi originates from Aravalli hills in Rajasthan near village Indauri flowing in northerly direction. After passing through many villages of the district it joins Sahibi Nadi near Pataudi. It is supplemented with so many tributaries coming from Aravalli hills. Apart from the above Nadis, Badshahpur, Mehndwari, Kasan, Manesar and Landoha nallahs play havoc during heavy rains. To control these nadis/nallahs, 3 bunds are constructed at Indori Nadi and its tributaries in Haryana State and 3 bunds in Rajasthan State and the waters channelised through drains. In normal times, Landoha nala is helpful in draining waters of Sohna valley into Khalilpur depression. Drainage map is presented in below **Figure 3-10.**

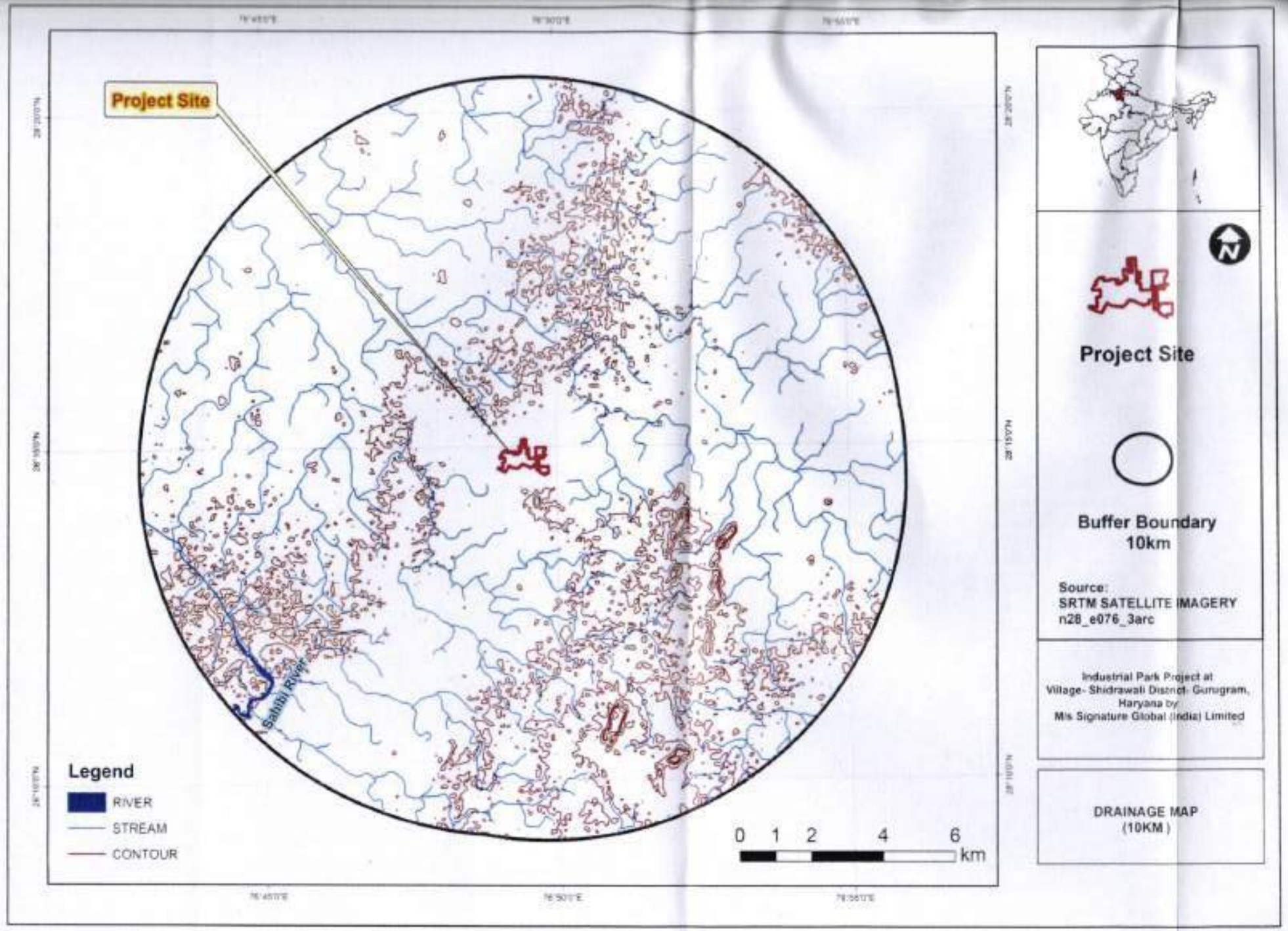


Figure 3-10 Drainage Map of 10 KM buffer

3.12 SEISMIC STATUS

The Project site is located in an area which is falling in seismic Zone IV (Source: IS 1893 (Part 1):2002). The details are given below. According to GSHAP data, the state of Haryana falls in a region of Moderate seismic hazard.

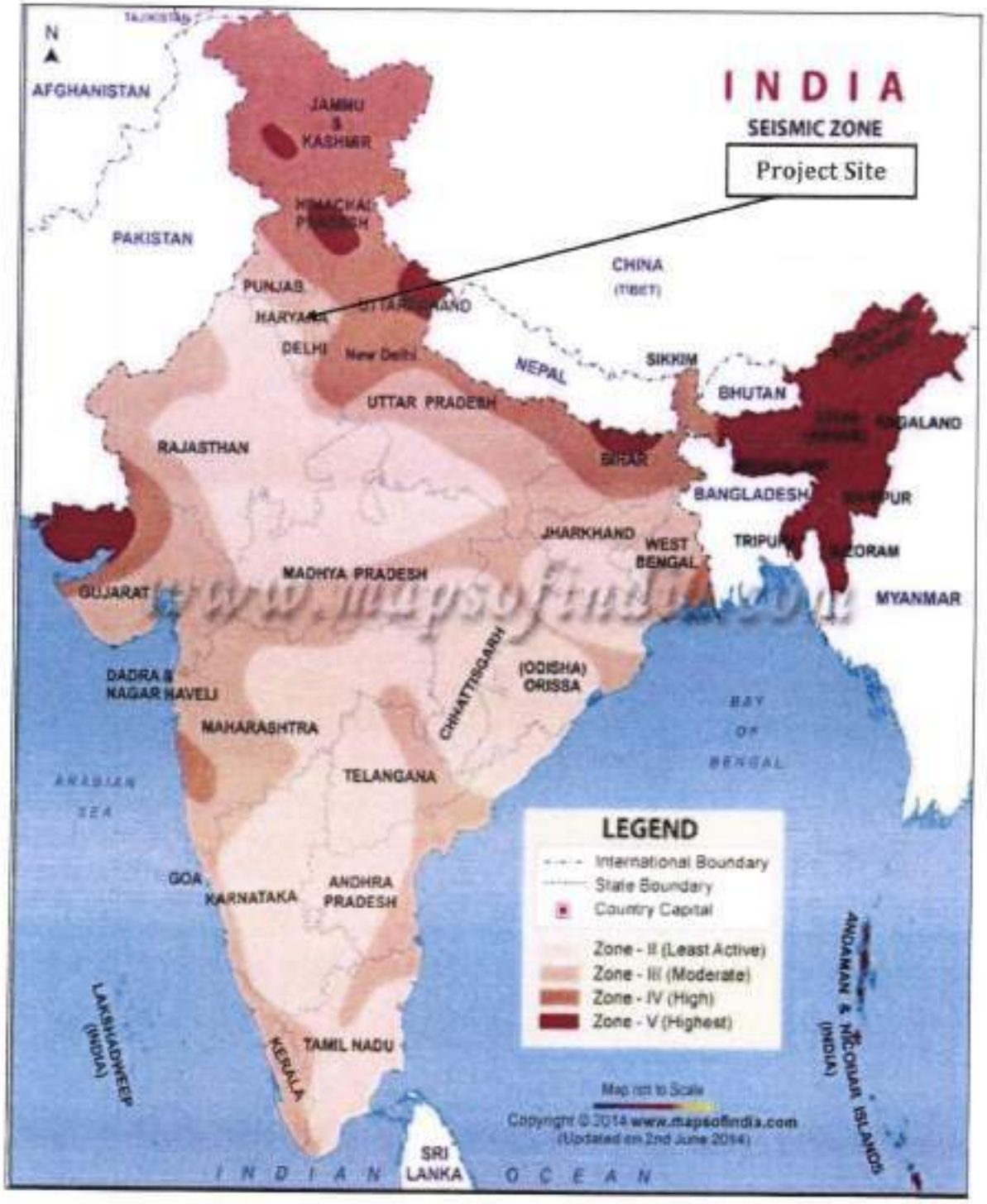


Figure 3-11 Seismic Zone Map of India

3.13 SOCIO-ECONOMICS OF THE STUDY AREA

Scope of the Proposed Study

The scope of the present study includes the followings:

1. Collection of baseline data in the study area
2. To know the socio-economic status of people living in the study area
3. To assess likely impact of the project on social and economic life of the people in the study area
4. To measure the impact of the project on quality of life of the people living in the study area
5. To confirm sustainability of positive impacts
6. To recommend mitigation measures on adverse impacts if any.

Socio-Economic Scenario- Rural area (based on Census 2011 data)

The study area comprises of 42 census villages , with a total population of 177721.This includes rural sub-district Pataudi.

Demographic features of study area: Rural area

The villages falling within the study area are listed in below table along with the demographic features as per the Census 2011.

Table 3-12 Summary of Demographic features of Rural area under study

SL.NO	VILLAGE	No_HH	TOT_P	TOT_M	TOT_F	P_0	M_0	F_0	P_SC	M_SC	F_SC	P_ST	M_ST	F_ST	P_LIT	M_LIT	F_LIT
1	Rehora Kalan(134)	1413	10993	10084	8871	2741	1496	1245	1261	1991	1768	0	0	0	13410	7861	5549
2	Rehora Khurd(139)	324	1942	1054	888	282	159	123	583	249	254	0	0	0	1356	799	557
3	Bas Padamka (01)	631	3998	1756	1582	409	231	178	662	347	315	0	0	0	2279	1357	922
4	Bas Gaur(25)	161	806	418	390	131	83	48	144	183	161	0	0	0	540	304	236
5	Bhatka(142)	272	1693	786	707	183	98	85	131	74	57	0	0	0	1041	629	412
6	Bhan Kerka(133)	291	1768	648	620	135	80	55	93	48	45	0	0	0	932	537	395
7	Bilaspur(146)	572	3392	1812	1580	506	295	211	293	153	140	0	0	0	2244	1333	911
8	Binola(143)	201	836	369	365	113	69	52	63	32	31	0	0	0	594	373	221
9	Chandu Dangrewas(148)	342	1997	1017	980	299	170	129	135	171	164	0	0	0	1426	829	597
10	Chhawani(2)	159	828	414	396	136	87	49	95	52	43	0	0	0	604	374	230
11	Dasola(141)	196	957	568	454	146	81	65	85	44	41	0	0	0	757	388	369
12	Dertapur(138)	236	1201	678	568	130	73	57	251	130	121	0	0	0	919	522	405
13	Fakhrpur(132)	396	1688	896	792	218	131	93	241	130	113	0	0	0	1196	735	492
14	Fazilpur(149)	449	1886	978	898	263	144	119	322	162	160	0	0	0	1304	759	585
15	Gorawas(13)	101	569	291	278	63	38	27	35	17	18	0	0	0	383	246	139
16	Hira Heri(36)	177	947	495	452	95	50	49	120	161	141	0	0	0	700	426	284
17	Jonawas(135)	407	2037	1080	957	248	141	107	188	103	85	0	0	0	1436	839	597
18	Kalawas(40)	359	1596	1012	734	230	142	88	110	59	51	0	0	0	1405	811	594
19	Khanpur(34)	171	745	390	355	106	63	43	145	170	175	0	0	0	524	294	230
20	Kharkhari(131)	341	1907	985	922	247	138	109	507	260	247	0	0	0	1357	774	583
21	Khori(32)	898	4553	2504	2277	624	336	288	1084	559	525	0	0	0	3780	2387	1403
22	Langra(140)	241	1377	708	669	195	103	108	616	308	308	0	0	0	928	536	392
23	Lohchab(26)	403	1942	965	977	268	144	124	250	127	123	0	0	0	1067	641	426
24	Lokri(28)	432	2001	1095	906	270	152	118	388	208	180	0	0	0	1451	867	584
25	Lohri(127)	906	3402	1755	1647	475	297	178	435	233	202	0	0	0	1544	928	616
26	Maja(137)	452	2265	1268	1097	338	179	166	320	174	147	0	0	0	1531	891	640
27	Maharajpur(17)	541	2944	1548	1396	447	237	210	528	269	259	0	0	0	1966	1113	885
28	Mamnagpur(18)	268	1315	697	618	144	93	51	172	88	84	0	0	0	946	563	383
29	Nanu Khori(29)	190	1038	542	496	110	67	43	185	87	98	0	0	0	736	435	301
30	Nandalan(27)	765	4095	2343	1752	557	311	246	644	341	303	0	0	0	2856	1654	1202
31	Nathera(30)	867	4814	2703	2111	638	348	290	1252	671	581	0	0	0	3844	2469	1375
32	Nehjar Baharia(135)	218	1223	639	584	140	74	66	257	132	125	0	0	0	905	539	366
33	Pataudi Still Dist	15123	78888	42060	36828	10558	5695	4863	17085	9049	8036	0	0	0	56908	32070	24838
34	Pathera(144)	864	5014	2601	2413	635	358	277	775	381	394	0	0	0	3482	2018	1464
35	Prasoli(128)	295	1508	797	707	215	125	90	318	176	142	0	0	0	1054	599	455
36	Rathiwas(140)	608	3503	1802	1700	423	236	187	515	256	259	0	0	0	2501	1444	1057
37	Said Shahpur(24)	63	465	241	224	58	30	28	201	101	100	0	0	0	237	134	103
38	Sapedar Nagar(37)	34	201	110	91	23	18	5	10	4	6	0	0	0	153	88	73
39	Silkhuwa(8139)	1073	5506	2886	2620	710	407	315	836	464	432	0	0	0	3600	2275	1655
40	Turkapur(40)	173	888	453	435	112	61	51	96	59	37	0	0	0	602	348	254
41	Udaipur(134)	6	31	17	14	0	0	0	31	17	14	0	0	0	25	15	13
42	Umcha Majra(43)	589	3053	1573	1484	546	294	252	908	456	452	0	0	0	2620	1479	1141
			0			0			0			0			0		
	TOTAL	31375	177721	92545	84776	23812	13053	10755	35952	18634	17318	0	0	0	123706	72346	51358
	AVERAGE	705	4231	2213	2018	567	311	256	857	443	414	0	0	0	2946	1723	1225
			0			0			0			0			0		
001188	Gurgaon	88678	457375	251462	205913	63473	33405	30068	90111	47249	42862	0	0	0	324087	192248	131793

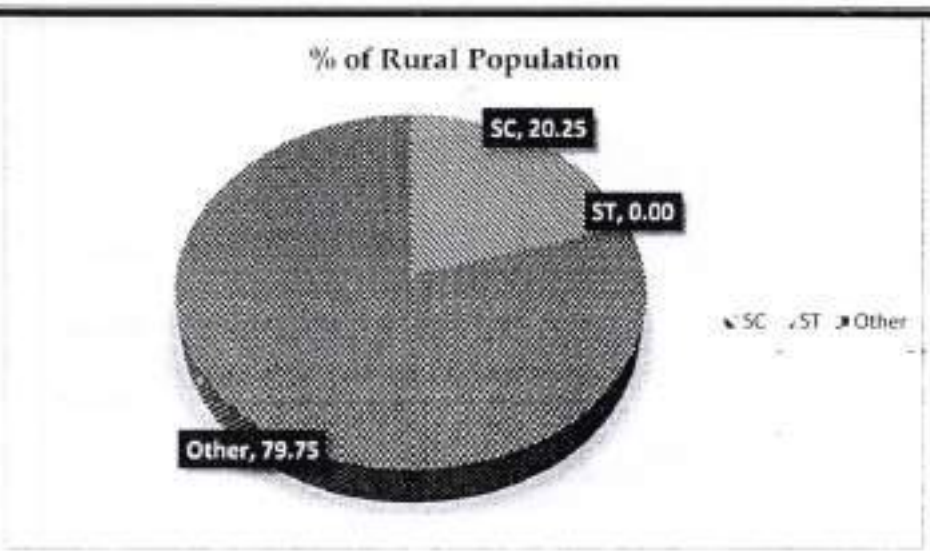
VILLAGE	P_TOT	M_TOT	F_TOT	TOT_WORKE_P	TOT_WORKE_M	TOT_WORKE_F	MAIN_WORKE_P	MAIN_WORKE_M	MAIN_WORKE_F	MAIN_CL_P	MAIN_CL_M	MAIN_CL_F	MAIN_AL_P	MAIN_AL_M	MAIN_AL_F
Bohora Kalan(134)	5551	2221	3330	5866	3809	1053	4760	3175	585	371	839	132	359	283	67
Bohora Khurd(136)	586	215	371	717	516	201	577	495	82	200	191	9	65	53	12
Dao Fadamka (41)	2859	899	1960	1044	899	185	915	814	101	375	342	33	179	143	36
Kanjhawi(25)	366	102	164	196	101	5	135	130	5	17	16	1	2	2	0
Khudka(142)	452	157	295	597	373	224	571	366	205	278	198	80	14	14	0
Dhan Kerba(137)	336	111	225	343	282	61	289	195	94	76	45	33	23	15	8
Bilaspur(146)	1648	479	669	1165	906	259	990	771	219	372	299	73	55	52	23
Basola(147)	240	96	144	352	274	78	308	270	38	102	99	3	15	12	3
Chandla Dungerwas(148)	571	188	383	705	510	195	592	458	134	369	259	110	35	11	4
Chhawas(2)	324	180	144	244	188	56	222	175	47	42	39	3	40	34	6
Dasrola(145)	300	116	184	370	232	138	321	168	153	145	135	10	1	1	0
Daulpur(288)	280	113	167	311	202	19	298	270	28	66	61	5	12	11	1
Fulkharpur(132)	439	192	301	444	471	73	427	407	20	186	177	9	7	7	0
Farukwas(149)	512	204	308	448	422	26	423	408	22	98	89	9	37	34	3
Gorawas(33)	366	57	109	262	134	128	47	39	8	5	5	0	9	9	0
Hera Heri(36)	267	79	188	228	214	14	227	218	14	98	90	3	11	10	1
Ismailewas(39)	901	241	360	602	520	82	512	467	45	310	282	28	4	4	0
Kalliawas(41)	521	200	321	539	490	148	466	407	59	194	161	33	56	46	10
Khatpur(34)	221	96	125	347	199	148	122	140	32	77	51	21	13	10	3
Kharkhari(131)	550	212	339	611	478	132	544	457	87	211	146	65	28	23	5
Khor(32)	1561	569	992	1782	1243	521	1111	938	133	439	392	47	244	209	35
Langra(145)	449	172	277	633	461	172	337	273	65	166	107	53	54	28	6
Lohchap(26)	375	123	252	585	382	203	506	330	188	99	86	13	264	112	152
Lokra(289)	642	248	394	530	497	33	499	388	21	147	140	1	20	19	1
Lokri(280)	958	327	631	603	568	34	520	490	21	217	207	10	31	29	2
Mao(297)	738	222	457	666	535	131	580	492	88	225	201	24	2	2	1
Maliankpur(17)	1028	437	591	1056	764	292	837	637	200	432	325	107	280	196	84
Mumtajpur(18)	269	134	135	489	327	162	352	237	115	14	11	3	15	12	3
Nanu Khurd(29)	500	107	393	371	235	136	226	212	14	145	135	10	1	1	0
Nasiyabas(27)	1287	489	798	1035	810	225	780	716	64	62	55	7	48	43	5
Nathola(44)	1576	624	952	1127	1054	123	937	892	65	202	194	8	133	123	10
Nangal Bahora(135)	318	100	218	630	380	250	590	447	152	194	156	38	73	48	25
Pataudi Sub (D)(1)	25782	8996	16816	25482	15489	9993	18357	16197	2160	8070	5317	658	2280	1835	425
Pathrot(140)	1532	564	969	1498	1165	333	1154	1060	294	822	461	361	56	43	7
Prasoli(138)	490	198	292	547	376	172	533	368	169	231	102	129	5	4	1
Rathiwas(140)	1001	358	643	1288	835	453	1153	748	409	618	422	196	32	24	8
Said Shahpur(24)	128	57	71	138	90	48	90	78	12	33	28	5	24	22	2
Satpedar Nagar(37)	48	22	26	61	55	6	61	55	6	1	1	0	28	27	1
Shidrawali(139)	1578	611	965	2057	1404	653	1852	1362	490	368	299	69	31	16	15
Turkapur(40)	282	105	177	239	198	16	199	186	13	97	92	5	28	28	0
Udesani(148)	2	1	1	11	7	4	7	6	1	0	0	0	1	1	0
Uncha Majra(43)	1237	496	741	1827	929	898	924	845	79	384	371	13	89	66	23
	0			0			0			0			0		
TOTAL	63926	30599	39328	57341	44033	13308	44400	37636	6764	15022	12739	2283	4671	3620	1051
AVERAGE	1284	490	793	1365	1048	317	1057	896	161	358	303	54	110	86	25
	0			0			0			0			0		
Gurgaon	148032	93179	98918	158482	121794	36728	124933	105708	19227	39047	33423	5624	10113	7945	2168

SL NO	VILLAGE	MAIN_HH_P	MAIN_HH_M	MAIN_HH_F	MAIN_O_P	MAIN_O_M	MAIN_O_F	MARGW ORK_P	MARGW ORK_M	MARGW ORK_F	MARG_C_P	MARG_C_M	MARG_C_F	MARG_AL_P	MARG_AL_M	MARG_AL_F
1	Bahora Kalan(130)	143	128	15	3296	2605	671	1106	644	462	97	24	73	359	172	187
2	Bahora Khurd(136)	54	20	34	298	230	67	148	23	109	5	3	2	24	12	12
3	Bas Padamka (41)	4	4	0	357	325	32	129	45	84	67	0	99	14	3	11
4	Bardpur(25)	2	2	0	114	110	4	61	61	0	3	3	0	12	12	0
5	Bhadkal(142)	6	5	1	274	150	124	26	7	19	12	2	10	9	2	7
6	Bhan Garha(127)	6	2	4	146	135	11	54	47	7	6	6	0	71	70	1
7	Bilaspur(146)	38	21	17	525	419	106	175	35	140	47	5	42	27	6	21
8	Binola(147)	4	4	0	167	155	12	44	4	40	3	2	1	2	2	0
9	Chandla Dungerwas(118)	6	5	1	202	183	19	113	62	51	71	16	55	7	7	0
10	Chhawan(2)	17	12	5	103	70	33	22	13	9	3	1	2	4	3	1
11	Dawoli(141)	3	3	0	172	49	123	45	44	1	0	0	0	49	44	5
12	Daraipur(138)	8	4	4	236	201	35	13	13	0	0	0	0	1	1	0
13	Fakharpur(132)	7	7	0	222	216	11	12	11	1	0	0	0	11	11	0
14	Fazalpur(149)	11	11	0	361	357	14	25	21	4	0	0	0	4	3	1
15	Gorawas(32)	2	2	0	51	27	6	235	95	120	180	72	108	27	14	13
16	Hera Ka(136)	0	0	0	123	113	10	1	1	0	0	0	0	0	0	0
17	Ismailpur(139)	5	5	0	192	175	17	90	55	37	39	9	30	60	55	5
18	Kalyanpur(41)	13	12	1	703	588	15	175	104	89	113	58	55	43	23	18
19	Khanpur(34)	14	10	4	73	65	8	125	59	116	78	27	51	55	5	50
20	Khatkhari(131)	30	29	1	235	259	16	67	22	45	43	8	35	0	0	0
21	Khor(12)	23	24	1	801	353	88	651	263	388	108	67	271	259	132	87
22	Langra(145)	4	3	1	339	134	5	296	89	207	319	30	107	138	37	89
23	Lohchab(26)	22	9	13	126	111	8	79	62	17	2	1	1	52	44	8
24	Lokra(289)	1	1	0	291	222	19	121	109	12	6	3	3	56	51	5
25	Lokri(287)	6	5	1	166	158	8	83	70	13	6	3	3	33	30	3
26	Maa(297)	15	14	1	337	275	62	86	43	43	35	2	33	2	1	1
27	Mohmdpur(17)	22	22	0	103	98	5	219	127	92	28	14	15	185	109	75
28	Mumtajpur(18)	87	35	52	236	179	57	137	90	47	8	6	2	13	6	7
29	Nanu Khurd(79)	3	0	3	80	76	4	185	23	162	173	1	172	0	0	0
30	Nandukan(27)	47	42	5	635	579	44	255	203	52	7	4	3	48	25	15
31	Nathera(46)	12	11	1	620	584	36	226	162	58	9	6	3	39	21	9
32	Nayar Bahera(135)	1	1	0	241	130	111	121	43	78	39	14	25	23	13	10
33	Palsauli 538 DST	430	305	125	9537	8549	952	7375	3292	3833	3554	719	1685	2185	1133	1052
34	Patlot(143)	23	19	2	960	537	134	144	105	39	21	11	10	83	72	9
35	Prasol(138)	0	0	0	258	258	19	14	11	3	1	0	1	0	0	0
36	Rathwas(140)	14	10	4	589	388	101	135	91	44	3	2	1	113	73	40
37	Said Shahpur(24)	0	0	0	53	28	3	48	12	36	18	2	16	29	10	19
38	Sapedar Nagar(137)	1	0	1	27	23	4	0	0	0	0	0	0	0	0	0
39	Sidhrawali(139)	12	12	0	1485	935	550	205	142	63	70	23	47	52	43	9
40	Turkapur(40)	7	7	0	67	61	6	15	10	5	5	2	3	9	6	3
41	Udepur(144)	0	0	0	6	5	1	4	1	3	0	0	0	1	0	1
42	Usaha Mayo(43)	19	18	1	438	388	50	169	60	109	26	7	19	40	31	9
		0			0			0			0			0		
	TOTAL	1332	903	389	21665	20374	3190	12941	6357	6544	4369	1134	3235	3096	1311	1785
	AVERAGE	28	22	7	743	485	76	308	152	156	99	27	72	108	55	43
		0			0			0			0			0		
43	Gurgaon	3621	2565	1038	72152	61784	10399	39529	18028	17501	11041	3266	7775	6938	3849	4100

SL.NO	VILLAGE	MARG_EL_T_P	MARG_EL_T_M	MARG_EL_T_F	MARG_OT_P	MARG_OT_M	MARG_OT_F	NON_WORK_P	NON_WORK_M	NON_WORK_F
1	Bahora Kalan(134)	45	25	20	605	413	192	13095	5275	7820
2	Bahora Khurd(136)	90	0	90	21	6	15	1225	498	727
3	Bas Padamka (41)	1	1	0	47	39	8	2294	897	1397
4	Bastpur(25)	0	0	0	26	26	0	610	225	385
5	Bhudka(142)	0	0	0	5	3	2	896	413	483
6	Bhun Karka(137)	1	0	1	14	11	3	925	366	559
7	Bilaspur(146)	26	3	23	75	21	54	2227	1006	1221
8	Binola(147)	21	0	21	18	0	18	482	195	287
9	Chandla Dungerwas(148)	0	0	0	35	29	6	1292	507	785
10	Chhawan(2)	4	2	2	11	7	4	564	226	338
11	Danokri(141)	0	0	0	0	0	0	587	272	315
12	Darapur(288)	2	2	0	10	10	0	892	343	549
13	Fakharpur(133)	1	0	1	5	3	2	1244	474	770
14	Fazalwas(149)	11	8	3	10	10	0	1418	551	867
15	Goriawas(33)	0	0	0	8	4	4	247	127	120
16	Hera Heri(36)	0	0	0	1	1	0	719	281	438
17	Joniawas(19)	1	1	0	10	9	1	1435	560	875
18	Kaliawas(41)	3	2	1	26	21	5	1287	521	766
19	Khanpur(34)	3	1	2	29	26	3	398	191	207
20	Kharkhari(131)	7	6	1	11	8	3	1296	506	790
21	Khor(32)	7	4	3	67	40	27	3171	1315	1856
22	Langra(145)	5	0	5	38	26	12	744	347	397
23	Lohchap(26)	5	2	3	20	15	5	857	383	474
24	Lokra(289)	2	2	0	57	53	4	1563	598	965
25	Lokri(287)	8	7	1	36	30	6	1799	686	1113
26	Mao(297)	0	0	0	48	38	10	1599	633	966
27	Mubarikpur(37)	1	1	0	9	7	2	1888	784	1104
28	Mumtajpur(38)	7	3	4	109	75	34	826	370	456
29	Nanu Khurd(29)	0	0	0	22	22	0	665	307	358
30	Nanukalan(27)	8	4	4	200	170	30	3060	1224	1836
31	Narhera(44)	7	4	3	174	131	43	3237	1239	1998
32	Nurpur Bahora(135)	0	0	0	59	16	43	603	249	354
33	Pataudi-SUB DIST	136	77	59	2250	1363	887	53206	21571	31635
34	Pathrari(143)	1	0	1	41	22	19	3516	1436	2080
35	Prasoli(138)	0	0	0	13	11	2	957	422	535
36	Rathiwas(140)	1	0	1	18	16	2	2214	967	1247
37	Said Shahpur(24)	0	0	0	1	0	1	227	101	126
38	Sapedar Nagar(37)	0	0	0	0	0	0	146	55	91
39	Sidhrawali(139)	4	1	3	79	65	14	3449	1482	1967
40	Turkapur(40)	0	0	0	2	2	0	670	255	415
41	Udepuri(144)	3	1	2	0	0	0	20	10	10
42	Uncha Majra(43)	1	0	1	54	46	8	2830	1044	1786
		0			0			0		
	TOTAL	412	157	255	4264	2795	1469	120380	48912	71468
	AVERAGE	10	4	6	102	67	35	2866	1165	1702

Population:

The total population of 42 census villages is 177721. This includes rural sub-district Pataudi. The % of Schedule Caste (SC) and Schedule Tribe (ST) to the total population is 20.25 & 0 respectively. There are no Schedule tribes.



Village size:

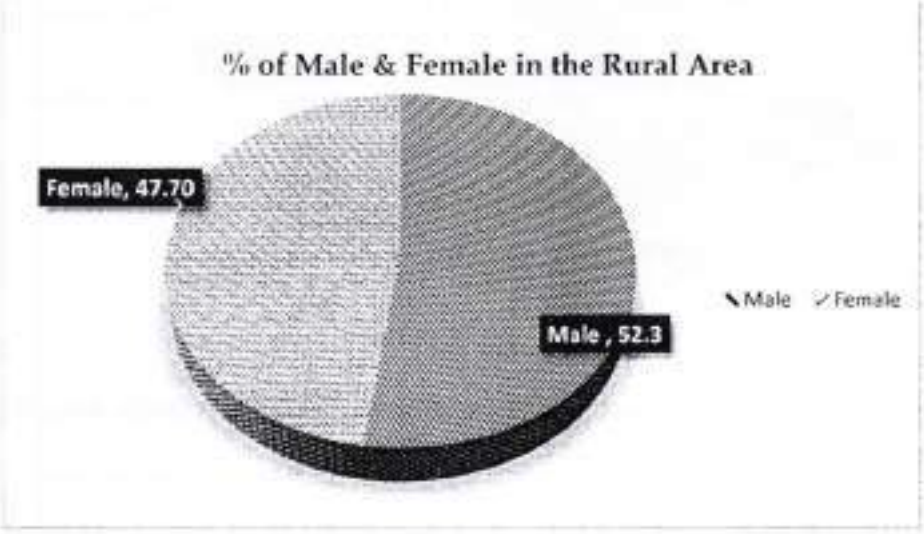
The total households in the 42 villages are 33375. The average household per village is 795.

House hold size:

The average household size is 5.32 in rural area.

Sex ratio:

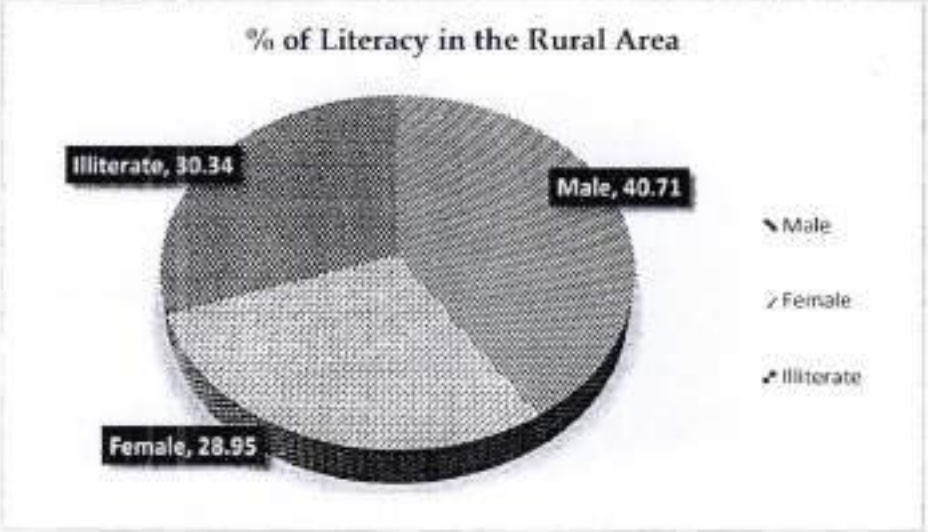
The sex ratio of the study area is 912 females per thousand male population in rural area. The percentage of male and female population to the total population is 52.30 and 47.70 respectively.



Literacy:

The percentage of literacy in the area is 69.66.

The % male and female literacy to the total population is 40.71 & 28.95 respectively.



Occupational structure of the study area: The percentage of total workers to the total population of the rural area is 32.26 in which main workers constitute 24.98 % and marginal workers constitute 7.28 % and remaining 67.74 % constitute non-workers.

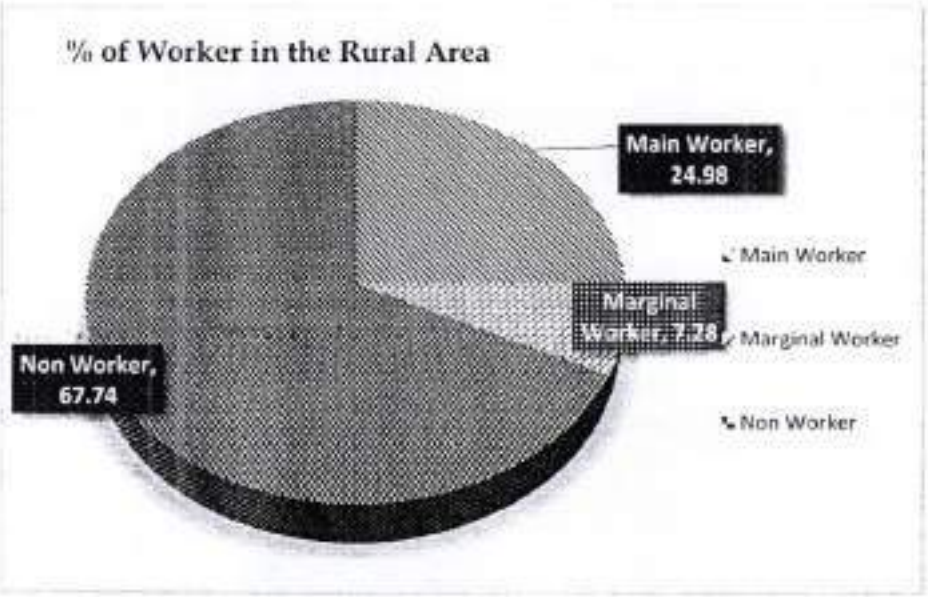


Table 3-13 Demographic features and other Statistics for the Study Area (Rural Area) as per Census 2011

Sl.	Details	No./%
1	Total population	177721
2	No. of House hold	33375
3	Average family size	5.32
4	Average no. of house hold per village	795
5	Average population per village	4231
6	Sex ratio –females per thousand males	912
7	Percent of male population to total population	52.30
8	Percent of female population to total population	47.70
9	Percent of SC population to the total population	20.25

10	Percent of ST population to the total population	0
11	Percent of literate population to the total population	69.66
12	Percent of Male literate population to the total population	40.71
13	Percent of Female literate population to the total population	28.95
14	Percent of total main worker to the total population	24.98
15	Percent of total marginal worker to the total population	7.28
16	Percent of non-worker to the total population	67.74

From the table it is clear that Sex Ratio is on a lower side. There is no ST population.
Gender gap between male and female literacy is approx. 12%.
Employment is a major concern besides literacy.

Demographic features of study area: Urban Area

Further the study area comprises of Sub District Gurugram and Sohna, with a total population of 41324.

Table 3-14 Summary of Demographic features of Urban area under study

Description	Pataudi -SUB DIST	Dist. Gurgoan Urban
Number of Households	7454	237750
Total Population (Persons)	41324	1042253
Total Population (Males)	21745	565228
Total Population (Females)	19579	477025
Population in age group 0-6 years (Persons)	5729	135129
Population in age group 0-6 years (Males)	3078	73236
Population in age group 0-6 years (Females)	2651	61893
Scheduled Caste Population (Persons)	9825	107824
Scheduled Caste Population (Males)	5124	57083
Scheduled Caste Population (Females)	4701	50741
Scheduled Tribe Population (Persons)	0	0
Scheduled Tribe Population (Males)	0	0
Scheduled Tribe Population (Females)	0	0
Literates (Persons)	28400	787029
Literates (Males)	16254	446378
Literates (Females)	12146	340651
Illiterates (Persons)	12924	255224
Illiterates (Males)	5491	118850
Illiterates (Females)	7433	136374
Total Workers (Persons)	12045	386254
Total Workers (Males)	10340	310722
Total Workers (Females)	1705	75532
Main Workers (Persons)	10099	362508
Main Workers (Males)	8911	294680
Main Workers (Females)	1188	67828
Main Workers - Cultivators (Persons)	709	5382
Main Workers - Cultivators (Males)	645	4796
Main Workers - Cultivators (Females)	64	586

Main Workers - Agricultural Labourers (Persons)	541	5612
Main Workers - Agricultural Labourers (Males)	460	4662
Main Workers - Agricultural Labourers (Females)	81	950
Main Workers - Workers in Household Industries (Persons)	727	12381
Main Workers - Workers in Household Industries (Males)	551	10229
Main Workers - Workers in Household Industries (Females)	176	2152
Main Workers - Other Workers (Persons)	8122	339133
Main Workers - Other Workers (Males)	7255	274993
Main Workers - Other Workers (Females)	867	64140
Marginal Workers (Persons)	1946	23746
Marginal Workers (Males)	1429	16042
Marginal Workers (Females)	517	7704
Marginal Workers - Cultivators (Persons)	75	576
Marginal Workers - Cultivators (Males)	40	357
Marginal Workers - Cultivators (Females)	35	219
Marginal Workers - Agricultural Labourers (Persons)	422	2433
Marginal Workers - Agricultural Labourers (Males)	281	1667
Marginal Workers - Agricultural Labourers (Females)	141	766
Marginal Workers - Workers in Household Industries (Persons)	81	1040
Marginal Workers - Workers in Household Industries (Males)	45	551
Marginal Workers - Workers in Household Industries (Females)	36	489
Marginal Workers - Other Workers (Persons)	1368	19697
Marginal Workers - Other Workers (Males)	1063	13467
Marginal Workers - Other Workers (Females)	305	6230
Non-Workers (Persons)	29279	655999
Non-Workers (Males)	11405	254506
Non-Workers (Females)	17874	401493

Table 3-15 Summary of Demographic features Rural vs Urban area under study

Sl.	Details	No./%	
		Rural	Urban
1	Total population	177721	41324
2	No. of House hold	33375	7454
3	Average family size	5.32	5.54
4	Sex ratio –females per thousand males	912	900
5	Percent of male population to total population	52.30	52.62
6	Percent of female population to total population	47.70	47.38
7	Percent of SC population to the total population	20.25	23.78
8	Percent of ST population to the total population	0	0
9	Percent of literate population to the total population	69.66	68.73
10	Percent of Male literate population to the total	40.71	39.33

	population		
11	Percent of Female literate population to the total population	28.95	29.39
12	Percent of total main worker to the total population	24.98	24.44
13	Percent of total marginal worker to the total population	7.28	4.71
14	Percent of non-worker to the total population	67.74	70.85

SC population is more by 3 to 4 % in urban area as compared to rural area. There is no ST population in both rural and urban area.

Literacy is almost same in rural and urban area . Gender gap between male and female literacy is approx. 10% in urban area as compared to 12 % in rural area.

In urban area marginal workers are less by approx. 2 to 3 % as compared to rural area.

Non-workers are more by 3 % in urban area as compared to rural area.

Employment is a major concern besides literacy in both rural and urban area.

Primary Survey

The nearby villages were selected for field survey.

Bhun Karka, Bilaspur, Danokri, Darapur, Joniawas, Lohchap, Lokra, Lokri, Mao, Nurpur Bahora, Jharsa, Prasoli, Rathiwas, Sidhrawali, Pataudi rural and urban sub districts etc.

Further the data for villages surveyed and data available for the same villages of Census 2011 was compared and data found to be validated.

Basic Observations

1. There is termite problem in almost all the villages.
2. Hinduism is the majority religion in Gurugram city with 92 % followers followed by Islam 5 %. There are no ST category people .
3. The villages in the core zone and buffer zone are having primary amenities and infrastructural facilities.
4. Sex Ratio is on a lower side and is alarming for both rural and urban area.
5. Gender gap between male and female literacy is alarming for both rural and urban area.
6. Employment is a major concern besides literacy for both rural and urban area.
7. Primary survey was conducted in nearby villages & data collected based on specific designed Questionnaire & focused group discussions. There has been increase in the population & other related factors since 2011 (male population, female population, SC/ST population, literacy, working population, category of workers etc.). While comparing the house hold survey results with census data 2011 the observations are found to be validated.
8. Gurugram District has witnessed a phenomenal growth in all spheres of developments, particularly in industry and urbanization. Today, it has become a hub of multinational companies, industries giants, call centres, software companies, shopping malls and skyscrapers.

9. The inferences cannot be generalized due to limitation of survey and also cost consideration. As such the inferences cannot be used for any other purpose and is not liable for any legal action.

Demography-Census 2011

Title	Detail
Population	1514085
Area	1253 sq. km.
Rank in India	328/640
Population Density	1241 inhabitants per sq.km.
Population Growth Rate	79.93%
Sex Ratio	853 females per 1000 males
Literacy Rate	84.4%

Economy

The city benefits from its close proximity to Delhi.

Gurugram has the third highest per-capita income in India and is the site of Indian offices for half of Fortune 500 companies.

Maruti Suzuki Private Limited was the first company that set up a manufacturing unit in the city in 1970s making cars.

Eventually, DLF Limited, a real estate company acquired vast stretches of land in the city.

The first major American brand to set up a unit in Gurugram was General Electric in 1997. General Electric's setup in Gurugram prompted other companies, both international as well as domestic, to follow suit providing outsourcing solutions in software, IT, service and sales through delivery facilities and call centres.

Apart from Business process outsourcing and IT sectors, the city is home to several other companies that specialise in domain expertise. Siemens Industry Software, in Gurugram Business Park, made a portfolio of design software that was used by NASA to digitally design, simulate and assemble the vehicle before any physical prototypes were built.

Various international companies, including Coca-Cola, Pepsi, BMW, Agilent Technologies, Hyundai have chosen Gurugram to be their Indian corporate headquarters; this continues to be apparent in the 2020s, with Cargill and Nissan making the same choice. All the major

companies in the city depend on their own backup, given the fact that Gurugram does not have reliable power and water supply, public transport and utilities.

Retail is an important industry in Gurugram, with the presence of more than 25 shopping malls.

All Nippon Airways, a Japanese airline, maintains its Delhi sales office in the Time Tower in Gurugram.

Technology company Lets Track is headquartered in Gurugram.

There are seven industrial areas in Gurugram. Presently there are more than 4200 production units in more than 1700 ha industrial area.

List of Large & Medium Industries of Gurugram

- ASK Automotive (Italy) Gurugram (brake shoes) Aksh Optifibre Limited (Manesar)
- Amtek (UK, Japan) Delhi , Manesar (connecting rods) Ample Auto, Gurugram
- Anand Motors Products (USA) Delhi and Gurugram (components)
- Anand Nishikawa (Japan) Delhi, Gurugram Udyog Vihar Phase 1 (rubber parts) Anu Autos Industries (France, South Korea) Gurugram (locking systems) Apollo Tyres Gurugram
- Arvin Industries) Gurugram (filter) Bharat Seats (Japan) Haryana (seats) BMW (Gurugram, only HQ)
- Bosch Chassis Manesar
- Bosch (Germany) Gurugram (pumps) Caparo Maruti (UK) Gurugram (sheet metal) Climax Overseas Manesar
- Continental, Gurugram
- D.I. Filter Systems (USA, Donaldson Company) Gurugram (air filters) Deadong Gurugram (cables)
- Delphi Automotives (USA) Gurugram (steering systems, wiring harness) Donaldson Company Gurugram (air filters)
- Echlin India (USA) Haryana (brakes) Eicher Faridabad
- FCC Rico (Japan) Gurugram (clutch assembly) Ferodo (UK) Gurugram (brakes)
- Gabriel India Ltd. Gurugram
- Henkel Teroson (Germany) Gurugram (anti-freezing coolant)
- Highway Cycles Industries (Japan, Honda) Gurugram (piston for engines) Hilton Roulunds (Denmark) Haryana (automotive belts)
- Haryana Sheet Glass LTD (UK, Pilikington) Haryana (automotive glass) Haryana DD Autos (Germany) Haryana (shafts)
- Haryana Deepey Autos (UK, Woodhead) Gurugram (shock absorbers) Jay Bharat Maruti (Japan) Gurugram (pipes)
- JBM Sung Hoo (South Korea) Delhi (components) JBM Group Gurugram
- JMA Industries (Germany, Hella) Faridabad (lamps) Jay-Yusin (Japan) Gurugram (door latch)
- Jay Industries (South Korea, Boramtek) Delhi (components) Johnson Matthey (UK) Gurugram (catalysts)
- Johnson Matthey Manesar
- JNS Instruments (Japan) Gurugram (instruments) Krishna Maruti (Japan) Gurugram

(seats) Krishna Toyo (Japan) Gurugram (rear mirrors)

- Lumax GSHP (USA) Gurugram (transmission)
- Laser Lamp (South Korea, Il Lee corp.) Delhi/Haryana (halogene lamps) Machino Polymers (Montell int.) Gurugram (compound cables)
- Machino TSK Nippon Cables (Japan) Gurugram (cables) Machino Basell (Netherlands) Gurugram (polypropylene) Madhusudan Nippon (Japan, Korea, Deadong) Gurugram (cables) Manu Auto, Manesar
- Mark Auto Industries (Italy, Germany, FBN Italy, Roth Abgastechnologie) Gurugram (exhaust systems)
- Metro Tyers Gurugram
- Mindarika (Japan) Gurugram (switches)
- M and M Auto Industries Gurugram (springs) Montell int. Gurugram (compound cables)
- Munjal Showa (Japan) Gurugram (shock absorbers) Nagata (Japan) Gurugram (tools, dies)
- Napino Auto and Electronics Manesar Nelson Industries (USA) Delhi (engine parts) Nikko Auto (Japan) Gurugram (horns)
- Nippon Paint Gurugram (paint) Pilikington (UK) Gurugram
- Purolator (USA, Arvin Industries) Gurugram (filter) Quiton Hazell Gurugram (rods, joints, steering assembly)
- Rasandik Engineering (Japan, Yachiyo) Gurugram (fuel tanks) Roloform Manesar
- Roth Abgastechnologie Gurugram (exhaust systems) Sandhar Gurugram
- Sauer Danfoss, Gurugram Siemens Intron Gurugram
- Sono Koyo (Japan) Gurugram (steering) Sona Okegawa (Japan) Gurugram (gears)
- Sona Somic Lemforder (Japan/Germany) Gurugram (ball point) Sunbeam Auto (Japan, Honda) Gurugram (pistons)
- Sun Steering Wheels (Japan, TS Tech) Gurugram (steering wheels) Sun Petri (Germany) Gurugram (steering wheels)
- Suzuki (Japan) Motor-Bikes
- Talbros (UK, Quiton Hazell) Gurugram (rods, joints, steering assembly) Woodhead Gurugram (shock absorbers)
- WSCP Manesar

Textile

- Didi World of Fashion Express
- House of Pearl/Koutons Orient Craft

Besides there are more than 30 Large Scale Industries. Some prominent are given below

- M/S HERO MOTORS LTD., SECTOR-8, IMT MANESAR,(FERROUS ALLOY DIV.)- MOTORCYCLE PARTS
- M/S HEWETTS ASSOCIATES, DLF, GURUGRAM- INFORMATION TECHNOLOGY
- M/S MARUTI UDYOG LTD., IMT MANESAR, GURUGRAM- PASSEGER CARS
- M/S JINDAL STAINLESS STEELWAY LTD. VILLAGE PATHRERI, GURUGRAM- PIPES
- M/S COSCO INDIA LTD.,RLY. ROAD, GURUGRAM- SPORT GOODS

Major Exportable Item:

Cars, scooters, motorcycles, rice, auto parts, leather products, handicraft item ,readymade garments and plastic parts etc.

Vendorisation / Ancillarisation of the Industry

Auto parts for two and four wheelers

Existing Clusters of Micro & Small Enterprise

Service Sector: Auto Workshop/Service Station, Mobile Repair , Computer Hardware, refrigeration & Air conditioning etc.

Cluster: Auto Rubber parts- Gasket, Seals, washers & V-belts etc.

Cluster: Readymade Garments manufacturing- Trousers, lowers, track suits, T-shirt etc.

Cluster: Auto Parts manufacturing- Piston, crank, rocker arm, sleeve etc.

Cluster: Leather Goods & Garments

Languages and dialect

The main language spoken in Gurugram is Hindi, though a segment of the population understands and speaks English. The dialect used in Hindi is similar to that of Delhi, and is considered neutral, though the regional influences from the states of Haryana, Uttar Pradesh and Punjab adds an accent to the language. English is spoken with an Indian accent, with a primarily North Indian influence. Since Gurugram has many international call centres, the employees are usually given formal training in neutral pronunciation in order to be understandable to native English speakers. Haryanvi and Punjabi are other popular languages spoken in the city.

Art and Culture

Gurugram offers a diverse array of experiences that cater to a wide range of interests and preferences. With its rich history, vibrant culture, and exciting entertainment options, the city promises an unforgettable and enriching journey for every visitor.

Places of Interest in Gurugram

Kingdom Of Dreams

A first of its kind of live entertainment in the country has been set up at Kingdom of Dreams, in the Sector-29, Gurugram.

The Kingdom of Dreams is a must-visit entertainment destination in Gurugram that perfectly blends Indian art, culture, and heritage. This majestic complex features a blend of modern and traditional architecture, with structures like the Nautanki Mahal, Culture Gully, and the Showshaa Theatre. The Nautanki Mahal hosts extravagant Bollywood-style musicals and theatrical performances, while Culture Gully showcases the diverse cuisines and handicrafts from different states of India. The Showshaa Theatre hosts various events, from stand-up comedy to live music performances, ensuring that there is always something exciting happening at the Kingdom of Dreams.

It is a unique cultural centre in itself. In this Opera theatre, one can have the glimpses of European countries, including Paris, America and England, in one place. There is a cultural

lane where glimpses of different traditions, food & dresses of different states of India are showcased. The food of Indian States is also served to the tourists.

Sheetala Mata Temple

One of the nine Shaktipeeths in the country is Sheetala Mata Devi in Gurugram.

The Sheetla Mata Mandir is dedicated to the Hindu goddess Sheetla Devi. This ancient temple is believed to have healing powers and attracts thousands of devotees from across the country. The serene atmosphere and beautiful architecture of the temple make it a must-visit destination for spiritual seekers and tourists alike. The Religious Temple pond, attracts huge crowd, the year around, especially during 'Navaratri,' around Diwali festival. This temple holds melas two times a year in Chaitra and Ashadh months. The situation like Kumbh is experienced during these Melas.

Sheesh Mahal

Step back in time at the Sheesh Mahal, a beautiful 19th-century palace-turned-museum located in the heart of **Gurugram**. This architectural marvel showcases the royal heritage of Haryana, with intricate carvings, mirrored walls, and stunning frescoes adorning its interiors. The museum also houses a collection of artefacts, paintings, and photographs that offer a glimpse into the region's rich history and culture.

Museum of Folk and Tribal Art

One can delve into the fascinating history of Gurugram by visiting the Museum of Folk and Tribal Art. This museum showcases the rich cultural heritage of various Indian tribes and folk communities, providing a unique insight into their lifestyles, customs, and traditions. With a vast collection of artefacts, paintings, sculptures, and textiles, the museum offers an immersive experience for history and art enthusiasts alike.

Heritage Transport Museum

The Heritage Transport Museum is a must-visit attraction for automobile enthusiasts and history buffs. This one-of-a-kind museum showcases the evolution of transportation in India, with a vast collection of vintage cars, motorcycles, buses, aircraft, and even bullock carts. The museum also features interactive exhibits, allowing visitors to engage with the displays and learn about the fascinating history of transportation in the country.

Sultanpur National Bird Sanctuary

In Gurugram district 46 kilometres from the Capital Delhi, is the Sultanpur National Bird Sanctuary on the Gurugram-Farukhnagar Road. There is also an ancient lake here spread over about 265 acres of land. National & International tourists visit this Place.

The Sultanpur National Park is a haven for nature lovers and birdwatchers. This lush park is home to a variety of migratory and resident bird species, including the Siberian crane, greater flamingo, and purple sunbird. The park also features several walking trails, watchtowers, and a well-equipped visitor centre, making it an ideal getaway for those seeking respite from the bustling city.

Aravalli Biodiversity Park

The Aravalli Biodiversity Park is a unique combination of art, nature, and conservation. Spread across 380 acres, this park is home to a variety of flora and fauna native to the Aravalli Range. The park also features several art installations and sculptures created by renowned artists, adding a creative touch to the natural surroundings. With well-

maintained walking and cycling trails, the Aravalli Biodiversity Park is an excellent destination for a rejuvenating outdoor experience.

Ambience Mall

No visit to Gurugram is complete without indulging in some retail therapy at the Ambience Mall. This expansive shopping complex features a diverse range of local and international brands, catering to every fashion and lifestyle preference. The mall also houses a variety of dining options, a multiplex cinema, and an entertainment zone, making it a one-stop destination for a fun-filled day out with family and friends.

Local Cuisine at the Sector 29 Market

The Sector 29 Market is a gastronomic paradise for **food lovers visiting Gurugram**. This bustling market is packed with an array of eateries, offering everything from delectable street food to fine-dining experiences. Sample mouthwatering dishes like chaat, kebabs, and momos, or indulge in a delicious North Indian meal at one of the many restaurants. The market also features a range of pubs and bars, making it a lively nightlife destination.

Cyber Hub

The Cyber Hub is a popular dining and entertainment destination in Gurugram, offering a diverse range of restaurants, cafes, and bars. This lively venue is perfect for food lovers looking to savour flavours from around the world, with options ranging from Italian and Japanese to Indian and Mediterranean cuisines. The Cyber Hub also hosts various live music and cultural events throughout the year, making it a vibrant and bustling hotspot in the city.

Flyboy Aero Park

One can get adrenaline pumping at the Flyboy Aero Park and can indulge in thrilling adventure sports like paramotoring, ziplining, and off-road biking. This recreational park offers a unique opportunity to experience the joy of flying to soar through the sky, taking in breathtaking views of Gurugram's skyline.

Classic Golf and Country Club

Golf enthusiasts visiting Gurugram can enjoy a round at the Classic Golf and Country Club, a sprawling golf resort nestled in the picturesque Aravalli Range. This 27-hole championship golf course, designed by Jack Nicklaus, offers a challenging yet enjoyable experience for both amateurs and seasoned golfers. The club also features a luxurious clubhouse, swimming pool, and fine-dining restaurant, ensuring a memorable day out on the greens.

Leisure Valley Park

The Leisure Valley Park is an urban oasis in the heart of Gurugram, offering a serene setting for visitors looking to escape the hustle and bustle of the city. Spread across 101 acres, the park features lush green lawns, well-maintained gardens, and a picturesque lake. The park also hosts various cultural events and festivals throughout the year, making it a vibrant and lively destination for locals and tourists alike.

SMAAASH Gaming Centre

For a fun and immersive entertainment experience, head to the SMAAASH Gaming Centre. This state-of-the-art gaming hub offers a variety of virtual reality games, arcade games, and simulators that cater to all age groups. With exciting activities like go-karting, bowling, and trampoline parks, the SMAAASH Gaming Centre guarantees a thrilling day out for the entire family.

Neverenuf Garden Railway

The Neverenuf Garden Railway is a unique attraction that transports visitors to a miniature world set amidst a beautiful garden landscape. This charming venue features a model railway village, complete with intricately detailed miniature buildings, landscapes, and working trains. Visitors can also engage in interactive activities like treasure hunts and boat-making workshops, making it a delightful experience for both children and adults.

Mostly the study area is under agriculture.

The Anticipated Impacts of the Expansion Project on Society

There will be positive impact of the project in the area as mentioned below:

- Employment opportunities, both direct and indirect will be increased
- Communication and transport facilities are expected to improve.
- Education facilities will improve
- Medical facilities are likely to improve
- Cultural & sports activities and improvement of social welfare

The socio-economic status of the local people will improve substantially due to additional employment generation. The land rates will improve in the nearby areas due to the proposed expansion activity.

Educational institutions will also come up and will lead to an improvement in the educational status of the people in the area.

Primary health centers and medical facilities will certainly improve due to the proposed expansion of the project.

The proposed project will result in growth of the surrounding areas by increasing ancillary development and supporting infrastructure. State will get revenues in terms of taxes. Business opportunities for the local community will be available like transport, maintenance & house-keeping contract work etc.

The project will need additional several skilled workers. Besides several semiskilled and unskilled workers will also be required for peripheral activities like transport, logistics, engineering, services, commercial services etc.

The unskilled labor will be deployed from local area only.

CSR/CER ACTION PLAN PROPOSED

1. More emphasis on Education specially job-oriented skill development of the youth. Training arrangements will be made to empower youth with skills so that they can take up their own business.
2. Girl Education. BETI BACHAO AND BETI PARAHO considering the gender inequality. Study material, scholarship will be provided to the needy girls, the deserving girls may be sponsored for higher education.
3. Employment generation activities by forming SELF HELP GROUPS.
4. Contribution towards Maintenance of Roads /Schools/ Temples/Primary hospitals including value addition in terms of public facilities.

5. CER will be dealt with as per EC conditions granted by MoEF&CC.

The budget with the proposed activities will be finalized along with consultation of the local authorities.

Opinion of the People of Surrounding Area Regarding Project

People feel that the project will have very much positive impact on their lives. The project will give them employment, infrastructural development including better living conditions & hope for better future. PP will address the issues of poverty, unemployment etc. under its CSR policies in nearby areas for meeting the social demand. People have positive opinion regarding the project & feel that the project will continue peripheral developmental activities besides CSR & CER activities.

3.14 ECOLOGY AND BIODIVERSITY

Methodology Adopted for the Study of Flora and Fauna

Core Zone: Project site

Buffer Zone: 10 km radii w.r.t. project site

Floral Diversity of the Study Area

The objective of this floral inventory of the study area is to provide necessary information on floristic structure in the study area for formulating effective management and conservation measures. The climatic, edaphic and biotic variations with their complex interrelationship and composition of species, which are adapted to these variations, have resulted in different vegetation cover, characteristic of each region (Ohasi, 1975).

Trees: Total 36 species of trees belong to 19 families are enumerated from the study area. List of trees found in study area is given in table below.

Table 3-16 List of Trees in the Study area

S. NO.	FAMILY AND SCIENTIFIC NAME	VERNACULAR NAME
1	**Mimosaceae**	
1/1	*Acacia nilotica*	Kikar
2/2	*Acacia senegal*	Kumat
3/3	*Acacia leucophloea*	Safed babul
4/4	*Albizia lebbeck*	Kala Siras
5/5	*Albizia procera*	Safed Siris
6/6	*Prosopis cineraria*	Khejri
7/7	*Prosopis juliflora*	pahari kikar
2	**Apocynaceae**	
8/1	*Alstonia scholaris*	Chativan
3	**Boraginaceae**	
9/1	*Cordia dichotoma*	Lasora
10/2	*Cordia myxa*	Chota Lasora
4	**Rubiaceae**	
11/1	*Anthocephalus cadamba*	Kadamb

S. NO.	FAMILY AND SCIENTIFIC NAME	VERNACULAR NAME
5	**Meliaceae**	
12/1	*Azadirachta indica*	Neem
13/2	*Melia azedarach*	Bakain
6	**Fabaceae**	
14/1	*Butea monosperma*	Dhaak
15/2	*Leucaena leucocephala*	Subabool
7	**Caesalpiniaceae**	
16/1	*Cassia fistula*	Amaltas
17/2	*Parkinsonia aculeata*	Ram babul
18/3	*Delonix regia*	Gulmohar
19/4	*Tamarindus indica*	Imli
8	**Capparaceae**	
20/1	*Crataeva adansonii*	Barna
9	**Moraceae**	
21/1	*Ficus glomerata*	Gular
22/2	*Ficus religiosa*	Peepal
23/3	*Morus indica*	Shahtut
24/4	*Ficus benghalensis*	Barh
10	**Oleaceae**	
25/1	*Nyctanthes arbor-tristis*	Harsingar
11	**Tamariscineae**	
26/1	*Tamarix articulata*	Farash
12	**Verbenaceae**	
27/1	*Tectona grandis*	Sagon
13	**Combretaceae**	
28/1	*Terminalia arjuna*	Arjun
14	**Papilionaceae**	
29/1	*Dalbergia sissoo*	Shisham
15	**Myrtaceae**	
30/1	*Eucalyptus hybrid*	Eucalyptus
31/2	*Psidium guajava*	Amrud
16	**Moringaceae**	
32/1	*Moringa oleifera*	Saijan
17	**Mimosaceae**	
33/1	*Prosopis cineraria*	Khejri
34/2	*Prosopis juliflora*	pahari kikar
18	**Leguminosae**	
35/1	*Saraca indica*	Sita ashok
19	**Rhamnaceae**	
36/1	*Zizyphus mauritiana*	Ber

Shrubs: Total 24 species of Shrubs belong to 21 families are enumerated from the study area. List of Shrubs in the study area is provided in table below.

Table 3-17 List of Shrubs in the Study area

S. NO.	FAMILY NAME & SCIENTIFIC NAME	VERNACULAR NAME
1	**Fabaceae**	
1/1	*Acacia jacquemontii*	Babool
2	**Apocynaceae**	
2/1	*Thevetia peruviana*	Pili Kaner
3	**Euphorbiaceae**	
3/1	*Ricinus communis*	Arand
4/2	*Ricinus communis*	Castor
4	**Rhamnaceae**	
5/1	*Ziziphus nummularia*	Mallah
5	**Punicaceae**	
6/1	*Punica granatum*	Anar
6	**Mimosaceae**	
7/1	*Prosopis juliflora*	Prosopis
7	**Annonaceae**	
8/1	*Polyalthia longifolia*	Druping Ashok
9/2	*Annona squamosa*	Sita Phal
8	**Caricaceae**	
10/1	*Papaya coorge*	Papeeta
9	**Musaceae**	
11/1	*Musa sapientum*	Kela
10	**Asclepiadoideae**	
12/1	*Leptadenia pyrotechnica*	Khip
11	**Asparagaceae**	
13/1	*Asparagus racemosus*	Shatawar
12	**Solanaceae**	
14/1	*Datura wrightii*	Dhutura
13	**Palmae**	
15/1	*Phoenix acaulis*	Dwarf Date Palm
14	**Malvaceae**	
16/1	*Hibiscus rosa-sinensis*	Gudhal
15	**Verbenaceae**	
17/1	*Duranta repens*	Duranta
16	**Rutaceae**	
18/1	*Citrus medica*	Neebu
17	**Caesalpiniaceae**	
19/1	*Cassia tora*	Panwar
18	**Apocynaceae**	
20/1	*Carissa spinarum*	Hins
21/2	*Carissa carandus*	Karaunda

S. NO.	FAMILY NAME & SCIENTIFIC NAME	VERNACULAR NAME
19	**Capparaceae**	
22/1	*Capparis decidua*	Karir
20	**Polygonaceae**	
23/1	*Calligonum polygonoides*	Phoa
21	**Papaveraceae**	
24/1	*Argemone maxicana*	Brhamadandi

Herbs: Total 18 species of Herbs belong to 12 families are enumerated from the study area. List of Herbs in the study area is provided in table below:

Table 3-18 List of Herbs in the Study Area

S. NO.	FAMILY NAME & SCIENTIFIC NAME	VERNACULAR NAME
1	**Acanthaceae**	
1/1	*Adhatoda vasica*	Bansa
2/2	*Andrographis paniculata*	Kalmegh
2	**Cucurbitaceae**	
3/1	*Citrullus colocynthis*	Indirain
3	**Solanaceae**	
4/1	*Datura stramonium*	Dhatura
5/2	*Solanum nigrum*	Makao
4	**Cannabaceae**	
6/1	*Cannabis sativa*	Bhang
5	**Poaceae**	
7/1	*Saccharum bengalense*	Kana
8/2	*Cenchrus ciliaris*	Anjan
9/3	*Cenchrus setigerus*	Dhamanq
10/4	*Cynodon dactylon*	Bermuda grass
6	**Lamiaceae**	
11/1	*Oscimum basilicum*	Kali Tulsi
7	**Apocynacae**	
12/1	*Catharanthus roseus*	Sadabahar
8	**Fabaceae**	
13/1	*Mimosa pudica*	Lajwanti
14/2	*Desmodium triflorum*	Creeping Tickfoil
9	**Menispermaceae**	
15/1	*Tinospora cordifolia*	Glo
10	**Malvaceae**	
16/1	*Sida acuta*	Kharuthi
11	**Zygophyllaceae**	
17/1	*Tribulus terrestris*	Bhakhra
12	**Asteraceae**	
18/1	*Ageratum conyzoides*	Chick weed

Faunal Diversity of the Study Area

There was no endangered species observed during faunal survey, list of fauna detail summarized in table below.

Table 3-19 List of Mammals in the Study Area

S. NO.	SCIENTIFIC NAME	ENGLISH NAME	SCHEDULE AS PER WPA 1972
1.	*Herpestes edwardsi*	Common mongoose	Schedule II
2.	*Funambulus penanti*	Three striped squirrel	Schedule IV
3.	*Rattus rattus*	Common house Rat	Schedule V
4.	*Mus musculus*	Common mouse	Schedule V
5.	*Chiroptera*	Bat	Schedule V
6.	*Boselaphus tragocamelus*	Blue Bull	Schedule III
7.	*Felis chaus*	Jungle Cat	Schedule II
8.	*Canis aureus*	Indian Jackal	Schedule II
9.	*Scotophilus heathi*	Common yellow bat	Schedule V

Table 3-20 List of Reptiles in the Study Area

S. NO.	SCIENTIFIC NAME	COMMON NAME	SCHEDULE AS PER WPA 1972
1.	*Uromastyx hardwickii*	Sanda	Schedule II
2.	*Ptyas mucosa*	Yellow rat snake	Schedule II
3.	*Lamprophoiis guichenoti*	Common Skink	-
4.	*Calotes versicolor*	Common Garden Lizard	-

Table 3-21 List of Birds in the Study Area

S. NO.	SCIENTIFIC NAME	ENGLISH NAME	SCHEDULE AS PER WPA 1972
1.	*Acridotheres fuscus*	Jungle Myna	Schedule IV
2.	*Bubulcus ibis*	Cattle egret	Schedule IV
3.	*Corvus splendens*	House Crow	Schedule V
4.	*Centropus sinensis*	Greater coucal	Schedule IV
5.	*Acridotheres tristis*	Common Maina	Schedule IV
6.	*Dicrurus adsimilis*	Black Drongo	Schedule IV
7.	*Lonchura punctulata*	Indian spotted munia	Schedule IV
8.	*Nectarinia asiatica*	Indian purple sunbird	Schedule IV
9.	*Streptopelia senegalensis*	Little Brown Dove	Schedule IV
10.	*Treron phoenicoptera*	Common Green Pigeon	Schedule IV
11.	*Megalaima zeylanica*	Northern green barbet	Schedule IV
12.	*Turdoides caudatus*	Common Babbler	Schedule IV
13.	*Ploceus philippinus*	Baya Weaver Bird	Schedule IV
14.	*Motacilla maderaspatensis*	Pied Wagtail	Schedule IV
15.	*Halcyon smyrnensis*	White breasted kingfisher	Schedule IV
16.	*Pycnonotus cafer*	Red Vent Bulbul	Schedule IV

17.	*Himantopus himantopus*	Black-winged Stilt	Schedule IV
18.	*Pavo cristatus*	Peafowl	Schedule I
19.	*Passer domesticus*	House Sparrow	Schedule IV
20.	*Psittaciformes sps.*	Parrot	Schedule IV

Interpretation of EB Data:

The village groves and existing vegetation in the area serve as habitats for a small number of wildlife species. The wildlife present primarily consists of common mammals, birds, and reptiles. These animal species are known to inhabit areas alongside human settlements and have a relatively wide distribution. However, the natural vegetation in the study area is in a degraded state, and the density of wild mammals is notably low. Despite this, peafowl are prevalent in the region. To ensure the preservation of schedule-I species, a conservation plan has been prepared and copy of the same is enclosed as **Annexure.**

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CHAPTER-4 : ANTICIPATED ENVIRONMENTAL IMPACT AND ITS MITIGATION MEASURES

4.1 INTRODUCTION

4.1.1 Objective

Any developmental activity in its wake will bring about some impacts associated with its origin, which can be broadly classified as reversible, irreversible, long and short-term impacts. In this chapter, an endeavor has been made to identify various Environmental Impacts associated with the plant construction, operation and other activities wherein, there may be a chance of pollution. Based on the possible worst case emissions and waste generation from the proposed project and also taking into consideration the baseline environmental status at the proposed project site and surroundings, the environmental factors that are likely to be affected (Impacts) are assessed and identified.

Both beneficial (positive) and detrimental (negative) impacts are accounted for this purpose. The prediction of impacts helps in the preparation of a sound Environmental Management Plan which has to be executed during the on-going activities for the proposed project to minimize the adverse impacts on the environmental quality. In some case, mathematical models were used to quantitatively describe the cause-effect relationships between the sources of pollution and different components of environment. In case if the mathematical models are not available or it is not possible to identify/validate a model for particular situation, predictions would be made through available scientific knowledge.

The potential impacts on the environment from the proposed project are identified based on the nature of the various activities associated not only with the project implementation and operation, but also on the current status of the environmental quality.

The objectives of impact identification are as follows:-

- To ensure compliance with regulations
- To provide a comprehensive coverage of a full range of impacts, including social, economic and physical
- To distinguish between positive and negative, large and small, long term and short term, reversible and irreversible impacts
- To identify secondary, indirect and cumulative impacts as well as direct impacts and
- To consider impacts within the constraints of an area's carrying capacity.

4.1.2 Identification of Impacts

Pollutants generated from the development of the project during both the construction and operational phase will be solid, liquid and gaseous in nature. Also, the generation of pollution could be continuous, periodic or accidental. Sources of pollutants and their characteristics during the construction and operation phase are given below in **Table 4-1.**

Table 4-1 Pollution Sources

S. No.	Activity/Area	Pollutant	Pollutant Characteristics	Frequency
CONSTRUCTION PHASE				
1.	Ground excavation and leveling	Air emissions: PM_{10}, $PM_{2.5}$ CO, NOx, SO_2	Dust from construction Activities and excavation. Particulates, NOx and CO from vehicle exhaust	It was temporary during the Construction phase Only-bulk of the emissions are expected from ground working and leveling activities.
		Earth / solid waste	Solid waste from Construction activity and excavation.	Periodic.
		Noise	Noise generatedfrom construction equipment and machinery	It will be Temporary during the initial construction phase.
2.	Labour Camps	Sewage	Sewage generated from temporary labour camps on site	It will be Temporary – during the initial construction phase
		Solid Waste	Solid Waste generated from temporary labour camps on site	It will be Temporary – during the initial construction phase
OPERATION PHASE				
1.	Vehicular movement	Air emissions and noise	Vehicle exhaust emissions	Continuous/ Periodic
2.	Diesel power Generators	Air emissions	SO_2, NOx, PM, CO from fuel burning	Continuous
		Noise	Noisedue to running of Equipment	Continuous
		Hazardous waste	Used Oil Generation	Periodic,during oil changes
3.	Domestic use	Wastewater		Continuous
		Domestic Solid waste	Garbage / Food waste	Continuous
4.	Project area including common toilets	Sewage	Domestic wastewater	Continuous
		Domestic Solid Wastes	Bio-degradableand non-biodegradable wastes	Continuous-small quantities
5.	Diesel Storage	Solid waste	Settled sludge during tank cleaning	Occasional

6.	Maintenance/ housekeeping	Wastewater	Floor washing	Continuous
		Solid waste	Used equipment parts and garden wastes	Continuous
7.	Vehicle Parking Area	Oil Spills	Minor oil leaks in parking lot	Continuous-small quantities
8.	Storm water drain	Wastewater	Contamination discharge from site – Mainly suspended solids	During rainy season

4.2 IMPACT IDENTIFICATION

The primary function of an environmental impact assessment study is to predict and quantify potential impacts, assess and evaluate the magnitude and their importance in order to develop an environmental management plan to mitigate the impacts. Environmental impacts could be positive or negative, direct or indirect, local or regional and also reversible or irreversible. The areas of environmental concern for which the impacts and their predictions are taken into consideration are mainly:

- Air Environment
- Water Environment
- Noise Environment
- Land Environment
- Biological Environment
- Socio economic Environment

The impacts can be further categorized as positive impacts and negative impacts depending upon their nature, potential and magnitude.

This chapter discusses the incremental environmental impacts on the environmental parameters during the construction and operation phases of the project. The potential impacts have been identified in Table 4-2. The mitigation measures for the adverse impacts are discussed in Chapter 6.

Table 4-2 Identification of potential impacts during construction & operation phase

S. No	Components	Aspect	Potential Impact
Construction Phase			
1	Ambient Air Quality	Dust emissions from site preparation, excavation, material handling and other construction activities at Site.	Minor negative impact inside the premises. No negative impact outside project site. Short term
2	Noise	Noise generated from construction activities, operation of construction Equipment and traffic.	Minor negative impact near noise generation sources inside premises.

			No significant impact on ambient noise levels at sensitive receptors. Short term
3	Water quality	Surface runoff from project site Oil/fuel and waste spills. Improper debris disposal Discharge of sewage from labour camp.	No significant negative impact. Short term
4	Landuse and Aesthetics	Land development	Minor positive impact
5	Topography & Geology	Site development	No Significant Impacts
6	Soil	Construction activity leading to Topsoil removal and erosion.	Minor negative impact
7	Ecology Flora & Fauna	Habitat disturbanceduring construction activity	Minor negative impact short term
8	Socio-economy	Increased job opportunity for locals. Economy related to commercial real estate development, material supply etc. expected to boom.	Overall positive impact
9	Traffic Pattern	Truck movement and possibility of traffic congestion outside site on Gurugram Faridabad Road	Minor negative impact
OPERATION PHASE			
1	Ambient Air Quality	Particulate and gaseous emissions from DG sets and vehicle movement	Minor Negative impact
2	Noise	Noise from vehicle movement and operation of diesel generator sets during power failure.	Minor negative impact inside premises. No significant impact at sensitive receptors.
3	Water Quality	Oil/fuel and waste spills. Discharge of sewage. Discharge of contaminated storm Water	No significant adverse impact
4	Water usage	Use of fresh water at peak demand	Minor negative impact
5	Soil	Storage and disposal of solid and hazardous wastes Discharge of sewage Fuel and material spills Pesticides use	No negative impact

6	Ecology Flora & Fauna	Landuse change Discharge of wastewater to surface water bodies	No negative impact
7	Socio-economy	Increased job opportunity	Overall positive impact
8	Traffic Pattern	The proposed project will increase the load to predicted traffic during peak hours.	Moderate Negative Impact

4.2.1 Environmental Aspects of Development & Construction Operation

- Generation, storage and disposal of construction wastes
- Noise pollution from project site, machinery, equipment's and vehicle movement
- Air pollution from project site, machinery, equipment and vehicle movement
- Generation and discharge of wastewater
- Impact on ecology
- Consumption of resources such as water, electricity, and diesel
- Physical change in landscape due to earth work excavation and related activities
- Soil erosion caused due to loss of vegetation and other construction activities

4.2.2 Environmental Aspects of Operation Phase

- Discharge of Sewage Water
- Disposal of Solid Waste generated
- Increase in noise level due to transport & running of vehicles.
- Consumption of water and impact on water resources
- Impact on traffic
- Storm water during rains

Various activities from the proposed project are likely to have some negative as well as positive impact on the environmental constituents during its construction as well as operational phase. The impact assessment matrix given below in Table 4.3 reveals the impact associated with each activity of the project on various environmental parameters during construction and functional phase respectively before any mitigation measures are implanted. To assess the severity of the impacts, they are categorized as follows:

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Table 4-3 Potential Environmental Impacts of the Project

Environmental Parameters	Nature of Potential Impacts during Operation Phases										
	Local	Regional	Short Term	Long Term	Reversible	Irreversible	Adverse	Beneficial	No Impact	Significant	Insignificant
Topography	√								√		
Drainage	√								√		
Soil	√								√		
Water Resources	√		√		√		√				√
Water Quality	√								√		
Land Use	√			√		√		√		√	
Air Quality	√		√		√		√				√
Noise	√		√		√		√				√
Flora	√			√		√		√		√	
Fauna	√			√		√		√		√	
Employment	√			√		√		√		√	

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4.3 ASSESSMENT OF THE ENVIRONMENTAL IMPACTS DURING CONSTRUCTION & OPERATION PHASE

4.3.1 Land Environment

Anticipated Impacts

During Construction Phase: In the project site, soil will be excavated from the project location for road construction as well as for other infrastructure services. During the disposal of redundant overburden, soil of filling area will be covered and lost permanently. Impact on the natural drainage system will also be there.

During the operation phase: The soil may get polluted/ contaminated from littering of various kinds of waste generated within the project such as food items, paper, wood pieces, paints, pesticides, oil & grease etc. However, owing to the proposed solid waste management system, no significant impact is anticipated.

Mitigation Measures:

- The soil excavated during construction will be first temporarily stored in an area earmarked and then used to fill up low lying area in and around the project and rest of the soil will be transported by road to fill up low lying areas elsewhere
- Proper drainage system will be provided to deal with the storm water in case of rain. The impact on soil during construction phase will be marginal and reversible in the nature
- It is proposed to remove vegetative cover only from the specific site on which construction is to take place and allowing minimal disturbance to the vegetation in adjacent areas
- Land clearing activities will be confined only to necessary areas. The top soil will be stripped from construction areas and stockpiled for later reuse in landscaping
- The number, frequency and area of movement of heavy machinery will also be restricted.

During Operation Phase: to ensure against any chances of soil pollution, it is imperative to establish a well-planned solid waste collection system covering all areas of the project site. An identified area was designated for storage and segregation of the wastes which will be treated/ disposed.

4.3.2 Water Environment

Surface Water Quality

No significant impact is anticipated as there is no water body in the vicinity of the project site. Therefore, no mitigation measures are suggested during Construction & Operational Phase of the project.

Ground Water Quality

Anticipated Impact:

During development and construction phase: No hazardous chemical and material will be used in the project. Debris and wastes generated during this phase will be collected and disposed suitably. Therefore, possibility of contamination of ground water will be negligible. Hence, no impact is anticipated on the ground water quality during the construction phase.

During Operational Phase: The storm water from the site will be used for recharging groundwater resources after adequate treatment of the storm water through oil, grease traps and filtration. The wastewater of 2376 KLD (1472 KLD from Residential, Commercial & Community plots and 904 KLD from Industrial Plots) from the site is proposed to be used for landscaping and flushing after adequate treatment in Sewage Treatment plant. Hence, no adverse impact is anticipated on the groundwater quality from the project.

Mitigation Measures:

A well-planned solid waste management plan will be followed during the construction phase including timely collection, segregation and disposal as per legal requirements.

Best Solid waste management practices will be adopted and followed to prevent groundwater pollution.

4.3.3 Air Environment

Air Emissions Sources

Emissions Source: The potential sources of air emission during the construction phase of the project are as follows:

- Dust from earth works (during site clearance and preparation)
- Emissions from the operation of construction equipment and machines
- Fugitive emissions from vehicles running to site
- Fugitive emissions during the unloading of material at the site
- Air emissions other than dust arise from combustion of hydrocarbons. The pollutants of concerns are NO_2, SO_2, CO, particulate etc.

Prediction of Impacts

Vehicular emissions and DG set emissions are the major sources of air pollution. During Operation phase, cars, scooter/motorcycle will be owned by the residents of colony. Ground Level Concentration of pollutants (as added by the project) will depend upon the following:

- Emission of pollutants from additional traffic on the roads due to the project
- Meteorological conditions
- Emission sources from D.G. Sets

PM, NO_2, SO_2 and CO will be the main pollutants of primary concern released from traffic movement, DG sets emissions. The dispersion of vehicular emissions would be confined within limited distance from the road and concentration will decrease with the increase in distance from road as worked out by the line source model. It was anticipated that the

contribution of vehicular emissions from the exhaust in ambient air quality will be marginal as Pollution Under Control (PUC) Certified vehicles and branded vehicles with low sulphur diesel will be used. Ground Level Concentration (GLC) of pollutants is found to be well within the stipulated National Ambient Air Quality Standards due to traffic movement and vehicles used inside the premises. Air modeling for DG set using AERMOD Cloud Version 18 has been done for prediction of impacts caused by DG sets operation during Operation Phase. Stack & emission data was used as per design value provided by standard make and stipulated standards. Other primary data used as input for model were hourly meteorological data of Wind speed & direction, temperature, cloud amount and mixing height. Mixing height used in the model was taken from secondary data source "Atlas of Hourly Mixing Height Assimilative Capacity of Atmosphere in India published in 2008 by IMD, Delhi". Hourly meteorological monitored at site during study period data was compared with long term data available from the nearest IMD Station.

There is provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

In the project, D.G. set will be used only during power failure and low sulphur diesel will be used as fuel to minimize SO_2 emission. Incremental load in the ambient air environment will be found to be very low as given in the report. An adequate stack height for D.G. sets is proposed as per the stipulated guidelines of Central Pollution Control Board (CPCB)/ National Building Code Manual to facilitate adequate dispersion of pollutants and to minimize the impact on Ambient Air Quality under the influence of local meteorology.

Meteorology – Hourly Meteorological data of wind speed & direction, temperature, cloud amount and rainfall were monitored at site for 3months for the dispersion model. Wind rose was prepared in sixteen directions as per standards. It was observed that wind direction from East to West and during the study period. Average wind speed was 4.0 m/s during study period.



Figure 4-1 Windrose Diagram

Model details and Framework of Computation:

The predictions for air quality during operation phase was carried out using CPCB/MoEFCC approved USEPA, Industrial Source Complex (AERMOD Cloud Version 18) Dispersion model developed by the US Environmental Protection Agency (USEPA) for prediction of pollutants dispersion from single or multiple point sources using emission and hourly meteorological data of the study period. Assumption used in the model was as follows:

The plume rise is limited to that of the mixing layer as published by IMD in the Catalogue of Atlas of Mixing Heights in India for the site:

- Stack down wash is not considered.
- Flat terrain is used for computations.
- It is assumed that the pollutants do not undergo any physico-chemical transformation
- Chemical and scavenging process occurred in the atmosphere in the pollutants released at the stack exit is not considered.
- Prediction is based on single/multiple point sources, pollution released at stack exit and dispersed on the ground under influence of local meteorological conditions during the season.

AERMOD Cloud Version 18 was used to predict GLC caused by a single point source (1 stack) at each receptor of 100 m x 100 m of grid network covering total area of 2000 m x 2000 m around the proposed source with stack & emission values and 1-hourly meteorological data. It was observed that SO_2, NO_2, CO, PM_{10} & $PM_{2.5}$ were significant pollutants released from the fuel of the D.G. sets. Emission of PM_{10}, $PM_{2.5}$, CO and SO_2 were found insignificant with low values. In this proposed project, NO_2 was the worst affected pollutant released into the atmosphere. 24-h GLC were predicted for SO_2, NO_2, CO and PM.

Table 4-4 DG Stack and Emission Details

Stack No.	DG set Capacity (kVA)	Stack & Flue details				Pollutants Emission				
		Height (m)	velocity (m/s)	Temp (K)	Dia (m)	NO_2 (g/s)	SO_2 (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)	CO (g/s)

1.	2*750	30	25	773	0.332	0.274	0.006	0.0075	0.015	0.063
2.	1*350	30	25	773	0.176	0.595	0.0013	0.003	0.002	0.0136
3.	1*1000	30	25	773	0.271	0.084	1.148	1	0.64	0.04
Total Emission in g/s from 4no. of DG sets of total capacity 2850 kVA [(2 x 750 + 1 x 350 + 1 x 1000 kVA)]						0.953	1.155	1.0105	0.657	0.116

Discussion of Results

AERMOD - Dispersion model was used to predict GLC of all pollutants; SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO with stack & emission and hourly meteorological data. 24-hours average maximum Incremental GLC of NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO were 0.66 µg/m³, 0.07µg/m³, 0.68µg/m³, 0.43 µg/m³ & 0.73 µg/m³, occurred respectively at (700m distance) from the DG sets occurred at the same distance. It was found that GLC of SO_2 was less than the permissible limit of 80µg/m³ (as per CPCB guidelines) under worst meteorological condition with meteorological data monitored from 1st Dec,2023 to 29th Feb 2024.

Conclusion

High to moderate wind speed and minimum stack height of 30 m facilitates dispersion at the distance of 500 m under the influence of local meteorology.

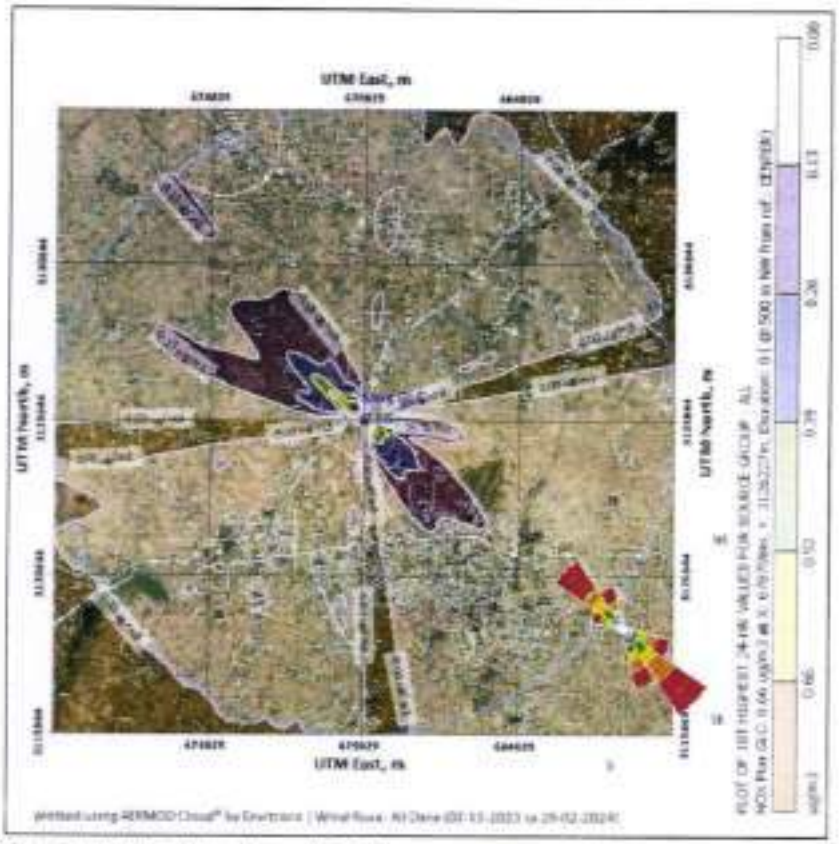


Figure 4-2 Spatial distribution of 24-hours average NO_2 concentrations (µg/m³)

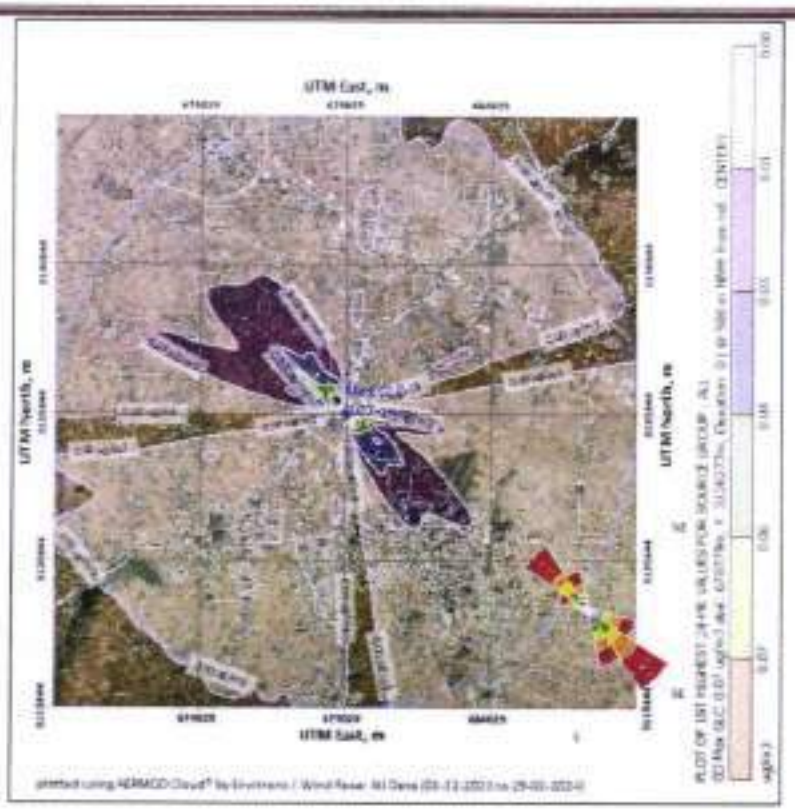


Figure 4-3 Spatial distribution of 24-hours average CO concentrations (µg/m³)

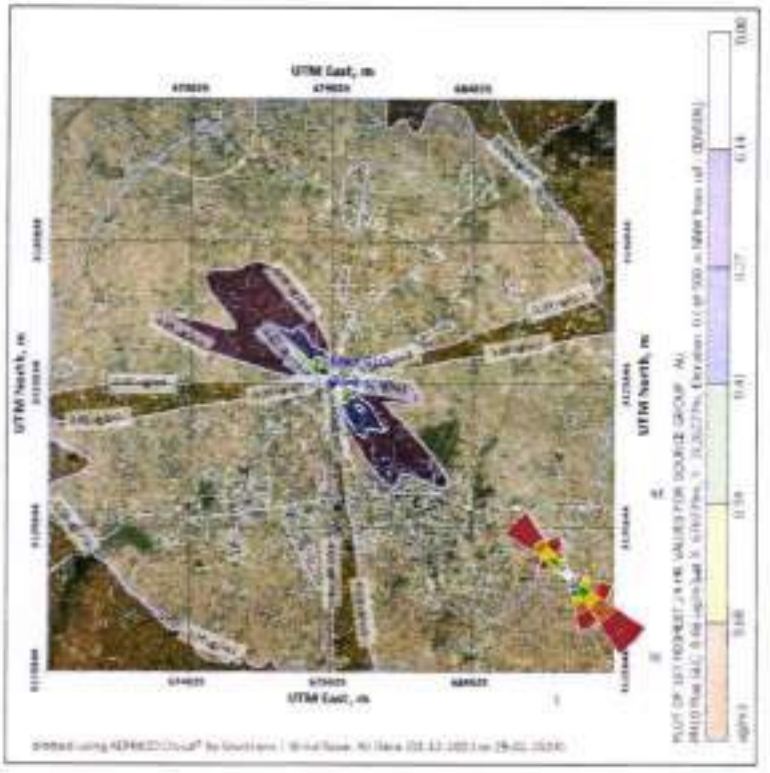


Figure 4-4 Spatial distribution of 24-hours average PM_{10} concentrations (µg/m³)

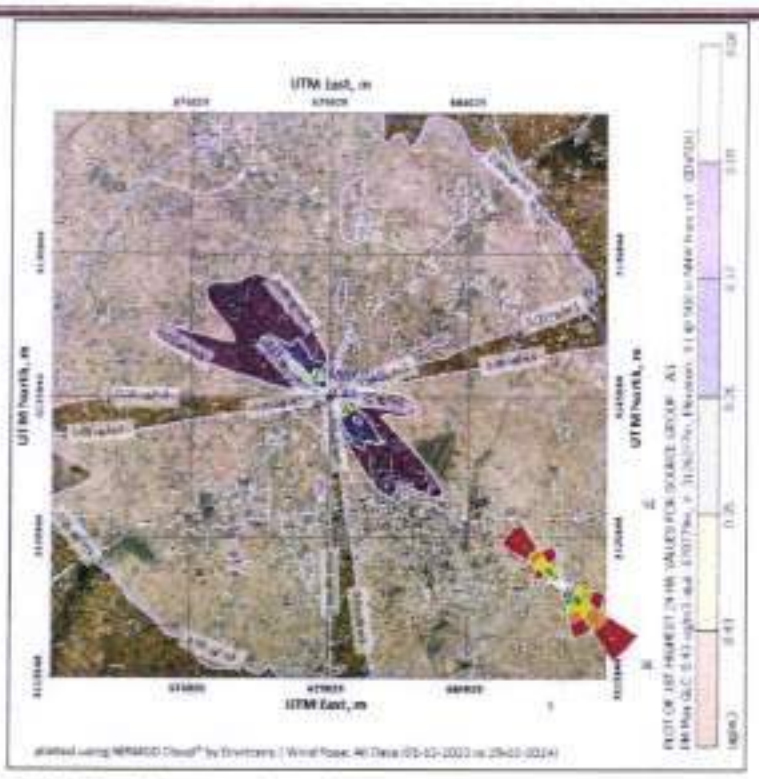


Figure 4-5 Spatial distribution of 24-hours average $PM_{2.5}$ concentrations (µg/m³)

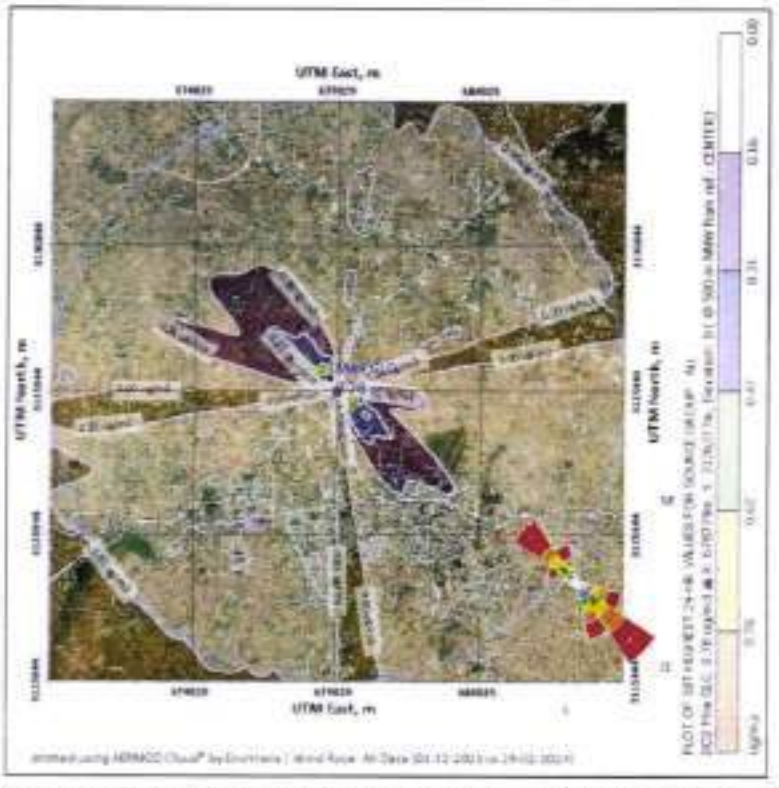


Figure 4-6 Spatial distribution of 24-hours average SO_2 concentrations (µg/m³)

Mitigation Measures: The project proponent will develop a green belt inside the premises of the project site and along the internal road, which will work as barrier for the movement of pollutants and help in pollution control.

Native plants species will be selected for peripheral and avenue plantation.

4.3.4 Noise Environment

During the construction phase: Noise will be generated from the various sources. Some major sources of noise generation at project are listed here under:

- Generation of noise during movement of vehicles carrying materials, loading & unloading activities
- Generation of noise from excavation machines, concrete mixer and other construction machines
- Generation of noise during the operation of D.G. sets
- Generation of noise during concreting, hammering etc.

All the above-mentioned sources of construction activities within the project would be intermittent and experienced occasionally. It may also be noted that most of the construction activities would be carried out only during the daytime.

ANTICIPATED IMPACTS:

Construction Phase:

- Noise due to demolition / construction activities
- Impact due to present and future transportation activities

During Operational Phase: The main sources of noise from the project are running of D.G. Sets and vehicular traffic. D.G. Sets will provide emergency electricity supply during power failure. This will be intermittent and for short durations. Hence, no major impact on noise environment is anticipated.

MITIGATING MEASURES:

Construction Phase: To minimize impacts of noise generation from construction activities, the workers are being provided with earmuffs and other protection devices. D.G. Sets with proper acoustic enclosure for controlling noise would be installed.

Operational Phase: D.G. Sets will be installed in DG room in acoustic enclosure to control the noise generated within 25 dB (A) insertion loss or for meeting the ambient noise standard whichever is on higher side as per E(P) Act, GSR 371 (E) and its amendments. The traffic noise will diminish within a short distance from the source of origin. Honking within the site will be discouraged. Proposed rows of plantation will further restrict the noise.

4.3.5 Biological Environment

Anticipated impact:

During Construction Phase: There is no loss of forestland due to the construction of the Industrial Plotted Colony Project. No tree felling is involved, as the site is devoid of

vegetation. Birds and other domesticated biodiversity observed near the project site are common and already adapted to thrive in human - colonized habitats.

The project will not have any major negative ecological impact. Green belt/greenery shall be developed along most of the periphery of the project area as well as along roads.

During Operational Phase: The green area will be developed with local species that will attract local bird and insect species. The project will add to the greenery and beauty of the region. Green belt will reduce carbon dioxide emissions caused by significant amount of energy consumption due to lighting, heating, cooling and air condition as well as fixed and mobile material handling equipment 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA will be placed in DG room having acoustic enclosure and adequate stack height will be provided with D.G. sets as per CPCB guidelines to provide sufficient dispersion of pollutants. Therefore, there will be no effect on the ecology of the core and buffer zone.

MITIGATION MEASURES:

It is proposed to develop green area in the project site to improve the aesthetics of the area which will also help in reduction of air pollution, noise pollution and provide suitable habitat for local birds and animal species.

4.3.6 Socio Economic Environment

Economic impacts:

Relatively long-lived economic impacts of the construction phase are likely to be experienced in local area for the duration of construction phase of 1-2 years as workers make everyday purchases from local traders in nearby areas. This is likely to give a short-lived stimulus to the traders that may disappear as soon as the construction is complete.

Noticeable, flow-on economic impacts will be experienced in other sectors of economy as a result of purchase of construction materials and the payment of wages and salaries to the personnel engaged in the construction of project.

Once the construction of the Industrial Plotted Colony project is complete, there will be some long-term positive impact on the economic structure of the area. People in the area will get direct and indirect employment opportunities and other benefits from the project.

Therefore, overall positive impact is anticipated on economy of the area due to construction activity of the Project.

Mitigation measures:

To further improve the socio-economic conditions of the area, it may be proposed to employ mainly local people as workers. Much of the maintenance works may also be made with local companies and purchase of new parts from the local market.

4.3.7 SOLID WASTE

Anticipated impact:

During Construction Phase: The construction and demolition waste includes debris, concrete (often recycled and reused at the site), steel and other metals, pallets, packaging and paper products, brick, etc. All waste generated during the construction phase shall be collected and segregated for disposal as per the norms.

During Operation phase: The solid waste generated from the project shall be approx. 18139 kg/day during operation for which calculations are given below:

Table 4-5 Calculation of Solid Waste

S. No.	Description	Occupancy	Norms (kg/capita/day)	Waste Generated (kg/day)
1.	**Domestic Solid Waste for Residential plots**			
	• Residential plots	17316	0.5	8658
2.	**Domestic Solid Waste for Industrial plots**			
	• Industrial Plots	23035	0.25	5759
3.	Staff (Residential Maintenance, Community, Commercial, & Industrial)	2070	0.25	518
4.	Visitors(Residential, Community, Commercial, & Industrial)	19060	0.15	2,859
5.	Horticultural Waste (9.20 acres)	@ 0.2 kg/acre/day		1.84
6.	STP Sludge	Sludge generated x 0.35 x B.O.D difference/1000		343.434
Total Solid Waste Generation = 18,139kg/day				

Mitigation measures:

After waste segregation, Biodegradable waste will be composted by the use of mechanical composter and the compost will be used as manure. Recyclable wastes will be sold off to scrap dealers and vendors, while inert wastes will be disposed-off in landfills. Hazardous wastes will be disposed-off as per the provisions of the Hazardous Waste Rules, 2016 through a local approved vendor.

4.4 CONCLUSION

As discussed, the project has no major adverse impact on surrounding environment; it has thus become quite evident that this project is not likely to cause any significant impact on the ecology of the area, as adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Positive impact will be on socio economic environment.

- Green belt development will be taken up as an effective pollution mitigating technique.
- Adequate stack height for DG sets for better dispersion of air pollutants will be provided.

- Soil conservation measures associated with improved construction techniques would minimize the impacts. Topsoil will be stacked separately and will be used for green belt.
- Proper upkeep and maintenance of vehicles will reduce the impact on air environment. Domestic waste as well as construction debris management will be done properly.
- Adequate arrangements for proper drainage and disposal of wastewater
- Rainwater harvesting
- The wastewater will be treated in STP of 3060 KLD capacity.

Thus, with the effective implementation of the Environment Management Plan (EMP), the project will not have any significant negative impact on the environment.

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CHAPTER-5 : ANALYSIS OF ALTERNATIVE (TECHNOLOGY & SITE)

This Chapter is not applicable as it has not been prescribed in the Standard ToR issued by SEAC, Haryana.

CHAPTER-6 : ENVIRONMENTAL MONITORING PROGRAM

6.0 INTRODUCTION

Environmental Monitoring is an essential tool for sustainable development and ensuring effective most implementation and monitoring of Environmental management plan and mitigation measures. The monitoring and evaluation of the management measures envisaged are critical activities in implementation of the Project. Monitoring involves periodic checking to ascertain whether activities are going according to the plans. It provides the necessary feedback for project management to keep the program on schedule. The purpose of the environmental monitoring plan is to ensure that the envisaged purpose of the project is achieved and results in desired benefits.

To ensure the effective implementation of the proposed mitigation measures, the broad objectives of monitoring plan are:

- To evaluate the performance of mitigation measures proposed in the EMP.
- To evaluate the adequacy of Environmental Impact Assessment
- To suggest improvements in management plan, if required
- To enhance environmental quality
- To implement and manage the mitigative measures defined in EMP.
- To undertake compliance monitoring of the proposed project operation and evaluation of mitigative measures

A detailed monitoring of emissions and effluent sources for different environmental parameters will be carried out as per the present norms and any further notification/direction from Haryana State Pollution Control Board (HSPCB), Central Pollution Control Board (CPCB) and MoEF&CC. Monitoring methodologies will follow standard methods prescribed by CPCB, Bureau of Indian Standards (BIS), USEPA, AWWA etc.

6.1 PARAMETERS TO BE MONITORED

- Ambient Air Quality
- Stack Emission
- Work zone Air quality
- Surface water and Ground Water Quality
- Noise Level

6.1.1 Ambient Air Quality

It is necessary the monitor the air quality at the boundary of the project site specifically with respect to particulate matters. Ambient air quality monitoring stations in and around the premises will be done as per direction by Haryana State Pollution Control Board (HSPCB). The parameters monitored include the parameters as per National Ambient Air Quality Standard, 2009.

Table 6-1 Ambient Air Quality – Frequency and Parameters

Description	Number of Monitoring Stations	Frequency
Ambient Air Quality	2 (upwind and downwind direction inside the plant boundary	Weekly
Parameters – PM_{10}, $PM_{2.5}$, SO_2, NO_2		

Table 6-2 Instruments Required for Environmental Monitoring

	Name of Instruments	Number	Purpose
1	PM_{10}& $PM_{2.5}$ Sampler	3	Ambient Air Quality Monitoring
2	Spectrophotometer	1	Analysis of air and water
3	pH meter	1	pH measurements
4	Conductivity meter	1	Conductivity measurement
5	DO Meter	1	DO measurement
6	BOD Incubator	1	BOD measurement
7	COD Digestion Kit	1	COD measurement
8	Refrigerator	1	Storing samples
9	Electronic Balance	1	Weighing
10	Oven	1	Drying
11	Desiccator	1	Desiccation

6.1.2 Effluent Quality

The total waste generated during the operation phase of the project will be treated in the Sewage treatment Plant of 3060 KLD within the project premises and all the treated water will be reused for the flushing & landscaping activity.

Table 6-3 Water Quality – Frequency and Parameters

Component	Location	Parameter	Monitoring & Analysis Method	Monitoring Frequency
STP Treated water	STP	pH, TDS, DO, COD, BOD & O&G	Standard Methods of APHA	Once during pre-monsoon and once during post monsoon

6.1.3 Noise Monitoring

Noise levels in the work zone environment such as project site should be monitored and shall be compared with as per the requirement of Occupational Safety and Health Administration (OSHA) Standards.

Monitoring of Ambient noise levels will be monitored once every quarter during day time (6 AM to 10 PM) and night time (10 PM to 6 AM) at Project site boundary.

6.2 PLANTATION

Total green area measures **37,241.664** m^2. Plantation will be done at project boundary as well as at peripheral areas & organized green would be developed on land available between blocks.

The indicative list of trees and plants proposed to be planted are given in **Table 6.4.**

Table 6-4 Proposed Plantation List

S. No.	Botanical Name	Common Name
1.	Acacia leucophloea	Raunj
2.	Albizzia lebbek	Siris
3.	Azadirachta indica	Neem
4.	Anogeissus pendula	Dhauk
5.	Bombax ceiba	Semal
6.	Boswelli aserrata	Salai
7.	Butea monosperma	Dhak
8.	Cassia fistula	Amaltas
9.	Cordia dichotoma	Lasura
10.	Dalbergia sissoo	Shisham
11.	Holoptelia integrifolia	Papri
12.	Kigelia pinnata	Kigelia
13.	Melia azedarach	Bakain
14.	Pongamia pinnata	Papri, Karanj
15.	Prosopis cineraria	Jand, Jandi
16.	Salvadora oleoides	Jal
17.	Terminalia arjuna	Arjun
18.	Bauhinia variegata	Kachnar
19.	Ficus religiosa	Peepal
20.	Ficus bengalensis	Bad

No. of trees required = 1 tree/80 sq.m. of plot area =5,49,258.716/80 = 6866 Nos
No. of trees proposed to be planted = 6,870 trees.
As per OM dated 24.07.2024 we will plant one additional tree "EK Ped Maa Ke Naam."

There are few trees present at the project site which will be transplanted in the greenbelt.

6.3 OCCUPATIONAL HEALTH & SAFETY MONITORING

Occupational health and safety monitoring programs shall verify the effectiveness of prevention and control strategies. The selected indicators shall be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. The performance and achievements of the OHSMS responsible for all management of all environments, Health & Safety aspects shall be re-assessed on annual basis. The occupational health and safety-monitoring program shall include: -

- Safety inspection, testing and calibration: Project Proponent shall carryout inspection and testing of all safety features and hazard control measures for plant operation. This shall include regular inspection and testing of all safety features focusing on engineering and personal protective features, work procedures, places of work, installations, equipment, and tools used. The inspection shall verify that issued personal protective equipment (PPE) continues to provide adequate protection and is being worn as required.
- Surveillance of the working environment shall be carried out.
- Surveillance of workers health: When extraordinary protective measures are required, workers shall be provided appropriate and relevant health surveillance. M/s Signatureglobal India Limited, will provide appropriate and relevant health surveillance to workers with special emphasis to the dust prior to first exposure and at regular intervals thereafter.

6.4 TRAINING

Training activities for employees and visitors shall be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, shall be documented adequately. Service providers and contractors shall be contractually required to submit to the authorized vendor (for training) adequate training documentation before start of their assignment.

6.5 PERIODIC PREVENTIVE MAINTENANCE

A detailed maintenance schedule shall be drawn for all pollution control systems. The maintenance shall be done strictly as per schedule and guidelines furnished by plant manufacturer. All pollution control, monitoring and safety equipment shall be periodically checked and calibrated.

6.6 SOCIO-ECONOMIC DEVELOPMENT

The setting up of the project will improve the socio-economic conditions in the surrounding area. The proposed project will further improve the infrastructure; economic conditions

thus further improve the socio-economic development. It is suggested that M/s Signatureglobal India Limited, should have structured interactions with the community to disseminate the measures taken by them and to elicit suggestions for overall improvement for the development of the area.

6.7 BUDGET AND PROCUREMENT SCHEDULE

On regular basis, Environment Management Cell (EMC) will inspect the necessity and availability. The EMC will make appropriate budget for the purpose. Regular record review for any change in financial requirement of environment management will be done and appropriate budgetary provisions will be made. Along with other budgets, Budget for environmental management will be prepared and revised regularly as per requirement. The budget will include provisions for:

- Environmental Monitoring Program
- Greenbelt development
- Social and Environmental Welfare and Awareness programs / training (CER)
- Annual Environmental Audit

Table 6-5 Cost of Environmental Monitoring Program

S. No.	Particulars	Parameters	Frequency	Approx. Recurring cost / Annum (INR Lakh)
1.	Ambient Air Monitoring	$PM_{2.5}$, PM_{10}, SO_2 & NO_2 & CO	Every Six Month	2.0
2.	Stack Emission Monitoring	$PM_{2.5}$, PM_{10}, SO_2, NO_2, HC & CO	Yearly	2.0
3.	Water Quality Monitoring	Drinking water specification	Every Six Month	2.0
4.	Noise Level Monitoring	24 Hrs. Noise Level	Every Six Month	1.0
	TOTAL			**7.0**

S. No.	Particulars	Parameters	Frequency	Approx. Recurring cost / Annum (INR Lakh)
1.	Ambient Air Monitoring	$PM_{2.5}$, PM_{10} , SO_2 & NO_2 & CO	Half Yearly (24 hr average samples)	2.0

2.	Stack Emission Monitoring	$PM_{2.5}$, PM_{10}, SO_2, NO_2, HC, CO	Every Six Month	2.0
3.	Treated Effluent Monitoring	pH, BOD, COD, Oil, Grease & Total Suspended solids	Daily	2.0
4.	Noise Level Monitoring	24 Hrs. Noise Level	Half Yearly (Hourly day and nighttime Leq levels)	1.0
5.	Ground Water Monitoring	Drinking water specification as per IS10500	Half Yearly	2.0
TOTAL			**9.0**	

6.8 SUMMARY

In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will be complied as per conditions. An Environmental Management Cell will be constituted that will be committed to operate the proposed project with the objectives mentioned in approved Environment Policy. Regular Monitoring of all the environmental parameters *viz.*, air, water, noise and soil as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year. The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature. A budget for monitoring of Air, water, Noise and Soil will be Rs. 7.0 Lakhs (during construction Phase) and Rs. 9.0 Lakhs (during Operation Phase) to be incurred by the project proponent for undertaking pollution prevention measures during the construction and operation activities.

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CHAPTER-7 : ADDITIONAL STUDIES

7.1 GENERAL

This chapter analyses the studies that has been carried out for the purpose of better understanding of disaster during operation of the project. It also highlights the in-advance preparation to face disaster with respect to both onsite and off-site emergencies. The chapter also covers socio economic studies done for the project.

7.2 RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

Risk assessment forms an integral part of EIA study. Risk assessment study deals with identifying and evaluating the magnitude of impending risks to which the neighboring population is exposed due to occurrence of accidents involved in the project construction and implementation. This assist in illustrating the guidelines for preparation of disaster management plan which will be executed, to handle the situation if any emergency occurs.

Emergency Plan

Since the project may face fire hazards or other emergency situations; an emergency plan is provided to caution the persons during any accidents. The fundamental approach, governing fire safety attempts to ensure that fires do not at all start in the first place and if they occur, to restrain their spread by quick detection and extinguishments.

Fire Detection

Despite many precautions taken, fires may breakout. Hence the industry will establish measures to detect a fire and to extinguish it. Automatic fire detection has many advantages such as speed and reliability and is recommended.

Depending on the nature of the occupancy and the hazard, a variety of detection systems are available. They are activated by one of the effects of fire such as temperature rise, smoke, flame or heat and can be coupled to an alarm system which would provide visual/ audible alarms at designed manned locations. They can also be designed to automatically actuate fire-extinguishing systems. The selection / installation of the detection system should confirm to the applicable national standards.

Extinguishing System

Equipment for the fighting should be chosen with care and suited to the task. Fires are classified depending on the materials involved and appropriate extinguishing agents are also recommended. **Table-7.1** gives the classification/ recommendation as per Indian Standard IS-15683. The extinguishing agents mentioned are applied to the fire using portable or fixed appliances. To fight fires at their incipient stage, portable extinguishers prove very useful. These must be provided in adequate numbers at appropriate locations and persons should be thoroughly trained in their use.

Table 7-1 Fires - Classification & Extinguishing Media

Class of Fire	Description	Extinguishing medium	Indian Standard
A	Fires involving ordinary combustible materials, like woods, paper textiles, etc. where the cooling effect of water is essential for the extinction of fire.	Water	934 940 6234
B	Fire in flammable liquids like oils, solvents, petroleum products, varnishes, pains etc. where a blanketing effects is essential	Foam Carbon dioxide Dry chemical	933 2878 2171 4308
C	Fires involving gaseous substances under pressure where it is necessary to dilute the burning gas at a very fast ate with an inert gas or powder.	Carbon dioxide Dry Chemical powder The best way to extinguish such fires is by stopping the flow of fuel gas to the fire. Container is kept cool with water spray	2878 2171, 4308
D	Fires involving metals like magnesium, aluminium, zinc, potassium etc. where the burning metal is reactive to water and which requires special extinguishing media or technique.	Special dry powders	2171 4861

The task of accident and emergency control can be simplified and made effective if pre planned systems and procedures are available. Without these, important matters may be overlooked at the time of emergency.

Every management must survey the total operation to identify potential for fire losses and develop an action plan to put the business back to normal with minimum loss of time. A fire protection Manual should be prepared, preferably in 3-parts. The first part should outline the fire risks in terms of plant locations, equipment and facilities and indicate the ways in which risks have been minimized. The second part would set out operating procedures, standards of fire protection established, and maintenances of these standards action to be taken in the event of fire by every level of management responsibility for inspection and repair. It should also include instructions for staff responsible for building services. The

third part should outline the training required for existing and new staff, the inspection schedules and checklists, sources of additional information and help.

The Management Cell of the project shall keep ready a plan to alert and take care of persons in case there is any fire. There shall be designated an Emergency Team that shall consist of staff of maintenance department, security supervisor representative. During non-emergencies, this team shall engage in activities as:

- Earmarking Area for Assembling during Emergencies
- Awareness Programme for the on fire, first aid and evacuation
- Identification of Hospitals
- Identification and Displaying Emergency Numbers and Contacts
- Displaying Emergency Symbols
- Updating First Aid Emergency Kit
- Updating Fire Control Systems
- Preparation and Updating of Standard Operating procedures (SOP)

In case member on duty spots the emergency like comes to know about any fire, he will also try his best to find out about the exact location and nature of emergency. In accordance with the SOP, the following activities will immediately begin.

Persons will be informed; necessary Alarms shall be activated to direct the persons to the emergency assembly area if needed.

The external network of District Fire Station, Police and Hospital shall be intimated. Once the emergency is under control, the team will initiate step-by-step restoration of normal operation.

Management Plan

Since the project may face fire hazards or other emergency situations an emergency plan is provided to caution the persons during any accidents. The fundamental approach, governing fire safety attempts to ensure that fires do not at all start in the first place and should they occur, to restrain their spread by quick detection and extinguishments.

7.3 NATURAL RESOURCES CONSERVATION

The project will lead to utilization of various natural resources. As an environmentally responsible corporate, the developers endeavor to conserve these resources by judicious management and recycling and strive to build up these resources where possible.

Limited withdrawal of groundwater: The water will be supplied during operational phase through pipeline.

Reduced use of water: To further minimize the use of available fresh water, various low flow fixtures may be provided in Industrial Plotted Colony Project such as Low flow flushing systems, sensor based fixtures, waterless urinals, tap aerators. Awareness will also be spread amongst the persons on the following lines:

- Timely detection and repair of all leakages
- Avoiding use of running water while handwashing
- Turning off the main valve of water while going outdoor
- Avoiding use of hose for washing floors
- Use of broom may be preferred.
- Watering of lawn or garden during the coolest part of the day (early morning or late evening, hours) when temperature and wind speed are lowest. This reduces losses due to evaporation.
- Planting of native and/or drought tolerant grasses, ground covers, shrubs and trees. Once fully grown, they need not to be watered frequently.
- Avoiding over watering of lawns
- Good rains eliminate the need for watering for more than a week.
- Setting sprinklers to water the lawn or garden only, not the street or sidewalk.
- Avoiding installation or use of ornamental water features unless they recycle the water and avoiding running them during drought or hot weather.
- Installation of high-pressure, low-volume nozzles on spray washers and
- Installation of float-controlled valve on the make-up line, closing filling line during operation, provision of surge tanks for each system avoid overflow.

Treatment and Recycling: The wastewater generated from the project will be treated in proposed Sewage Treatment Plant of capacity 3060 KLD. This will enable the treated wastewater to be used for flushing and landscaping thereby reducing the requirement of freshwater for these purposes.

Rainwater harvesting: It is proposed to harvest the rainwater runoff that will recharge the groundwater resource by providing 65 no. of pits and eventually natural water bodies. Apart from the open spaces, it is proposed to harvest the roof top rainwater and paved area rainwater. The storm water will be treated through an oil and grease trap and allowed to flow through layers of sand and gravel for filtration prior to reaching the water table, to avoid any possibility of groundwater contamination.

Construction materials: It is proposed for prior estimation of required quantities of these materials and procurement only as per requirement. This will also result in cost-efficiency. Excavated soil from the project will be used within the site to the extent feasible. Excess soil will be made available to the construction sites, as per need.

Energy: To conserve the energy resources, good practices will be followed during the construction phase such as turning off lights when not in use, ensuring fuel efficiency of motors and vehicles through proper maintenance and minimal work at night. The principles of energy conservation will also be embedded in the buildings through use of energy efficient fixtures, maximum availability of natural light and use of solar energy for street lighting.

7.4 RESETTLEMENT AND REHABILITATION

The project will not result in displacement of any local population and hence, does not require a resettlement and rehabilitation study.

7.5 TRAFFIC STUDY

Anthropogenic emissions not only contribute to the Greenhouse effect but also participate in the reaction resulting in photochemical oxidants. The effect of photochemical oxidants is well known for forming smog. Among the anthropogenic sources of pollutants forming the greenhouse gases, burning of fossil fuels constitute a major source. Highway mobile sources that contribute significantly to poor quality of air have not been regulated for the past two decades. In India two-wheelers are a very popular mode of personal transport. Most of them are powered by two-stroke engines because of initial and maintenance costs. However, they have high emission levels causing air pollution.

The objective of traffic study and emission quantification is to assess the magnitude of the emissions resulting from two wheelers, three wheelers and four wheelers that are extensively used as a means of common transport.

A detailed traffic survey was conducted in the area at major traffic intersections in order to arrive at the traffic density in the study area and also to evaluate the impacts of the increased traffic due to the proposed activity.

Vehicular emissions are the major source of air quality impacts in the study area. The principal cause of air pollution during the construction phase is the diesel-powered vehicles used in the haulage of aggregates, earth and other construction material. Air quality could be affected by dust and particulate matter arising due to site clearing, vehicular emissions, etc. Gaseous emissions like SO_2, NO_2, CO and HC might be released from the vehicular movement, which has a direct impact on the environment.

Increase in traffic in the study area has a direct impact on the resources as a heavy release of automobile exhaust is envisaged which has a direct impact on the air quality and the ambient noise levels in the study area. The methodology adopted for carrying out the traffic study was to select the major roads around the project site and count the various categories of vehicles moving on the roads.

Table 7-2: Traffic Density at the NH- 48

	2 wheeler	PCU (0.5)	3 wheeler	PCU (1.2)	4 wheeler	PCU (1)	B/L	PCU (3.7)	Total PCU
06:00-07:00	178	89	98	74	126	126	104	312	601
07:00-08:00	198	99	101	76	169	169	108	324	668
08:00-09:00	202	101	123	92	262	262	97	291	746
09:00-10:00	226	113	132	99	301	301	109	327	840
10:00-11:00	245	123	106	80	299	299	112	336	837
11:00-12:00	235	118	124	93	286	286	126	378	875
12:00-13:00	248	124	106	80	249	249	96	288	741

13:00-14:00	256	128	115	86	266	266	107	321	801
14:00-15:00	275	138	119	89	245	245	99	297	769
15:00-16:00	249	125	121	91	265	265	89	267	747
16:00-17:00	246	123	107	80	279	279	96	288	770
17:00-18:00	259	130	108	81	315	315	91	273	799
18:00-19:00	265	133	114	86	299	299	87	261	778
19:00-20:00	245	123	109	82	265	265	79	237	706
20:00-21:00	243	122	95	71	245	245	121	363	801
21:00-22:00	221	111	86	65	212	212	106	318	705
22:00-23:00	156	78	75	56	196	196	86	258	588
23:00-00:00	145	73	74	56	186	186	89	267	581
00:00-01:00	123	62	36	27	175	175	92	276	540
01:00-02:00	142	71	30	23	156	156	83	249	499
02:00-03:00	126	63	28	21	145	145	86	258	487
03:00-04:00	112	56	29	22	115	115	84	252	445
04:00-05:00	146	73	36	27	125	125	110	330	555
05:00-06:00	157	79	51	38	135	135	118	354	606

PCUs as per IRC-106:1990

Table 7-3: Existing Traffic Scenario & LOS

Road	V	C	Existing V/C Ratio	LOS
NH- 48	687	2400	0.286	B

V= Volume in PCUs/hr & C= Capacity in PCUs/ hr

The existing Level of Service is "B" i.e. Very Good

Table 7-4: Capacity as per IRC: 106-1990 page no. 11 table-2 for arterial road/ Highways

V/C	LOS	Performance	V/C
0.0 - 0.2	A	Excellent	0.0 - 0.2
0.2 - 0.4	B	Very Good	0.2 - 0.4
0.4 - 0.6	C	Good / Average / Fair	0.4 - 0.6
0.6 - 0.8	D	Poor	0.6 - 0.8
0.8 - 1.0	E	Very Poor	0.8 - 1.0

- The total proposed parking for the project is **1,168 ECS**, It is estimated that 90% of the vehicles will leave or be operating at the site from (Ready to ply or incoming) 7:00 AM to 8:00 PM i.e. **1,168 x 0.90 = 1,051** and the remaining 10% parking space will remain vacant or parked with Light Motor Vehicles i.e. **1,168 x 0.10 = 117**.

- Since the maximum number of trips will happen between 7:00am to 8:00 PM (i.e.) 12 hours

- Therefore, on average the total number of trips per hour is 1,051/12 = **88 vehicles/ hour.**

Table 7-5: Modified Traffic Scenario

Road	V	C	Modified V/C Ratio	LOS
NH- 48	687 + 88= 775	2400	0.32	B

Modified Traffic Scenario & LOS (after completion of the project)

The modified LOS will be "B", i.e. **"VERY GOOD"**; therefore there will be no change in LOS after completion of the project. The total parking proposed for the project = **1,168 ECS**.

The project proponents will have a failsafe traffic circulation plan for the "Industrial Plotted colony " project so that smooth passage of vehicles can take place.

The support staff will be trained to handle the morning and evening rush. The traffic generated from the project is assumed to be distributed between 6:00 AM to 10:00 AM & 19:00 PM- 00:00 AM and will distributed along all two directions of the project along the road.

7.6 Socio-Economic Environment

Summary of need-based assessment carried out in surrounding villages are given below.

1. Safe Drinking Water

Observations: People use hand pumps and dug well for potable uses (including drinking).

2. Basic Medical Facilities

Observations: Primary health care facilities are available in large villages and hospital is available in Gurugram.

3. Education Facilities

Observations: Education facilities (infrastructure, teaching aids and teachers) are good.

4. Improved Agricultural Practices

Observations: Farming is the main occupation of villagers. The villagers have very good knowledge about the modern agricultural practices for improving the yield.

5. Veterinary Hospital

Veterinary hospital is not available in most of the villages. It is available in Gurugram.

6. Roads

Observations: The quality of existing village road is good.

7. Sewerage System

Observations: Sewerage system is not available in any of the villages of study area. Open drains are almost clogged and overflowing with sewage.

8. Garbage Disposal

Observations: No garbage disposal facility exists in any of the villages of study area. Villagers throw their garbage in the open.

9. Pollution from Industries

Observations: Fugitive emissions are visible from nearby construction activities. Problem of re-suspended road dust and dust from unpaved road is rampant.

10. Employment among Local

Observations: Many local people of nearby villages work in the existing industries. Some conflict among the contractors who supply migratory laborers as well as who supply transport services. No such conflict has been observed in other villages.

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CHAPTER-8 : PROJECT BENEFIT

8.0 EMPLOYMENT GENERATION

The proposed project will generate employment opportunities for the local population during construction phase. The total manpower requirement during construction is about 200 people. This will last for approximately 12 months. Skilled, unskilled and semi-skilled labour will be preferably hired from nearby places.

Estimated manpower requirement during operation shall be 300 workers which will get direct job opportunities. Indirect employment through contractors, like drivers, attendants, mechanics, daily wage labour, housekeeping, horticulture staff, etc. would also be generated.

8.1 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE

The proposed project will enhance the following physical infrastructure facilities in the adjoining areas:

a. **Road Transport:** The existing roads will be maintained to improve the road communication.
b. **Infrastructure:** Creation of community assets (infrastructure) like drinking water facilities, dispensary, shops, etc. as a part of corporate environment responsibility.
c. **Green Belt Development: 37,241.664** m^2 will be developed as green within site. Plantation will be done at project boundary as well as along internal roads.

8.2 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE

The Construction in the project area will create rural employment. The project activity will have a positive impact on the social, economic condition of the area by way of providing employment to the local inhabitants; wages paid to them will increase the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.

8.3 ENVIRONMENT MANAGEMENT PLAN BUDGET

The total cost (Land Cost + Development Cost) of the proposed project will be INR 1593.7 Crores. The capital cost for environmental management of the proposed project is estimated to be INR 796 lakhs (Construction and operation). INR 126.25 lakhs (operation and construction) per year will be required as annual recurring expenses to meet the recurring expenditure for implementing the measures.

Table 8-1 ENVIRONMENT MANAGEMENT PLAN BUDGET

Component	Capital Cost (INR Lakh)	Recurring Cost (INR Lakh/Yr)
Labor Sanitation & Wastewater Management	35	8.75

Dust Mitigation Measures Including site barricading, water sprinkling & anti-smog gun)	25	6
Storm Water Management (temporary drains & sedimentation basin)	10	2.5
Solid Waste Management	5	1
TOTAL	**75**	**18.25**

During Operation Phase		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Sewage Treatment Plant	190	47.5
Rain Water Harvesting System	115	28.75
Solid Waste Management	80	20
Environmental Monitoring	6	9
Green Area/ Landscape Area	50	12.5
Others (Energy saving System, miscellaneous)	60	15
Sub-Total	**576**	**108**
Socio-Economic		
Government Sr. Sec School at Village Rewari/ Shidrawali/ Dhani Bhora Khurd / or in any nearby village • Complete makeover • Construction of toilets • Installation of Solar Panels • Painting of School Building • Replacement of doors and windows • Energy efficient lighting • Smart Classroom equipment	145	--
Total	**721**	**108**

TOTAL EMP BUDGET		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
During Construction Phase	75	18.25
During Operation Phase	721	**108**
TOTAL	**796**	**126.25**

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CHAPTER-9 : ENVIRONMENTAL COST BENEFIT ANALYSIS

This Chapter has not been prescribed in Standard ToR issued by SEAC, Haryana

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CHAPTER-10 : ENVIRONMENTAL MANAGEMENT PLAN

10.0 INTRODUCTION

Environmental Management Plan details the environmental quality control measures which are proposed for this project by complying with the stipulated standard limits specified by State Pollution Control Board and CPCB. The environmental management plan includes all preventive as well as mitigation measures to minimize impact on environment.

Environmental Management Plan will cover the following:

- Land use pattern and environment.
- Air Environment
- Noise Environment
- Water Management
- Solid Waste Management
- Biological Environment
- Implementation of EMP and Monitoring Program

10.1 ENVIRONMENT POLICY & ENVIRONMENT MANAGEMENT CELL

The Company has a well-defined Environment policy. Structure of Environment Management Cell (EMC) is as shown below in Fig. 10.1:



Figure 10-1 Structure of EMC

The Environment Policy of the company is as stated below:

- Follow the National laws and regulations related to Environment Protection and Prevention & Control of Pollution
- Design, construct and operate the project by adopting process that are sustainable and environmentally acceptable in the country.
- Take steps to prevent, minimize and control releases to air, water and land of substances which could adversely affect human health and the environment.

- Reduce waste at source by careful use of materials, energy and other resources and maximize recycling.
- Create the Environment Management Department in its plant, employ experienced staff and empower them to take decisions related to procurement, installation and efficient operation of all pollution control systems.
- Create a suitable system of reporting non-compliance and ensuring compliance.
- Provide and maintain healthy and safe working conditions for all employees.
- Ensure the protection of the health and safety of people affected by its operation.
- Adopt measures to ensure that all its contractors and business associates also comply with National laws and regulations related to Environment Protection and Prevention & Control of Pollution
- Focus on continual improvement of environmental performance and ensure involvement of employees at all levels by providing training & awareness.
- Carry out regular environmental monitoring, assessments and report results for wide dissemination among all stakeholders.

10.1.1 ROLES & RESPONSIBILITIES OF EMC

EMC will be responsible for the following:

INTERACTION WITH THE STATE POLLUTION CONTROL BOARD

EMC shall be in regular touch with SPCB and shall send them environmental monitoring reports regularly in the prescribed format.

PROVIDE TRAINING

EMC would be responsible for the implementation of the EMP, needs to be trained on the effective implementation of the environmental issues. To ensure the success of the implementation set up proposed, there is a high requirement of training and skill up-gradation. For the proposed project, additional training facilities will be developed for environmental control. For proper implementation of the EMP, the officials responsible for EMP implementation will be trained accordingly.

To achieve the overall objective of pollution control it is essential not only to provide latest pollution control and monitoring systems but also to provide trained manpower resources to operate and maintain the same. Therefore, apart from the EMC, specific training will be provided to personnel handling the operation and maintenance of different pollution control equipment.

The training will be given to employees to cover the following:

- Awareness of pollution control and environmental protection
- Operation and maintenance of pollution control equipment
- Organize field monitoring, maintenance and calibration of pollution monitoring instruments
- Laboratory testing of pollutants
- Repair of pollution monitoring instruments
- Occupational health/safety
- Disaster management
- Environmental management
- Afforestation / plantation
- Timely renewal of Consents & Authorization.
- Submitting environmental monitoring report to SPCB
- Submit annual Environmental Statement to SPCB
- Prepare and submit six monthly report on the compliance with the conditions of the environmental clearance
- Keeping the management updated on regular basis about the findings / results of monitoring activities and proposes measures to improve environmental performance
- Conducting regular safety drills and training programs to educate employees on safety practices. A qualified and experienced safety officer will be responsible for the issues related to occupational safety and health

10.2 EMP DURING CONSTRUCTION PHASE

10.2.1 LAND ENVIRONMENT

The site is flat hence no levelling is required. Earth excavated during civil foundations will be reused for raising the plinth and backfilling the columns. Dust generated due to earthwork including excavation and transportation activities, especially during dry weather conditions will be controlled by water sprinkling, barricading, etc.

10.2.2 AIR ENVIRONMENT

Dust will be generated at work site during the construction activity like excavation and vehicular movement. Providing suitable surface treatment to ease the traffic flow and regular sprinkling of water will reduce the dust generation. All internal roads will be asphalted and cleaned daily, so there will be less generation of re-suspended road dust.

10.2.3 WATER ENVIRONMENT

STP treated water will be used for construction. Culverts will be provided to maintain the drainage pattern. No water accumulation will be ensured at site. Mobile toilets will be provided for labour.

10.2.4 NOISE ENVIRONMENT

The noise generated during the construction phase will be due to the movement of vehicles and construction equipment. Construction equipment and transport vehicles will be properly maintained so that noise generation is minimized. Regular maintenance schedule will be adopted for all construction equipment and vehicles.

10.2.5 SOLID WASTE MANAGEMENT

Careful design, planning and good site management would minimize waste generation. Construction waste will be segregated at site itself to increase the feasibility of recycling concrete and masonry as filling material and steel pieces as saleable scrap.

Disposal of waste will be done in accordance with C&D Rules, 2016 for which a local approved vendor will be appointed.

Muck shall be generated from drains and sedimentation pits. The muck shall be collected daily and stored at earmarked place. It shall be finally disposed within the project premises for plinth raising purpose. Litter disposal and collection points shall be established around all construction work sites.

10.2.6 SANITATION AND SAFETY MEASURES OF CONSTRUCTION WORKERS

Construction workers will be made aware of possible hazards and safety measures that need to be taken during construction activities through organized training. Personal Protective Equipment (PPEs) such as dust masks, goggles, earplugs/ earmuffs, safety gloves, safety belts, safety shoe with toe protection, gumboots will be made available at construction site. Construction workers and vehicle drivers will be provided with drinking water, canteen and mobile toilet / washroom facility. Rest room facility for truck drivers will also be provided.

10.3 EMP DURING OPERATION PHASE

10.3.1 AIR POLLUTION MANAGEMENT PLAN

The dust emissions will be controlled by regular water sprinkling, use of low sulphur diesel, green belt development and adequate stack height (30 m) for DG sets.

10.3.2 NOISE POLLUTION MANAGEMENT PLAN

10.3.2.1 Development and Construction Phase

During the construction phase, some noise will be generated through the operation of construction machines, excavators, DG sets, etc. Following measures would be taken; into consideration to mitigate the noise at construction site:

- Use of well-maintained equipment fitted with silencers and providing noise shields near the heavy construction operations

- Acoustic enclosures would be provide to DG sets at the construction site,
- Earmuff and other protection devices shall be provided to laborers working in high noise generating machines.
- High noise activities shall be carried out during daytime.

10.3.2.2 Post Construction Phase

The main sources of noise during this phase are the intermittent use of DG Sets and traffic. The principles of noise emission control and screening are proposed for the two different scenarios of noise generation.

10.3.2.3 Noise emission control

All the D.G. Sets will be provided with acoustic enclosures ensuring 25 dB (A) insertion loss or for meeting the ambient noise standards whichever is higher as per CPCB norms. It will be ensured that the manufacturer provides acoustic enclosures as an integral part with Diesel Generator Sets.

Barriers:

Trees having thick and fleshy leaves with flexible petioles having capacity to withstand vibration are suitable. Heavier branches and trunk of the trees also deflect or refract the sound waves. The following species are proposed to be used in a greenbelt especially surrounding industrial Plotted Colony and along the periphery of the project.

- *Anthocepalus cadamba*
- *Kigelia africana*
- *Couroupita guianensis*
- *Polyalthia longifolia*

10.4 WATER POLLUTION MANAGEMENT PLAN

The entire wastewater from the project will be treated in-house STP of 2860 KLD and the treated water will be used in horticulture and flushing.

10.5 MEASURES FOR IMPROVEMENT OF ECOLOGY

There is no ecologically sensitive area within 10 km radius of the proposed plant. No wildlife exists in the vicinity of the project. Plantation programme will be undertaken at several areas. We have proposed 6870 trees as per MoEFCC norms.

10.5.1 GREENBELT DEVELOPMENT

Site Preparation: Careful preparation will enhance vegetation growth overcoming the establishment problems which are often encountered on construction sites. The handling and treatment of soils which are to be used within the potential root zone of the vegetation will take account of the following factors:

- Soil as a medium for plant growth
- Continuity between soil layer

- Proper soil handling avoiding destruction of natural aerobic soil organisms
- Minimum soil compaction without excessive densities

Plant propagation: Planting nursery raised plants and planting cuttings are normally practiced for trees and shrubs. Direct sowing (seeding) is, however, becoming more widely used for herbs and shrubs. Seeds are cheap and versatile but during the establishment phase they are very vulnerable to desiccation and prediction. In each of above-mentioned cases the establishment period is critical because the individual plant is at risk from many sources i.e. drought, predation and damage.

Procurement of Seedlings / Saplings: Seeds will be procured from a certified agency. The seedlings of species selected will be obtained from the nursery of Forest Department or from commercial nurseries. Seeding spots will vary in size from 100-150 mm diameter containing a few seeds only, to 1-2 m^2 patches containing many species. Existing groundcover will be removed before seeding, in order to reduce competition for moisture and nutrients.

Plantation: This will include digging pits with proper spacing, filling pits with prepared soil, plantation of seedlings and watering. The size of the pit will be 1m x 1m x 1 m for grown-up trees and 0.5 m x 0.5 m x 0.5 m for smaller trees and shrubs. The spacing will be as follows.

The pits will be filled with soil mixture. The soil will be irrigated soaking wet prior to placing of seedling. The water required for greenbelt development will be met from the treated effluents generated during plant operation. During construction period water supply will be met from available sources.

Plantation will start from the beginning of construction activity (after the site is made clear and demarcating the green portion). The plant species will be planted using pitting technique Soil proposed to be filled in the pit after plantation will be mixed with compost (1:1). Plantation will be done after first rainfall. Adequate protection will be ensured for achieving high survival rate of the planted saplings. Water and nutrients / manure will be given at appropriate intervals.

10.5.2 ACTION PLAN FOR GREENBELT DEVELOPMENT

The green area measures **37,241.664** sq.m. Greenbelt will be developed around the in and around the project site. There are few trees present at the project site. We will obtained permission for the same from competent authority.

- The tree species to be selected for the plantation are pollutant tolerant, fast growing, wind firm, deep rooted. A three-tire plantation is proposed comprising of an outer most belt of taller trees, which will act as barrier, middle core acting as air cleaner and the innermost core which may be termed as absorptive layer consisting of trees which are known to be particularly tolerant to pollutants.
- Greenbelt will be developed simultaneously with the construction of the plant as per SPCB guidelines and completed within the end of first monsoon.
- 6870 plants will be planted as per the norms.

10.6 RAINWATER HARVESTING PLAN

Company will develop rainwater harvesting structures inside the project premises, where rainwater will be collected. As per CGWB guidelines shaft recharge type rainwater harvesting structures will be suitable for the area. The design of the pits and tanks shall be based on CGWB guidelines (the rainfall collection volume from a defined area multiplied by runoff coefficient). Total of 65 Rainwater Harvesting pits are proposed for artificial ground water recharge.

10.7 BUDGET FOR EMP

The total cost (Land Cost + Development Cost) of the proposed project will be INR 1593.7 Crores. The capital cost for environmental management of the proposed project is estimated to be INR 796 lakhs (Construction and operation). INR 132.75 lakhs (operation and construction) per year will be required as annual recurring expenses to meet the recurring expenditure for implementing the measures.

Table 10-1 ENVIRONMENT MANAGEMENT PLAN BUDGET

COMPONENT	CAPITAL COST (INR LAKH)	RECURRING COST (INR LAKH/YR)
Labor Sanitation & Wastewater Management	35	8.75
Dust Mitigation Measures Including site barricading, water sprinkling & anti-smog gun)	25	6
Storm Water Management (temporary drains & sedimentation basin)	10	2.5
Solid Waste Management	5	1
TOTAL	**75**	**18.25**

During Operation Phase		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Sewage Treatment Plant	190	47.5
Rain Water Harvesting System	115	28.75
Solid Waste Management	80	20
Environmental Monitoring	6	9
Green Area/ Landscape Area	50	12.5
Others (Energy saving System, miscellaneous)	60	15
Sub-Total	**576**	**108**
Socio-Economic		
Government Sr. Sec School at Village Rewari/	145	--

Shidrawali/ Dhani Bhora Khurd / or in any nearby village • Complete makeover • Construction of toilets • Installation of Solar Panels • Painting of School Building • Replacement of doors and windows • Energy efficient lighting • Smart Classroom equipment		
Total	**721**	**108**

TOTAL EMP BUDGET		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
During Construction Phase	75	18.25
During Operation Phase	721	**108**
TOTAL	**796**	**126.25**

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CHAPTER-11 : SUMMARY & CONCLUSION

11.1 GENERAL

This chapter provides the summary of the EIA/EMP report.

11.2 PROJECT DESCRIPTION

The Industrial Plotted Colony Project is to be developed by M/s Signatureglobal (India) Limited. The project site is located at Village- Shidrawali, Tehsil-Manesar, District-Gurugram, Haryana on a land measuring of 135.7250 acres.

The company has vast experience in planning and construction of Industrial Plotted Colony. The project facilities include:

- Industrial Plotted Development
- Residential Plotted Development
- Community facilities
- Commercial facilities

The Nearest Highway is NH-48 which is adjacent to the project site , SH-28 is 0.58 km towards SW direction, SH-25 which is 4.1 km (S), NH-919 is 3.8 km towards S direction, Western Peripheral Expressway is 8.7 km towards NE direction, MDR 132 is 5.1km towards NE direction, & NH-352W which is 9.5 km (S) direction away from project site.
The nearest railway station being Inchhapuri Railway Station is about 12.6 km (NW) away from the project site.
The nearest Airport is Indira Gandhi International Airport 40 km (NE) from the project site.
Total Project cost is INR 1593.7 crores.

During the operation phase, total population of the proposed project is estimated to be 50,766 persons.

The total water requirement for the project will be approx. 3475 KLD. Fresh water demand is 1943KLD. The source of water supply will be GMDA.

The power shall be supplied by the State Electricity Board. The maximum load demand for the project will be approx. 12,883 kW.

There is provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion

During the operation phase, approx. 18139 kg/day of domestic waste will be generated.

Total no. of 65 Rainwater Harvesting pits are proposed for artificial ground water recharge.

11.3 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline data was generated during winter season from 1st December 2023 to 29th February, 2024. 10 km area around the site was considered as study area. Data was generated by following the standard/ approved procedures of the Ministry of Environment Forests and Climate Change and the Central Pollution Control Board. Meteorological data on wind speed, wind direction, relative humidity and temperature was generated at the project site. Ambient air quality was generated at 5 locations. Noise levels were measured at 5 locations. Surface water quality was collected and analysed at 5 locations; Groundwater quality was analysed at 5 locations. Soil quality was analysed at 5 locations. Data on plants and animals present in the study area was collected from the District Forest Department. Data on landuse, demography, occupation pattern, cropping pattern, infrastructure facilities were collected from District Statistics Handbook and the Tehsil records.

The predominant wind direction is from NW direction towards southeast direction. Annual rainfall is high, about 596 mm. Calm periods are more during night.

Ambient Air Quality Monitoring reveals that the minimum and maximum concentrations of $PM_{2.5}$ for all the 05 AAQM stations were found to be 59.7 $\mu g/m^3$ to 103.7 $\mu g/m^3$ respectively, while for PM_{10} it varies between 117.2 $\mu g/m^3$ to 183.7 $\mu g/m^3$.

As far as the gaseous pollutants SO_2 and NO_2 are concerned, the prescribed CPCB limit of 80 $\mu g/m^3$ for residential, rural and industrial areas has never surpassed at any station. The minimum and maximum concentrations of SO_2 were found to be 8.2 $\mu g/m^3$ to 12.7 $\mu g/m^3$ respectively. The minimum and maximum concentrations of NO_2 were found to be 26.3 $\mu g/m^3$ to 50.1 $\mu g/m^3$ respectively. Also, the minimum and maximum concentrations of CO were found to be 450$\mu g/m^3$ to 1030$\mu g/m^3$ respectively.

High concentration of PM 2.5 and PM 10 may be attributed to Vehicular emission and nearby construction activities in the area.

In rural areas wind blowing and chirping of birds would contribute to noise levels especially during the nights. Assessment of day noise levels around the study area range between 50.5 to 63.6dB(A) during study period whereas the night equivalents were in the range of 42.7 to 52.9 dB (A).

The surface water quality meets the 'C' category classification i.e. Best Designated Use of CPCB, fit for drinking after conventional treatment.

The analysis of results shows that soil is basic in nature as pH value ranges from 7.59 to 7.88 with Electrical Conductivity of 437 to 447 µmhos/cm. The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Sandy loam at project site.

11.4 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) will be set up to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC will report to the Management. Environmental monitoring of

ambient air, DG stack emission, noise levels, groundwater quality, surface water quality and soils will be carried out as per norms.

11.5 ADDITIONAL STUDIES

INR 220 Lakh will be spent under CER activities over three year period. This amount will be spent for making classrooms in local schools, providing teaching aids, making community centres, develop drinking water facility in nearby villages, making rainwater harvesting structures like anicuts and check dams in the area, developing infrastructure facilities and equipment in primary health centres.

11.6 PROJECT BENEFITS

The proposed project will generate employment opportunities to the local populace during construction phase. The total manpower requirement during construction is about 200 people. This will last for approximately 12 months. Skilled, unskilled and semi-skilled labour for constructing the plant will be taken locally or from nearby places.

Estimated manpower requirement after the project operation shall be 61489(Direct on Company payroll). About 200 workers will get indirect employment through contractors, like drivers, attendants, mechanics, daily wage labour, housekeeping, horticulture staff, etc. Local people will be given the opportunity in employment as per their capability and expertise.

11.7 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan for effective management of environmental impacts and ensuring overall protection of the environment through appropriate management procedures has been developed. In order to implement the recommended mitigation measures and institutionalize the EMP, budgetary provision of Rs. 796 lakhs as capital expenditure has been made. Recurring annual expenditure will be Rs. 126.25 lakhs of the capital expenditure.

Environment Management Cell (EMC) will ensure that all air pollution control devices, effluent treatment plants and water re-circulating systems function effectively. EMC will also supervise disposal of spent oil and lubricants and used batteries to the authorized vendors. Plantation will be started during the construction phase by following the guidelines issued by the Central Pollution Control Board. Schemes for resource conservation (raw materials, water, etc.), rainwater harvesting, and social forestry development will be taken up by EMC. Regular environmental awareness programs for the employees will be conducted.

11.8 CONCLUSION

The proposed project will have marginal impact on the local environment with proper mitigation measures and effective implementation of the environment management

measures. The project has beneficial impact/effects in terms of growth in regional economy, transform the region's economy from predominantly agricultural to significantly industrial, increase Government earnings and revenues and accelerate the pace of industrial development in the region.

The proposed project will provide direct employment to a large number of personnel. This project will also generate indirect employment to a considerable number of families, who will render their services for the employees of the project.

The project will provide comfortable and environment friendly housing facilities for the society.

In view of the above, it is requested that Environment Clearance may please be accorded to the project.

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CHAPTER-12 : DISCLOSURE OF CONSULTANT ENGAGED

12.1 GENERAL

M/s Signatureglobal India Limited has appointed M/s GRC India Pvt Ltd., for carrying out this Environmental Impact Assessment Study as per the EIA notification, 2006 as amended till date. M/s GRC India Pvt Ltd has approved EIA coordinators and Functional Area Experts for undertaking Environmental and related studies in Fifteen (15) approved sectors by NABET, Quality Council of India, New Delhi.

12.2 INTRODUCTION OF ORGANIZATION

GRC India is an ISO 9001:2015, 14001:2015 & ISO 45000:2018 certified pioneer environmental consultancy organization in India. It has been accredited by National Accreditation Board of Education & Training (NABET), Quality Council of India (QCI), which is the highest accreditation authority in India. Accreditation is the formal recognition by an accreditation authority to carry out a specific service in accordance with the standards and technical regulations as prescribed in the scope of accreditation. The accreditation permits the organization to carry out the Environment Impact Assessment (EIA) Studies for obtaining an Environmental Clearance for various development projects. This has been granted following a rigorous inspection based on a number of quality parameters applicable to concerned Environmental Functional Areas and the required infrastructure facilities available in the organization, as prescribed by the MoEF & CC, Govt. of India in its guidelines.

The accreditation certificate number is NABET/EIA/21-24/RA 0211. The Validity Extension letter no. is QCI/NABET/ENV/ACO/24/3338 which is valid till 11th November 2024. Copy of NABET certificate is attached as Annexure with EIA report.

Current Status of ACO is available on below given link: -

http://eia.nabet.qci.org.in/Accredited-EIA-Consultant.aspx

12.3 ADDRESS & CONTACT

Corporate Office
F-374 &375, Sector – 63, Noida-201301, UP
Phone: 91-120-4044630, 4044660, 4323120
Fax: 91-120-2406519
E-Mail: info@grc-india.com

Registered Office

Unit No.102, First Floor, Vardhman Mayur Market,
CSC-1, Mayur Vihar Phase 3, New Delhi – 110096,
Ph: 91-11-22622031

12.4 EIA COORDINATOR AND TEAM MEMBER

The EIA/EMP report has been prepared under the guidance of following Coordinators & Functional Area Experts:

EIA Coordinator	***Mr. Sonu***	***Coordinated the EIA Study with FAEs and Laboratory for data generation, assessment of impacts and preparation of EMP.***
FAE-AP	Ms. Monika Gupta	➢ Identifying the sources of emissions and mitigation measures. ➢ Inventorisation of point source stack emission details ➢ Site specific micro- meteorology monitoring. ➢ Ambient Air Quality (AAQ) monitoring impact predictions and mitigations
FAE-WP	Mr. Sonu	➢ Surface water and ground water quality monitoring and assessment. impacts on water ➢ Environment and mitigations. ➢ Identification, characterization of effluent streams and treatments thereof. ➢ Water balance and conservation measures
FAE-AQ	Mr. Sonu	➢ Visited the site and surroundings, assessed the meteorological data, did predictions on air quality and suggested mitigation measures.
FAE-EB	Ms. Kavita Chopra	➢ Biological environment status in respect of terrestrial fauna and aquatic eco system. ➢ Impact on ecological environment.
FAE-SE	Mr Rajiv Rastogi	➢ Determination of baseline human environment. ➢ Impact on socioeconomic environment & mitigation methods.
FAE-HG	Prof. Tapan Majumder	➢ Ground water resource assessment. ➢ Impact on ground water potential and mitigation measures for avoiding ground water contamination.
FAE-GEO	Prof. Tapan Majumder	➢ Topography and geological aspects ➢ Developing geological maps
FAE-RH	Mr. K.D Choudhury	➢ Visited the site and surroundings, assessed the process details, identified risks / hazards and suggested mitigation measures.
FAE-SHW	Dr. Dhiraj Kr Singh	➢ Non-hazardous solid, wastes generation, recycling and disposal. ➢ Storage and management of hazardous solid waste
FAE- SC	Mr. N P S Varde	➢ Monitoring, analysis & characterization of soil. ➢ Assessment of impact on soil quality and mitigation

EIA Coordinator	***Mr. Sonu***	***Coordinated the EIA Study with FAEs and Laboratory for data generation, assessment of impacts and preparation of EMP.***
		measures.
FAE – NV	Mr. K.D Choudhury	➢ Analysis of ambient noise quality data. ➢ Impact due to plant noise and abatement measures.
FAE – LU	Mr. N P S Varde	➢ Analysis of data related to land-use pattern. ➢ Land-use map development. ➢ Impact on land environment in respect to land form change

Apart from EIA Coordinator and FAE's involved in the project the other technical staff involved in the preparation of EIA is listed below: -

Name of Internal Team Member	Activity / Area	Involvement – Actual Work Performed	Under Approved Expert
Ms. Kavita Chopra (Team Member: AP)	Assistance in Air Pollution part under approved expert Ms. Monika Gupta	➢ Identifying the sources of emissions and mitigation measures. ➢ Inventorisation of point source stack emission details ➢ Site specific micro-meteorology monitoring. ➢ Ambient Air Quality (AAQ) monitoring impact predictions and mitigations	Ms. Monika Gupta

12.5 LABORATORY INVOLVED FOR BASELINE MONITORING AND OTHER ANALYSIS

Baseline Monitoring has been done during December 23 to February 24 by M/s GRC India Training & Analytical Laboratory (A Unit of GRC India Pvt Ltd), accredited by NABL and Recognized by MoEFCC, New Delhi.

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ANNEXURE-I

सत्यमेव जयते

File No.: 21-167/2024-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
***

Dated **27/03/2024**

To,

Vineet Kumar
SIGNATUREGLOBAL INDIA LIMITED
13th Floor,Dr.Global Das Bhawan,28 Barakhamba Road , 28 Barakhamba Road, Connaught Place, New Delhi, NEW DELHI, DELHI, 110001
vineet.signatureglobal@gmail.com

Subject: Grant of Standard Terms of Reference (ToR) to the proposed Project under the EIA Notification 2006-and as amended thereof-regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/HR/INFRA2/466853/2024 dated 26/03/2024 for grant of Terms of Reference (ToR) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) ToR Identification No.	TO24B3813HR5120995N
(ii) File No.	21-167/2024-IA.III
(iii) Clearance Type	Fresh ToR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	8(b) Townships/ Area Development Projects / Rehabilitation Centres
(vi) Sector	INFRA-2
(vii) Name of Project	Industrial Park Project by M/s Signature Global (India) Limited
(viii) Name of Company/Organization	SIGNATUREGLOBAL INDIA LIMITED
(ix) Location of Project (District, State)	GURUGRAM, HARYANA
(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	NO

3. The **MoEF&CC** has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after detailed examination hereby decided to grant Standard

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Terms of Reference to the instant proposal of **M/s. SIGNATUREGLOBAL INDIA LIMITED** under the provisions of the aforementioned Notification.

4. The brief about products and by products as submitted by the Project proponent in Form-1 (Part A, B) and Standard Terms of Reference are annexed to this letter as Annexure (1).

5. The Ministry reserves the right to stipulate additional TORs, if found necessary.

6. The Standard Terms of Reference (ToR) to the aforementioned project is under provisions of EIA Notification, 2006 and as amended thereof. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

7. The granted letter, all the documents submitted as a part of application viz. Form-1 Part A and Part B are available on PARIVESH portal which can be accessed by scanning the QR Code above.

Copy To
N/A

Annexure 1

Standard Terms of Reference for conducting Environment Impact Assessment Study for Townships/ Area Development Projects / Rehabilitation Centres and information to be included in EIA/EMP report

1. Project Details

Sr. No.	Terms of Reference
1.1	Need and benefits of the project.
1.2	Submit data for built-up area for each building, the use and occupancy classification in line with NBC 2016 also to be indicated [for differential functional requirements].
1.3	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

2. Land Environment

Sr. No.	Terms of Reference
2.1	Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.

3. Land acquisition and R&R

Sr. No.	Terms of Reference
3.1	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.

4. Environmental Monitoring and Management

Sr. No.	Terms of Reference
4.1	Examine baseline environmental quality along with projected incremental load due to the project.
4.2	Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
4.3	Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
4.4	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
4.5	Possible carbon footprint contribution from each activities and mitigation measures proposed shall be included as part of Environment Management Plan.

5. Drainage

Sr. No.	Terms of Reference
5.1	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.

6. Forest

Sr. No.	Terms of Reference
6.1	Submit the details of the trees to be felled for the project, if any .
6.2	Submit the present land use and permission required for any conversion such as forest, agriculture etc.

7. Water Environment

Sr. No.	Terms of Reference
7.1	Ground water classification as per the Central Ground Water Authority.

8. Water Management

Sr. No.	Terms of Reference
8.1	Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
8.2	Rain water harvesting proposals should be made with due safeguards for ground water quality.
8.3	Maximize recycling of water and utilization of rain water. Examine details.
8.4	Examine soil characteristics and depth of ground water table for rainwater harvesting

Sr. No.	Terms of Reference
8.5	Permission from CGWA for abstraction of groundwater, if any, including dewatering during basement excavation.

9. Waste Management

Sr. No.	Terms of Reference
9.1	Examine details of solid waste generation treatment and its disposal.
9.2	Construction & Demolition Waste Management Plan shall be prepared as part of EMP providing details of demolition activities involved along with quantification and disposal mechanism.

10. Energy Requirements

Sr. No.	Terms of Reference
10.1	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
10.2	Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.
10.3	DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment.

11. Road and Traffic

Sr. No.	Terms of Reference
11.1	Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
11.2	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
11.3	Examine the details of transport of materials for construction which should include source and availability.

12. Disaster Management Plan

Sr. No.	Terms of Reference
12.1	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster. This should cover details of vulnerabilities due to natural and manmade hazards (earthquake, flooding, cyclone, landslides, fire etc.) and details of disaster mitigation efforts for buildings and infrastructure through structural sufficiency and Fire and Life Safety compliance in line with National Building Code NBC, 2016.

13. Court Cases

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Sr. No.	Terms of Reference
13.1	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

14. Miscellaneous

Sr. No.	Terms of Reference
14.1	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website http://moef.nic.in/Manual/Townships.

Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Built up area	By-Product	32.13	Hectares (Ha)	NA	NA

Signed by
Ashish Kumar
Date: 27-03-2024 13:36:35
Reason: Verified and signed

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Annexure-II

FORM LC -V
(See Rule 12)
HARYANA GOVERNMENT
TOWN AND COUNTRY PLANNING DEPARTMENT

Licence No. 104 of 2024

This License has been granted under the Haryana Development and Regulation of Urban Areas Act, 1975 & the Rules 1976, made thereunder to Sungold Heights and Developers LLP. in collaboration with Signatureglobal (India) Limited, 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi-110001. for setting up of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of village Sidhrawali, Tehsil- Manesar, District Gurugram.

1. The particulars of the land, wherein the aforesaid Industrial Plotted Colony is to be set up, are given in the Schedule annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.

2. The License is granted subject to the following conditions:

(i) To deposit a sum of Rs. 16,56,63,060/- on account of Infrastructural Development Charges in two equal installments. First within 60 days from issuance of license and second within six months online at www.tcpharyana.gov.in. In failure of which, an interest @ 18% per annum for delay period shall be paid.

(ii) The licencee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

(iii) The licencee has not submitted any other application for grant of license for development of the said land or part thereof for any purpose under the provisions of the Haryana Development and Regulation of Urban Areas Act, 1975 or any application seeking permission for change of land use under the provision of the Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963.

(iv) The licencee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.

(v) The licencee shall make own arrangements for water supply, sewerage, drainage etc. to the satisfaction of DTCP.

(vi) The licencee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.

(vii) That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.

Director
Town & Country Planning
Haryana, Chandigarh

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(viii) That the provision of solar water heating system shall be as per guidelines of Haryana Renewable Energy Development Agency and shall be made operational where applicable before applying for an Occupation Certificate.

(ix) The licencee shall use only LED fitting for internal lighting as well as campus lighting.

(x) The licencee shall convey the 'Ultimate Power Load Requirement' of the project to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licensed land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.

(xi) The licencee shall keep pace of development atleast in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.

(xii) The licencee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which licencee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.

(xiii) The licencee will pay the labour cess as per policy instructions issued by Haryana Government vide Memo No. Misc. 2057-5/25/2008/2TCP dated 25.02.2010, as amended from time to time.

(xiv) The licencee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein you have to deposit thirty percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

(xv) That no further sale has taken place after submitting application for grant of license.

(xvi) The licencee shall not give any advertisement for sale of plots/commercial area before the approval of zoning plan.

(xvii) That no provision of the Haryana Ceiling on Land Holding Act, 1972 has been violated due to purchase of applied land.

(xviii) That the revenue rasta/khal if passing through the site shall not be encroached upon and shall be kept free from all hindrances for easy movement of general public.

(xix) That the licencee shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed thereunder shall be followed by the applicant in letter and spirit.

(xx) The licencee shall comply with the terms and conditions of policy dated 01.10.2015, 09.03.2019 and other direction given by the Director time to time to execute the project.

(xxi) The licencee shall obtain the permission from competent authority for construction of culvert over dhana/ nala / drain / water channel what so ever, if passing through licenced land.

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(xxii) The licencee shall integrate the services with Haryana Shehri Vikas Pradhikaran Development Authority services as and when made available.

(xxiii) That area coming under the sector roads and restricted belt / green belt, if any, which forms part of licensed area and in lieu of which benefit to the extent permissible as per policy towards FAR is being granted, shall be transferred free of cost to the Govt.

(xxiv) The licencee will transfer 10% area of the licenced colony free of cost to the Government for provision of community facilities. This will give flexibility to the Director to workout the requirement of community infrastructure at sector level and accordingly make provisions. The said area will be earmarked on the layout plan to be approved alongwith the license.

(xxv) The licencee understand that the development/ construction cost of 24 m/18 m major internal roads is not included in the EDC rates and they shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 24 m/18 m wide major internal roads as and when finalized and demanded by the Department.

(xxvi) That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of non inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. applicant company shall also provide detail of calculation of EDC per sqm/per sft to the allottees while raising such demand from the plot owners.

(xxvii) That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.

(xxviii) The licencee shall abide by the terms and conditions of the policy notified on 01.04.2016.

(xxix) The licencee shall abide by the terms and conditions of policy dated 08.02.2016 (DDJAY) and other direction given by the Director time to time to execute the project.

(xxx) The licencee shall execute the development works as per Environmental Clearance and company with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, applicant shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Act.

(xxxi) That no pre-launch/sale of commercial plot will be undertaken before approval of the building plans. That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

(xxxii) That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

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(xxxiii) That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

(xxxiv) The implementation of such mechanism shall, however, have no bearing on EDC installment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC installments that are due for payment get paid as per the prescribed schedule.

(xxxv) The licencee shall take prior permission from the Divisional Forest Officer, Gurugram regarding cutting of any tree in their applied site.

(xxxvi) Only green category industry shall be allowed in the area of the licensed industrial colony which is falling within 2 kilometers from the boundary of urbanisable zone of the development plan, excluding the peripheral roads, if proposed along urbanisable boundary. All categories of industries will be allowed in the industrial colony outside 2KM belt subject to the condition of obtaining certificate from Haryana pollution Control Board.

(xxxvii) You shall pay at least the cost of infrastructure made available by various agencies/Department of the state Government, including infrastructure sought and availed in the agriculture zone as and when demanded by the competent authority.

(xxxviii) That you shall also take necessary measures for setting up of an effluent treatment plant of appropriate size and its appropriate use and also for safe disposal of effluents after proper treatment.

1. The area/pocket-1 measuring 11.56875 acres which derives approach from land acquired for RRTS, shall be kept frozen till submission of the NOC /access permission from NCRTC/competent authority.

4. That you shall not raised any construction within 20 mtr buffer zone on either side of acquired alignment of RRTS and the same shall be kept as green/buffer zone.

5. That no third party rights shall be created over any frozen area till such area is de-freezed.

6. That plots beneath the 3 nos. nos. of 11 KV HT line and 1 no. of 200 KV HT line falling in the licensed land shall be kept frozen till shifting of respective HT lines.

7. The license is valid up to 31.07.2029.

(Amit Khatri, IAS)
Director,
Town & Country Planning
Haryana, Chandigarh

Dated: The 01.08.2024.
Chandigarh

Endst. No. LC-5139/Asstt(MS)/2024/ 24309 Dated: 01-08-2024

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action: -

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1. Sungold Heights and Developers LLP. In collaboration with Signatureglobal (India) Limited, 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi-110001 along with a copy of agreement, LC-IV & Bilateral Agreement and Layout Plan.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
5. Joint Director, Environment Haryana-Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
6. Addl. Director Urban Estates, Haryana, Panchkula.
7. Administrator, HSVP, Panchkula.
8. Chief Engineer, HSVP, Panchkula.
9. Superintending Engineer, HSVP, Gurugram along with a copy of agreement.
10. Land Acquisition Officer, Gurugram.
11. Senior Town Planner, Gurugram along with a copy of Layout Plan.
12. Senior Town Planner (Enforcement), Haryana, Chandigarh.
13. District Revenue Officer, Gurugram.
14. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
15. Chief Accounts Officer (Monitoring) O/o DTCP, Haryana.
16. Accounts Officer, O/o DTCP along with a copy of agreement.
17. Project Manager (IT) for updation on the website.

(Sanjay Narang)
District Town Planner (HQ)
For: Director, Town & Country Planning
Haryana Chandigarh

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To be read with License No 104 Dated 21/08/ of 2024

Village	OWNERSHIP	REC.NO	KHEA NO	KANAL	MARLA
Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	74	15/1/2/2	0	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	74	16/2/2/1/2	0	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	2/2/2/2	1	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	3	7	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	4/3.	1	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	5/3.	2	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	7/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	7/2.	5	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	8/1.	3	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	8/2.	4	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	11/2/2.	7	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	12/1.	2	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	12/2.	5	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	14	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	15	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	16	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	18	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	19/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	20/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	25	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	1/4.	3	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	2/2.	1	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	4/2.	2	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	5/1.	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	5/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	8/1/1	2	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	8/3/2	0	13
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	9/1/2	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	14	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	15	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	16	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	18	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	20	8	0

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Kalkeswalli	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	21/1	7	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	21/2	5	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/1/1	1	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/1/2	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/2	4	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	20	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	21	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	24	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	25	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	20	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	21	7	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	5	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	6	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	15/3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	17	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	23/3	7	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	24/1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	25	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	11/2	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	16	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	18	4	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	19/3	0	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	19/1	7	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	20/1	2	14
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	21/1	0	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	21/3	7	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	22/2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	24	7	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	25	5	17
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	4	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	5	0	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	7/2	3	13
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	8	8	0
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DTCP (HR)

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Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	5	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	6/1.	4	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	6/2.	3	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	8	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/1.	1	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/3.	5	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/2.	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/4.	1	6
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	10	8	16
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	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	13	10	0
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	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	5/2.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	6	5	9
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	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	10	8	0
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	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/1.	5	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/3.	0	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	5	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	8/1.	3	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	8/2.	4	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	9/1.	0	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	9/2.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	12/1.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	12/2.	0	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	14/1.	1	14
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	15	5	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	18	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	19/1	4	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	19/2	3	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	20/1	7	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	22	4	15

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D.T.C.P (HR)

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Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	21/2	7	19
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	4/1.	7	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	7/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	8	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	14/1/1.	2	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	18/1.	4	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	20/1.	1	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	93	15/3.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	93	16/1.	3	1
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	20/2min	1	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	21min	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	1 min	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	10/1 min	0	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	10/2 min	0	19
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	11/1 min	0	8
				1037	5
				AREA 129.65625 ACRES	

Director
Town & Country Planning
Haryana

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SIGNATURE GLOBAL
REALTY. RELIABILITY. RESPONSIBILITY.
AN ISO 9001:2015, 14001:2015, 45001:2018, 27001:2022 CERTIFIED COMPANY

To,
The Director,
Town and Country Planning,
Haryana, Chandigarh.

Date: 03/06/2024

SUBJECT: APPLICATION FOR GRANT OF LICENSE TO SET UP INDUSTRIAL PLOTTED COLONY OVER LAND ADMEASURING 6.06875 ACRES (IN ADDITION TO THE AREA MEASURING 129.66875 ACRES) SITUATED AT THE REVENUE ESTATE OF VILLAGE SIDHRAWALI TEHSIL MANESAR, DISTRICT GURUGRAM, HARYANA

Respected Sir,

We are applying for Grant of License to set up Industrial Plotted Colony of the Haryana Government on land admeasuring 6.06875 acres (in addition to the area measuring 129.66875 acres) situated in the revenue estate of Village Sidhrawali Tehsil Manesar, District Gurugram, Haryana are hereby submitting the following documents:

1. Name of Bank YES BANK and ~~UTR~~ DD No. 201622 for Rs. 2,51,785 (Rs. _____) in favour of Director General Town & Country Planning, Haryana, payable at Chandigarh on account of scrutiny Fee.
2. Name of Bank YES BANK and ~~UTR~~ DD No. 201623 for Rs. 33,18,848 (Rs. _____) in favour of "Director General Town & Country Planning, Haryana" payable at Chandigarh towards the License fees.
3. Form LC – 1, duly notarized.
4. Schedule of Land, duly notarized.
5. Revenue documents consisting of latest Jamabandis, mutations (intequals) and notarized copy of sale deed.
6. Sazra Plan signed by Patwari
7. Site Plan
8. Survey Plan
9. Guide Map
10. Layout Plan
11. Deed of Undertaking, duly notarized
12. Board Resolution
13. List of Shareholders
14. List of Directors
15. Memorandum and Article of Association of the Company
16. Document showing financial capacity (PAS-3) to develop the project
17. Document showing technical capacity to develop the project.
18. Copy of Sizra plan showing Khasra Nos of the site and width of approach road.
19. Explanatory Note

For SIGNATUREGLOBAL (INDIA) LIMITED

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Authorised Signatory/Director

20. Non-Encumbrance Certificate
21. Non-Encumbrance Undertaking
22. Indemnity Bond

Thanking you,

For SignatureGlobal (India) Limited
(Formerly Known as SignatureGlobal (India) Private Limited)
SIGNATUREGLOBAL (INDIA) LIMITED

Authorised Signatory/Director

Authorized Signatory
(Vijay Pal)

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FORM LC-I
(See Rule 3 (1))

To,
The Director,
Town & Country Planning,
Haryana, Chandigarh

We, M/s SignatureGlobal (India) Limited (*Formerly Known as SignatureGlobal (India) Private Limited*) in collaboration with Sungold Heights and Developers LLP beg to apply for grant of License for development of Industrial Plotted Colony on land measuring 6.06875 acres (in addition to the area measuring 129.66875 acres) situated at revenue estate of Village Sidhrawali Tehsil Manesar, District Gurugram, Haryana.

1.	Name of Applicant	M/s SignatureGlobal (India) Limited (*Formerly Known as SignatureGlobal (India) Private Limited*) in collaboration with Sungold Heights and Developers LLP
2.	Occupation	Real Estate Developer
3.	Permanent Registered Address	13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi – 110001
4.	Address for the purpose of Correspondence	13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi – 110001
5.	Whether Applicant is Income Tax payee, and if so, the amount of Income Tax paid during the last three years	Income Tax Documents enclosed
6.	Details of moveable/immoveable property held by the applicant.	Balance Sheet and other documents showing details of property enclosed
7.	Whether the applicant has ever established a colony or is establishing a colony, and if so details thereof	Yes License 33 of 2018 dated 26/05/2018 License 69 of 2019 dated 26/06/2019 License 04 of 2017 dated 02/02/2017 License 89 of 2019 dated 02/08/2019 License 40 of 2020 dated 11/12/2020 License 22 of 2022 dated 11/03/2022 License 02 of 2022 dated 06/01/2022 License 110 of 2021 dated 17/12/2021 License 80 of 2018 dated 02/12/2018 License 09 of 2010 dated 23/01/2010
8.	Any other information the applicant company would like to furnish	N.A

We enclose the following documents in triplicate:

I. Copies of title deeds and other documents showing the interest of the applicant in the land under the colony, along with a list of such deeds and documents — ENCLOSED

II. A copy of the Shajra plan showing the location of the colony along with the names of the revenue estate, Khasra number of each field and area of each field — ENCLOSED

III. A guide map on a scale of not less than 10cm to 1 kilometer showing the location of the colony in relation to surrounding geographic features to enable the identification of the site ENCLOSED

NOTARY S. C. SHARMA CHANDIGARH Regd. No. 631 Expiry Date 2026 GOVT. OF INDIA

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IV A survey map of the land under the colony on a scale of 1 cm to 10 meters showing the spot levels at a distance of 30 meters and where necessary showing the contour plans. The survey will also show the boundaries and dimensions of the said land, the location of the streets, buildings and premises within a distance of at least 30 meter of the said land and existing means of access to it from existing roads ENCLOSED

V Layout plan of the colony on a scale of 1 cm to 10 meters showing the existing and proposed means of access to the colony, the width of streets, sizes and types of plots, sites reserved for open spaces, community buildings and schools with area of each and proposed building lines on the front and sides of plots. ENCLOSED

VI An explanatory note explaining the salient features of the colony, in particular the sources of wholesome water supply, arrangements and sites for disposal and treatment of storm and sullage water. ENCLOSED

VII Plans showing the cross sections of the proposed roads showing in particular the width of the proposed carriage ways, cycle tracks and footpaths, green verges, position of electric poles and any other works connected with such roads ENCLOSED

VIII Plans as required under sub clause (vii) above indicating in addition the position of sewers, storm water channels, water supply and other public health services
SHALL BE FURNISHED AT TIME OF APPROVAL OF SERVICE PLAN ESTIMATES

IX Detailed specifications and design of road work shown under sub clause (vii) and estimated costs thereof
SHALL BE FURNISHED AT TIME OF APPROVAL OF SERVICE PLAN ESTIMATES

X Detailed specifications and designs of sewerage, storm water and water supply scheme with estimated cost of each.
SHALL BE FURNISHED AT TIME OF APPROVAL OF SERVICE PLAN ESTIMATES

XI Detailed specifications and designs for disposal and treatment of storm and sullage water and estimated cost of works
SHALL BE FURNISHED AT TIME OF APPROVAL OF SERVICE PLAN ESTIMATES

XII Detailed specifications and designs for electric supply including street lighting
SHALL BE FURNISHED AT TIME OF APPROVAL OF SERVICE PLAN ESTIMATES

NOTARY S. C. SHARMA CHANDIGARH Regd. No. 69 Exp. 29-11-2016 GOVT. OF INDIA

The names and qualifications of the Engineers responsible for the execution of the development works of the colony are given below and the engineer has also signed below in token of his engagement:

Name of Engineer/Architect	Qualification	Signature
GIAN P. MATHUR	B. ARCH	

1.

For SIGNATUREGLOBAL (INDIA) LIMITED

Authorised Signatory/Director

GIAN P. MATHUR
ARCHITECT
B. Arch., M.C.A. I.I.A
CA No. 80/5769

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For Sungold Heights and Developers LLP

Partner

2 Dinesh Jhamb B Tech.

Prabhat Mann B. Tech

Prabhat

We also enclose the following documents:

1. E-payment dated for Rs. -2,51,785/- (Rs. _____) in favour of "Director Town & Country Planning, Haryana" payable at Chandigarh as Scrutiny Fee.

2. E-payment dated for Rs 33,18,848/- (Rs. _____) in Favor of "Director Town & Country Planning Haryana payable at Chandigarh as License Fee.

We solemnly affirm that the particulars given in Para I above are correct and to the best of our knowledge and belief.

Place: New Delhi
Date:

For M/s SignatureGlobal (India) Limited *(formerly known as SignatureGlobal (India) Private Limited)* For SIGNATUREGLOBAL (INDIA) LIMITED Authorised Signatory/Director **AUTHORIZED SIGNATORY (Vijay Pal)**	**For M/s Sungold Heights and Developers LLP** For Sungold Heights and Developers LLP Partner **AUTHORIZED SIGNATORY**

NOTARY S. C. SHARMA CHANDIGARH GOVT. OF INDIA

Attested As Identified
NOTARY GOVT OF INDIA
CHANDIGARH

26 JUN 2024

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ANNEXURE-I(B)

Directorate of Town and Country Planning, Haryana

Nagar Yojana Bhavan, Plot No.3, Sector-18A, Madhya Marg, Chandigarh, Chandigarh,
Phone: 0172-2549349; e-mail: tcpharyana6@gmail.com

Regd.

LC-III
(See Rule 10)

To

Sungold Heights Developers LLP.,
In collaboration with Signature Global (India) Ltd.,
13th Floor, Dr. Gopal Das Bhawan,
28 Barakhamba Road, Connaught Place,
New Delhi-110001.

Memo No. LC-5139-B-DS (AK)/2024/ 38456 Dated: 06-12-24

Subject: Letter of Intent:-Request for grant of licence for setting up of Industrial Plotted Colony over an area measuring 6.06875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram- Signature Global (India) Ltd.

Please refer to your application dated 07.06.2024 on the above cited subject.

Your request for grant of licence under section 3 of the Haryana Development and Regulation of Urban Areas Act, 1975, and Rules framed there under for development of Industrial Plotted Colony over an area measuring 6.06875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram has been considered and it is proposed to grant license for setting up of aforesaid Industrial Plotted Colony. You are, therefore, called upon to fulfill the following requirements/ pre-requisites laid down in Rule 11 of the Haryana Development and Regulation of Urban Areas Rule, 1976 within a period of 60 days from the date of issue of this letter, failing which request for grant of licence shall be refused:-

1. To deposit an amount of Rs. 1,69,054/- on account of scrutiny charges in favour of the Director, Town & Country Planning, Haryana through online mode.

2. You have an option to either to deposit an amount of Rs. 76,89,89,881/- Crore on account of External Development Charges in favour of Director, Town and Country Planning, Haryana, Chandigarh through online on e-payment portal of the Department before grant of licence or furnish 25% Bank Guarantee of Rs.19,22,47,470/- lacs on account of External Development Charges before grant of licence and shall pay the amount of EDC in the ten half yearly installments each with normal interest of 12% p.a. and penal interest of 3% for the delayed period in favour of Director, Town & Country Planning, Haryana, payable at Chandigarh.

D.T.C.P.(Hr).

3. To furnish bank guarantee amounting 64.48075 lacs against 25% of the total cost of Internal Development Works amounting Rs. 257.923 lacs.

**It is made clear that bank guarantee of Internal Development Works has been worked out on the interim rates and you will have to submit the additional bank guarantee, if any required, at the time of approval of Service Plan/Estimate. With an increase in the cost of construction, you would be required to furnish an additional bank guarantee within 30 days on demand.

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4. To execute two agreements i.e. LC-IV & Bilateral Agreement on Non-Judicial Stamp Paper of 100/-. Further, following additional clauses shall be added in LC-IV agreement as per Government instruction dated 14.08.2020.

I. That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

II. That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

III. That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

IV. The implementation of such mechanism shall, however, have no bearing on EDC instalment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC instalments that are due for payment that paid as per the prescribed schedule.

5. To submit an undertaking that:-

i) That you shall pay External Development Charges as and when the site comes in urbanizable limits.

ii) That you shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

iii) That you shall construct 18/24/30 m wide internal circulation road forming part of licenced area at your own costs and transfer the same free of cost to the Government as and when site comes in urbanizable limit.

iv) That you shall integrate the services with the HSVP services as per the approved service plans and as and when made available.

v) That you shall have no objection to the regularization of the boundaries of the licence through give and take with the land that HSVP is finally able to acquire any land in the interest of planned development and integration of services. The decision of the Competent Authority shall be binding upon you.

vi) That you shall provide basic facilities (sewer, water etc) in the colony upto the satisfaction of the Director, as on date the services are not being provided by HSVP.

vii) That you shall make your own arrangements for water supply, sewerage, drainage etc. to the satisfaction of DTCP till these services are made available and the same is made functional from External Infrastructure to be laid by Haryana Urban Development Authority or any other execution agency.

.(HT).9.C.T.D

viii) That you shall submit NOC as required under notification dated 14.09.2006.

ix) That you shall convey "Ultimate Power Load Requirement" of the project to the concerned power utility, with a copy to the Director, with in two month period from the date of grant of licence to enable provision of site in your land for Transformers/Switching Station/ Electric Sub-Stations as per the norms prescribed by the power utility in the zoning plan of the project.

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x) There is no further sale of the land applied for licence after submission of licence application till date.

xi) That you shall provide the Solar water heating system as per by HAREDA and shall be made operational where applicable before applying for an occupation certificate.

xi) That you shall provide the Solar water heating system as per by HAREDA and shall be made operational where applicable before applying for an occupation certificate.

xii) That you shall not encroach the revenue rasta passes through the site and shall provide appropriate access to the land of others situated in between the applied land.

xiii) That you shall comply with the terms and conditions of policy dated 01.10.2015 and other direction given by the Director time to time to execute the project.

xiv) That you shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein you have to deposit seventy percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

xv) That you have not violated the provision of the Haryana Ceiling of Land Holdings Act, 1972

xvi) That you have not submitted any other application for applied site for CLU /licence.

xvii) That you shall abide by the terms and condition of policy dated 01.10.2015 and 03.09.2019.

xviii) That the owner/developer shall integrate the bank account in which 70% allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

xix) That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

xx) That you shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed thereunder shall be followed by the applicant in letter and spirit.

xxi) That you shall provide the entire master services at your own cost.

D.T.C.P(Hr).

xxii) You shall not encroach the revenue rasta passes through the applied site if any and keep it thoroughfare movement of general public.

xxiii) That you shall take prior permission from the Divisional Forest Officer, Gurugram regarding cutting of any tree in their applied site.

6. That you shall submit the NOC from the Divisional Forest Officer, Gurugram regarding applicability of any forest law/ notification on the applied site in revenue estate of village Sidhrawali at NH-48 road, before issuance of final permission.

7. That you shall submit an indemnity bond indemnifying DTCP from any loss, if occurs due to submission of undertaking submitted in respect of non-creation of third party rights on the applied land.

8. That you shall undertake to indemnify State Govt./ Department for loss occurred or legal complication arising due to pending litigation and the land owning/ developer company will be responsible for the same in respect of applied land.

9. That you shall submit an affidavit duly attested by 1st Class Magistrate, to the effect that applicants have not submitted any other application for grant of licence for development of the said land or part thereof for any purpose under the provisions of the Haryana Development and Regulation of Urban Areas Act, 1975 or any application seeking permission for change of land use under the provision of the Punjab Schedule Roads and Controlled Areas restrictions of,

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Unregulated Development Act, 1963 or have not applied for licence/ permission under any other law for the time being in force.

10. That you shall submit an undertaking from the land owning companies/ owners that this land has not been sold to any person after entering into collaboration agreement with the colonizer to whom LOI is being issued and also that presently there is no collaboration agreement enforced with any other person for the same land.

11. That certificate from DRO/Deputy Commissioner, Gurugram will be submitted certifying that the applied land is still under ownership of applicant company, encumbrance free and not under acquisition proceedings.

12. That you shall submit the NOC/Access permission from NCRTC/competent authority regarding R.O.W of RRTS, before issuance of final permission.

13. You shall submit an indemnity bond indemnifying Director w.r.t. final outcome of the SLP(C) no. 15439 of 2022 of Hon'ble Supreme Court of India.

14. That company will intimate their official Email ID and the correspondence on this Email ID by the Deptt. will be treated as receipt of such correspondence.

(Amit Khatri, IAS)
Director,
Town & Country Planning,
Haryana, Chandigarh

Endst no. LC-5139-B-DS(AK)/2024/ Dated:

A copy is forwarded to the following for information and necessary action:-

i. Deputy Commissioner, Gurugram.
ii. Senior Town Planner, Gurugram.
iii. District Town Planner, Gurugram.
iv. District Town Planner(E), Gurugram.
v. Director Urban Estate Haryana, Sector-6, Panchkula.
vi. Project Manager (IT) with a request to update the status on website.

(Sanjay Narang)
District Town Planner (HQ)
For Director, Town & Country Planning
Haryana Chandigarh

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38456 06/12/24
To be read with LOI Memo No.....Dated.....of 2024.

Village	Name of owner	Rect. No.	Killa No.	Area (K-M)
Sidhrawali	Sungold Heights and developers LLP.	78	20/2min	5-4
			21min	6-8
		89	1min	6-8
			10/1min	2-10
			10/2min	3-19
			11/1min	1-12
		76	9/2/1	3-6
		66	22	8-0
		77	2/1	7-6
			9/2	3-18
			Total	48-11 Or 6.06875 Acres

Director
Town & Country Planning
Haryana, Chandigarh

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GRC INDIA TRAINING & ANALYTICAL LABORATORY
(A unit of Grass Roots Research & Creation India (P) Ltd.)
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 (OH&S) Certified
NABL Accredited Laboratory (A Constituent Board of QCI). TC 7501 (Chemical & Biological)
Recognized by Ministry of Environment, Forest & Climate Change (MOEF&CC, GOI)
under the E (P) Act, 1986
Head Office: F-375, Sector-63, Noida, Gautam Budh Nagar, U.P – 201 301
Phone No.: 0120 – 4044630, 4044660, 4323120. Fax: 0120 – 2406519, 0120 - 4044675
Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

ANNEXURE-III

TC-7501

Test Report

Report Code: A20231231-049

Issue Date: 31.12.2023

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 04.12.2023 to 31.12.2023

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Project Site
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/DEC/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); $\mu g/m^3$	Particulate Matter ($PM_{2.5}$); $\mu g/m^3$	Sulphur Dioxide (SO_2); $\mu g/m^3$	Nitrogen Dioxide (NO_2); $\mu g/m^3$	Carbon Monoxide, (CO) $\mu g/m^3$
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	02.12.2023	167.3	83.8	9.3	46.5	910
2	06.12.2023	173.8	91.4	9.7	43.3	1030
3	10.12.2023	178.5	97.6	8.8	48.0	980
4	14.12.2023	168.1	90.7	10.5	41.3	1010
5	18.12.2023	176.7	96.8	9.9	45.6	980
6	21.12.2023	170.5	89.6	10.6	49.0	1030
7	25.12.2023	175.6	96.4	9.8	44.2	980
8	29.12.2023	183.7	91.4	9.0	48.6	930

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC-LAB/QF-039 Rev. 00 Issue Date: 02.07.2018

Note: 1. The results indicated only refer to the tested samples and listed parameters and do not endorse any product.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.
4. The samples received shall be destroyed after 30 days from the date of issue of the report unless specified otherwise and sample for biological testing will be destroyed after 7 days of testing.

GRC INDIA TRAINING & ANALYTICAL LABORATORY
(A unit of Grass Roots Research & Creation India (P) Ltd.)
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 (OH&S) Certified
NABL Accredited Laboratory (A Constituent Board of QCI), TC 7501 (Chemical & Biological)
Recognized by Ministry of Environment, Forest & Climate Change (MOEF&CC, GOI), under the E (P) Act, 1986
Head Office: F-375, Sector-63, Noida, Gautam Budh Nagar, U.P – 201 301
Phone No.: 0120 – 4044630, 4044660, 4323120, Fax: 0120 – 2406519, 0120 - 4044675
Website: https://www.grc-india.com E-mail : lab@grc-india.com; info@grc-india.com

Test Report

Report Code: A20240130-049 **Issue Date: 30.01.2024**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.01.2024 to 30.01.2024

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Project Site
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/JAN/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.01.2024	159.2	83.1	8.6	43.8	830
2	05.01.2024	165.1	79.5	10.9	41.6	880
3	08.01.2024	176.9	95.3	8.6	34.3	910
4	12.01.2024	163.2	79.4	10.1	43.8	1010
5	16.01.2024	168.5	86.9	9.3	36.4	840
6	20.01.2024	173.1	93.3	9.7	30.3	780
7	24.01.2024	158.8	83.2	10.0	33.5	880
8	28.01.2024	162.6	86.3	8.8	32.7	740

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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4. The samples received shall be destroyed after 30 days from the date of issue of the report unless specified otherwise and sample for biological testing will be destroyed after 7 days of testing.

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Phone No.: 0120 - 4044630, 4044660, 4323120, Fax: 0120 - 2406519, 0120 - 4044675
Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

Test Report

Report Code: A20240228-049

Issue Date: 28.02.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.02.2024 to 28.02.2024

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Project Site
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/FEB/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); $\mu g/m^3$	Particulate Matter ($PM_{2.5}$); $\mu g/m^3$	Sulphur Dioxide (SO_2); $\mu g/m^3$	Nitrogen Dioxide (NO_2); $\mu g/m^3$	Carbon Monoxide, (CO) $\mu g/m^3$
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.02.2024	156.8	82.6	9.3	46.1	950
2	05.02.2024	180.7	94.9	9.7	41.5	880
3	09.02.2024	160.4	86.6	11.1	49.7	710
4	13.02.2024	151.5	78.3	10.2	38.1	850
5	17.02.2024	160.9	80.9	9.9	42.3	870
6	20.02.2024	158.7	84.3	10.8	45.9	980
7	23.02.2024	164.3	83.2	10.1	38.4	880
8	26.02.2024	156.9	81.5	9.2	43.2	850

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

Test Report

Report Code: A20231231-050

Issue Date: 31.12.2023

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 04.12.2023 to 31.12.2023

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Bharat Petroleum Petrol Pump, Akerabhiwadi
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/DEC/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	02.12.2023	137.5	72.8	8.5	28.3	630
2	06.12.2023	127.2	66.5	9.6	32.7	700
3	10.12.2023	135.8	70.4	8.2	30.8	730
4	14.12.2023	131.6	67.6	9.2	29.9	600
5	18.12.2023	140.0	73.7	9.4	28.2	660
6	21.12.2023	135.3	70.8	8.8	33.5	710
7	25.12.2023	133.5	69.7	9.5	30.8	830
8	29.12.2023	145.1	73.9	8.9	29.1	810

****End of Report****

Narender Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC LAB/QF-039 Rev. 00 Issue Date: 02/07/2018

Note: 1. The results indicated only refer to the tested samples and listed parameters and do not endorse any product.
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4. The samples received shall be destroyed after 30 days from the date of issue of the report unless specified otherwise and sample for biological testing will be destroyed after 7 days of issuing.

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Website: https://www.grc-india.com E-mail : lab@grc-india.com, info@grc-india.com

Test Report

Report Code: A20240130-050

Issue Date: 30.01.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.01.2024 to 30.01.2024

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Bharat Petroleum Petrol Pump, Akerabhiwadi
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/JAN/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.01.2024	134.7	67.6	8.5	26.3	620
2	05.01.2024	134.3	71.1	9.3	29.6	580
3	08.01.2024	136.4	71.4	9.7	33.7	700
4	12.01.2024	128.8	66.9	8.2	27.5	580
5	16.01.2024	136.2	71.2	9.3	29.6	780
6	20.01.2024	123.9	65.6	8.4	27.1	470
7	24.01.2024	124.9	64.9	8.2	31.9	550
8	28.01.2024	125.4	66.2	9.9	31.4	830

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC-LAB/QF-03

Rev 00

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4. The samples received shall be destroyed after 30 days from the date of issue of the report unless specified otherwise and sample for biological testing will be destroyed after 7 days of testing.

Issue Date: 02.07.2018

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Test Report

Report Code: A20240228-050

Issue Date: 28.02.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.02.2024 to 28.02.2024

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Bharat Petroleum Petrol Pump, Akerabhiwadi
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/FEB/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.02.2024	118.3	59.7	8.3	27.4	800
2	05.02.2024	117.2	61.6	9.1	28.7	640
3	09.02.2024	126.3	67.2	9.3	32.9	800
4	13.02.2024	124.5	65.4	9.8	30.1	810
5	17.02.2024	130.3	67.7	8.9	32.7	640
6	20.02.2024	121.4	62.6	8.6	28.9	810
7	23.02.2024	127.1	65.4	9.7	35.1	750
8	26.02.2024	120.3	64.1	9.2	34.8	790

"End of Report"

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC LAB/QF-016 Rev. 00

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Test Report

Report Code: A20231231-051 **Issue Date: 31.12.2023**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 04.12.2023 to 31.12.2023

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Downtown Palasoli
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/DEC/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	02.12.2023	164.8	72.5	8.6	46.7	750
2	06.12.2023	170.3	80.1	9.3	42.9	780
3	10.12.2023	167.6	84.3	8.4	47.6	750
4	14.12.2023	166.4	80.8	10.1	40.9	810
5	18.12.2023	173.2	85.5	9.5	45.2	730
6	21.12.2023	164.5	78.3	10.2	48.6	780
7	25.12.2023	169.8	85.1	9.4	43.8	710
8	29.12.2023	167.2	84.2	8.6	48.2	680

****End of Report****

Nathulal Sharma
(Scientist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: A20240130-051 **Issue Date: 30.01.2024**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.01.2024 to 30.01.2024

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Downtown Palasoli
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/JAN/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.01.2024	150.9	75.8	8.2	42.6	640
2	05.01.2024	141.7	69.2	10.5	41.2	610
3	08.01.2024	147.4	73.5	8.2	33.9	600
4	12.01.2024	153.7	69.1	9.7	43.4	640
5	16.01.2024	158.9	76.6	8.9	36.0	590
6	20.01.2024	164.4	83.7	9.3	29.9	530
7	24.01.2024	149.3	72.9	9.6	33.8	630
8	28.01.2024	153.1	76.2	8.4	31.6	490

****End of Report****

Narinder Singh
Sr. Scientist
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: A20240228-051 **Issue Date: 28.02.2024**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.02.2024 to 28.02.2024

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Downtown Palasoli
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/FEB/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_x); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.02.2024	145.3	72.3	8.9	45.7	750
2	05.02.2024	150.2	74.8	9.3	41.5	630
3	09.02.2024	156.5	76.3	10.7	48.6	450
4	13.02.2024	138.7	68.0	9.8	37.7	600
5	17.02.2024	141.4	70.4	9.5	41.9	620
6	20.02.2024	148.5	74.0	10.4	45.5	730
7	23.02.2024	154.8	72.4	9.7	38.0	620
8	26.02.2024	147.4	71.2	8.8	42.8	590

"End of Report"

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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3. This certificate shall not be used in any advertising media or as evidence in the court of Law without prior written consent of the laboratory.
4. The samples received shall be destroyed after 30 days from the date of issue of the report, unless specified otherwise and sample for biological testing will be destroyed after 7 days of testing.

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: A20231231-052 **Issue Date: 31.12.2023**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 04.12.2023 to 31.12.2023

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Indraprastha Gas Limited CNG Station, Malpura
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/DEC/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	02.12.2023	165.3	87.9	10.4	47.6	980
2	06.12.2023	181.8	95.5	11.1	44.4	1030
3	10.12.2023	186.5	103.7	10.2	49.1	980
4	14.12.2023	176.1	95.5	11.9	42.4	1030
5	18.12.2023	184.7	100.9	11.3	46.7	980
6	21.12.2023	175.3	93.7	12.7	50.1	1030
7	25.12.2023	180.1	100.5	11.2	45.3	970
8	29.12.2023	184.7	101.6	10.4	49.7	940

****End of Report****

Narinder Singh
(Sc. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

Test Report

Report Code: A20240130-052

Issue Date: 30.01.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.01.2024 to 30.01.2024

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Indraprastha Gas Limited CNG Station, Malpura
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/JAN/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.01.2024	160.1	87.2	9.4	44.1	900
2	05.01.2024	152.2	84.6	12.3	42.7	870
3	08.01.2024	157.9	88.4	10.8	35.4	860
4	12.01.2024	147.2	82.5	11.5	44.9	900
5	16.01.2024	169.5	92.0	10.7	37.5	850
6	20.01.2024	174.1	96.7	11.1	32.4	790
7	24.01.2024	159.8	88.3	11.4	34.6	890
8	28.01.2024	163.6	91.6	10.2	33.1	750

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail: lab@grc-india.com; info@grc-india.com

Test Report

Report Code: A20240228-052 **Issue Date: 28.02.2024**

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.02.2024 to 28.02.2024

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Indraprastha Gas Limited CNG Station, Malpura
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/FEB/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); $\mu g/m^3$	Particulate Matter ($PM_{2.5}$); $\mu g/m^3$	Sulphur Dioxide (SO_2); $\mu g/m^3$	Nitrogen Dioxide (NO_2); $\mu g/m^3$	Carbon Monoxide, (CO) $\mu g/m^3$
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part-10):1999 (RA 2019)
1	01.02.2024	155.8	87.7	10.7	47.2	1010
2	05.02.2024	157.7	88.2	11.1	42.6	880
3	09.02.2024	163.6	90.7	12.5	50.1	760
4	13.02.2024	148.5	83.4	11.6	39.2	860
5	17.02.2024	151.9	85.8	11.3	43.4	880
6	20.02.2024	159.7	89.4	12.2	47.8	1010
7	23.02.2024	165.3	87.8	11.5	39.5	880
8	26.02.2024	157.9	86.6	10.6	44.3	860

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: A20231231-053

Issue Date: 31.12.2023

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 04.12.2023 to 31.12.2023

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Near BMU D Block Crossing
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/DEC/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	02.12.2023	160.8	77.5	10.9	34.8	710
2	06.12.2023	153.4	71.8	9.7	39.2	750
3	10.12.2023	162.1	74.9	10.6	36.3	820
4	14.12.2023	157.8	72.1	11.6	36.4	690
5	18.12.2023	166.2	79.2	11.8	34.7	740
6	21.12.2023	161.5	75.3	11.2	39.6	790
7	25.12.2023	159.7	73.5	9.9	37.3	810
8	29.12.2023	174.3	83.4	11.3	36.2	880

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC/LAB/QF-039 Rev.-09 Issue date: 02.07.2018

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Test Report

Report Code: A20240130-053

Issue Date: 30.01.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.01.2024 to 30.01.2024

Sample Description: Ambient Air

RESULTS

(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Near BMU D Block Crossing
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/JAN/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.01.2024	156.2	71.8	9.9	32.9	730
2	05.01.2024	160.5	75.6	11.7	36.1	690
3	08.01.2024	162.8	75.9	12.1	40.7	680
4	12.01.2024	155.4	71.4	10.6	34.4	740
5	16.01.2024	162.6	75.7	11.7	36.1	840
6	20.01.2024	150.3	70.9	9.8	33.6	790
7	24.01.2024	151.3	69.4	9.6	38.1	700
8	28.01.2024	151.8	70.7	12.3	37.7	710

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC LAB/QF-07f Rev. 00
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TC-7501

Test Report

Report Code: A20240228-053

Issue Date: 28.02.2024

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Analysis Duration: 02.02.2024 to 28.02.2024

Sample Description: Ambient Air

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Location	:	Near BMU D Block Crossing
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	GRC/LAB/STP/AIR/01: 2018
Weather Condition	:	Clear Sky
Sampling Duration	:	24 Hours
Sampling Duration for CO	:	1 Hour
Sampler Location w.r.t. Height	:	4.0 Meter above Ground Level
Sample Packing & Marking	:	Plastic Bottle/ Zip Polybag & SGIL/FEB/A001-A008

S. No.	Date	Test Parameters				
		Particulate Matter (PM_{10}); µg/m³	Particulate Matter ($PM_{2.5}$); µg/m³	Sulphur Dioxide (SO_2); µg/m³	Nitrogen Dioxide (NO_2); µg/m³	Carbon Monoxide, (CO) µg/m³
		IS 5182 (Part 23):2006 (RA 2022)	IS 5182 (Part 24):2019	IS 5182 (Part 2):2001 (RA 2017)	IS 5182 (Part 6):2006 (RA 2022)	IS 5182 (Part 10):1999 (RA 2019)
1	01.02.2024	140.7	64.2	10.7	33.8	880
2	05.02.2024	143.6	66.5	11.5	35.2	730
3	09.02.2024	152.7	71.7	11.7	39.4	930
4	13.02.2024	150.9	69.5	12.2	36.6	940
5	17.02.2024	136.7	72.2	11.3	38.2	730
6	20.02.2024	147.8	67.8	11.0	35.4	700
7	23.02.2024	153.5	72.9	12.1	41.6	710
8	26.02.2024	149.7	68.6	11.6	37.3	680

****End of Report****

Narinder Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: N20231205-049

Issue Date: 05.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana

Data Received on: 05.12.2023

Sample Description: Ambient Noise

RESULTS

Ambient Noise Level

MONITORING DETAILS

Date of Monitoring : 04.12.2023
Monitoring Done by : Mr. Maan Singh
Monitoring Protocol : IS 9989: 1981, RA 2020
Weather Condition : Clear Sky
Monitoring Duration : 24 Hours

S. No.	LOCATION	ZONE	Limit As Per Noise Pollution (Regulation & Control) Rules, 2000 Leq, dB (A)		Observed Value Leq, dB (A)	
			Day Time*	Night Time**	Day Time*	Night Time**
1	Project Site	Commercial Area	65	55	56.8	47.3
2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Commercial Area	65	55	50.5	42.7
3	Downtown Palasoli	Residential Area	55	45	53.2	43.5
4	Indraprastha Gas Limited CNG Station, Malpura	Commercial Area	65	55	63.6	52.9
5	Samrat Hotel,Bilaspur NH-8 Rathiwas Mod	Commercial Area	65	55	60.9	50.5
	* Day Time	6.00 a.m. to 10.00 p.m				
	**Night Time	10.00 p.m. to 6.00 a.m.				

****End of Report****

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Narender Singh
(Sr. Manager)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: S20231221-049 **Issue Date: 21.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Soil Sample

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 20.12.2023

RESULTS
Soil Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Project Site
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: GRC/LAB/STP/SOIL/01; 2018
Weather Condition	: Clear Sky
Sample Quantity	: 5 kg
Sample Packing & Marking	: Zip Polybag; SGIL/DEC /SQ-01

S. No.	Parameters	Units	Results	Test Method
1.	Texture	-	Sandy Loam	GRC-LAB/STP-SOIL/22; 2018
2.	Particle Size Distribution	-		IS 2720 (Part-4): 1985, RA 2020
	Sand	%	63.7	
	Silt	%	16.9	
	Clay	%	19.4	
3.	pH (1:2 Suspension)	-	7.59	IS 2720 (Part-26): 1987, RA 2021
4.	Electrical Conductivity (1:2	µS/cm	447	IS 14767: 2000, RA 2021
5.	Moisture Content	%	6.9	IS 2720 (Part-2): 1973, RA 2020
6.	Cation Exchange Capacity (CEC)	meq/100 gm	13.0	IS 2720 (Part-24): 1976, RA 2020
7.	Available Potassium (as K)	mg/kg	69	GRC-LAB/STP-SOIL/07; 2018
8.	Exchangeable Sodium (as Na)	mg/kg	117	GRC-LAB/STP-SOIL/07; 2018
9.	Exchangeable Calcium (as Ca)	mg/kg	1901	GRC-LAB/STP-SOIL/08; 2018
10.	Exchangeable Magnesium (as Mg)	mg/kg	341	GRC-LAB/STP-SOIL/08; 2018
11.	Sodium Absorption Ratio (SAR)	-	0.65	GRC-LAB/STP-SOIL/19; 2018
12.	Organic Matter	%	0.71	IS 2720 (Part-22): 1972, RA 2020
13.	Total Nitrogen (as N)	mg/kg	40	IS 14684: 1999 RA 2019
14.	Nitrate (as NO_3)	mg/kg	5.7	IS 14684: 1999 RA 2019
15.	Total Phosphate (as PO_4)	mg/kg	6.3	USEPA Method 365.3: 1978
16.	Iron (as Fe)	mg/kg	5.5	USEPA Method 3051-A: 2007
17.	Zinc (as Zn)	mg/kg	2.2	USEPA Method 3051-A: 2007

Narendra Singh 185
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: S20231221-049 **Issue Date: 21.12.2023**

18.	Copper (as Cu)	mg/kg	1.1	USEPA Method 3051-A: 2007
19.	Boron (as B)	mg/kg	1.8	USEPA Method 3051-A: 2007
20.	Manganese (as Mn)	mg/kg	7.6	USEPA Method 3051-A: 2007
21.	Water Holding Capacity	%	25.7	GRC-LAB/STP-SOIL/13; 2020
22.	Permeability	cm/hr	2.3	IS 2720 (Part-17); 1986, RA 2021
23.	Porosity	%	38.7	GRC-LAB/STP-SOIL/20; 2020
24.	Bulk Density	gm/cc	1.31	GRC-LAB/STP-SOIL/12; 2018

****End of Report****

18 6

Narendra Singh
(Sr. Chemist)
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(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com, info@grc-india.com

Test Report

Report Code: S20231221-050 **Issue Date: 21.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Soil Sample

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 20.12.2023

RESULTS
Soil Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Non-Agricultural Land Village Kapriwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: GRC/LAB/STP/SOIL/01: 2018
Weather Condition	: Clear Sky
Sample Quantity	: 5 kg
Sample Packing & Marking	: Zip Polybag; SGIL/DEC /SQ-02

S. No.	Parameters	Units	Results	Test Method
1.	Texture	-	Sandy Loam	GRC-LAB/STP-SOIL/22; 2018
2.	Particle Size Distribution	-		IS 2720 (Part-4): 1985, RA 2020
	Sand	%	65.3	
	Silt	%	17.2	
	Clay	%	17.5	
3.	pH (1:2 Suspension)	-	7.67	IS 2720 (Part-26): 1987, RA 2021
4.	Electrical Conductivity (1:2	µS/cm	443	IS 14767: 2000, RA 2021
5.	Moisture Content	%	6.8	IS 2720 (Part-2): 1973, RA 2020
6.	Cation Exchange Capacity (CEC)	meq/100 gm	13.6	IS 2720 (Part-24): 1976, RA 2020
7.	Available Potassium (as K)	mg/kg	67	GRC-LAB/STP-SOIL/07; 2018
8.	Exchangeable Sodium (as Na)	mg/kg	114	GRC-LAB/STP-SOIL/07; 2018
9.	Exchangeable Calcium (as Ca)	mg/kg	1947	GRC-LAB/STP-SOIL/08; 2018
10.	Exchangeable Magnesium (as Mg)	mg/kg	386	GRC-LAB/STP-SOIL/08; 2018
11.	Sodium Absorption Ratio (SAR)	-	0.62	GRC-LAB/STP-SOIL/19; 2018
12.	Organic Matter	%	0.83	IS 2720 (Part-22): 1972, RA 2020
13.	Total Nitrogen (as N)	mg/kg	42	IS 14684: 1999 RA 2019
14.	Nitrate (as NO_3)	mg/kg	5.3	IS 14684: 1999 RA 2019
15.	Total Phosphate (as PO_4)	mg/kg	6.1	USEPA Method 365.3: 1978
16.	Iron (as Fe)	mg/kg	4.8	USEPA Method 3051-A: 2007
17.	Zinc (as Zn)	mg/kg	2.1	USEPA Method 3051-A: 2007

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Narendra Singh
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Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: S20231221-050 **Issue Date: 21.12.2023**

18.	Copper (as Cu)	mg/kg	1.2	USEPA Method 3051-A: 2007
19.	Boron (as B)	mg/kg	2.3	USEPA Method 3051-A: 2007
20.	Manganese (as Mn)	mg/kg	7.4	USEPA Method 3051-A: 2007
21.	Water Holding Capacity	%	25.3	GRC-LAB/STP-SOIL/13; 2020
22.	Permeability	cm/hr	2.2	IS 2720 (Part-17): 1986, RA 2021
23.	Porosity	%	39.8	GRC-LAB/STP-SOIL/20; 2020
24.	Bulk Density	gm/cc	1.31	GRC-LAB/STP-SOIL/12; 2018

****End of Report****

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GRC-LAB/QF-035

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TC-7501

Test Report

Report Code: S20231221-051 **Issue Date: 21.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Soil Sample

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 20.12.2023

RESULTS
Soil Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Non-Agricultural Land Village Gurjar Ghatal
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: GRC/LAB/STP/SOIL/01; 2018
Weather Condition	: Clear Sky
Sample Quantity	: 5 kg
Sample Packing & Marking	: Zip Polybag; SGIL/DEC /SQ-03

S. No.	Parameters	Units	Results	Test Method
1.	Texture	-	Sandy Loam	GRC-LAB/STP-SOIL/22; 2018
2.	Particle Size Distribution	-		IS 2720 (Part-4): 1985, RA 2020
	Sand	%	67.5	
	Silt	%	15.3	
	Clay	%	17.2	
3.	pH (1:2 Suspension)	-	7.69	IS 2720 (Part-26): 1987, RA 2021
4.	Electrical Conductivity (1:2	µS/cm	441	IS 14767: 2000, RA 2021
5.	Moisture Content	%	6.5	IS 2720 (Part-2): 1973, RA 2020
6.	Cation Exchange Capacity (CEC)	meq/100 gm	13.5	IS 2720 (Part-24): 1976, RA 2020
7.	Available Potassium (as K)	mg/kg	71	GRC-LAB/STP-SOIL/07; 2018
8.	Exchangeable Sodium (as Na)	mg/kg	115	GRC-LAB/STP-SOIL/07; 2018
9.	Exchangeable Calcium (as Ca)	mg/kg	1938	GRC-LAB/STP-SOIL/08; 2018
10.	Exchangeable Magnesium (as Mg)	mg/kg	378	GRC-LAB/STP-SOIL/08; 2018
11.	Sodium Absorption Ratio (SAR)	-	0.62	GRC-LAB/STP-SOIL/19; 2018
12.	Organic Matter	%	0.83	IS 2720 (Part-22): 1972, RA 2020
13.	Total Nitrogen (as N)	mg/kg	38	IS 14684: 1999 RA 2019
14.	Nitrate (as NO_3)	mg/kg	4.9	IS 14684: 1999 RA 2019
15.	Total Phosphate (as PO_4)	mg/kg	5.1	USEPA Method 365.3: 1978
16.	Iron (as Fe)	mg/kg	3.2	USEPA Method 3051-A: 2007
17.	Zinc (as Zn)	mg/kg	2.3	USEPA Method 3051-A: 2007

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GRC-LAB/TF-039 Rev-00

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Test Report

Report Code: S20231221-051 **Issue Date: 21.12.2023**

18.	Copper (as Cu)	mg/kg	1.1	USEPA Method 3051-A: 2007
19.	Boron (as B)	mg/kg	2.2	USEPA Method 3051-A: 2007
20.	Manganese (as Mn)	mg/kg	6.8	USEPA Method 3051-A: 2007
21.	Water Holding Capacity	%	26.4	GRC-LAB/STP-SOIL/13; 2020
22.	Permeability	cm/hr	2.3	IS 2720 (Part-17): 1986, RA 2021
23.	Porosity	%	39.7	GRC-LAB/STP-SOIL/20; 2020
24.	Bulk Density	gm/cc	1.32	GRC-LAB/STP-SOIL/12; 2018

****End of Report****

Narendra Singh
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GRC-LAB/QF-029 Rev. 00

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TC-7501

Test Report

Report Code: S20231221-052

Issue Date: 21.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Soil Sample

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 20.12.2023

RESULTS

Soil Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Agricultural Land Village Sidhrawali
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: GRC/LAB/STP/SOIL/01; 2018
Weather Condition	: Clear Sky
Sample Quantity	: 5 kg
Sample Packing & Marking	: Zip Polybag; SGIL/DEC /SQ-04

S. No.	Parameters	Units	Results	Test Method
1.	Texture	-	Sandy Loam	GRC-LAB/STP-SOIL/22; 2018
2.	Particle Size Distribution	-		IS 2720 (Part-4): 1985, RA 2020
	Sand	%	63.5	
	Silt	%	16.8	
	Clay	%	19.7	
3.	pH (1:2 Suspension)	-	7.78	IS 2720 (Part-26): 1987, RA 2021
4.	Electrical Conductivity (1:2	µS/cm	447	IS 14767: 2000, RA 2021
5.	Moisture Content	%	8.7	IS 2720 (Part-2): 1973, RA 2020
6.	Cation Exchange Capacity (CEC)	meq/100 gm	14.1	IS 2720 (Part-24): 1976, RA 2020
7.	Available Potassium (as K)	mg/kg	87	GRC-LAB/STP-SOIL/07; 2018
8.	Exchangeable Sodium (as Na)	mg/kg	121	GRC-LAB/STP-SOIL/07; 2018
9.	Exchangeable Calcium (as Ca)	mg/kg	2018	GRC-LAB/STP-SOIL/08; 2018
10.	Exchangeable Magnesium (as Mg)	mg/kg	395	GRC-LAB/STP-SOIL/08; 2018
11.	Sodium Absorption Ratio (SAR)	-	0.64	GRC-LAB/STP-SOIL/19; 2018
12.	Organic Matter	%	0.46	IS 2720 (Part-22): 1972, RA 2020
13.	Total Nitrogen (as N)	mg/kg	45	IS 14684: 1999 RA 2019
14.	Nitrate (as NO_3)	mg/kg	6.3	IS 14684: 1999 RA 2019
15.	Total Phosphate (as PO_4)	mg/kg	6.8	USEPA Method 365.3: 1978
16.	Iron (as Fe)	mg/kg	9.7	USEPA Method 3051-A: 2007
17.	Zinc (as Zn)	mg/kg	2.1	USEPA Method 3051-A: 2007

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Narendra Singh
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TC-7501

Test Report

Report Code: S20231221-052 **Issue Date: 21.12.2023**

18.	Copper (as Cu)	mg/kg	1.3	USEPA Method 3051-A: 2007
19.	Boron (as B)	mg/kg	3.1	USEPA Method 3051-A: 2007
20.	Manganese (as Mn)	mg/kg	8.9	USEPA Method 3051-A: 2007
21.	Water Holding Capacity	%	27.1	GRC-LAB/STP-SOIL/13; 2020
22.	Permeability	cm/hr	2.1	IS 2720 (Part-17): 1986, RA 2021
23.	Porosity	%	32.6	GRC-LAB/STP-SOIL/20; 2020
24.	Bulk Density	gm/cc	1.33	GRC-LAB/STP-SOIL/12; 2018

****End of Report****

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TC-7501

Test Report

Report Code: S20231221-053 **Issue Date: 21.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 20.12.2023

Sample Description: Soil Sample

RESULTS

Soil Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Agricultural Land Village Rathiwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: GRC/LAB/STP/SOIL/01; 2018
Weather Condition	: Clear Sky
Sample Quantity	: 5 kg
Sample Packing & Marking	: Zip Polybag; SGIL/DEC /SQ-05

S. No.	Parameters	Units	Results	Test Method
1.	Texture	-	Sandy Loam	GRC-LAB/STP-SOIL/22; 2018
2.	Particle Size Distribution	-		IS 2720 (Part-4): 1985, RA 2020
	Sand	%	63.8	
	Silt	%	16.9	
	Clay	%	19.3	
3.	pH (1:2 Suspension)	-	7.88	IS 2720 (Part-26): 1987, RA 2021
4.	Electrical Conductivity (1:2	µS/cm	437	IS 14767: 2000, RA 2021
5.	Moisture Content	%	8.6	IS 2720 (Part-2): 1973, RA 2020
6.	Cation Exchange Capacity (CEC)	meq/100 gm	14.1	IS 2720 (Part-24): 1976, RA 2020
7.	Available Potassium (as K)	mg/kg	89	GRC-LAB/STP-SOIL/07; 2018
8.	Exchangeable Sodium (as Na)	mg/kg	127	GRC-LAB/STP-SOIL/07; 2018
9.	Exchangeable Calcium (as Ca)	mg/kg	2023	GRC-LAB/STP-SOIL/08; 2018
10.	Exchangeable Magnesium (as Mg)	mg/kg	387	GRC-LAB/STP-SOIL/08; 2018
11.	Sodium Absorption Ratio (SAR)	-	0.68	GRC-LAB/STP-SOIL/19; 2018
12.	Organic Matter	%	0.68	IS 2720 (Part-22): 1972, RA 2020
13.	Total Nitrogen (as N)	mg/kg	44	IS 14684: 1999 RA 2019
14.	Nitrate (as NO_3)	mg/kg	6.7	IS 14684: 1999 RA 2019
15.	Total Phosphate (as PO_4)	mg/kg	6.9	USEPA Method 365.3: 1978
16.	Iron (as Fe)	mg/kg	10.8	USEPA Method 3051-A: 2007
17.	Zinc (as Zn)	mg/kg	2.6	USEPA Method 3051-A: 2007

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GRC-LAB/QF-039

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Test Report

Report Code: S20231221-053 **Issue Date: 21.12.2023**

18.	Copper (as Cu)	mg/kg	1.7	USEPA Method 3051-A: 2007
19.	Boron (as B)	mg/kg	2.8	USEPA Method 3051-A: 2007
20.	Manganese (as Mn)	mg/kg	10.1	USEPA Method 3051-A: 2007
21.	Water Holding Capacity	%	26.7	GRC-LAB/STP-SOIL/13; 2020
22.	Permeability	cm/hr	2.2	IS 2720 (Part-17): 1986, RA 2021
23.	Porosity	%	33.1	GRC-LAB/STP-SOIL/20; 2020
24.	Bulk Density	gm/cc	1.33	GRC-LAB/STP-SOIL/12; 2018

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TC-7501

Test Report

Report Code: GW20231220-049(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Near Project site
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS-17614 (Part-1):2021
Weather Condition	: Clear Sky
Sample Quantity	: 5 L
Sample Packing & Mark	: Plastic Bottle & SGIL/DEC/GW-01

S. No.	Parameters	Units	Limits (as per IS: 10500-2012)		Results	Test Method
			Desirable Limit	Permissible Limit		
1	Color	Hazen	5	15	<5	IS 3025 (Part-4): 2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5): 2018
3	Turbidity	NTU	1	5	<1	IS 3025 (Part-10): 1984, RA 2017
4	pH Value	-	6.5-8.5	No Relaxation	7.88	IS 3025 (Part-11): 2022
5	Total Dissolved Solids	mg/l	500	2000	1420	IS 3025 (Part-16): 2023
6	Total Hardness (as CaCO3)	mg/l	200	600	413	IS 3025 (Part-21): 2009, RA 2019
7	Total Alkalinity (as CaCO3)	mg/l	200	600	426	IS 3025 (Part-23): 1986, RA 2019
8	Chlorides (as Cl)	mg/l	250	1000	343	IS 3025 (Part-32): 1988 , RA 2019
9	Fluoride (as F)	mg/l	1	1.5	0.7	4500F-D, APHA 24th Ed. 2023
10	Calcium (as Ca2+)	mg/l	75	200	100	IS 3025 (Part-40): 1991, RA 2019
11	Magnesium (as Mg2+)	mg/l	30	100	40	IS 3025 (Part-46): 1994, RA 2019
12	Sulphate (as SO4)	mg/l	200	400	160	IS 3025 (Part-24/Sec-1): 2022
13	Nitrate (as NO3)	mg/l	45	No Relaxation	18	IS 3025 (Part-34/Sec-3): 2021
14	Iron (as Fe)	mg/l	1	No Relaxation	0.68	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15	Aluminium (as Al)	mg/l	0.03	0.2	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC-SAR/QF-02/4 Rev. 03

Note: 1. The results indicated only refer to the tested samples and tested parameters and do not endorse any products.
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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

Test Report

Report Code: GW20231220-049(A) **Issue Date: 20.12.2023**

18	Boron (as B)	mg/l	0.5	1	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
19	Zinc (as Zn)	mg/l	5	15	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	IS 3025 (Part-27): 1986, RA 2019
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	IS 3025 (Part-43): 2022
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	IS 3025 (Part-68): 2019
30	Silica (as SiO2)	mg/l	--	--	5.4	4500-SiO2 (C/D), APHA 24th Ed. 2023
31	Phosphate (as PO4)	mg/l	--	--	1.1	4500-P D, APHA 24th Ed. 2023
32	Specific Conductivity	µS/cm	-	-	2130	IS 3025 (Part-14): 2013, RA 2019

** End of Report **

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

TC-7501

Test Report

Report Code: GW20231209-049(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023

Analysis Duration: 05.12.2023 to 08.12.2023

Sample Description: Ground Water

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Near Project Site
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS 1622: 1981, RA 2019
Weather Condition	: Clear Sky
Sample Quantity	: 500 ml
Sample Packing & Mark	: Glass Bottle & SGIL/DEC/GW-01

S. No.	Parameters	Units	Limits (as per IS 10500: 2012)	Results	Test Method
1	Total Coliform	MPN/100ml	shall not be detectable	Not Detected (<2)	IS 1622: 1981, RA 2019
2	E. coli	MPN/100ml	shall not be detectable	Absent (<2)	IS 1622: 1981, RA 2019)

** End of Report **

Ajay Kumar Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: GW20231220-050(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Kapriwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS-17614 (Part-1):2021
Weather Condition	: Clear Sky
Sample Quantity	: 5 L
Sample Packing & Mark	: Plastic Bottle & SGIL/DEC/GW-02

S. No.	Parameters	Units	Limits (as per IS:10500-2012)		Results	Test Method
			Desirable Limit	Permissible Limit		
1	Color	Hazen	5	15	<5	IS 3025 (Part-4): 2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5): 2018
3	Turbidity	NTU	1	5	<1	IS 3025 (Part-10): 1984, RA 2017
4	pH Value	-	6.5-8.5	No Relaxation	7.93	IS 3025 (Part-11): 2022
5	Total Dissolved Solids	mg/l	500	2000	1450	IS 3025 (Part-16): 2023
6	Total Hardness (as CaCO3)	mg/l	200	600	447	IS 3025 (Part-21): 2009, RA 2019
7	Total Alkalinity (as CaCO3)	mg/l	200	600	478	IS 3025 (Part-23): 1986, RA 2019
8	Chlorides (as Cl)	mg/l	250	1000	330	IS 3025 (Part-32): 1988 , RA 2019
9	Fluoride (as F)	mg/l	1	1.5	0.6	4500F-D, APHA 24th Ed. 2023
10	Calcium (as Ca2+)	mg/l	75	200	107	IS 3025 (Part-40): 1991, RA 2019
11	Magnesium (as Mg2+)	mg/l	30	100	43	IS 3025 (Part-46): 1994, RA 2019
12	Sulphate (as SO4)	mg/l	200	400	154	IS 3025 (Part-24/Sec-1): 2022
13	Nitrate (as NO3)	mg/l	45	No Relaxation	20	IS 3025 (Part-34/Sec-3): 2021
14	Iron (as Fe)	mg/l	1	No Relaxation	0.56	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: GW20231220-050(A) **Issue Date: 20.12.2023**

18	Boron (as B)	mg/l	0.5	1	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
19	Zinc (as Zn)	mg/l	5	15	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	IS 3025 (Part-27): 1986, RA 2019
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	IS 3025 (Part-43): 2022
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	IS 3025 (Part-68): 2019
30	Silica (as SiO2)	mg/l	--	--	5.1	4500-SiO2 (C/D), APHA 24th Ed. 2023
31	Phosphate (as PO4)	mg/l	--	--	1.3	4500-P D, APHA 24th Ed. 2023
32	Specific Conductivity	µS/cm	-	-	2470	IS 3025 (Part-14): 2013, RA 2019

** End of Report **

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: GW20231209-050(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023

Analysis Duration: 05.12.2023 to 08.12.2023

Sample Description: Ground Water

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Kapriwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS 1622: 1981, RA 2019
Weather Condition	: Clear Sky
Sample Quantity	: 500 ml
Sample Packing & Mark	: Glass Bottle & SGIL/DEC/GW-02

S. No.	Parameters	Units	Limits (as per IS 10500: 2012)	Results	Test Method
1	Total Coliform	MPN/100ml	shall not be detectable	Not Detected (<2)	IS 1622: 1981, RA 2019
2	E. coli	MPN/100ml	shall not be detectable	Absent (<2)	IS 1622: 1981, RA 2019)

** End of Report **

Ajay Kumar Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

GRC-LAB/QF-039 Rev. 00 Issue Date: 02.07.2018

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TC-7501

Test Report

Report Code: GW20231220-051(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Gurjar Ghatal
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS-17614 (Part-1):2021
Weather Condition	: Clear Sky
Sample Quantity	: 5 L.
Sample Packing & Mark	: Plastic Bottle & SGIL/DEC/GW-03

S. No.	Parameters	Units	Limits (as per IS:10500-2012)		Results	Test Method
			Desirable Limit	Permissible Limit		
1	Color	Hazen	5	15	<5	IS 3025 (Part-4): 2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5): 2018
3	Turbidity	NTU	1	5	<1	IS 3025 (Part-10): 1984, RA 2017
4	pH Value	-	6.5-8.5	No Relaxation	7.89	IS 3025 (Part-11): 2022
5	Total Dissolved Solids	mg/l	500	2000	1440	IS 3025 (Part-16): 2023
6	Total Hardness (as CaCO3)	mg/l	200	600	458	IS 3025 (Part-21): 2009, RA 2019
7	Total Alkalinity (as CaCO3)	mg/l	200	600	487	IS 3025 (Part-23): 1986, RA 2019
8	Chlorides (as Cl)	mg/l	250	1000	335	IS 3025 (Part-32): 1988 , RA 2019
9	Fluoride (as F)	mg/l	1	1.5	0.5	4500F-D, APHA 24th Ed. 2023
10	Calcium (as Ca2+)	mg/l	75	200	110	IS 3025 (Part-40): 1991, RA 2019
11	Magnesium (as Mg2+)	mg/l	30	100	44	IS 3025 (Part-46): 1994, RA 2019
12	Sulphate (as SO4)	mg/l	200	400	136	IS 3025 (Part-24/Sec-1): 2022
13	Nitrate (as NO3)	mg/l	45	No Relaxation	19	IS 3025 (Part-34/Sec-3): 2021
14	Iron (as Fe)	mg/l	1	No Relaxation	0.63	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: GW20231220-051(A) **Issue Date: 20.12.2023**

18	Boron (as B)	mg/l	0.5	1	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
19	Zinc (as Zn)	mg/l	5	15	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	IS 3025 (Part-27): 1986, RA 2019
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	IS 3025 (Part-43): 2022
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	IS 3025 (Part-68): 2019
30	Silica (as SiO2)	mg/l	--	--	5.3	4500-SiO2 (C/D), APHA 24th Ed. 2023
31	Phosphate (as PO4)	mg/l	--	--	1.1	4500-P D, APHA 24th Ed. 2023
32	Specific Conductivity	µS/cm	-	-	2150	IS 3025 (Part-14): 2013, RA 2019

** End of Report **

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: GW20231209-051(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Gurjar Gharal
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS 1622: 1981, RA 2019
Weather Condition	: Clear Sky
Sample Quantity	: 500 ml
Sample Packing & Mark	: Glass Bottle & SGIL/DEC/GW-03

S. No.	Parameters	Units	Limits (as per IS 10500: 2012)	Results	Test Method
1	Total Coliform	MPN/100ml	shall not be detectable	Not Detected (<2)	IS 1622: 1981, RA 2019
2	E. coli	MPN/100ml	shall not be detectable	Absent (<2)	IS 1622: 1981, RA 2019)

** End of Report **

Ajay Kumar Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

GRC-QAB/QF-02A Rev.:06 Issue Date: 02.07.2018

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Website: https://www.grc-india.com E-mail : lab@grc-india.com; info@grc-india.com

TC-7501

Test Report

Report Code: GW20231220-052(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Sidhrawali
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS-17614 (Part-1):2021
Weather Condition	: Clear Sky
Sample Quantity	: 5 L
Sample Packing & Mark	: Plastic Bottle & SGIL/DEC/GW-04

S. No.	Parameters	Units	Limits (as per IS:10500-2012)		Results	Test Method
			Desirable Limit	Permissible Limit		
1	Color	Hazen	5	15	<5	IS 3025 (Part-4): 2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5): 2018
3	Turbidity	NTU	1	5	<1	IS 3025 (Part-10): 1984, RA 2017
4	pH Value	-	6.5-8.5	No Relaxation	7.92	IS 3025 (Part-11): 2022
5	Total Dissolved Solids	mg/l	500	2000	1480	IS 3025 (Part-16): 2023
6	Total Hardness (as CaCO3)	mg/l	200	600	439	IS 3025 (Part-21): 2009, RA 2019
7	Total Alkalinity (as CaCO3)	mg/l	200	600	467	IS 3025 (Part-23): 1986, RA 2019
8	Chlorides (as Cl)	mg/l	250	1000	363	IS 3025 (Part-32): 1988 , RA 2019
9	Fluoride (as F)	mg/l	1	1.5	0.7	4500F-D, APHA 24th Ed. 2023
10	Calcium (as Ca2+)	mg/l	75	200	105	IS 3025 (Part-40): 1991, RA 2019
11	Magnesium (as Mg2+)	mg/l	30	100	42	IS 3025 (Part-46): 1994, RA 2019
12	Sulphate (as SO4)	mg/l	200	400	146	IS 3025 (Part-24/Sec-1): 2022
13	Nitrate (as NO3)	mg/l	45	No Relaxation	21	IS 3025 (Part-34/Sec-3): 2021
14	Iron (as Fe)	mg/l	1	No Relaxation	0.54	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.1	3120-B, APHA 24th Ed. 2023 (ICP-OES)

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

GRC-LAB/QF-039 Rev-00 Issue Date: 12.07.2018

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Test Report

Report Code: GW20231220-052(A) **Issue Date: 20.12.2023**

18	Boron (as B)	mg/l	0.5	1	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
19	Zinc (as Zn)	mg/l	5	15	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	IS 3025 (Part-27): 1986, RA 2019
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	IS 3025 (Part-43): 2022
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	IS 3025 (Part-68): 2019
30	Silica (as SiO2)	mg/l	--	--	4.8	4500-SiO2 (C/D), APHA 24th Ed. 2023
31	Phosphate (as PO4)	mg/l	--	--	1.3	4500-P D, APHA 24th Ed. 2023
32	Specific Conductivity	µS/cm	-	-	2220	IS 3025 (Part-14): 2013, RA 2019

**** End of Report ****

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: GW20231209-052(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023

Analysis Duration: 05.12.2023 to 08.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Sidhrawali
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS 1622: 1981, RA 2019
Weather Condition	: Clear Sky
Sample Quantity	: 500 ml
Sample Packing & Mark	: Glass Bottle & SGIL/DEC/GW-04

S. No.	Parameters	Units	Limits (as per IS 10500: 2012)	Results	Test Method
1	Total Coliform	MPN/100ml	shall not be detectable	Not Detected (<2)	IS 1622: 1981, RA 2019
2	E. coli	MPN/100ml	shall not be detectable	Absent (<2)	IS 1622: 1981, RA 2019)

** End of Report **

Ajay Kumar Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: GW20231220-053(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Rathiwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS-17614 (Part-1):2021
Weather Condition	: Clear Sky
Sample Quantity	: 5 L
Sample Packing & Mark	: Plastic Bottle & SGIL/DEC/GW-05

S. No.	Parameters	Units	Limits (as per IS: 10500-2012)		Results	Test Method
			Desirable Limit	Permissible Limit		
1	Color	Hazen	5	15	<5	IS 3025 (Part-4): 2021
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5): 2018
3	Turbidity	NTU	1	5	<1	IS 3025 (Part-10): 1984, RA 2017
4	pH Value	-	6.5-8.5	No Relaxation	7.89	IS 3025 (Part-11): 2022
5	Total Dissolved Solids	mg/l	500	2000	1580	IS 3025 (Part-16): 2023
6	Total Hardness (as CaCO3)	mg/l	200	600	466	IS 3025 (Part-21): 2009, RA 2019
7	Total Alkalinity (as CaCO3)	mg/l	200	600	487	IS 3025 (Part-23): 1986, RA 2019
8	Chlorides (as Cl)	mg/l	250	1000	378	IS 3025 (Part-32): 1988 , RA 2019
9	Fluoride (as F)	mg/l	1	1.5	0.06	4500F-D, APHA 24th Ed. 2023
10	Calcium (as Ca2+)	mg/l	75	200	112	IS 3025 (Part-40): 1991, RA 2019
11	Magnesium (as Mg2+)	mg/l	30	100	45	IS 3025 (Part-46): 1994, RA 2019
12	Sulphate (as SO4)	mg/l	200	400	170	IS 3025 (Part-24/Sec-1): 2022
13	Nitrate (as NO3)	mg/l	45	No Relaxation	17	IS 3025 (Part-34/Sec-3): 2021
14	Iron (as Fe)	mg/l	1	No Relaxation	0.49	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: GW20231220-053(A) **Issue Date: 20.12.2023**

18	Boron (as B)	mg/l	0.5	1	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
19	Zinc (as Zn)	mg/l	5	15	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
23	Total Chromium (as Cr3+)	mg/l	0.05	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	IS 3025 (Part-27): 1986, RA 2019
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	3120-B, APHA 24th Ed. 2023 (ICP-OES)
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	3120-B, APHA 24th Ed. 2023 (ICP-OES)
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	IS 3025 (Part-43): 2022
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	IS 3025 (Part-68): 2019
30	Silica (as SiO2)	mg/l	--	--	5.7	4500-SiO2 (C/D), APHA 24th Ed. 2023
31	Phosphate (as PO4)	mg/l	--	--	1.2	4500-P D, APHA 24th Ed. 2023
32	Specific Conductivity	µS/cm	-	-	2360	IS 3025 (Part-14): 2013, RA 2019

**** End of Report ****

Rahul Singh (Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Test Report

Report Code: GW20231209-053(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Ground Water

Sample Received on: 04.12.2023

Analysis Duration: 05.12.2023 to 08.12.2023

RESULTS

Water Quality Analysis

SAMPLING DETAILS

Date of Sampling	: 04.12.2023
Sampling Location	: Borewell Village Rathiwas
Sample Collected by	: Mr. Maan Singh
Sampling Protocol	: IS 1622: 1981, RA 2019
Weather Condition	: Clear Sky
Sample Quantity	: 500 ml
Sample Packing & Mark	: Glass Bottle & SGIL/DEC/GW-05

S. No.	Parameters	Units	Limits (as per IS 10500: 2012)	Results	Test Method
1	Total Coliform	MPN/100ml	shall not be detectable	Not Detected (<2)	IS 1622: 1981, RA 2019
2	E. coli	MPN/100ml	shall not be detectable	Absent (<2)	IS 1622: 1981, RA 2019)

**** End of Report ****

Ajay Kumar Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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GRC-LAB/QF-029 Rev. 00 Effective Date: 02.07.2018

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TC-7501

Test Report

Report Code: SW20231220-027(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023

Analysis Duration: 05.12.2023 to 19.12.2023

Sample Description: Surface Water

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Untwan Village Pond
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 17614 (Part-1):2021
Weather Condition	:	Clear Sky
Sample Quantity	:	5 L
Sample Packing & Marking	:	Plastic Bottle & SGIL/DEC /SW-05

S. No.	Parameters	Units	Results	Test Method
1.	Color	Hazen	5	IS 3025 (Part-4): 2021
2.	Turbidity	NTU	23	IS 3025 (Part-5): 2018
3.	Temperature	°C	19.7	IS 3025 (Part-10): 1984, RA 2017
4.	pH Value	-	8	IS 3025 (Part-11): 2022
5.	Dissolved Oxygen	mg/l	5.2	IS 3025 (Part-16): 2023
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	6.8	IS 3025 (Part-21): 2009, RA 2019
7.	Chemical Oxygen Demand	mg/l	22.4	IS 3025 (Part-23): 1986, RA 2019
8.	Total Dissolved Solids	mg/l	720	IS 3025 (Part-32): 1988 , RA 2019
9.	Total Hardness (as $CaCO_3$)	mg/l	240	4500F-D, APHA 24th Ed. 2023
10.	Total Alkalinity (as $CaCO_3$)	mg/l	230	IS 3025 (Part-40): 1991, RA 2019
11.	Chlorides (as Cl)	mg/l	160	IS 3025 (Part-46): 1994, RA 2019
12.	Fluoride (as F^-)	mg/l	0.7	IS 4500F-D, APHA 24th Ed.2023
13.	Calcium (as Ca^{2+})	mg/l	58	IS 3025 (Part-34/Sec-3): 2021
14.	Magnesium (as Mg^{2+})	mg/l	23	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15.	Sodium (as Na^+)	mg/l	169	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16.	Potassium (as K^+)	mg/l	18.6	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17.	Sulphate (as SO_4)	mg/l	106	IS 3025 (Part-24): 1986, RA 2022

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Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231220-027(A) **Issue Date: 20.12.2023**

18.	Total Kjeldahl Nitrogen (as N)	mg/l	2.4	IS 3025 (Part-34/Sec-2): 2021
19.	Free Ammonia (as NH_3)	mg/l	1.3	IS 3025 (Part-34/Sec-2): 2021
20.	Nitrate (as NO_3)	mg/l	13.3	IS 3025 (Part-34/Sec-3): 2021
21.	Silica (as SiO_2)	mg/l	7.5	4500-SiO_2 (C/D), APHA 24rd Ed. 2023
22.	Phosphate (as PO_4)	mg/l	1.6	4500-P D, APHA 24th Ed.2023
23.	Iron (as Fe)	mg/l	0.59	3120-B, APHA 24th Ed.2023 (ICP-OES)
24.	Aluminum (as Al)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
25.	Boron (as B)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
26.	Copper (as Cu)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
27.	Manganese (as Mn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
28.	Zinc (as Zn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
29.	Selenium (as Se)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
30.	Arsenic (as As)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
31.	Cadmium (as Cd)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
33.	Cyanide (as CN)	mg/l	<0.01	IS 3025 (Part-27): 1986, RA 2019
34.	Lead (as Pb)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
35.	Mercury (as Hg)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
36.	Nickel (as Ni)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
37.	Total Suspended Solids	mg/l	40	IS 3025 (Part-17): 1984, RA 2017
38.	Sodium Adsorption Ratio	-	3.2	IS 11624: 2019
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	0.002	IS 3025 (Part-43/Sec-3): 2022
40.	Anionic Detergent (as MBAS)	mg/l	0.03	IS 3025 (Part-68): 2019
41.	Specific Conductivity	µS/cm	1075	IS 3025 (Part-14): 1984, RA 2019

**** End of Report ****

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, **E-mail :** lab@grc-india.com; info@grc-india.com

TC-7501

Test Report

Report Code: SW20231209-027(B) **Issue Date: 09.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

Sample Description: Surface Water

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Untwan Village Pond
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 1622:1981, RA 2019
Weather Condition	:	Clear Sky
Sample Quantity	:	0.5 L
Sample Packing & Marking	:	Glass Bottle & SGIL/DEC /SW-05

S. No.	Parameters	Units	Results	Test Method
1.	Total Coliform Organism	MPN/100ml	840	IS 1622: 1981, RA 2019
2.	Fecal Coliform Organism	MPN/100ml	380	IS 1622: 1981, RA 2019

**** End of Report ****

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Ajay Kr. Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: SW20231220-026(A) **Issue Date: 20.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Sahibi River Downstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 17614 (Part-1):2021
Weather Condition	:	Clear Sky
Sample Quantity	:	5 L
Sample Packing & Marking	:	Plastic Bottle & SGIL/DEC /SW-04

S. No.	Parameters	Units	Results	Test Method
1.	Color	Hazen	8	IS 3025 (Part-4): 2021
2.	Turbidity	NTU	56	IS 3025 (Part-5): 2018
3.	Temperature	°C	19.3	IS 3025 (Part-10): 1984, RA 2017
4.	pH Value	-	8.2	IS 3025 (Part-11): 2022
5.	Dissolved Oxygen	mg/l	1	IS 3025 (Part-16): 2023
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	26.2	IS 3025 (Part-21): 2009, RA 2019
7.	Chemical Oxygen Demand	mg/l	76.4	IS 3025 (Part-23): 1986, RA 2019
8.	Total Dissolved Solids	mg/l	1350	IS 3025 (Part-32): 1988 , RA 2019
9.	Total Hardness (as $CaCO_3$)	mg/l	410	4500F-D, APHA 24th Ed. 2023
10.	Total Alkalinity (as $CaCO_3$)	mg/l	390	IS 3025 (Part-40): 1991, RA 2019
11.	Chlorides (as Cl)	mg/l	320	IS 3025 (Part-46): 1994, RA 2019
12.	Fluoride (as F)	mg/l	0.9	IS 4500F-D, APHA 24th Ed.2023
13.	Calcium (as Ca^{2+})	mg/l	98	IS 3025 (Part-34/Sec-3): 2021
14.	Magnesium (as Mg^{2+})	mg/l	40	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15.	Sodium (as Na^{+})	mg/l	245	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16.	Potassium (as K^{+})	mg/l	28.4	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17.	Sulphate (as SO_4)	mg/l	210	IS 3025 (Part-24): 1986, RA 2022

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Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231220-026(A) **Issue Date: 20.12.2023**

18.	Total Kjeldahl Nitrogen (as N)	mg/l	6.5	IS 3025 (Part-34/Sec-2): 2021
19.	Free Ammonia (as NH_3)	mg/l	2.4	IS 3025 (Part-34/Sec-2): 2021
20.	Nitrate (as NO_3)	mg/l	26	IS 3025 (Part-34/Sec-3): 2021
21.	Silica (as SiO_2)	mg/l	9.3	4500-SiO_2 (C/D), APHA 24th Ed. 2023
22.	Phosphate (as PO_4)	mg/l	3.2	4500-P D, APHA 24th Ed.2023
23.	Iron (as Fe)	mg/l	0.56	3120-B, APHA 24th Ed.2023 (ICP-OES)
24.	Aluminum (as Al)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
25.	Boron (as B)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
26.	Copper (as Cu)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
27.	Manganese (as Mn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
28.	Zinc (as Zn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
29.	Selenium (as Se)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
30.	Arsenic (as As)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
31.	Cadmium (as Cd)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
33.	Cyanide (as CN)	mg/l	<0.01	IS 3025 (Part-27): 1986, RA 2019
34.	Lead (as Pb)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
35.	Mercury (as Hg)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
36.	Nickel (as Ni)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
37.	Total Suspended Solids	mg/l	220	IS 3025 (Part-17): 1984, RA 2017
38.	Sodium Adsorption Ratio	-	4.8	IS 11624: 2019
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	<0.001	IS 3025 (Part-43/Sec-3): 2022
40.	Anionic Detergent (as MBAS)	mg/l	<0.01	IS 3025 (Part-68): 2019
41.	Specific Conductivity	µS/cm	2025	IS 3025 (Part-14): 1984, RA 2019

**** End of Report ****

2 1 4

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: SW20231209-026(B) **Issue Date: 09.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

Sample Description: Surface Water

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Sahibi River Downstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 1622:1981, RA 2019
Weather Condition	:	Clear Sky
Sample Quantity	:	0.5 L
Sample Packing & Marking	:	Glass Bottle & SGIL/DEC /SW-04

S. No.	Parameters	Units	Results	Test Method
1.	Total Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019
2.	Fecal Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019

**** End of Report ****

Ajay Kr. Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231220-025(A) **Issue Date: 20.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Sahibi River Upstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 17614 (Part-1):2021
Weather Condition	:	Clear Sky
Sample Quantity	:	5 L
Sample Packing & Marking	:	Plastic Bottle & SGIL/DEC /SW-03

S. No.	Parameters	Units	Results	Test Method
1.	Color	Hazen	7	IS 3025 (Part-4): 2021
2.	Turbidity	NTU	44	IS 3025 (Part-5): 2018
3.	Temperature	°C	18.7	IS 3025 (Part-10): 1984, RA 2017
4.	pH Value	-	7.43	IS 3025 (Part-11): 2022
5.	Dissolved Oxygen	mg/l	1.2	IS 3025 (Part-16): 2023
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	20.4	IS 3025 (Part-21): 2009, RA 2019
7.	Chemical Oxygen Demand	mg/l	62.4	IS 3025 (Part-23): 1986, RA 2019
8.	Total Dissolved Solids	mg/l	1200	IS 3025 (Part-32): 1988 , RA 2019
9.	Total Hardness (as $CaCO_3$)	mg/l	380	4500F-D, APHA 24th Ed. 2023
10.	Total Alkalinity (as $CaCO_3$)	mg/l	360	IS 3025 (Part-40): 1991, RA 2019
11.	Chlorides (as Cl)	mg/l	280	IS 3025 (Part-46): 1994, RA 2019
12.	Fluoride (as F)	mg/l	0.8	IS 4500F-D, APHA 24th Ed.2023
13.	Calcium (as Ca^{2+})	mg/l	91	IS 3025 (Part-34/Sec-3): 2021
14.	Magnesium (as Mg^{2+})	mg/l	36	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15.	Sodium (as Na^{+})	mg/l	218	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16.	Potassium (as K^{+})	mg/l	25.6	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17.	Sulphate (as SO_4)	mg/l	180	IS 3025 (Part-24): 1986, RA 2022

2lb

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231220-025(A) **Issue Date: 20.12.2023**

18.	Total Kjeldahl Nitrogen (as N)	mg/l	5.2	IS 3025 (Part-34/Sec-2): 2021
19.	Free Ammonia (as NH_3)	mg/l	1.9	IS 3025 (Part-34/Sec-2): 2021
20.	Nitrate (as NO_3)	mg/l	24	IS 3025 (Part-34/Sec-3): 2021
21.	Silica (as SiO_2)	mg/l	9.2	4500-SiO_2 (C/D), APHA 24th Ed. 2023
22.	Phosphate (as PO_4)	mg/l	2.8	4500-P D, APHA 24th Ed.2023
23.	Iron (as Fe)	mg/l	0.53	3120-B, APHA 24th Ed.2023 (ICP-OES)
24.	Aluminum (as Al)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
25.	Boron (as B)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
26.	Copper (as Cu)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
27.	Manganese (as Mn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
28.	Zinc (as Zn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
29.	Selenium (as Se)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
30.	Arsenic (as As)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
31.	Cadmium (as Cd)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
33.	Cyanide (as CN)	mg/l	<0.01	IS 3025 (Part-27): 1986, RA 2019
34.	Lead (as Pb)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
35.	Mercury (as Hg)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
36.	Nickel (as Ni)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
37.	Total Suspended Solids	mg/l	180	IS 3025 (Part-17): 1984, RA 2017
38.	Sodium Adsorption Ratio	-	4.3	IS 11624: 2019
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	<0.001	IS 3025 (Part-43/Sec-3): 2022
40.	Anionic Detergent (as MBAS)	mg/l	<0.01	IS 3025 (Part-68): 2019
41.	Specific Conductivity	µS/cm	1790	IS 3025 (Part-14): 1984, RA 2019

** End of Report **

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Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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—812—

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TC-7501

Test Report

Report Code: SW20231209-025(B) **Issue Date: 09.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Sahibi River Upstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 1622:1981, RA 2019
Weather Condition	:	Clear Sky
Sample Quantity	:	0.5 L
Sample Packing & Marking	:	Glass Bottle & SGIL/DEC /SW-03

S. No.	Parameters	Units	Results	Test Method
1.	Total Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019
2.	Fecal Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019

**** End of Report ****

Ajay Kr. Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231220-024(A)

Issue Date: 20.12.2023

Issued To: Industrial Park Project by M/s Signature Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Indori Nala Downstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 17614 (Part-1):2021
Weather Condition	:	Clear Sky
Sample Quantity	:	5 L
Sample Packing & Marking	:	Plastic Bottle & SGIL/DEC /SW-02

S. No.	Parameters	Units	Results	Test Method
1.	Color	Hazen	7	IS 3025 (Part-4): 2021
2.	Turbidity	NTU	24	IS 3025 (Part-5): 2018
3.	Temperature	°C	19.1	IS 3025 (Part-10): 1984, RA 2017
4.	pH Value	-	7.78	IS 3025 (Part-11): 2022
5.	Dissolved Oxygen	mg/l	3.2	IS 3025 (Part-16): 2023
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	8.6	IS 3025 (Part-21): 2009, RA 2019
7.	Chemical Oxygen Demand	mg/l	24.5	IS 3025 (Part-23): 1986, RA 2019
8.	Total Dissolved Solids	mg/l	950	IS 3025 (Part-32): 1988 , RA 2019
9.	Total Hardness (as $CaCO_3$)	mg/l	370	4500F-D, APHA 24th Ed. 2023
10.	Total Alkalinity (as $CaCO_3$)	mg/l	463	IS 3025 (Part-40): 1991, RA 2019
11.	Chlorides (as Cl)	mg/l	140	IS 3025 (Part-46): 1994, RA 2019
12.	Fluoride (as F)	mg/l	0.7	IS 4500F-D, APHA 24th Ed.2023
13.	Calcium (as Ca^{2+})	mg/l	89	IS 3025 (Part-34/Sec-3): 2021
14.	Magnesium (as Mg^{2+})	mg/l	36	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15.	Sodium (as Na^{+})	mg/l	192	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16.	Potassium (as K^{+})	mg/l	22.5	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17.	Sulphate (as SO_4)	mg/l	113	IS 3025 (Part-24): 1986, RA 2022

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

219

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: SW20231220-024(A) **Issue Date: 20.12.2023**

18.	Total Kjeldahl Nitrogen (as N)	mg/l	4.2	IS 3025 (Part-34/Sec-2): 2021
19.	Free Ammonia (as NH_3)	mg/l	1.6	IS 3025 (Part-34/Sec-2): 2021
20.	Nitrate (as NO_3)	mg/l	12.8	IS 3025 (Part-34/Sec-3): 2021
21.	Silica (as SiO_2)	mg/l	22	4500-SiO_2 (C/D), APHA 24st Ed. 2023
22.	Phosphate (as PO_4)	mg/l	2.2	4500-P D, APHA 24th Ed.2023
23.	Iron (as Fe)	mg/l	0.89	3120-B, APHA 24th Ed.2023 (ICP-OES)
24.	Aluminum (as Al)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
25.	Boron (as B)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
26.	Copper (as Cu)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
27.	Manganese (as Mn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
28.	Zinc (as Zn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
29.	Selenium (as Se)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
30.	Arsenic (as As)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
31.	Cadmium (as Cd)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
33.	Cyanide (as CN)	mg/l	<0.01	IS 3025 (Part-27): 1986, RA 2019
34.	Lead (as Pb)	mg/l	0.07	3120-B, APHA 24th Ed.2023 (ICP-OES)
35.	Mercury (as Hg)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
36.	Nickel (as Ni)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
37.	Total Suspended Solids	mg/l	39.6	IS 3025 (Part-17): 1984, RA 2017
38.	Sodium Adsorption Ratio	-	3.2	IS 11624: 2019
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	0.07	IS 3025 (Part-43/Sec-3): 2022
40.	Anionic Detergent (as MBAS)	mg/l	0.08	IS 3025 (Part-68): 2019
41.	Specific Conductivity	µS/cm	1425	IS 3025 (Part-14): 1984, RA 2019

** End of Report **

220

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: SW20231209-024(B) **Issue Date: 09.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

Sample Description: Surface Water

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Indori Nala Downstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 1622:1981, RA 2019
Weather Condition	:	Clear Sky
Sample Quantity	:	0.5 L
Sample Packing & Marking	:	Glass Bottle & SGIL/DEC /SW-02

S. No.	Parameters	Units	Results	Test Method
1.	Total Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019
2.	Fecal Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019

**** End of Report ****

Ajay Kr. Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com, E-mail : lab@grc-india.com; info@grc-india.com

TC-7501

Test Report

Report Code: SW20231220-023(A) **Issue Date: 20.12.2023**

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 19.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Indori Nala Upstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 17614 (Part-1):2021
Weather Condition	:	Clear Sky
Sample Quantity	:	5 L
Sample Packing & Marking	:	Plastic Bottle & SGIL/DEC /SW-01

S. No.	Parameters	Units	Results	Test Method
1.	Color	Hazen	6	IS 3025 (Part-4): 2021
2.	Turbidity	NTU	18	IS 3025 (Part-5): 2018
3.	Temperature	°C	18.7	IS 3025 (Part-10): 1984, RA 2017
4.	pH Value	-	7.75	IS 3025 (Part-11): 2022
5.	Dissolved Oxygen	mg/l	3.8	IS 3025 (Part-16): 2023
6.	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	8.3	IS 3025 (Part-21): 2009, RA 2019
7.	Chemical Oxygen Demand	mg/l	22.8	IS 3025 (Part-23): 1986, RA 2019
8.	Total Dissolved Solids	mg/l	940	IS 3025 (Part-32): 1988, RA 2019
9.	Total Hardness (as $CaCO_3$)	mg/l	367	4500F-D, APHA 24th Ed. 2023
10.	Total Alkalinity (as $CaCO_3$)	mg/l	460	IS 3025 (Part-40): 1991, RA 2019
11.	Chlorides (as Cl)	mg/l	138	IS 3025 (Part-46): 1994, RA 2019
12.	Fluoride (as F)	mg/l	0.7	IS 4500F-D, APHA 24th Ed.2023
13.	Calcium (as Ca^{2+})	mg/l	88	IS 3025 (Part-34/Sec-3): 2021
14.	Magnesium (as Mg^{2+})	mg/l	35	3120-B, APHA 24th Ed. 2023 (ICP-OES)
15.	Sodium (as Na^{+})	mg/l	190	3120-B, APHA 24th Ed. 2023 (ICP-OES)
16.	Potassium (as K^{+})	mg/l	20.4	3120-B, APHA 24th Ed. 2023 (ICP-OES)
17.	Sulphate (as SO_4)	mg/l	110	IS 3025 (Part-24): 1986, RA 2022

Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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Website: https://www.grc-india.com E-mail : lab@grc-india.com; info@grc-india.com
TC-7501

Test Report

Report Code: SW20231220-023(A) **Issue Date: 20.12.2023**

18.	Total Kjeldahl Nitrogen (as N)	mg/l	3.8	IS 3025 (Part-34/Sec-2): 2021
19.	Free Ammonia (as NH_3)	mg/l	1.3	IS 3025 (Part-34/Sec-2): 2021
20.	Nitrate (as NO_2)	mg/l	12.6	IS 3025 (Part-34/Sec-3): 2021
21.	Silica (as SiO_2)	mg/l	19	4500-SiO_2 (C/D), APHA 24rd Ed. 2023
22.	Phosphate (as PO_4)	mg/l	1.7	4500-P D, APHA 24th Ed.2023
23.	Iron (as Fe)	mg/l	0.87	3120-B, APHA 24th Ed.2023 (ICP-OES)
24.	Aluminum (as Al)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
25.	Boron (as B)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
26.	Copper (as Cu)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
27.	Manganese (as Mn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
28.	Zinc (as Zn)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
29.	Selenium (as Se)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
30.	Arsenic (as As)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
31.	Cadmium (as Cd)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
32.	Total Chromium (as Cr^{3+})	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
33.	Cyanide (as CN)	mg/l	<0.01	IS 3025 (Part-27): 1986, RA 2019
34.	Lead (as Pb)	mg/l	0.06	3120-B, APHA 24th Ed.2023 (ICP-OES)
35.	Mercury (as Hg)	mg/l	<0.001	3120-B, APHA 24th Ed.2023 (ICP-OES)
36.	Nickel (as Ni)	mg/l	<0.01	3120-B, APHA 24th Ed.2023 (ICP-OES)
37.	Total Suspended Solids	mg/l	38.2	IS 3025 (Part-17): 1984, RA 2017
38.	Sodium Adsorption Ratio	-	3.1	IS 11624: 2019
39.	Phenolic Compounds (as C_6H_5OH)	mg/l	0.06	IS 3025 (Part-43/Sec-3): 2022
40.	Anionic Detergent (as MBAS)	mg/l	0.07	IS 3025 (Part-68): 2019
41.	Specific Conductivity	µS/cm	1410	IS 3025 (Part-14): 1984, RA 2019

** End of Report **

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Rahul Singh
(Sr. Chemist)
Authorized Signatory
(Seal & Signature)

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TC-7501

Test Report

Report Code: SW20231209-023(B)

Issue Date: 09.12.2023

Issued To: Industrial Park Project by M/s Signature, Global (India) Ltd. at Village-Shidrawali, Distt. Gurugram, Haryana.

Sample Description: Surface Water

Sample Received on: 04.12.2023
Analysis Duration: 05.12.2023 to 08.12.2023

RESULTS
(Water Quality Analysis)

SAMPLING DETAILS

Date of Sampling	:	04.12.2023
Sampling Location	:	Indori Nala Upstream
Sample Collected by	:	Mr. Maan Singh
Sampling Protocol	:	IS 1622:1981, RA 2019
Weather Condition	:	Clear Sky
Sample Quantity	:	0.5 L
Sample Packing & Marking	:	Glass Bottle & SGIL/DEC /SW-01

S. No.	Parameters	Units	Results	Test Method
1.	Total Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019
2.	Fecal Coliform Organism	MPN/100ml	1600	IS 1622: 1981, RA 2019

**** End of Report ****

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Ajay Kr. Sharma
(Quality Manager)
Authorized Signatory
(Seal & Signature)

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ANNEXURE-IV

भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL® OF INDIA
Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Grass Roots Research & Creation India (P) Ltd, Noida

F- 375, Sec – 63, Noida – 201301

*The organization is accredited as **Category-A** under the QCI-NABET **Scheme for Accreditation of EIA Consultant Organization, Version 3**: for preparing EIA/EMP reports in the following Sectors-*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals including opencast / underground mining	1	1 (a) (i)	A
2.	River Valley projects	3	1 (c)	A
3.	Thermal power plants	4	1 (d)	A
4.	Coal Washeries	6	2(a)	A
5.	Mineral beneficiation	7	2 (b)	A
6.	Metallurgical industries	8	3 (a)	A
7.	Cement Plants	9	3(b)	A
8.	Coke oven plants	11	4 (b)	A
9.	Asbestos milling and asbestos based products	12	4 (c)	A
10.	Synthetic organic chemicals industry	21	5 (f)	A
11.	Distilleries	22	5 (g)	A
12.	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7(c)	A
13.	Bio-medical waste treatment facilities	32A	7 (da)	B
14.	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
15.	Common Municipal Solid Waste Management Facility	37	7 (i)	B
16.	Building and construction projects	38	8 (a)	B
17.	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated October 15, 2024 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/24/3406 dated November 11, 2024. The accreditation needs to be renewed before the expiry date by Grass Roots Research & Creation India (P) Ltd. Noida following due process of assessment.

Issue Date
November 11, 2024

Valid up to
August 16, 2027

Dr. Ajay Kumar Jha
(Sr. Director, NABET)

Certificate No.
NABET/EIA/24-27/RA 0354

825

Varinder Kanwar

Prof (Dr) Varinder S Kanwar
(CEO NABET)

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

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ANNEXURE-V

Wildlife Conservation Plan for Schedule-I Species Recorded in the Buffer Zone (10 Km Radius)

w.r.t.

Industrial Plotted Colony Project

Located at

Village -Shidrawali, Tehsil-Manesar
District-Gurugram, Haryana

Project Proponent:
M/s Signatureglobal India Limited
13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, New Delhi- 110001

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1.0 Introduction

M/s Signatureglobal India Limited, is promoted by a group of experienced businessmen and has its registered office at 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, New Delhi-110001.

M/s Signatureglobal India Limited aims to develop Industrial Plotted Colony Project. We will propose Category B industries.

The Project site is located at Village- Shidrawali, Tehsil-Manesar, District- Gurugram, Haryana on a land measuring 54.92 ha or 5,49,258.716 m²

The company has vast experience in planning and construction of Industrial Parks. The project facilities include:

- Industrial Plotted Development
- Residential Plotted Development
- Community facilities
- Commercial facilities

The project will provide direct or indirect employment opportunities for a large section of society.
Employment will have positive impact thereby improving the standard of living.

Wildlife Conservation in Haryana

Although Haryana State is deficient in natural forests but it has rich bio-diversity, which makes it suitable for variety of wildlife particularly local and migratory bird species. Out of nearly 1250 bird species recorded in Indian subcontinent; approximately 500 species of birds are found in Haryana State. Wildlife is best preserved in their natural habitat. Wildlife wing of the forest department has adopted two pronged strategy for the Wildlife Conservation: protection and awareness generation. The department is giving emphasis on habitat protection as well as protection against poaching. The aim of wildlife conservation is being achieved through in-situ and ex-situ conservation strategies. For in-situ conservation of wildlife inside their natural habitat, 2 National Parks, 8 Wildlife Sanctuaries and 2 Conservation Reserves have been established in the state. As part of ex-situ conservation efforts breeding of Red Jungle Fowl is being done near Pinjore. Red Jungle Fowl in Shiwaliks of Haryana, is considered to be of pure breed, which is also verified by Center for DNA/Fingerprinting and Diagonostic (CDFD), Hyderabad. With the Gyps Vulture species on the brink of extinction, the department has established Vulture Conservation and Breeding Centre near Pinjore in collaboration with Royal Society for Protection of Birds (RSPB),

Zoogical Society of London (ZSL) United Kingdom and Bombay Natural History Society (BNHS). The department has established deer park at Hisar and mini zoos at Bhiwani, Rohtak and Pipli to create awareness about wildlife conservation. A Peacock & Chinkara Conservation and Breeding Centre has been established at Jhabua Reserve Forest in Rewari district. Brief Description of the Study Area

The proposed site has good connectivity with the rail and road.

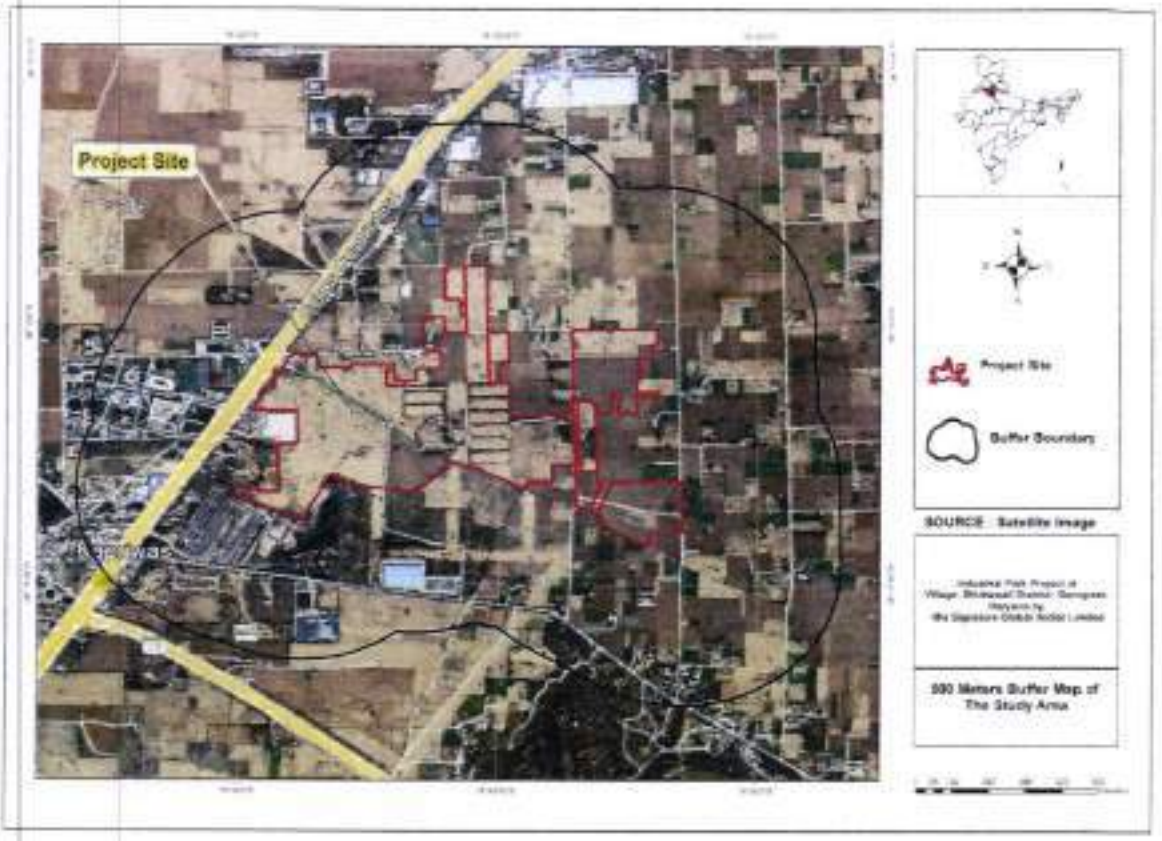


Figure 1: 500 Meter Radius Map

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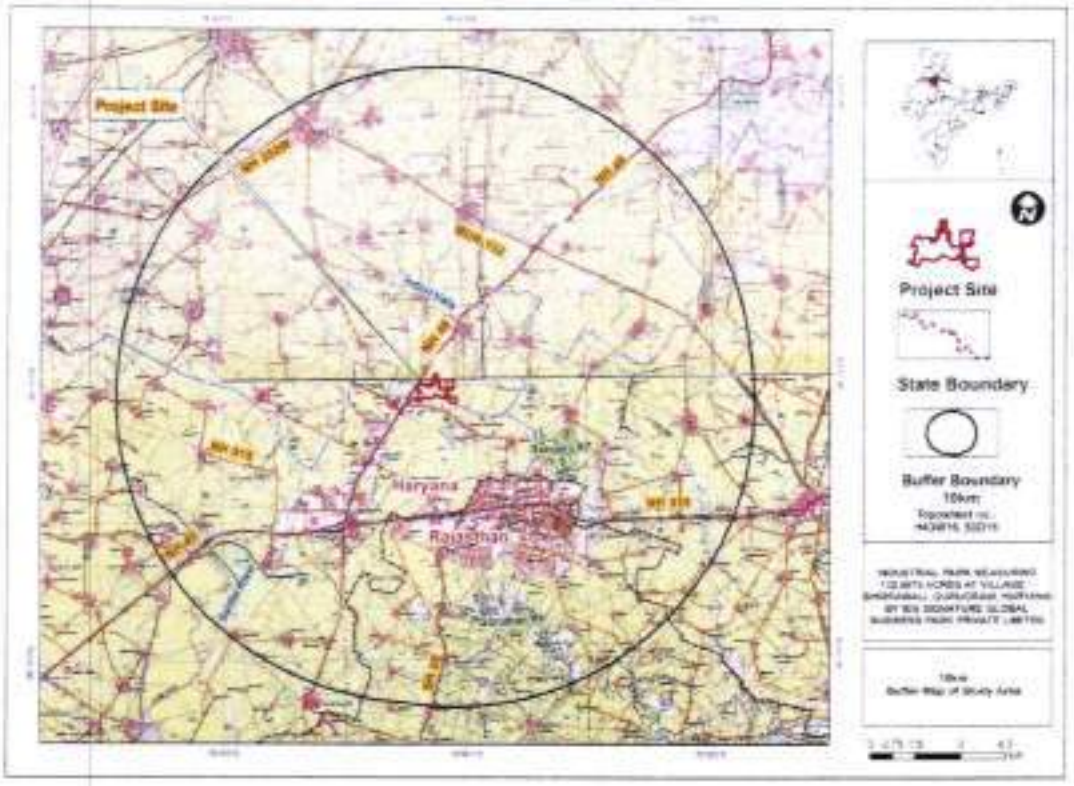


Figure-2: Study Area Map



Figure-3: Eco-Sensitive Map – 15 km

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Land Form, Land Use & Land Ownership.

Total land area of the project is 53.81 ha. The permitted landuse of site is industrial.

Table 1.1: List of the Water bodies present in Study Zone:

Location	Direction	Distance km
Sahibi River	SW	8.6
Indori Nala	N	1.8

Table 1.2: List of ESZ/ Forests (RF/PF) present in Study Zone:

Location	Direction	Distance km
Rangala RF	SE	3.8
Chaupanki RF	SE	12
Gondhan PF	SE	6.8
Khori Kalan PF	SE	13.3

"No national park/Wildlife sanctuary present within the 10 km radius of the project site".

Table: 1.3 Land Use/ Land Cover Analysis of 10 km radius

LU Class	Area (Ha)
Settlement	11100.24
Industry	906.60
Wetland	134.19
River	35.78
Agricultural Land	22185.39
Open Scrub	709.23
Forest	510.00
Total	35581.43

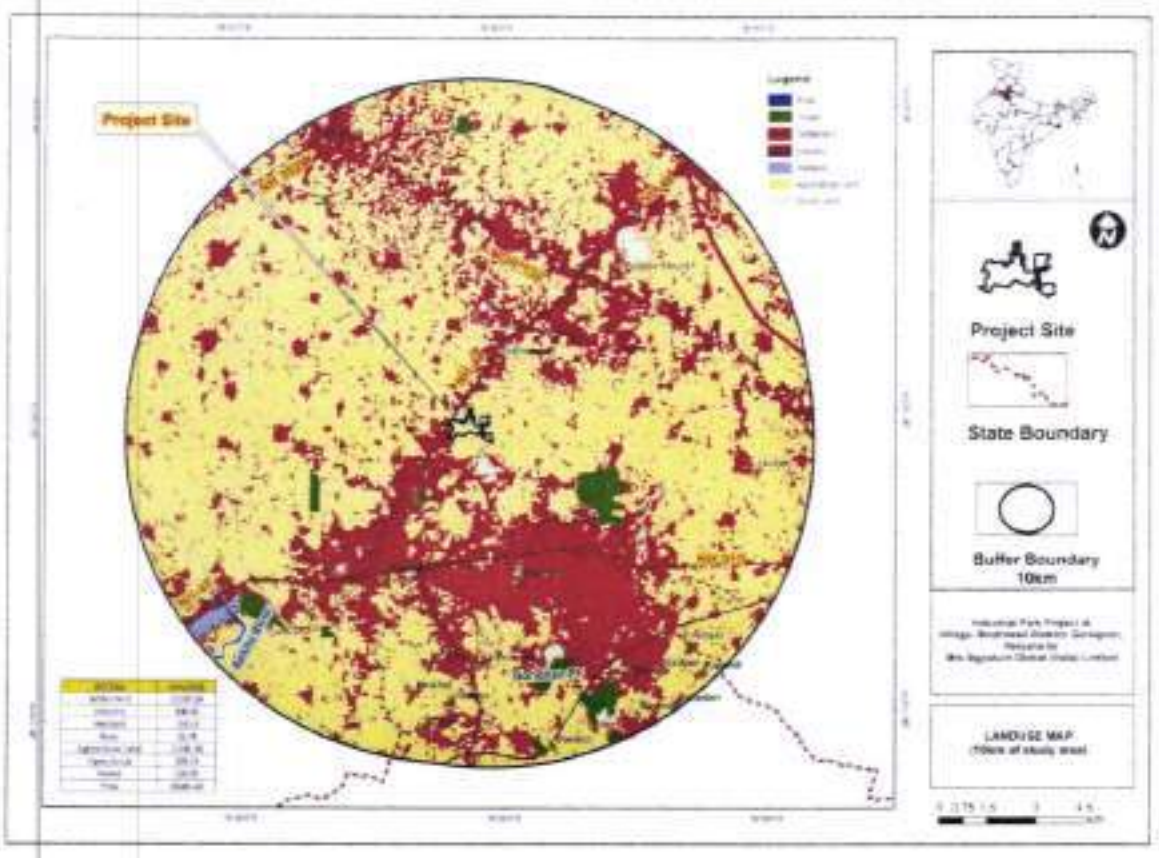


Figure: 4 Land Use Map

Climate, Rainfall and Temperature

There is a meteorological observatory in Gurugram. Temperatures begin to increase rapidly from about the beginning of March. June is usually the hottest month with the mean daily maximum temperature at 44.9°C & 21.6°C minimum during December. The heat in May and the early part of June till the onset of monsoon is tiring. The onset of monsoon by about mid-June brings some relief as the temperature decreases appreciably. The temperature begins to decrease rapidly after October. December and January are generally the coldest months. The district is sometimes affected by cold waves in association with passing western disturbances across north India and then the minimum temperature drops down to 2.4°C.

The relative humidity (RH) data at Gurugram IMD Station shows highest during January month (82% at 8:30 hr) and lowest during May month (28 % at 17.30 hr).

Geomorphology:

District Gurugram is located 30 km south of National Capital New Delhi, about 10 Kilometers from Dwarka sub-city and 268 Km south of Chandigarh, the State Capital. Over the past 25 years the city has undergone rapid development and construction. The District is one of Delhi's major satellite cities and is part of the National Capital Region. It is within commuting distance

of Delhi via an expressway and Delhi Metro. The District is the second largest city in the Indian State of Haryana and is the industrial and financial centre of Haryana. It has the 3rd highest per capita income in India after Chandigarh and Mumbai. It is also the only Indian city to have successfully distributed electricity connections to all its households. It is also the IT hub & center of various BPO companies.

The District has been in existence since the times of Mahabharta. It is said that Yudhishter, the eldest brother among the pandavas, gave the village to his guru, Dronacharya, whose tank still exists on the west side of the Railway Road. Actual village "GURUGRAM" is about 1.5 Km. away from Gurugram town, where the temple of SHEETLA MATA, attracts devotees in large numbers on every Monday and Tuesday.

Gurugram District has witnessed a phenomenal growth in all spheres of developments, particularly in industry and urbanization. Today, it has become a hub of multinational companies, industries giants, call centres, software companies, shopping malls and skyscrapers. Gurugram is strategically located with its boundaries touching Rajasthan, Uttar Pradesh and Delhi. Its excellent connectivity with other state via Delhi- Jaipur-Ahmedabad broad gauge rail link and NH-8, brings thousands of people to Gurugram for the purpose of work, travel and entertainment. Infact with the collaboration of Suzuki Motors of Japan and Maruti Udyog Limited in early eighties, a new area of rapid industrialization of Gurugram started as a result of which the District came on the international map. Maruti Suzuki in India's largest passenger car company. The automobile industry of Gurugram is producing passenger cars, motor cycles, scooters and its components. The Gurugram- Manesar- Bawal belt has emerged as the auto hub of the country, thereby offering ample opportunities to the entrepreneurs. There are many prominent and prestigious units involved in the manufacturing of telecommunication equipments, electical goods, sports goods, rubber products readymade garments and in software development. Other industries include light engineering goods, pharmaceuticals, agro based and foods processing, leather, terry towels, air conditioners, shoes, pesticidies, insecticides, etc. The main industries in these fields are Cosco. Enkay Rubber, Perfetti, Haldiram, HFCL, Martin Haris, TERI, Ranbaxy Laboratories etc. With its rapid development, Gurugram has emerged as an important District in Haryana and has done the State proud with its achievements.

Ecological Profile of the Study Area

Near the villages, the vegetation pattern has abruptly changed from that what it is seen in the forest areas. The species commonly found are *Acacia nilotica, Albizia procera, Prosopis juliflora, Cordia dichotoma, Azadirachta indica, Cassia fistula, Ficus religiosa,* etc. The shrubs and undergrowth are characterized by *Prosopis juliflora , Musa sapientum, Cassia tora, Hibiscus rosa sinensis,* etc.

The conservation plan is recommended for species protected under schedule-I of Indian Wildlife Protection Act and green belt should be maintained.

3-tier greenbelt is proposed along the plant periphery.

Table 1.4: Schedule I Species found in the Buffer Zone

S. No.	English Name	Scientific Name	Schedule Status (WPA-1972)
Birds			
1	Peafowl	*Pavo cristatus*	I

Conservation Plan of Schedule I Species

Biological profile of study area revealed the presence of 1 schedules-I species which are listed in Table 2.1.

Biological importance of all these species along with their conservation and management planand environmental mitigation are as follows:

1. ***Pavo cristatus*** **(Peafowl)**



i. **Classification**

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Galliformes
Family	Phasianidae
Genus	*Pavo*
Species	*cristatus*

ii. **Distribution:** The Indian peafowl is a resident breeder across the Indian subcontinent and is found in the drier lowland areas of Sri Lanka It is found in moist and dry-deciduous forests, but can adapt to live in cultivated regions and around human habitations and is usually found where water is available.

Breeding Season: Mostly breed in rainy season from April to August

Threats: There is no major or direct threat to the peafowl in India. These species are

commonly found in the field of central India. These species are facing problems due to low presence of tree species with short height and wide canopy.

Conservation Status: Peafowl is the National Bird of India. In India it is notified under the Sch-I of WPA, 1972 which protects these birds from killing and illegal trade. Now this bird is considered flourishing well.

References:

- BirdLife International (2012). *Pavo cristatus*.
- IUCN Red List of Threatened Species. Version (2013). International Union for Conservation of Nature.
- Petrie M, Krupa A, Burke T (1999). Peacocks lek with relatives even in the absence of social and environmental cues. *Nature*. 401 (6749): 155–157. Bibcode, Natur.401.155P. doi:10.1038/43651.
- *Pavo cristatus*, ADW. https://animaldiversity.org/accounts/
- Indian Peafowl, Red List. https://www.iucnredlist.org/species/22679435/92814454.

Action Plan for Conservation Measures

Indian Peafowl (*Pavo cristatus*) is the only Sch-I species reported from the study area. Habitat loss, illegal hunting and less awareness towards the conservation and importance of the endangered species are some common threats to such avian species. The peafowl is the natural bird of India and is commonly found in the central India plans. There is no direct threat to the peafowl in India other than the decreasing habitats.

A. Few recommendations of the preventive nature are given below to reduce the risk and threats due to the project activities and to enhance its protection;

- Peafowl can maintain their population in agricultural fields with presence of gardens and orchards. Therefore, Development of tree groves in surrounding villages along with barren lands or degraded forest patches in the buffer zone improved with plantation work to develop such tree groves. Local species of trees and shrubs are recommended for this purpose. These small green patches provide shelter and habitat for all kind of wild birds, reptiles, amphibians, butterflies and mammals. This will provide the improved shelter, availability of prey and breeding opportunities to the Peafowl.
- Some small water pits should be dug and kept filled by tankers and also with rain water harvesting. This will provide the water for drinking to the all kinds of birds and animals. Moreover, the ponds in the study area must be cleaned, repaired and filled.
- Celebration of 'Wildlife Week', 'Van Mahotsav' and 'Environment Day' etc. must be popularized and organized with various public participation activities.
- Awareness program among the local people to make them understand the importance of wildlife and not to perform any poaching or killing of animals. People must be educated to protect plants and animals. Villagers must be aware of the endangered species.

B. Followings are some suggestions on the Preventive measures along the Mining Activities

- Development of Green Belt along the boundary of the project as well as along the road sides of the project area. This will minimize the impact of noise and dust if any being

produced. Plantation is perfect solution to minimize the erosion and improves the macroclimate as well as provides the habitation for wild fauna.

- The project area shall be strictly used for only the activities permitted. The workers must be instructed to not to enter in the adjoining forest. Project Proponent must instruct all the workers not to harm or kill any animal, and also they must not cut trees for their various needs.
- Project proponent must instruct all the workers to not to harm or kill any animal, and also they must not cut trees for their need.
- People must be educated and aware that speed of the vehicles must be in limit to avoid accidents/ killing while passing such roads where wild animals usually cross sides.
- The people living in the surrounding area and employee of the company should be motivated towards the protection of the animals. The concerned authorities must be informed immediately if any illegal poaching, illegal trade or human- wild life conflict in the area is noticed.

Project activity must not be carried out in night time as animals are sensitive to noise and they also disturbed by lights. Measures for the dust and noise suppression should also be practiced to avoid any disturbance to the wild life.

Tentative Budget for Wildlife Conservation Plan of Schedule-I Species

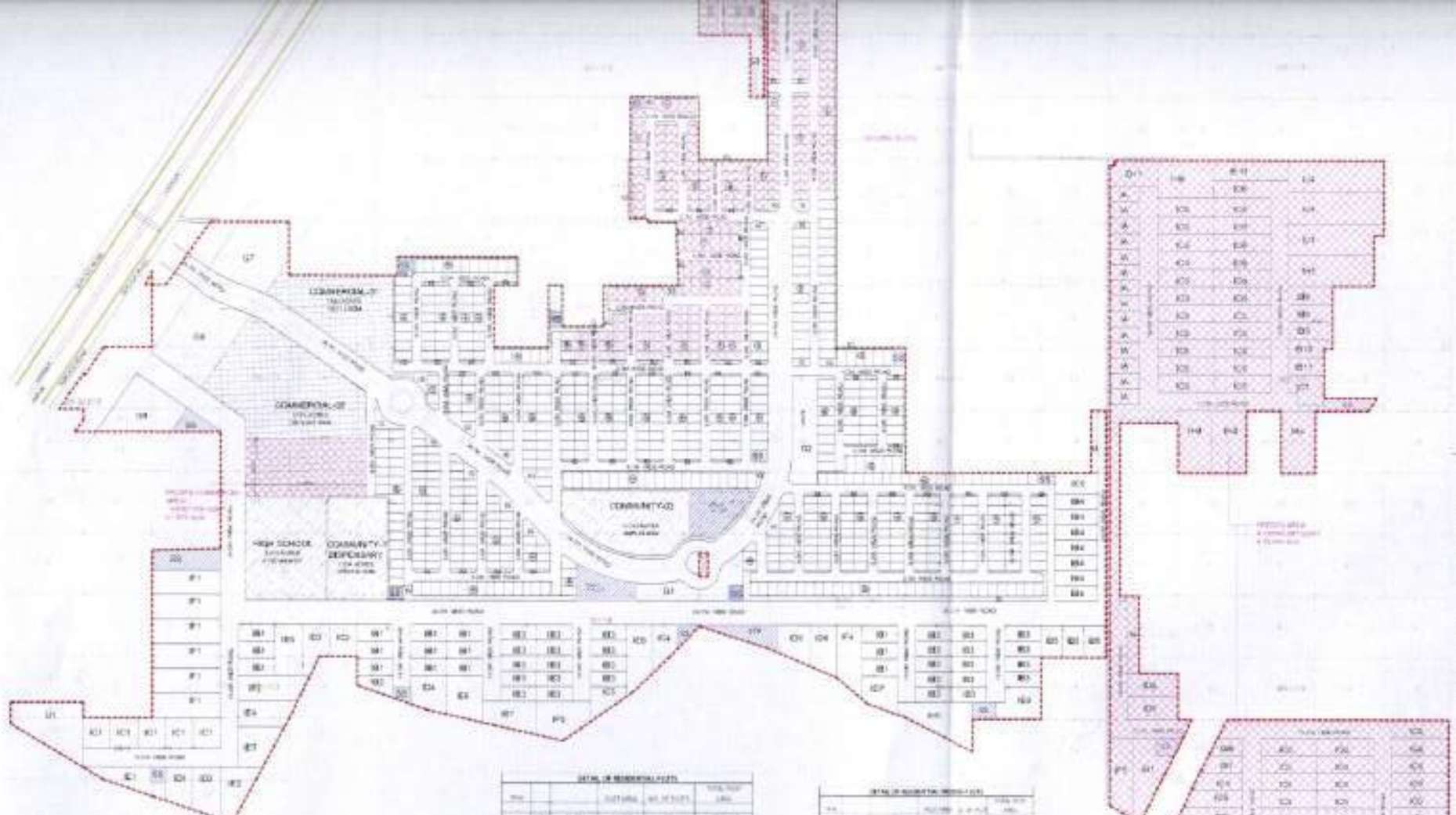
As detailed above, there are 1 Schedule-I species in the buffer area. Following Conservation plan is proposed with a budget of INR 3.5 Lakhs.

Table 1.5: Expenditure for Conservation Plan to be Implemented in Three Years

S. No.	Proposed Conservation Activity	Capital Cost (INR Lakhs)
1	Construction of Water Holes/Khelis in the surrounding buffer area and their regular filling with water.	0.5
2	Habitat improvement activities and food availability for reptiles like development of grassland/ pasture land in surrounding buffer area, creation of bushy structures for black partridges; development of suitable roosting, creation of tree grooves at suitable places in buffer areas, development of some den like structures for big cats.	0.5
3	Development of tree grooves in the nearby areas.	0.5
4	Plantation of native plant species in the buffer areas.	0.5
5	Establishment of trained Primary response team (village level) for proper rescue of injured wild animals in distress to avoid man-animal conflict and provision for training of rescue teams.	0.5

6	Providing funds for District Forest Department for awareness generation of local people, labour, different age group students, distribution of posters, pamphlets, fixing signages and organizing awareness camps.	0.5
7	Distribution of Artificial Wooden Nest for Birds.	0.5
	TOTAL	**3.5**

Proposed year wise funds allocation			
Years	**1st (2025-26)**	**2nd (2026-27)**	**3rd (2027-28)**
Amount in INR Lakhs	1.16	1.16	1.18



OWNER :

M/S SIGNATURE GLOBAL
BUSINESS PARK PRIVATE LIMITED

PROJECT :

PROPOSED LAYOUT FOR I
MEASURING 132.9875 ACRE
SHIDRAWALI, GURUGRAM

DRAWING TITLE :

LAYOUT PLAN

1098

23

1099

—832—

ANNEXURE-VII

प्रभागीय वन अधिकारी द्वारा स्पष्टीकरण पत्र
Clarification letter by
Concerned Divisional Forest Officer
हरियाणा सरकार / Government of Haryana

हरियाणा भू-परिक्षण अधिनियम, 1900 (1900 का पंजाब का अधिनियम II) अथवा वन अथवा प्रतिबंधित भूमि से संबंध मे निरापेक्ष प्रमाण पत्र।
NOC in respect of Haryana Land and Preservation Act, 1900 (Punjab Act. II of 1900) or Forest or Restricted lands.

नाम Name	संजय कुमार वरष्नेय Sanjay Kumar Varshney
संगठन का नाम Organisation Name	Signatureglobal (india) Limited
वर्तमान पता Current Address	Sidhrawali,Gurgaon,Haryana
भूमि स्थान Land Location	Sidhrawali,Gurgaon,Sidhrawali
भूमि मापन Land Measurements	135.0125 (Acre)
आयत नम्बर / मुरबा नम्बर Rectangle No./ Murba No.	56//15(8-0),57//11(8-0),12/1(0-2),65//21/2(7-19),22(8-0),23(8-0),24(8-0),66//1(8-0),10(8-0),11(8-0),20(8-0),21(8-0),67//5(7-4),6(7-12),15/3(1-12),17(8-0),23/3(0-4),24/1(7-18),25(8-0),74//15/3/2/2(0-16),16/2/2/1/2(0-2),75//1/2/2/2/2(0-2),2/2/2/2(3-11),3(7-11),4/3(1-4),5/3(2-3),6(8-0),7/1(2-18),7/2(5-2),8/1(3-2),8/2(4-18),9(8-0),11/2/2(7-9),12/1(2-9),12/2(5-11),13(8-0),14(8-0),15(8-0),16(8-0),17(8-0),18(8-0),19/1(2-18),20/1(2-18),23(8-0),24(8-0),25(8-0),76//1/4(3-11),2/2(1-5),4/2(2-10),5/1(6-0),5/2(2-0),6(8-0),7(8-0),8/1(3-4),8/3(1-12),9/1(1-12),10(8-0),11(8-0),12(8-0),13(8-0),14(8-0),15(8-0),16(8-0),17(8-0),18(8-0),19(8-0),20(8-0),21/1(2-4),21/2(5-16),22(8-0),23(8-0),24(8-0),25/1/1(3-16),25/1/2(0-4),25/2(4-0),77//1(8-0),10(8-0),11(8-0),12(8-0),19(8-0),20(8-0),21(8-0),22(8-0),23(8-0),24(8-0),25(7-12),89//11/2(6-0),16(7-12),17(8-0),18(8-0),19/3(4-3),19/1(0-7),20/1(7-9),21/1(2-14),21/3(0-5),22/2(7-8),23(8-0),24(8-0),25(7-11),90//1(8-0),2(8-0),3(8-0),4(8-0),5(7-12),6/1(4-4),6/2(3-8),7(8-0),8(8-0),9/1(1-7),9/3(5-3),9/2(0-4),9/4(1-6),10(8-16),12(5-2),13(10-0),14(8-0),91//1(8-0),2(8-0),3(8-0),4(8-0),5/2(7-12),6(5-9),7(7-2),8(8-0),9(8-0),10(8-0),11(7-18),12(9-18),13(8-15),92//2/2(5-18),3/1(5-8),3/2(2-0),3/3(0-12),4(8-0),5(8-0),6(8-0),7(8-0),8/1(3-8),8/2(4-12),9/1(0-8),9/2(7-12),12/1(7-12),12/2(0-8),13(8-0),14/1(1-14),15(5-7),18(6-0),19/1(4-16),19/2(3-4),20/1(7-10),22(4-15),98//2(5-17),3(8-0),4(8-0),5(7-12),6(7-12),7(8-16),8(3-13),15(6-2),78//1(8-0),2(8-0),3(8-0),4/1(7-0),6/3(0-2),7/2(2-0),8(8-0),9(8-0),10(8-0),11(8-0),12(8-0),13(8-0),14/1/1(2-3),18/1(4-0),19(8-0),20/1(1-11),93//15/3(2-0),16/1(3-1),20/2min(1-5),21min(1-12),89//1min(1-12),10/1min(0-12),10/2min(0-19),11/1min(0-8),77//16min(1-5)

Reference No. (SRN):- HUQ-DTC-CHXW
जारी करने की तिथि / Date of Issuance: 29-02-2024
जारी करने का स्थान / Place of Issuance: Gurgaon
जारी करने वाला प्राधिकरण / Issuing Authority: Divisional Forest Officer

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प्रभागीय वन अधिकारी द्वारा स्पष्टीकरण पत्र
Clarification letter by
Concerned Divisional Forest Officer
हरियाणा सरकार / Government of Haryana

हरियाणा भू-परिक्षण अधिनियम,1900 (1900 का पंजाब का अधिनियम II) अथवा वन अथवा प्रतिबंधित भूमि से संबंध मे निरक्षेप प्रमाण पत्र।
NOC in respect of Haryana Land and Preservation Act, 1900 (Punjab Act, II of 1900) or Forest or Restricted lands.

किला नम्बर Killa Number	56//15(8-0),57//11(8-0),12/1(0-2),65//21/2(7-19),22(8-0),23(8-0),24(8-0),66//1(8-0),10(8-0),11(8-0),20(8-0),21(8-0),67//5(7-4),6(7-12),15/3(1-12),17(8-0),23/3(0-4),24/1(7-18),25(8-0),74//15/3/2/2(0-16),16/2/2/1/2(0-2),75//1/2/2/2/2(0-2),2/2/2/2(3-11),3(7-11),4/3(1-4),5/3(2-3),6(8-0),7/1(2-18),7/2(5-2),8/1(3-2),8/2(4-18),9(8-0),11/2/2(7-9),12/1(2-9),12/2(5-11),13(8-0),14(8-0),15(8-0),16(8-0),17(8-0),18(8-0),19/1(2-18),20/1(2-18),23(8-0),24(8-0),25(8-0),76//1/4(3-11),2/2(1-5),4/2(2-10),5/1(6-0),5/2(2-0),6(8-0),7(8-0),8/1(3-4),8/3(1-12),9/1(1-12),10(8-0),11(8-0),12(8-0),13(8-0),14(8-0),15(8-0),16(8-0),17(8-0),18(8-0),19(8-0),20(8-0),21/1(2-4),21/2(5-16),22(8-0),23(8-0),24(8-0),25/1/1(3-16),25/1/2(0-4),25/2(4-0),77//1(8-0),10(8-0),11(8-0),12(8-0),19(8-0),20(8-0),21(8-0),22(8-0),23(8-0),24(8-0),25(7-12),89//11/2(6-0),16(7-12),17(8-0),18(8-0),19/3(4-3),19/1(0-7),20/1(7-9),21/1(2-14),21/3(0-5),22/2(7-8),23(8-0),24(8-0),25(7-11),90//1(8-0),2(8-0),3(8-0),4(8-0),5(7-12),6/1(4-4),6/2(3-8),7(8-0),8(8-0),9/1(1-7),9/3(5-3),9/2(0-4),9/4(1-6),10(8-16),12(5-2),13(10-0),14(8-0),91//1(8-0),2(8-0),3(8-0),4(8-0),5/2(7-12),6(5-9),7(7-2),8(8-0),9(8-0),10(8-0),11(7-18),12(9-18),13(8-15),92//2/2(5-18),3/1(5-8),3/2(2-0),3/3(0-12),4(8-0),5(8-0),6(8-0),7(8-0),8/1(3-8),8/2(4-12),9/1(0-8),9/2(7-12),12/1(7-12),12/2(0-8),13(8-0),14/1(1-14),15(5-7),18(6-0),19/1(4-16),19/2(3-4),20/1(7-10),22(4-15),98//2(5-17),3(8-0),4(8-0),5(7-12),6(7-12),7(8-16),8(3-13),15(6-2),78//1(8-0),2(8-0),3(8-0),4/1(7-0),6/3(0-2),7/2(2-0),8(8-0),9(8-0),10(8-0),11(8-0),12(8-0),13(8-0),14/1/1(2-3),18/1(4-0),19(8-0),20/1(1-11),93//15/3(2-0),16/1(3-1),20/2min(1-5),21min(1-12),89//1min(1-12),10/1min(0-12),10/2min(0-19),11/1min(0-8),77//16min(1-5)
प्रयोजन Purpose	Residential And Commercial Project

जारी करने की तिथि / Date of Issuance: 29-02-2024
जारी करने का स्थान / Place of Issuance: Gurgaon
जारी करने वाला प्राधिकरण / Issuing Authority: Divisional Forest Officer

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प्रभागीय वन अधिकारी द्वारा स्पष्टीकरण पत्र
Clarification letter by
Concerned Divisional Forest Officer
हरियाणा सरकार / Government of Haryana

हरियाणा भू-परिरक्षण अधिनियम,1900 (1900 का पंजाब का अधिनियम II) अथवा वन अथवा प्रतिबंधित भूमि से संबंध में निरापेक्ष प्रमाण पत्र।
NOC in respect of Haryana Land and Preservation Act, 1900 (Punjab Act, II of 1900) or Forest or Restricted lands.

Applicant Sanjay Kumar Varshney located at village /city Sidhrawali district Gurgaon made a proposal to use this land for Residential And Commercial Project. It is hereby clear that:

a) As per records available above said land is not part of notified Reserved Forest, Protected Forest under Indian Forest Act, 1927 or any area closed under section 4 of Punjab Land Preservation Act, 1900.

b) It is clarified that by the Notification No. S.O.8/P.A 2/1900/S. 4/2013 dated 4th January, 2013, all Revenue Estate of Gurgaon is notified u/s 4 of PLPA 1900 and S.O.81/PA.2/1900/S.3/2012 u/s 3 of PLPA 1900. The area is however not recorded as forest in the Government record but felling of any tree is strictly prohibited without the permission of Divisional Forest Officer, Gurgaon.

c) If approach is required from Protected Forest by the user agency, the clearance/ regularization under Forest Conservation Act 1980 will be required. Without prior clearance from Forest Department, the use of Forest land for approach road is strictly prohibited. M/s Signatureglobal (india) Limited whose land is located at village/city, Sidhrawali District Gurgaon must obtain clearance as applicable under Forest Conservation Act 1980.

d) As per the records available with the Forest Department, Gurgaon the area does not fall in areas where plantations were raised by the Forest Department under Aravalli project.

e) All other statutory clearances mandated under the Environment Protection Act, 1986, as per the notification of Ministry of Environment and Forests, Government of India, dated 07-05-1992 or any other Act/ order shall be obtained as applicable by the project proponents from the concerned authorities.

f) The project proponent will not violate any Judicial Order/ direction issued by the Hon'ble Supreme Court/ High Courts.

g) It is clarified that the Hon'ble Supreme Court has issued various judgments dated 07.05.2002, 29.10.2002, 16.12.2002, 18.03.2004, 14.05.2008 etc. pertaining to Aravalli region in Haryana, which should be complied with.

h) It shall be the responsibility of user agency/ applicant to get necessary clearances/ permissions under various Acts and Rules applicable if any, from the respective authorities/ Department.

i) This certificate is not applicable in case of Environment Department notification dated 10.03.2016 for Screening Plant, and notification dated 11.05.2016 for Stone Crusher. Investor/Applicant has to take clearance from Environment Department in case of Screening Plant and Stone Crusher.

It is subject to the following conditions:

1. Clarification Is Hereby Issued Subject To The Conditions Mentioned Above.

Date: 29-02-2024
Place: Gurgaon

Rajeev Tejyan,
(Divisional Forest Officer)

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ANENXURE-VIII

प्रेषक,

उपायुक्त, गुरूग्राम।

सेवा मे,

M/s SIGNATUREGLOBAL (INDIA) LIMITED,
[formerly known as signature global (India) Private Limited].,
Ground Floor, Tower-A, Signature Tower,
South City-I, Gurugram.

क्रमांक 74 /एम0बी0 दिनांक 3/5/2024

विषयः— **NOC for Aravalli Project Plantation 1992 for setting up of Industrial Plotted Colony at Village Sidhrawali, Tehsil Manesar, District Gurugram, Haryana (regarding report of Tehsildar and DFO, Gurugram)..**

उपरोक्त विषय के संदर्भ में।

विषयाधीन मामले में उक्त के सम्बन्ध में तहसीलदार, मानेसर व उप वन सरक्षक, गुरूग्राम से रिपोर्ट प्राप्त की गई जो निम्न प्रकार है:—

तहसीलदार, मानेसर ने अपने कार्यालय के पत्र क्रमांक 343/ओ0के0 दिनांक 09.05.2024 के द्वारा रिपोर्ट इस कार्यालय मे प्रेषित की है जिसमें लिखा है कि रिपोर्ट पटवारी हल्का अनुसार मौजा सिधरावली, तहसील मानेसर जिला गुरूग्राम हरियाणा की प्रस्तावित भूमि का राजस्व रिकोर्ड का अवलोकन करने उपरान्त मांगी गई रिपोर्ट बिन्दूवार निम्न है:—

1. प्रार्थना पत्र में वर्णित मु0/कीला नं0 56//15(8-0), 57//11(8-0), 12/1(0-2), 65//21/2(7-19), 22(8-0), 23(8-0), 24(8-0), 66//1(8-0), 10(8-0), 11(8-0), 20(8-0), 21(8-0), 67//5(7-4), 6(7-12), 15/3(1-12), 17(8-0), 23/3(0-4), 24/1(7-18), 25(8-0), 74//15/3/2/2(0-16), 16/2/2/1/2(0-2), 75//1/2/2/2/2(0-2), 2/2/2/2(3-11), 3(7-11), 4/3(1-4), 5/3(2-3), 6(8-0), 7/1(2-18), 7/2(5-2), 8/1(3-2), 8/2(4-18), 9(8-0), 11/2/2(7-9), 12/1(2-9), 12/2(5-11), 13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0), 18(8-0), 19/1(2-18), 20/1(2-18), 23(8-0), 24(8-0), 25(8-0), 76//1/4(3-11), 2/2(1-5), 4/2(2-10), 5/1(6-0), 5/2(2-0), 6(8-0), 7(8-0), 8/1/1(2-5), 8/3/2(0-13), 9/1/2(0-4), 10(8-0), 11(8-0), 12(8-0), 13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0), 18(8-0), 19(8-0), 20(8-0), 21/1(2-4), 21/2(5-16), 22(8-0), 23(8-0), 24(8-0), 25/1/1(3-16), 25/1/2(0-4), 25/2(4-0), 77//1(8-0), 10(8-0), 11(8-0), 12(8-0), 19(8-0), 20(8-0), 21(8-0), 22(8-0), 23(8-0), 24(8-0), 25(7-12), 89//11/2(6-0), 16(7-12), 17(8-0), 18(8-0), 19/3(4-3), 19/1(0-7), 20/1(7-9), 21/1(2-14), 21/3(0-5), 22/2(7-8), 23(8-0), 24(8-0), 25(7-11), 90//1(8-0), 2(8-0), 3(3-0), 4(8-0), 5(7-12), 6/1(4-4), 6/2(3-8), 7(8-0), 8(8-0), 9/1(1-7), 9/3(5-3), 9/2(0-4), 9/4(1-6), 10(8-16), 12(5-2), 13(10-0), 14(8-0), 91//1(8-0), 2(8-0), 3(8-0), 4(8-0), 5/2(7-12), 6(5-9), 7(7-2), 8(8-0), 9(8-0), 10(8-0), 11(7-18), 12(9-18), 13(8-15), 92//2/2(5-18), 3/1(5-8), 3/2(2-0), 3/3(0-12), 4(8-0), 5(8-0), 6(8-0), 7(8-0), 8/1(3-8), 8/2(4-12), 9/1(0-8), 9/2(7-12), 12/1(7-12), 12/2(0-8), 13(8-0), 14/1(1-14), 15(5-7), 18(6-0), 19/1(4-16), 19/2(3-4), 20/1(7-10), 22(4-15), 98//2(5-17), 3(8-0), 4(8-0), 5(7-12), 6(7-12), 7(8-16), 8(3-13), 15(6-2), 78//1(8-0), 2(8-0), 3(8-0), 4/1(7-0), 6/3(0-2), 7/2(2-0), 8(8-0), 9(8-0), 10(8-0), 11(8-0), 12(8-0), 13(8-0), 14/1/1(2-3), 18/1(0-4), 19(8-12), 20/1(1-11), 93//15/3(0-2), 16/1(3-1), 77//16(7-13), 89//1(8-0), 10/1(3-2), 10/2(4-18), 11/1(2-0) कीता 182 रकबा 1079 कनाल 6 मरला मौजा सिधरावली तहसील मानेसर जिला गुरूग्राम दिनांक 07.05.1992 के नोटिफिकेशन अनुसार अरावली क्षेत्र मे नही है।
2. अराजी मुतनाजा भूमि दिनांक 07.05.1992 के नोटिफिकेशन से पूर्व तथा पश्चात मिसल हकीयत/चकबन्दी तक किस्म गैर मुमकीन पहाड, गैर मु0 राडा गैर मु0 बीहड/बंजर बीहड व रूद्र नही रही है।

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3. अराजी मुतनाजा भूमि दिनांक 07.05.1992 के नोटिफिकेशन से पूर्व किस्म चाही तथा नोटिफिकेशन के पश्चात किस्म चाही/गैर मु0/ब.क. है।
4. अराजी मुतनाजा भूमि पर मिसल हकीयत/चकबन्दी ताहाल कभी भी शामलात देह/पंचायत देह/नगर पालिका व नगर निगम की मलकियत नहीं रही है।
5. अराजी मुतनाजा भूमि पर किसी माननीय न्यायालय में केस का कोई इन्द्राज जमाबन्दी के खाना कैफियत में दर्ज नहीं है।
6. अराजी मुतनाजा भूमि SEZ(Special Econimical Zone) में नहीं है।
7. अराजी मुतनाजा भूमि मु0/कीला नं0 89//19मिन(3–10), 20मिन(0–11), 21मिन(2–12), 22मिन, पर बरूवे रपट नं0 285/02.01.2017 अनुसार अवार्ड हो चुका है व बरूवे रपट नं0 351/04.02.2006 के अनुसार मु0/किला नं0 75//9मिन पर धारा 3ए हो चुकी है व बरूवे रपट नं0 390/29.03.2004 के अनुसार 89//1, 10/1, 10/2, 11/1 आड रहन है।
8. अराजी मुतनाजा भूमि मु0/किला नं0 89//1(8–0), 10/1(3–2), 10/2(4–18), 11/1(2–0), किता 4 रकबा 18 कनाल 0 मरला में मै0 सनगोल्ड हाईटस एण्ड डेवलपर्स एल.एल.पी 2/5 भाग की मालिक व मु0/किला नं0 77/18(7–13), में मै0 सनगोल्ड हाईटस एण्ड डेवलपर्स एल.एल.पी 1/6 भाग की मालिक है व मु0/किला नं0 76//9/2/1(3–6), 8/3/2(0–13) किता 2 रकबा 3 कनाल 19 मरला में मै0 सनगोल्ड हाईटस एण्ड डेवलपर्स एल.एल.पी मालिक है। व मु0/कीला नं0 76//8/1/1(2–5), 9/1/2(0–12), में मै0 सनगोल्ड हाईटस एण्ड डेवलपर्स एल.एल.पी मालिक है व बाकी शेष बचे नबरान में मै0 सनगोल्ड हाईटस एण्ड डेवलपर्स एल.एल.पी मालिक है।

उप वन संरक्षक, गुरुग्राम ने अपने कार्यालय के पत्र क्रमांक 409-G दिनांक 17.05.2024 के द्वारा अवगत कराया है कि उनके कार्यालय द्वारा दिनांक 29.02.2024 (M/s Signatureglobal (India) Ltd.) को गांव सिधरावली, जिला गुरूग्राम के 135.0125 एकड क्षेत्र की फॉरेस्ट क्लेरिफिकेशन ऑनलाईन जारी की जा चुकी है। जिसकी छाया प्रति इस कार्यालय में प्रेषित की है जिसमें लिखा है कि Applicant Mr. Sanjay Kumar Varshney, M/s SIGNATUREGLOBAL (INDIA) LIMITED [formerly known as signature global (India) Private Limited]., having Rectangle No./Murba No./Killa No. 56//15(8-0), 57//11(8-0), 12/1(0-2), 65//21/2(7-19), 22(8-0), 23(8-0), 24(8-0), 66//1(8-0), 10(8-0), 11(8-0), 20(8-0), 21(8-0), 67//5(7-4), 6(7-12), 15/3(1-12), 17(8-0), 23/3(0-4), 24/1(7-18), 25(8-0), 74//15/3/2/2(0-16), 16/2/2/1/2(0-2), 75//1/2/2/2/2(0-2), 2/2/2/2(3-11), 3(7-11), 4/3(1-4), 5/3(2-3), 6(8-0), 7/1(2-18), 7/2(5-2), 8/1(3-2), 8/2(4-18), 9(8-0), 11/2/2(7-9), 12/1(2-9), 12/2(5-11), 13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0), 18(8-0), 19/1(2-18), 20/1(2-18), 23(8-0), 24(8-0), 25(8-0), 76//1/4(3-11), 2/2(1-5), 4/2(2-10), 5/1(6-0), 5/2(2-0), 6(8-0), 7(8-0), 8/1(3-4), 8/3(1-12), 9/1(1-12), 10(8-0), 11(8-0), 12(8-0), 13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0), 18(8-0), 19(8-0), 20(8-0), 21/1(2-4), 21/2(5-16), 22(8-0), 23(8-0), 24(8-0), 25/1/1(3-16), 25/1/2(0-4), 25/2(4-0), 77//1(8-0), 10(8-0), 11(8-0), 12(8-0), 19(8-0), 20(8-0), 21(8-0), 22(8-0), 23(8-0), 24(8-0), 25(7-12), 89//11/2(6-0), 16(7-12), 17(8-0), 18(8-0), 19/3(4-3), 19/1(0-7), 20/1(7-9), 21/1(2-14), 21/3(0-5), 22/2(7-8), 23(8-0), 24(8-0), 25(7-11), 90//1(8-0), 2(8-0), 3(8-0), 4(8-0), 5(7-12), 6/1(4-4), 6/2(3-8), 7(8-0), 8(8-0), 9/1(1-7), 9/3(5-3), 9/2(0-4), 9/4(1-6), 10(8-16), 12(5-2), 13(10-0), 14(8-0), 91//1(8-0), 2(8-0), 3(8-0), 4(8-0), 5/2(7-12), 6(5-9), 7(7-2), 8(8-0), 9(8-0), 10(8-0), 11(7-18), 12(9-18), 13(8-15), 92//2/2(5-18), 3/1(5-8), 3/2(2-0), 3/3(0-12), 4(8-0), 5(8-0), 6(8-0), 7(8-0), 8/1(3-8), 8/2(4-12), 9/1(0-8), 9/2(7-12), 12/1(7-12), 12/2(0-8), 13(8-0), 14/1(1-14), 15(5-7), 18(6-0), 19/1(4-16), 19/2(3-4), 20/1(7-10), 22(4-15), 98//2(5-17), 3(8-0), 4(8-0), 5(7-12), 6(7-12), 7(8-16), 8(3-13), 15(6-2), 78//1(8-0), 2(8-0), 3(8-0), 4/1(7-0), 6/3(0-2), 7/2(2-0), 8(8-0), 9(8-0), 10(8-0), 11(8-0), 12(8-0), 13(8-0), 14/1/1(2-3), 18/1(4-0), 19(8-0), 20/1(1-11), 93//15/3(2-0), 16/1(3-1), 20/2min(1-5), 21min(1-12), 89//1min(1-12), 10/1min(0-12), 10/2min(0-19), 11/1min(0-8), 77//16min(1-5) Land Measurement 135.0125 (Acre) Land Location

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Village Sidhrawali, District Gurugram made a proposal to use this land for Residential And Commercial Project. It is made clear that:-

A) As per records available above said land is not part of notified Reserved Forest, protected Forest under Indian Forest Act, 1927 or any area closed under section 4 of Punjab Land Preservation Act 1900.

B) It is clarified that by the Notification No. S.O 8/P.A 2/1990/S. 4/2013 dated 04-01-13 of Revenue Estate of Gurugram is notified u/s 4 of PLPA 1900 and S.O 83/PA.2/1900/S.3/2012 u/s 3 of PLPA 1900. The area is however not recorded as Forest in the Government record but felling of any tree is strictly prohibited without the permission of Divisional Forest officer, Gurugram.

C) If approach is required from Protected Forest by the user agency, the clearance/ regularization under Forest Conservation Act 1980 will be required. Without prior clearance from Forest Department, the use of Forest land for approach road is strictly prohibited. **M/s SIGNATUREGLOBAL (INDIA) LIMITED**, whose land is located at **Village/City Sidhrawali, District Gurugram** must obtain clearance as applicable under Forest Conservation Act, 1980.

D) As per the records available with the Forest Department Gurugram the area does not fall in areas where plantations were raised by the Forest Department under Aravali project.

E) All other statutory clearances mandated under the Environment protection Act. 1986, as per the notification of Ministry of Environment and Forest, Government of India dated 07-05-1992 or any other Act/Order shall be obtained as applicable by the project proponents from the concerned authorities.

F) The project proponent will not violate any Judicial Order/Direction issued by the Hon'ble Supreme Court/High Courts.

G) It is clarified that the Hon'ble Supreme Court has issued various judgments dated 07-05-2002, 29-10-2002, 16-12-2002, 18-03-2004, 14-05-2008 etc. pertaining to Aravali region in Haryana, which should be complied with.

H) It shall be the responsibility of user agency/applicant to get necessary clearances/ permissions under various Acts and Rules applicable if any, from the respective authorities/department.

I) This certificate is not applicable in case of Environment Department notification dated 10.03.2016 for Screening Plant, and notification dated 11.05.2016 for Stone Crusher. Investor/Applicant has to take clearance from Environment Department in case of Screening Plant and Stone Crusher.

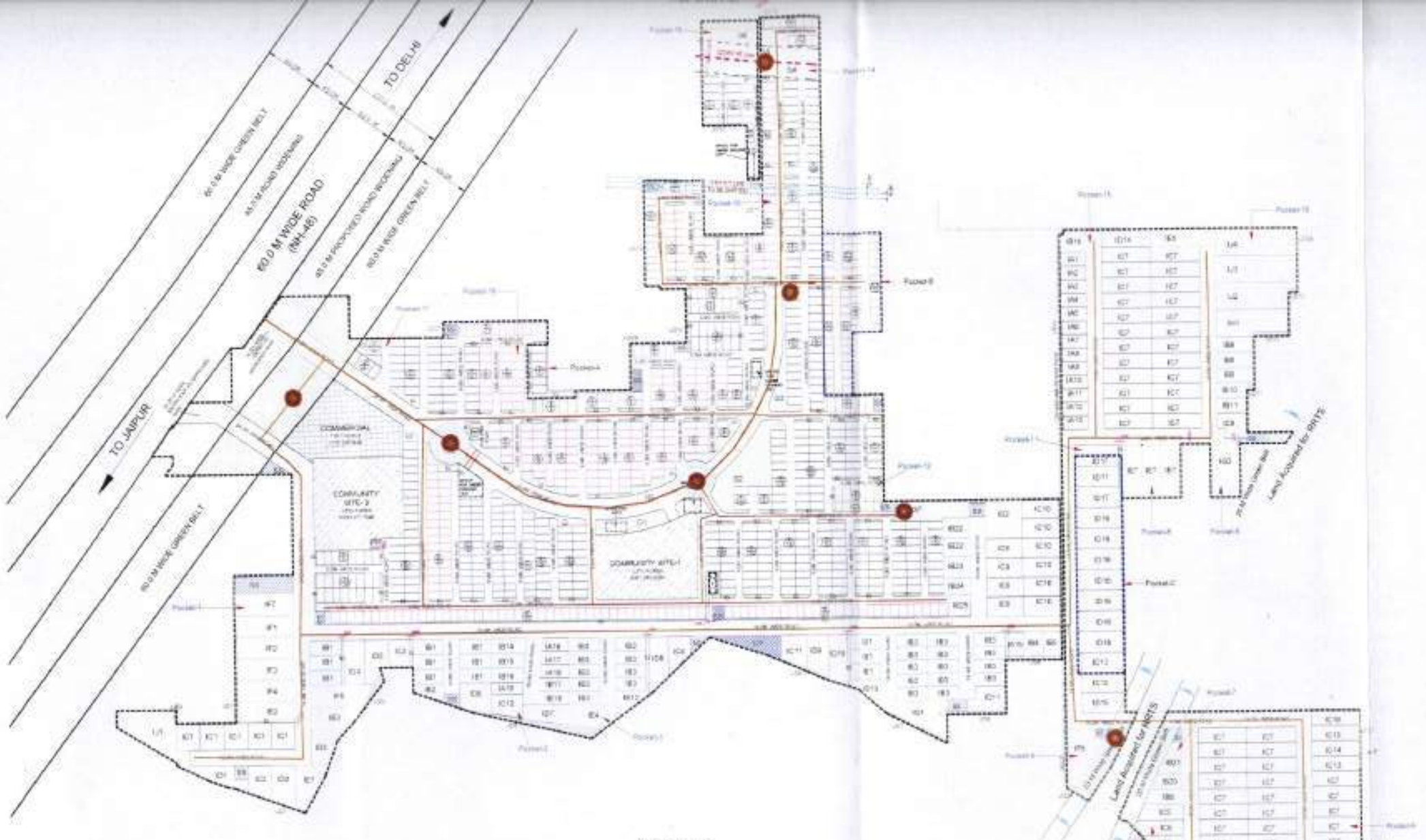
It is subject to the following conditions:

1. Clarification is Hereby Issued Subject To the Conditions Mentioned Above.

अतः तहसीलदार मानेसर व उप वन संरक्षक, गुरूग्राम की रिपोर्ट में वर्णित शर्तो अनुसार आपको उक्त वर्णित भूमि Village Sidhrawali, Tehsil Manesar, District Gurugram के मु0/कीला नं0 69//18मिन(3–10), 20मिन(9–11), 21मिन(2–12), 22मिन पर बरूये रपट नं0 285/02.01.2017 अनुसार अवार्ड हो चुका है व बरूये रपट नं0 351/04.02.2008 के अनुसार मु0/किला नं0 75//9मिन पर धारा 32 हो चुकी है को छोड़कर बाकी वर्णित भूमि के कीला नम्बरान की Aravalli Clearance/Non Forest Land रिपोर्ट इस शर्त पर जारी की जानी उचित होगी कि प्रार्थी कम्पनी को दी गई एनओसी में यदि किसी नम्बरों पर हरियाणा सरकार के किसी भी विभाग द्वारा किसी प्रकार की भूमि अर्जन कार्यवाही धारा 4, 6 व अवार्ड आदि राजस्व रिकार्ड अनुसार पाया गया तो सम्बन्धित नम्बरों की अरावली एनओसी स्वतः रद्द समझी जायेगी जिसके लिए प्रार्थी कम्पनी स्वयं जिम्मेवार होगी।

कृते उपायुक्त गुरूग्राम।


POCKET-1
(11.56875 ACRES)
60.0 M WIDE ROAD
(NH-48)
TO DELHI



LEGEND:-

OWNER :

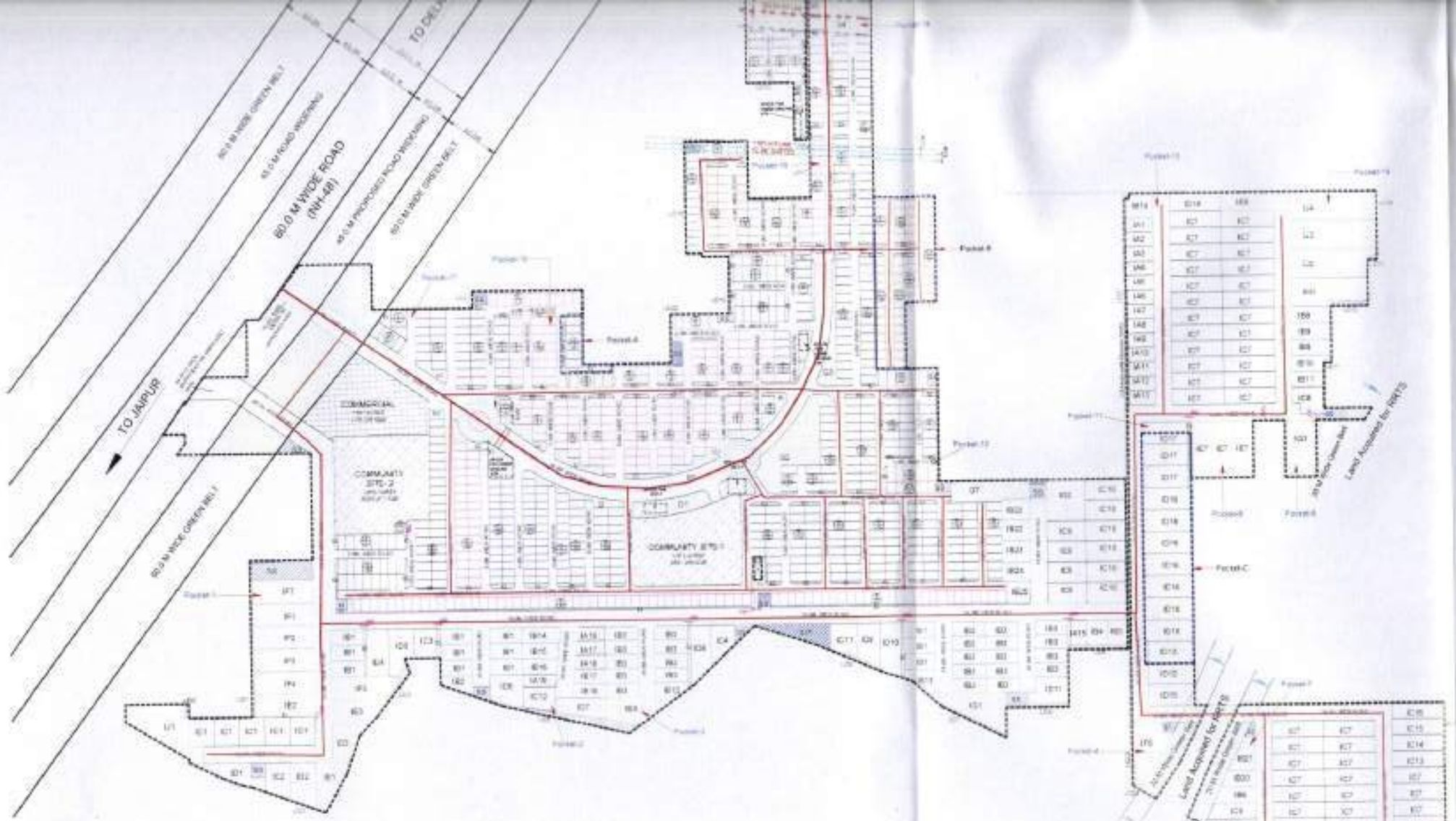
SUNCOLD REGION
COLLABRATION
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT
MEASURING
LICENSED AREA OF
LICENSE NO. OF
(35.7259)
MANESAR, DISTRICT
BY SIGNA GLOBA

DRAWING

11106



Plot legend -

- TYPE-A - 9.0X30.65 M
- TYPE-B - 9.0X22.90 M
- TYPE-B1 - 9.0X14.30 M
- TYPE-C - 8.0X13.50 M
- TYPE-C1 - 9.0X31.80 M
- TYPE - M

LEGEND:-

ELECTRIC LINE

OWNER :

SUNGOLD HEIGHTS DEVELOPE
COLLABRATION WITH SIGNAT
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN FOR
MEASURING 9.06875 ACRES AD
LICENSED AREA OF 125.65625 A
LICENSE NO OF DATED
135.7250 ACRES IN VILLAGE
MANESAR, DISTRICT GURUGRAM
BY SIGNATURE GLOBAL (INDIA) LT

DRAWING TITLE :

246

LAYOUT PLAN

Annexure-XII: TRAFFIC STUDY

Anthropogenic emissions not only contribute to the Greenhouse effect but also participate in the reaction resulting in photochemical oxidants. The effect of photochemical oxidants is well known for forming smog. Among the anthropogenic sources of pollutants forming the greenhouse gases, burning of fossil fuels constitute a major source. Highway mobile sources that contribute significantly to poor quality of air have not been regulated for the past two decades. In India two-wheelers are a very popular mode of personal transport. Most of them are powered by two-stroke engines because of initial and maintenance costs. However, they have high emission levels causing air pollution.

The objective of traffic study and emission quantification is to assess the magnitude of the emissions resulting from two wheelers, three wheelers and four wheelers that are extensively used as a means of common transport.

A detailed traffic survey was conducted in the area at major traffic intersections in order to arrive at the traffic density in the study area and also to evaluate the impacts of the increased traffic due to the proposed activity.

Vehicular emissions are the major source of air quality impacts in the study area. The principal cause of air pollution during the construction phase is the diesel-powered vehicles used in the haulage of aggregates, earth and other construction material. Air quality could be affected by dust and particulate matter arising due to site clearing, vehicular emissions, etc. Gaseous emissions like SO_2, NO_2, CO and HC might be released from the vehicular movement, which has a direct impact on the environment.

Increase in traffic in the study area has a direct impact on the resources as a heavy release of automobile exhaust is envisaged which has a direct impact on the air quality and the ambient noise levels in the study area. The methodology adopted for carrying out the traffic study was to select the major roads around the project site and count the various categories of vehicles moving on the roads.

Table 1: Traffic Density at the NH- 48

	2 wheeler	PCU (0.5)	3 wheeler	PCU (1.2)	4 wheeler	PCU (1)	B/L	PCU (3.7)	Total PCU
06:00-07:00	178	89	98	74	126	126	104	312	601
07:00-08:00	198	99	101	76	169	169	108	324	668
08:00-09:00	202	101	123	92	262	262	97	291	746
09:00-10:00	226	113	132	99	301	301	109	327	840
10:00-11:00	245	123	106	80	299	299	112	336	837
11:00-12:00	235	118	124	93	286	286	126	378	875
12:00-13:00	248	124	106	80	249	249	96	288	741
13:00-14:00	256	128	115	86	266	266	107	321	801
14:00-15:00	275	138	119	89	245	245	99	297	769

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15:00-16:00	249	125	121	91	265	265	89	267	747
16:00-17:00	246	123	107	80	279	279	96	288	770
17:00-18:00	259	130	108	81	315	315	91	273	799
18:00-19:00	265	133	114	86	299	299	87	261	778
19:00-20:00	245	123	109	82	265	265	79	237	706
20:00-21:00	243	122	95	71	245	245	121	363	801
21:00-22:00	221	111	86	65	212	212	106	318	705
22:00-23:00	156	78	75	56	196	196	86	258	588
23:00-00:00	145	73	74	56	186	186	89	267	581
00:00-01:00	123	62	36	27	175	175	92	276	540
01:00-02:00	142	71	30	23	156	156	83	249	499
02:00-03:00	126	63	28	21	145	145	86	258	487
03:00-04:00	112	56	29	22	115	115	84	252	445
04:00-05:00	146	73	36	27	125	125	110	330	555
05:00-06:00	157	79	51	38	135	135	118	354	606

PCUs as per IRC-106:1990

Table 2: Existing Traffic Scenario & LOS

Road	V	C	Existing V/C Ratio	LOS
NH- 48	687	2400	0.286	B

V= Volume in PCUs/hr & C= Capacity in PCUs/ hr

The existing Level of Service is "B" i.e. Very Good

Table 3: Capacity as per IRC: 106–1990-page no. 11 table-2 for arterial road/ Highways

V/C	LOS	Performance	V/C
0.0 - 0.2	A	Excellent	0.0 - 0.2
0.2 - 0.4	B	Very Good	0.2 - 0.4
0.4 - 0.6	C	Good / Average / Fair	0.4 - 0.6
0.6 - 0.8	D	Poor	0.6 - 0.8
0.8 - 1.0	E	Very Poor	0.8 - 1.0

- The total proposed parking for the project is 1,168 ECS, It is estimated that 90% of the vehicles will leave or be operating at the site from (Ready to ply or incoming) 7:00 AM to 8:00 PM i.e. 1,168 x 0.90 = 1,051 and the remaining 10%

parking space will remain vacant or parked with Light Motor Vehicles i.e. 1,168 x 0.10 = 117.

- Since the maximum number of trips will happen between 7:00am to 8:00 PM (i.e.) 12 hours
- Therefore, on average the total number of trips per hour is 1,051/12 = 88 vehicles/ hour.

Table 4: Modified Traffic Scenario

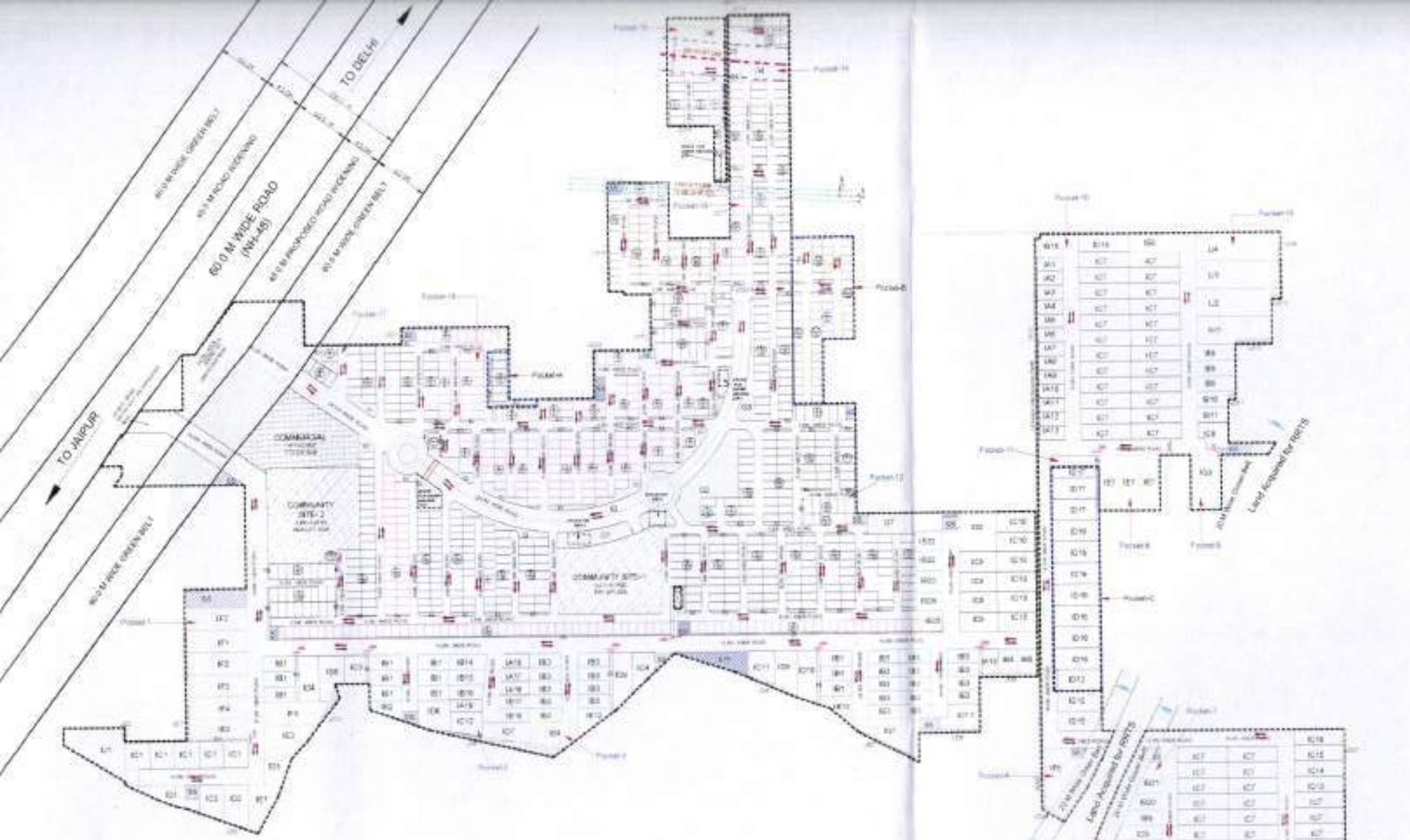
Road	V	C	Modified V/C Ratio	LOS
NH- 48	687 + 88= 775	2400	0.32	B

Modified Traffic Scenario & LOS (after completion of the project)

The modified LOS will be "B", i.e. "VERY GOOD"; therefore, there will be no change in LOS after completion of the project. The total parking proposed for the project = 1,168 ECS.

The project proponents will have a failsafe traffic circulation plan for the "Industrial Plotted colony" project so that smooth passage of vehicles can take place.

The support staff will be trained to handle the morning and evening rush. The traffic generated from the project is assumed to be distributed between 6:00 AM to 10:00 AM & 19:00 PM- 00:00 AM and will distribute along all two directions of the project along the road.



Plot legend :-

TYPE-A - 9.0x16.65 M

TYPE-B - 9.0x13.90 M

TYPE-B1 - 9.0x14.50 M

TYPE-C - 8.0x13.50 M

LEGEND:-

TRAFFIC CIRCULATION

OWNER :

SUNGOLD HEIGHTS DEVELOPER
COLLABRATION WITH SIGNATU
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN FOR
MEASURING 6.06875 ACRES ADJ
LICENSED AREA OF 129.6625 ACR
LICENSE NO OF DATED
(35.725) ACRES IN VILLAGE SHE
MANESAR, DISTRICT GURUGRAM
BY SIGNATUREGLOBAL (INDIA) LTD

DRAWING TITLE :

2500

हरियाणाशहरीविकासप्राधिकरण

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 31725\ **Dated:** 26-11-2024

Sub: - **Assurance for External Sewerage Connection for discharge of 1195KLD surplus treated domestic effluents after commissioning for our proposed Industrial park Plotted Colony under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil-Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for Pataudi has yet not been acquired and master services of Sewerage Line will be planned after acquisition of land accordingly. After approval and construction of Sewerage Treatment Plant & laying of master sewer line, the Sewerage connection will be sanctioned on your request as per HSVP by law.

This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram

257

1113

—846—

ANNEXURE-XV

DAKSHIN HARYANA BIJLI VITRAN NIGAM

DHBVN

(Government of Haryana Undertaking)

Superintending Engineer 'OP' Circle-I
Mehrauli Road, Gurugram.
0124-2322427
Fax No. 0124-2306590
e-mail seop1gurugram@dhbvn.org.in

To

M/s Signature Global (India) Ltd.
Ground Floor, Tower-A,
Signature Tower, South City-1
Gurugram-122001.

Memo No. Ch.28 / Drg.-PLC Dated: 06 /09/2024

Sub: **Assurance Certificate of DHBVN for development of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of village Shidharawali, Tehsil Manesar, Distt. Gurugram (License No.104 of 2024 dated 01.08.2024 valid upto 31.07.2029) to be developed by M/s Signature Global India Ltd. Decalared load 14313.37 KVA.**

Ref: Your Firm Letter No. Nil dated 24.08.2024(Received in this office on dt. 28.08.2024).

It is hereby assured that the power requirement of tentative load of 14313.37 KVA shall be considered from the nearest 220/33KV substation at the time of actual requirement as per DHBVN norms at the voltage level of 33KV subject to the following conditions:-

1. Subject to availability of power and infrastructure at the time of actual release of connection.
2. Necessary charges will be got deposited by your as per latest Nigam instructions and compliance of all other instructions of Nigam will be ensured as per standing instructions of the Nigam/HERC regulation.
3. The necessary infrastructure will be laid by you at your own cost. The piece of land will be provided by you for the switching station / sub-station as per instructions of the Nigam.
4. The letter will be valid till the validity of license in view of Sales Circular No.D-6/2022 issued by CE/Commercial DHBVN, Hisar vide Memo No. Ch-06/SE/C/R-16/380/Vol-I dated 10.03.2022.

06-9-2024

Superintending Engineer
'OP' Circle-I DHBVN, Gurugram

Copy to:-

The XEN 'OP' Divn. DHBVN Manesar for information, please.

952

ANENXURE-XVI

हरियाणाशहरीविकासप्राधिकरण

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To,

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 317249 **Dated:** 26-11-2024

Sub: - **Assurance for Fresh water supply drinking water during operational phase total fresh water Requirement 1823 KLD of for our Industrial Park Project under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil- Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for sohna has yet not been acquired and master services of Water Supply will be planned after acquisition of land accordingly. After approval and execution of Water Supply Scheme, the water supply connection will be sanctioned on your request as per HSVP by law.

This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram.

953

-848-

GMDA

ANNEXURE-XVII

OFFICE OF THE EXECUTIVE ENGINEER-V, SEW. DIVISION, GMDA, GURUGRAM
Address : 6th Floor, Plot No. 3, Sector-44, Gurugram,
E-mail -xen4infra2.gmda@gov.in

To,

M/s Signature Global Business Park Pvt. Ltd.,
Ground Floor, Tower -A, Signature Tower,
South City -I, Gurugram, Haryana – 122001
Email – compliance@signatureglobal.in

Memo No. GMDA/SEW/2024/417 Dated. 02-09-2024

Sub: - **Assurance for supply of 1450 KLD STP treated water for construction purpose of the proposed Industrial Plotted Colony over an area measuring 129.65625 acres (License No. 104 of 2024 dated 01.08.2024 valid upto 31.07.2029) falling in the revenue estate of village – Sidhrawali, Tehsil – Manesar, District - Gurugram being developed M/s Signature Global Business Park Pvt. Ltd.**

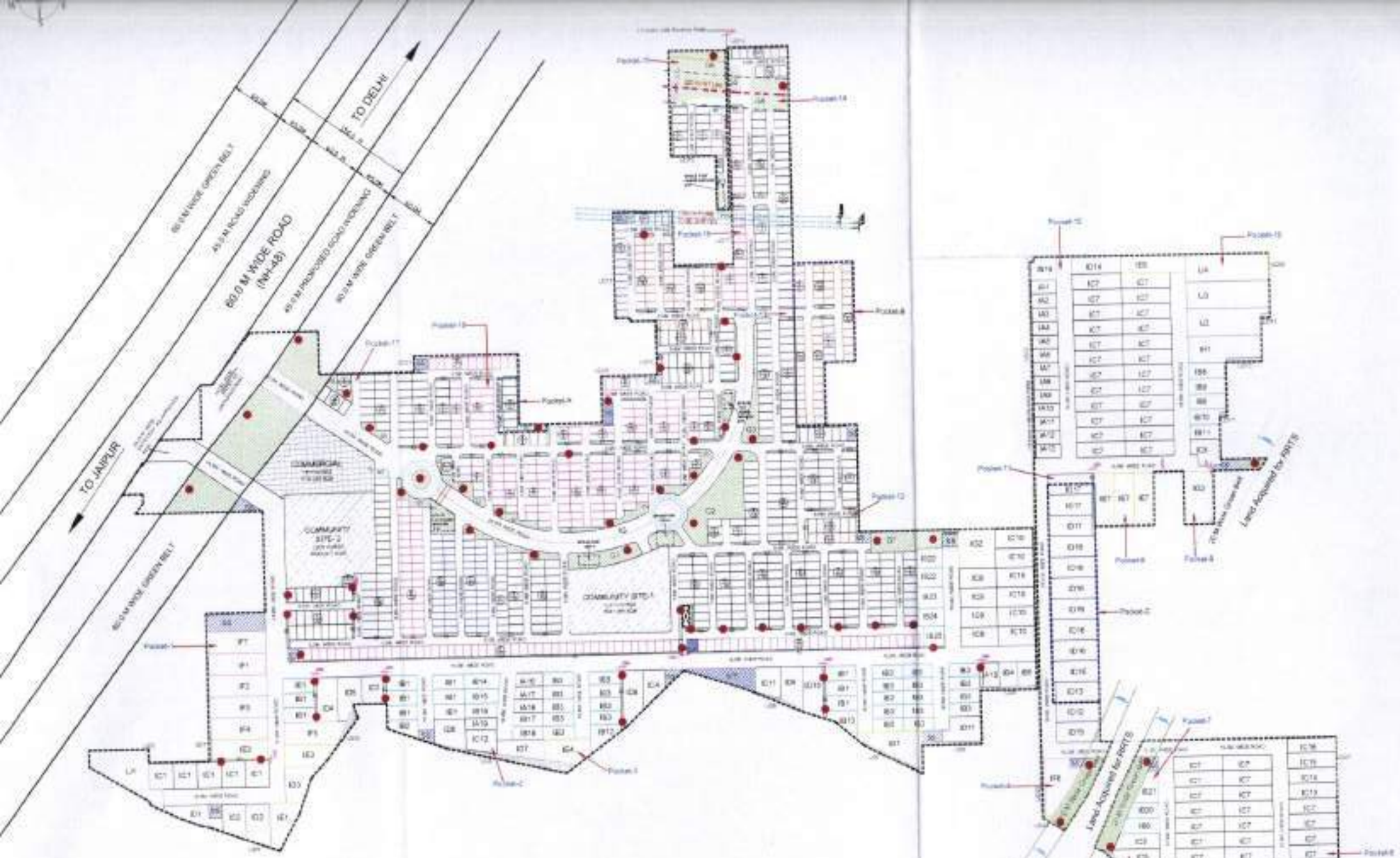
Ref: - **Your office latter dated 24.08.2024.**

With reference to the above cited subject, it is intimated that 1450 KLD tertiary treated water is available at CETP Manesar Gurugram. The tertiary treated water can be purchased from STP with your own transportation arrangement through online module of GMDA available at www.gmda.gov.in.

Executive Engineer-V,
Sew. Division, GMDA
Gurugram.

254

547
D. Branch / Pawan, Office Asstt.



Plot legend:-

- TYPE-A - 9.0x16.65 M
- TYPE-B - 9.0x13.90 M
- TYPE-B1 - 9.0x14.50 M

LEGEND:-

OWNER :

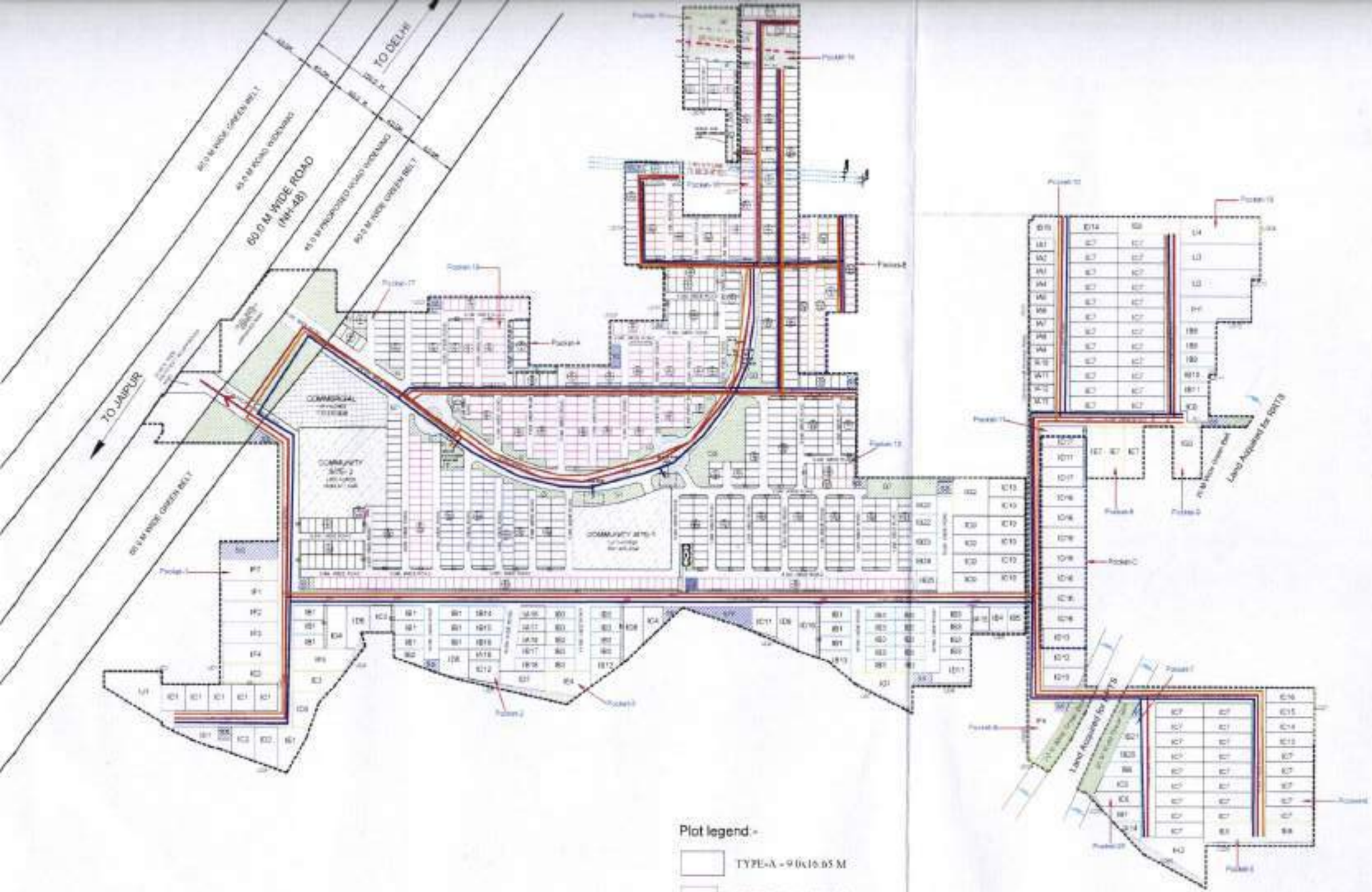
SUNCOLD HEIGHTS DEVEL
COLLABRATION WITH SIGN
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN FO
MEASURING 6.06875 ACRES
LICENSED AREA OF
LICENSE NO. OF
135.7250 ACRES IN
MANESAR, DISTRICT GURUGR
BY SIGNATUREGLO INDIA)

DRAWING TITLE :

1116



Plot legend :-

- TYPE-A - 9.0x16.65 M
- TYPE-B - 9.0x13.90 M
- TYPE-B1 - 9.0x14.50 M
- TYPE-C - 8.0x13.50 M

LEGEND:-

SEWAGE LINE

OWNER :

SUNGOLD HEIGHTS DEV
COLLABRATION WITH
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN
MEASURING 6.16875 ACRE
LICENSED AREA OF (29.5
LICENSE NO. OF DA
135.7250 ACRES IN VILLAG
MANESAR, DISTRICT GURG
BY SIGNATURE GLOBAL (INDI

DRAWING TITLE :

-851-

307.14

SIGNATURE GLOBAL
REALTY. RELIABILITY. RESPONSIBILITY.
AN ISO 9001:2015; 14001:2015; 45001:2018; 27001:2022 CERTIFIED COMPANY

Date: 12.12.2024

To,
The Member Secretary,
State Expert Appraisal Committee (SEAC),
Bays No. 55-58, Sector -2
Panchkula, Haryana

Sub: Regarding Environmental Clearance for Industrial Plotted Colony Project located at Village- Shidrawali, Tehsil Manesar, District- Gurugram, Haryana by M/s Signatureglobal India Limited.

Ref: Proposal No. SIA/HR/INFRA2/496874/2024

Dear Sir,

This is in reference to above mentioned project we are herewith submitting the point wise reply to the EDS raised dated 17.09.2024.

Hope the reply meets your satisfaction.

Kindly grant us the environmental clearance at your earliest.

Thanking you,

Yours truly,

For, M/s Signatureglobal India Limited

Name: Vineet kumar
Designation: Authorized Signatory

Reply to the EDS raised w.r.t Industrial Plotted Colony Project located at Village-Shidrawali, Tehsil Manesar, District- Gurugram, Haryana by M/s Signatureglobal India Limited

S. No.	Queries	Reply
1.	License for additional area of 6.06875 acres not provided	The License for 129.65625 acres and LOI for 6.06875 acres is enclosed as Annexure-I(a) and Annexure-I (b).
2.	Electrification Plan	The Electricity Plan is enclosed as Annexure-II.
3.	Structural Stability (design) Certificate	The Structural Certificate is not applicable as we are not constructed any building. We will only sell the plots.
4.	Provide the Zoning Plan	The Zoning Plan is enclosed as Annexure-III.
5.	Green belt development plan	The Green belt development plan is enclosed as Annexure IV.
6.	Traffic Circulation Plan/ Traffic Study	The Traffic Study is enclosed as Annexure-V.
7.	Parking Plan	The Parking Plan is enclosed as Annexure-VI.
8.	Safety Plan (Fire & Electricity)	The Fire & Electricity Plan is enclosed as Annexure-VII & Annexure-II.
9.	Air Simulation Plan	The Air Simulation Plan details are enclosed as Annexure-VIII.
10.	Power Mobilization Plan	The Power NOC is enclosed as Annexure-IX.
11.	Water Assurance	The Water Assurance NOC is enclosed as Annexure X.
12.	Sewer Assurance	The Sewer Assurance NOC is enclosed as Annexure-XI.

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ANNEXURE-I(A)

FORM LC -V
(See Rule 12)
HARYANA GOVERNMENT
TOWN AND COUNTRY PLANNING DEPARTMENT

Licence No. 104 of 2024

This License has been granted under the Haryana Development and Regulation of Urban Areas Act, 1975 & the Rules 1976, made thereunder to Sungold Heights and Developers LLP. in collaboration with Signatureglobal (India) Limited, 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi-110001. for setting up of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of village Sidhrawali, Tehsil- Manesar, District Gurugram.

1. The particulars of the land, wherein the aforesaid Industrial Plotted Colony is to be set up, are given in the Schedule annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.

2. The License is granted subject to the following conditions:

(i) To deposit a sum of Rs. 16,56,63,060/- on account of Infrastructural Development Charges in two equal installments. First within 60 days from issuance of license and second within six months online at www.tcpharyana.gov.in. In failure of which, an interest @ 18% per annum for delay period shall be paid.

(ii) The licencee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

(iii) The licencee has not submitted any other application for grant of license for development of the said land or part thereof for any purpose under the provisions of the Haryana Development and Regulation of Urban Areas Act, 1975 or any application seeking permission for change of land use under the provision of the Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963.

(iv) The licencee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.

(v) The licencee shall make own arrangements for water supply, sewerage, drainage etc. to the satisfaction of DTCP.

(vi) The licencee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.

(vii) That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.

Director
Town & Country Planning
Haryana, Chandigarh

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(viii) That the provision of solar water heating system shall be as per guidelines of Haryana Renewable Energy Development Agency and shall be made operational where applicable before applying for an Occupation Certificate.

(ix) The licencee shall use only LED fitting for internal lighting as well as campus lighting.

(x) The licencee shall convey the 'Ultimate Power Load Requirement' of the project to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licensed land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.

(xi) The licencee shall keep pace of development atleast in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.

(xii) The licencee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which licencee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.

(xiii) The licencee will pay the labour cess as per policy instructions issued by Haryana Government vide Memo No. Misc. 2057-5/25/2008/2TCP dated 25.02.2010, as amended from time to time.

(xiv) The licencee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein you have to deposit thirty percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

(xv) That no further sale has taken place after submitting application for grant of license.

(xvi) The licencee shall not give any advertisement for sale of plots/commercial area before the approval of zoning plan.

(xvii) That no provision of the Haryana Ceiling on Land Holding Act, 1972 has been violated due to purchase of applied land.

(xviii) That the revenue rasta/khal if passing through the site shall not be encroached upon and shall be kept free from all hindrances for easy movement of general public.

(xix) That the licencee shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed thereunder shall be followed by the applicant in letter and spirit.

(xx) The licencee shall comply with the terms and conditions of policy dated 01.10.2015, 09.03.2019 and other direction given by the Director time to time to execute the project.

(xxi) The licencee shall obtain the permission from competent authority for construction of culvert over dhana/ nala / drain / water channel what so ever, if passing through licenced land.

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(xxii) The licencee shall integrate the services with Haryana Shehri Vikas Pradhikaran Development Authority services as and when made available.

(xxiii) That area coming under the sector roads and restricted belt / green belt, if any, which forms part of licensed area and in lieu of which benefit to the extent permissible as per policy towards FAR is being granted, shall be transferred free of cost to the Govt.

(xxiv) The licencee will transfer 10% area of the licenced colony free of cost to the Government for provision of community facilities. This will give flexibility to the Director to workout the requirement of community infrastructure at sector level and accordingly make provisions. The said area will be earmarked on the layout plan to be approved alongwith the license.

(xxv) The licencee understand that the development/ construction cost of 24 m/18 m major internal roads is not included in the EDC rates and they shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 24 m/18 m wide major internal roads as and when finalized and demanded by the Department.

(xxvi) That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of non inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. applicant company shall also provide detail of calculation of EDC per sqm/per sft to the allottees while raising such demand from the plot owners.

(xxvii) That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.

(xxviii) The licencee shall abide by the terms and conditions of the policy notified on 01.04.2016.

(xxix) The licencee shall abide by the terms and conditions of policy dated 08.02.2016 (DDJAY) and other direction given by the Director time to time to execute the project.

(xxx) The licencee shall execute the development works as per Environmental Clearance and company with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, applicant shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Act.

(xxxi) That no pre-launch/sale of commercial plot will be undertaken before approval of the building plans. That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

(xxxii) That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

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(xxxiii) That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

(xxxiv) The implementation of such mechanism shall, however, have no bearing on EDC installment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC installments that are due for payment get paid as per the prescribed schedule.

(xxxv) The licencee shall take prior permission from the Divisional Forest Officer, Gurugram regarding cutting of any tree in their applied site.

(xxxvi) Only green category industry shall be allowed in the area of the licensed industrial colony which is falling within 2 kilometers from the boundary of urbanisable zone of the development plan, excluding the peripheral roads, if proposed along urbanisable boundary. All categories of industries will be allowed in the industrial colony outside 2KM belt subject to the condition of obtaining certificate from Haryana pollution Control Board.

(xxxvii) You shall pay at least the cost of infrastructure made available by various agencies/Department of the state Government, including infrastructure sought and availed in the agriculture zone as and when demanded by the competent authority.

(xxxviii) That you shall also take necessary measures for setting up of an effluent treatment plant of appropriate size and its appropriate use and also for safe disposal of effluents after proper treatment.

3. The area/pocket-1 measuring 11.56875 acres which derives approach from land acquired for RRTS, shall be kept frozen till submission of the NOC /access permission from NCRTC/competent authority.

4. That you shall not raised any construction within 20 mtr buffer zone on either side of acquired alignment of RRTS and the same shall be kept as green/buffer zone.

5. That no third party rights shall be created over any frozen area till such area is de-freezed.

6. That plots beneath the 3 nos. nos. of 11 KV HT line and 1 no. of 200 KV HT line falling in the licensed land shall be kept frozen till shifting of respective HT lines.

7. The license is valid up to 31.07.2029.

(Amit Khatri, IAS)
Director,
Town & Country Planning
Haryana, Chandigarh

Dated: The 01.08.2024.
Chandigarh

Endst. No. LC-5139/Asstt(MS)/2024/24309 Dated: 01-08-2024

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action: -

5

1. Sungold Heights and Developers LLP. In collaboration with Signatureglobal (India) Limited, 13th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi-110001 along with a copy of agreement, LC-IV & Bilateral Agreement and Layout Plan.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
5. Joint Director, Environment Haryana-Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
6. Addl. Director Urban Estates, Haryana, Panchkula.
7. Administrator, HSVP, Panchkula.
8. Chief Engineer, HSVP, Panchkula.
9. Superintending Engineer, HSVP, Gurugram along with a copy of agreement.
10. Land Acquisition Officer, Gurugram.
11. Senior Town Planner, Gurugram along with a copy of Layout Plan.
12. Senior Town Planner (Enforcement), Haryana, Chandigarh.
13. District Revenue Officer, Gurugram.
14. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
15. Chief Accounts Officer (Monitoring) O/o DTCP, Haryana.
16. Accounts Officer, O/o DTCP along with a copy of agreement.
17. Project Manager (IT) for updation on the website.

(Sanjay Narang)
District Town Planner (HQ)
For: Director, Town & Country Planning
Haryana Chandigarh

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1125

—858—

To be read with License No. 104 Dated 01/08/ of 2024

Village	OWNERSHIP	REC.NO	KILLA NO	KANAL	MARLA
Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	74	15/3/2/2	0	15
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	74	16/2/2/1/2	0	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	2/2/2/2	3	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	3	7	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	4/3.	1	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	5/3.	2	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	7/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	7/2.	5	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	8/1.	3	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	8/2.	4	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	11/2/2.	7	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	12/1.	2	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	12/2.	5	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	13	8	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	14	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	15	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	16	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	18	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	19/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	20/1.	2	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	75	25	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	1/4.	3	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	2/2.	1	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	4/2.	2	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	5/1.	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	5/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	8/1/1	2	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	8/3/2	0	13
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	9/1/2	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	14	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	15	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	16	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	18	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	20	8	0

DTCP (HR)

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Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	21/1	2	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	21/2	5	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/1/1	1	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/1/2	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	76	25/2	4	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	20	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	21	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	77	25	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	20	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	66	21	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	5	7	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	6	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	15/3	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	23/3	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	24/1	7	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	67	25	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	11/2	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	16	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	17	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	18	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	19/3	4	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	19/1	0	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	20/1	7	9
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	21/1	2	14
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	21/3	0	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	22/2	7	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	25	7	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	2	5	17
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	5	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	7/2	0	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	98	8	3	13
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	1	8	0

D.T.C.P (HR)

Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	5	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	6/1.	4	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	6/2.	3	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	8	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/1.	1	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/3.	5	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/2.	0	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	9/4.	1	6
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	10	8	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	12	5	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	13	10	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	90	14	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	5/2.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	6	5	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	7	7	2
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	8	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	11	7	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	12	9	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	91	13	8	15
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	2/2.	5	18
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/1.	5	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	3/3.	0	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	4	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	5	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	6	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	7	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	8/1.	3	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	8/2.	4	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	9/1.	0	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	9/2.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	12/1.	7	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	12/2.	0	8
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	14/1.	1	14
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	15	5	7
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	18	6	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	19/1	4	16
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	19/2	3	4
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	20/1	7	10
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	92	22	4	15

D.T.&.P (HR)

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Sidhrawali	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	21/2.	7	19
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	22	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	23	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	65	24	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	1	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	2	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	3	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	4/1.	7	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	7/2.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	8	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	9	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	10	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	11	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	12	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	13	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	14/1/1.	2	3
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	18/1.	4	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	19	8	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	20/1.	1	11
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	93	15/3.	2	0
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	93	16/1.	3	1
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	20/2min	1	5
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	78	21min	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	1 min	1	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	10/1 min	0	12
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	10/2 min	0	19
	SUNGOLD HEIGHTS AND DEVELOPERS LLP	89	11/1 min	0	8
				1037	6
				AREA 129.65625 ACRES	

Director
Town & Country Planning
Haryana

1D

1129

—862—

ANNEXURE-I(B)

Directorate of Town and Country Planning, Haryana

Nagar Yojana Bhavan, Plot No.3, Sector-18A, Madhya Marg, Chandigarh, Chandigarh.
Phone: 0172-2549349; e-mail: tcpharyana6@gmail.com

Regd.

LC-III
(See Rule 10)

To

Sungold Heights Developers LLP.,
In collaboration with Signature Global (India) Ltd.,
13th Floor, Dr. Gopal Das Bhawan,
28 Barakhamba Road, Connaught Place,
New Delhi-110001.

Memo No. LC-5139-B-DS (AK)/2024/ 38456 Dated: 06-12-24

Subject: Letter of Intent:-Request for grant of licence for setting up of Industrial Plotted Colony over an area measuring 6.06875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram- Signature Global (India) Ltd.

Please refer to your application dated 07.06.2024 on the above cited subject.

Your request for grant of licence under section 3 of the Haryana Development and Regulation of Urban Areas Act, 1975, and Rules framed there under for development of Industrial Plotted Colony over an area measuring 6.06875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram has been considered and it is proposed to grant license for setting up of aforesaid Industrial Plotted Colony. You are, therefore, called upon to fulfill the following requirements/ pre-requisites laid down in Rule 11 of the Haryana Development and Regulation of Urban Areas Rule, 1976 within a period of 60 days from the date of issue of this letter, failing which request for grant of licence shall be refused:-

1. To deposit an amount of Rs. 1,69,054/- on account of scrutiny charges in favour of the Director, Town & Country Planning, Haryana through online mode.

2. You have an option to either to deposit an amount of Rs. 76,89,89,881/- Crore on account of External Development Charges in favour of Director, Town and Country Planning, Haryana, Chandigarh through online on e-payment portal of the Department before grant of licence or furnish 25% Bank Guarantee of Rs.19,22,47,470/- lacs on account of External Development Charges before grant of licence and shall pay the amount of EDC in the ten half yearly installments each with normal interest of 12% p.a. and penal interest of 3% for the delayed period in favour of Director, Town & Country Planning, Haryana, payable at Chandigarh.

D.T.C.P.(Hr).

3. To furnish bank guarantee amounting 64.48075 lacs against 25% of the total cost of Internal Development Works amounting Rs. 257.923 lacs.

**It is made clear that bank guarantee of Internal Development Works has been worked out on the interim rates and you will have to submit the additional bank guarantee, if any required, at the time of approval of Service Plan/Estimate. With an increase in the cost of construction, you would be required to furnish an additional bank guarantee within 30 days on demand.

4. To execute two agreements i.e. LC-IV & Bilateral Agreement on Non-Judicial Stamp Paper of 100/-. Further, following additional clauses shall be added in LC-IV agreement as per Government instruction dated 14.08.2020.

I. That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

II. That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

III. That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

IV. The implementation of such mechanism shall, however, have no bearing on EDC instalment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC instalments that are due for payment that paid as per the prescribed schedule.

5. To submit an undertaking that:-

i) That you shall pay External Development Charges as and when the site comes in urbanizable limits.

ii) That you shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

iii) That you shall construct 18/24/30 m wide internal circulation road forming part of licenced area at your own costs and transfer the same free of cost to the Government as and when site comes in urbanizable limit.

iv) That you shall integrate the services with the HSVP services as per the approved service plans and as and when made available.

v) That you shall have no objection to the regularization of the boundaries of the licence through give and take with the land that HSVP is finally able to acquire any land in the interest of planned development and integration of services. The decision of the Competent Authority shall be binding upon you.

vi) That you shall provide basic facilities (sewer, water etc) in the colony upto the satisfaction of the Director, as on date the services are not being provided by HSVP.

vii) That you shall make your own arrangements for water supply, sewerage, drainage etc. to the satisfaction of DTCP till these services are made available and the same is made functional from External Infrastructure to be laid by Haryana Urban Development Authority or any other execution agency.

viii) That you shall submit NOC as required under notification dated 14.09.2006.

ix) That you shall convey "Ultimate Power Load Requirement" of the project to the concerned power utility, with a copy to the Director, with in two month period from the date of grant of licence to enable provision of site in your land for Transformers/Switching Station/ Electric Sub-Stations as per the norms prescribed by the power utility in the zoning plan of the project.

x) There is no further sale of the land applied for licence after submission of licence application till date.

xi) That you shall provide the Solar water heating system as per by HAREDA and shall be made operational where applicable before applying for an occupation certificate.

xi) That you shall provide the Solar water heating system as per by HAREDA and shall be made operational where applicable before applying for an occupation certificate.

xii) That you shall not encroach the revenue rasta passes through the site and shall provide appropriate access to the land of others situated in between the applied land.

xiii) That you shall comply with the terms and conditions of policy dated 01.10.2015 and other direction given by the Director time to time to execute the project.

xiv) That you shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein you have to deposit seventy percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

xv) That you have not violated the provision of the Haryana Ceiling of Land Holdings Act, 1972

xvi) That you have not submitted any other application for applied site for CLU /licence.

xvii) That you shall abide by the terms and condition of policy dated 01.10.2015 and 03.09.2019.

xviii) That the owner/developer shall integrate the bank account in which 70% allottee receipts are credited under Section-4(2)(l)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

xix) That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.

xx) That you shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed thereunder shall be followed by the applicant in letter and spirit.

xxi) That you shall provide the entire master services at your own cost.

D.T.C.P(Hr).

xxii) You shall not encroach the revenue rasta passes through the applied site if any and keep it thoroughfare movement of general public.

xxiii) That you shall take prior permission from the Divisional Forest Officer, Gurugram regarding cutting of any tree in their applied site.

6. That you shall submit the NOC from the Divisional Forest Officer, Gurugram regarding applicability of any forest law/ notification on the applied site in revenue estate of village Sidhrawali at NH-48 road, before issuance of final permission.

7. That you shall submit an indemnity bond indemnifying DTCP from any loss, if occurs due to submission of undertaking submitted in respect of non-creation of third party rights on the applied land.

8. That you shall undertake to indemnify State Govt./ Department for loss occurred or legal complication arising due to pending litigation and the land owning/ developer company will be responsible for the same in respect of applied land.

9. That you shall submit an affidavit duly attested by 1st Class Magistrate, to the effect that applicants have not submitted any other application for grant of licence for development of the said land or part thereof for any purpose under the provisions of the Haryana Development and Regulation of Urban Areas Act, 1975 or any application seeking permission for change of land use under the provision of the Punjab Schedule Roads and Controlled Areas restrictions of

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Unregulated Development Act, 1963 or have not applied for licence/ permission under any other law for the time being in force.

10. That you shall submit an undertaking from the land owning companies/ owners that this land has not been sold to any person after entering into collaboration agreement with the colonizer to whom LOI is being issued and also that presently there is no collaboration agreement enforced with any other person for the same land.

11. That certificate from DRO/Deputy Commissioner, Gurugram will be submitted certifying that the applied land is still under ownership of applicant company, encumbrance free and not under acquisition proceedings.

12. That you shall submit the NOC/Access permission from NCRTC/competent authority regarding R.O.W of RRTS, before issuance of final permission.

13. You shall submit an indemnity bond indemnifying Director w.r.t. final outcome of the SLP(C) no. 15439 of 2022 of Hon'ble Supreme Court of India.

14. That company will intimate their official Email ID and the correspondence on this Email ID by the Deptt. will be treated as receipt of such correspondence.

(Amit Khatri, IAS)
Director,
Town & Country Planning,
Haryana, Chandigarh

Endst no. LC-5139-B-DS(AK)/2024/ Dated:

A copy is forwarded to the following for information and necessary action:-

i. Deputy Commissioner, Gurugram.
ii. Senior Town Planner, Gurugram.
iii. District Town Planner, Gurugram.
iv. District Town Planner(E), Gurugram.
v. Director Urban Estate Haryana, Sector-6, Panchkula.
vi. Project Manager (IT) with a request to update the status on website.

D.T.P.(Hr.)

(Sanjay Narang)
District Town Planner (HQ)
For Director, Town & Country Planning
Haryana Chandigarh

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To be read with LOI Memo No. 38456 Dated 06/12/24 of 2024.

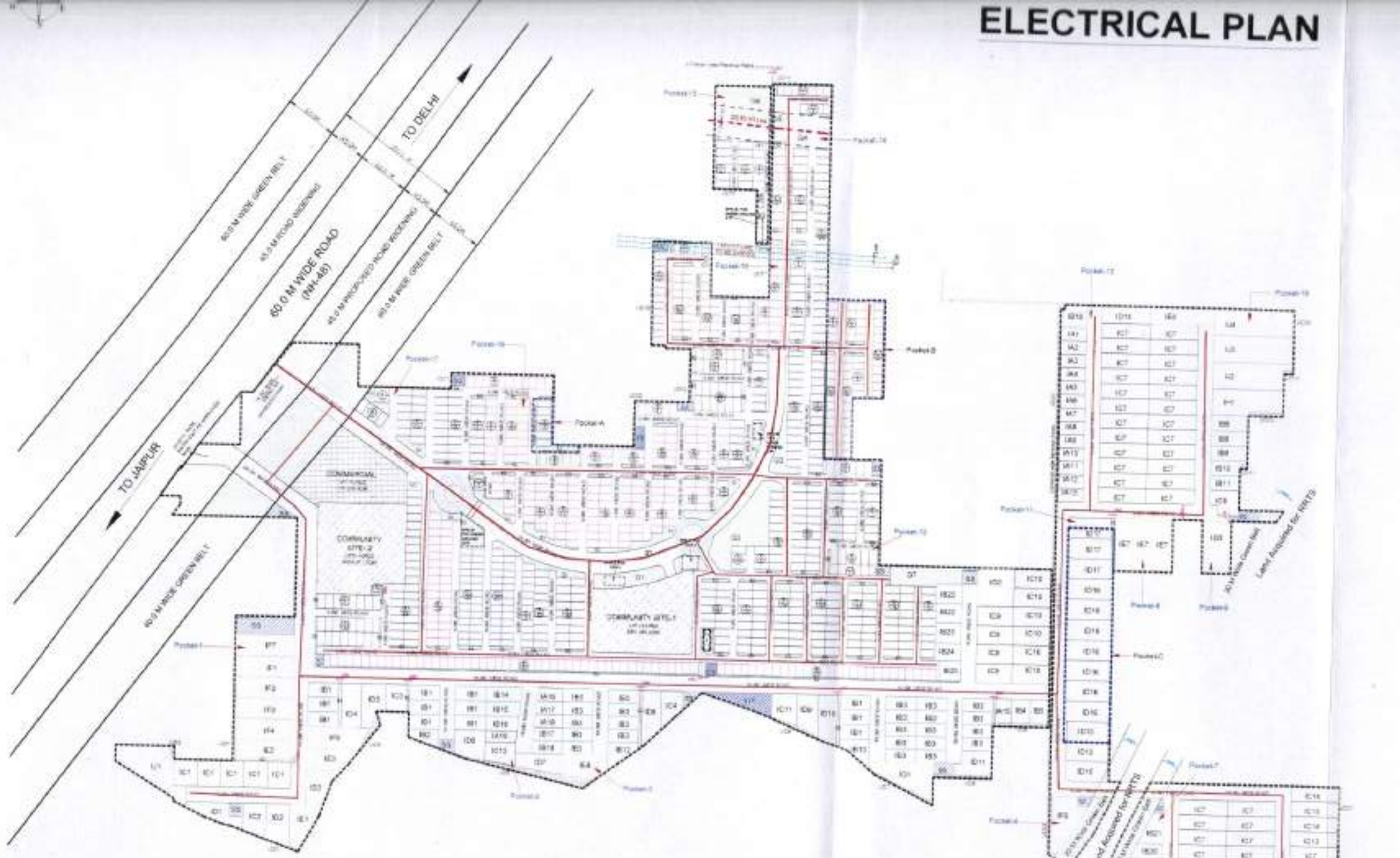
Village	Name of owner	Rect. No.	Killa No.	Area (K-M)
Sidhrawali	Sungold Heights and developers LLP.	78	20/2min	5-4
			21min	6-8
		39	1min	6-8
			10/1min	2-10
			10/2min	3-19
			11/1min	1-12
		76	9/2/1	3-6
		66	22	8-0
		77	2/1	7-6
			9/2	3-18
			Total	48-11 Or 6.06875 Acres

Director
Town & Country Planning
Haryana, Chandigarh

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ELECTRICAL PLAN

ANNEXURE-II



Plot legend:-

TYPE-A - 9.0x16.65 M

TYPE-B - 9.0x13.00 M

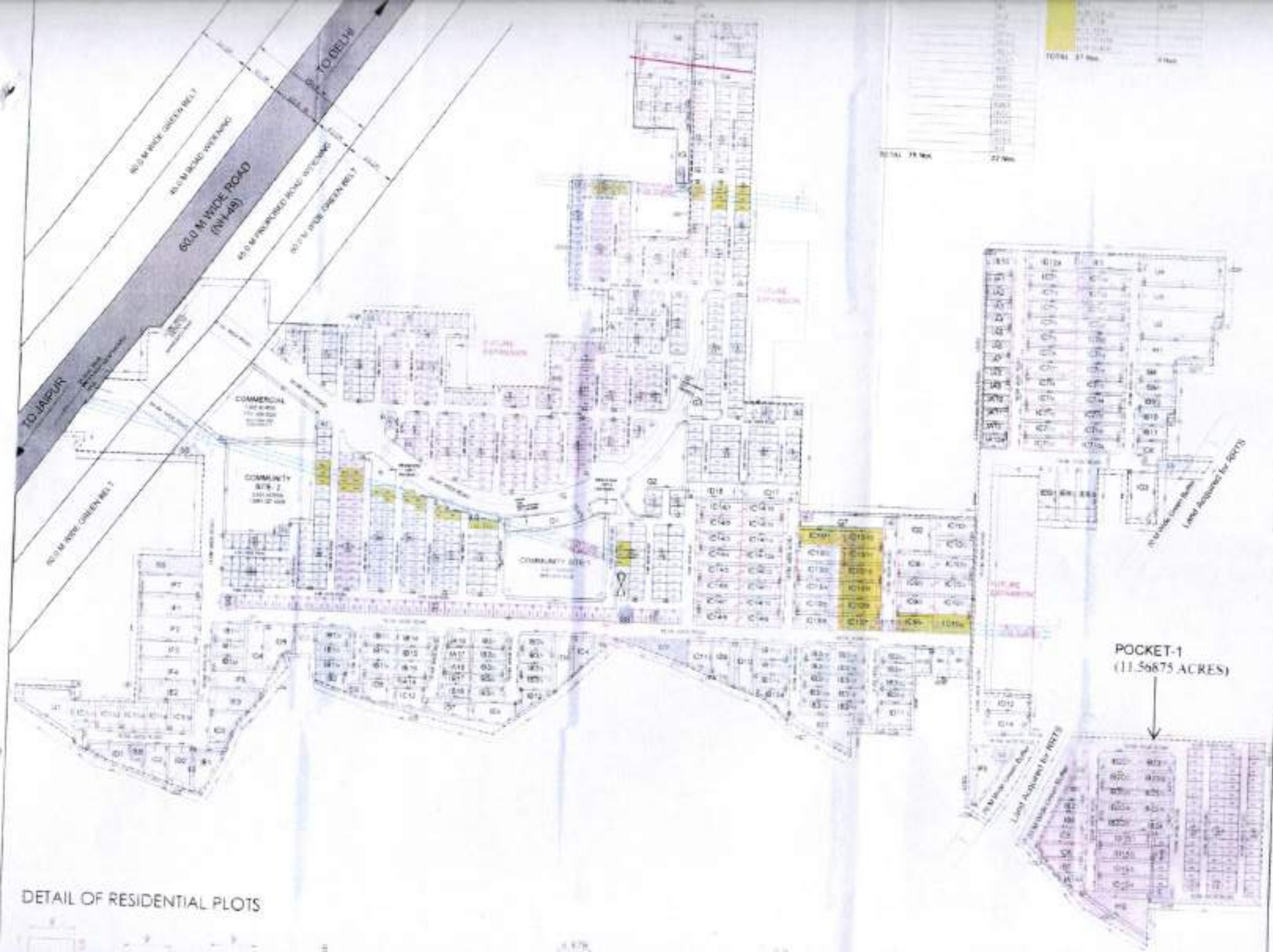
OWNER :

SUNGOLD HEIGHTS DEVELOPE
COLLABRATION WITH SIGNATU
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT P FOR
MEASURING 0.06875 A
LICENSED AREA OF
LICENSE NO: OF DATED
(35.7250) ACRES IN VILLAGE SH

1134



DETAIL OF RESIDENTIAL PLOTS



GREEN AREA DETAILS

Total Licensed area = 5,49,258.716 SQM.
Net Area = 5,32,029.859 SQM.
Net Planned area = 5,26,513.219 SQM.
Green Area (7.073% of Plot area) = 37,241.664 SQM.
Green Area under PPIAY = 14843.429 SQM.

PROPOSED TREE SPECIES LIST

S. No	Botanical Name	Common Name
1	Acacia leucophloea	Kanta
2	Albizzia lebbeck	Siris
3	Azadirachta indica	Neem
4	Anogeissus pendula	Dhauk
5	Diospyros cordifolia	Tendu
6	Emblica officinalis	Aonla
7	Ficus benghalensis	Bargad
8	Ficus religiosa	Peepal
9	Cordia dichotoma	Lasora
10	Holoptelea integrifolia	Kanjhar
11	Mitragyna parviflora	Kadam

Plot legend:-

TYPE-A (9.0x16.65 M

OWNER :

PROJECT :

DRAWING TITLE :

1136

Annexure-V: TRAFFIC STUDY

Anthropogenic emissions not only contribute to the Greenhouse effect but also participate in the reaction resulting in photochemical oxidants. The effect of photochemical oxidants is well known for forming smog. Among the anthropogenic sources of pollutants forming the greenhouse gases, burning of fossil fuels constitute a major source. Highway mobile sources that contribute significantly to poor quality of air have not been regulated for the past two decades. In India two-wheelers are a very popular mode of personal transport. Most of them are powered by two-stroke engines because of initial and maintenance costs. However, they have high emission levels causing air pollution.

The objective of traffic study and emission quantification is to assess the magnitude of the emissions resulting from two wheelers, three wheelers and four wheelers that are extensively used as a means of common transport.

A detailed traffic survey was conducted in the area at major traffic intersections in order to arrive at the traffic density in the study area and also to evaluate the impacts of the increased traffic due to the proposed activity.

Vehicular emissions are the major source of air quality impacts in the study area. The principal cause of air pollution during the construction phase is the diesel-powered vehicles used in the haulage of aggregates, earth and other construction material. Air quality could be affected by dust and particulate matter arising due to site clearing, vehicular emissions, etc. Gaseous emissions like SO_2, NO_2, CO and HC might be released from the vehicular movement, which has a direct impact on the environment.

Increase in traffic in the study area has a direct impact on the resources as a heavy release of automobile exhaust is envisaged which has a direct impact on the air quality and the ambient noise levels in the study area. The methodology adopted for carrying out the traffic study was to select the major roads around the project site and count the various categories of vehicles moving on the roads.

Table 1: Traffic Density at the NH- 48

	2 wheeler	PCU (0.5)	3 wheeler	PCU (1.2)	4 wheeler	PCU (1)	B/L	PCU (3.7)	Total PCU
06:00-07:00	178	89	98	74	126	126	104	312	601
07:00-08:00	198	99	101	76	169	169	108	324	668
08:00-09:00	202	101	123	92	262	262	97	291	746
09:00-10:00	226	113	132	99	301	301	109	327	840
10:00-11:00	245	123	106	80	299	299	112	336	837
11:00-12:00	235	118	124	93	286	286	126	378	875
12:00-13:00	248	124	106	80	249	249	96	288	741
13:00-14:00	256	128	115	86	266	266	107	321	801
14:00-15:00	275	138	119	89	245	245	99	297	769

15:00-16:00	249	125	121	91	265	265	89	267	747
16:00-17:00	246	123	107	80	279	279	96	288	770
17:00-18:00	259	130	108	81	315	315	91	273	799
18:00-19:00	265	133	114	86	299	299	87	261	778
19:00-20:00	245	123	109	82	265	265	79	237	706
20:00-21:00	243	122	95	71	245	245	121	363	801
21:00-22:00	221	111	86	65	212	212	106	318	705
22:00-23:00	156	78	75	56	196	196	86	258	588
23:00-00:00	145	73	74	56	186	186	89	267	581
00:00-01:00	123	62	36	27	175	175	92	276	540
01:00-02:00	142	71	30	23	156	156	83	249	499
02:00-03:00	126	63	28	21	145	145	86	258	487
03:00-04:00	112	56	29	22	115	115	84	252	445
04:00-05:00	146	73	36	27	125	125	110	330	555
05:00-06:00	157	79	51	38	135	135	118	354	606

PCUs as per IRC-106:1990

Table 2: Existing Traffic Scenario & LOS

Road	V	C	Existing V/C Ratio	LOS
NH- 48	687	2400	0.286	B

V= Volume in PCUs/hr & C= Capacity in PCUs/ hr

The existing Level of Service is "B" i.e. Very Good

Table 3: Capacity as per IRC: 106–1990-page no. 11 table-2 for arterial road/ Highways

V/C	LOS	Performance	V/C
0.0 - 0.2	A	Excellent	0.0 - 0.2
0.2 - 0.4	B	Very Good	0.2 - 0.4
0.4 - 0.6	C	Good / Average / Fair	0.4 - 0.6
0.6 - 0.8	D	Poor	0.6 - 0.8
0.8 - 1.0	E	Very Poor	0.8 - 1.0

- The total proposed parking for the project is 1,168 ECS, It is estimated that 90% of the vehicles will leave or be operating at the site from (Ready to ply or incoming) 7:00 AM to 8:00 PM i.e. 1,168 x 0.90 = 1,051 and the remaining 10%

parking space will remain vacant or parked with Light Motor Vehicles i.e. 1,168 x 0.10 = 117.

- Since the maximum number of trips will happen between 7:00am to 8:00 PM (i.e.) 12 hours
- Therefore, on average the total number of trips per hour is 1,051/12 = 88 vehicles/ hour.

Table 4: Modified Traffic Scenario

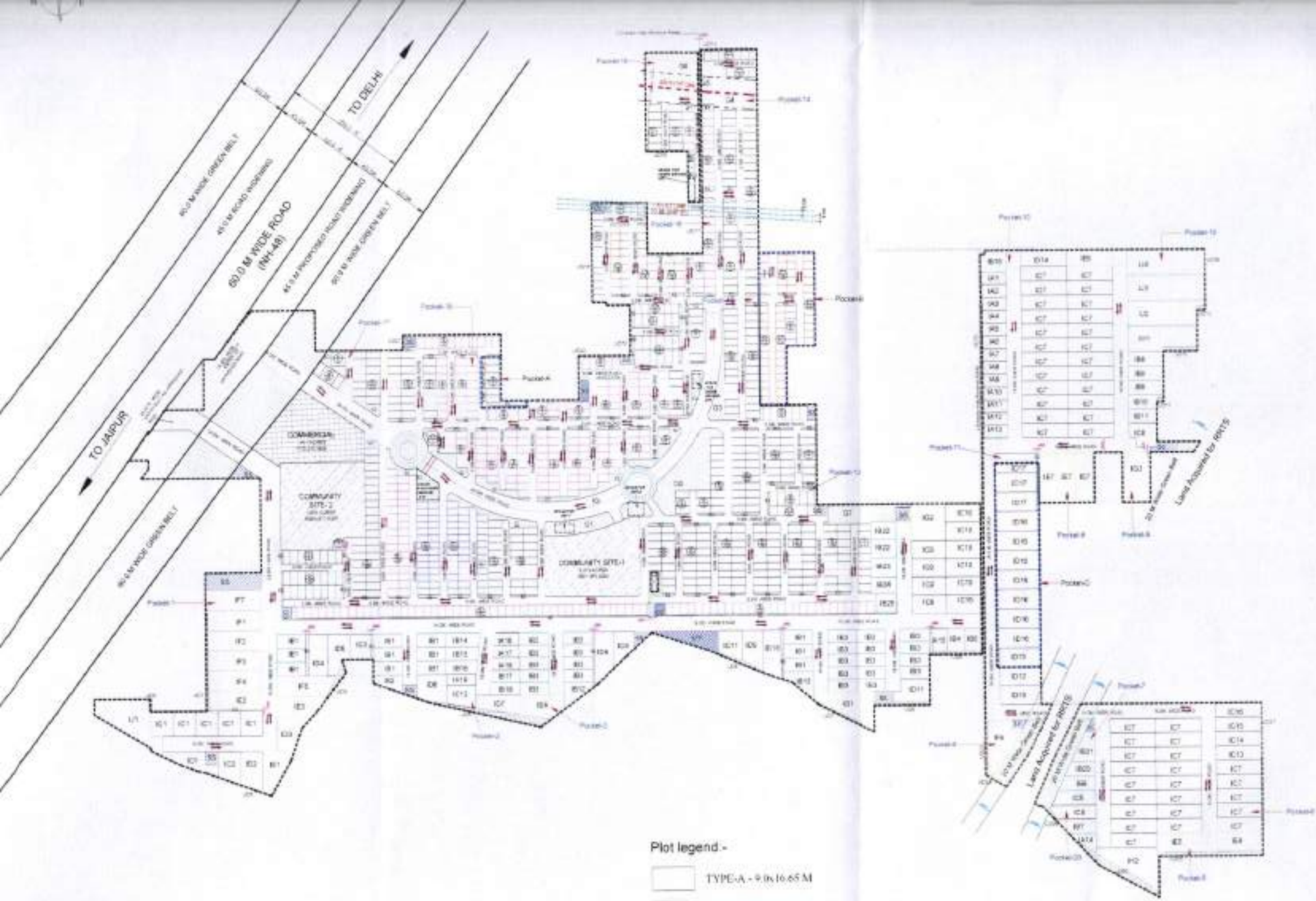
Road	V	C	Modified V/C Ratio	LOS
NH- 48	687 + 88= 775	2400	0.32	B

Modified Traffic Scenario & LOS (after completion of the project)

The modified LOS will be "B", i.e. "VERY GOOD"; therefore, there will be no change in LOS after completion of the project. The total parking proposed for the project = 1,168 ECS.

The project proponents will have a failsafe traffic circulation plan for the "Industrial Plotted colony" project so that smooth passage of vehicles can take place.

The support staff will be trained to handle the morning and evening rush. The traffic generated from the project is assumed to be distributed between 6:00 AM to 10:00 AM & 19:00 PM- 00:00 AM and will distribute along all two directions of the project along the road.



Plot legend:-

TYPE-A - 9.0x16.65 M

TYPE-B - 9.0x13.90 M

TYPE-B1 - 9.0x14.50 M

LEGEND:-

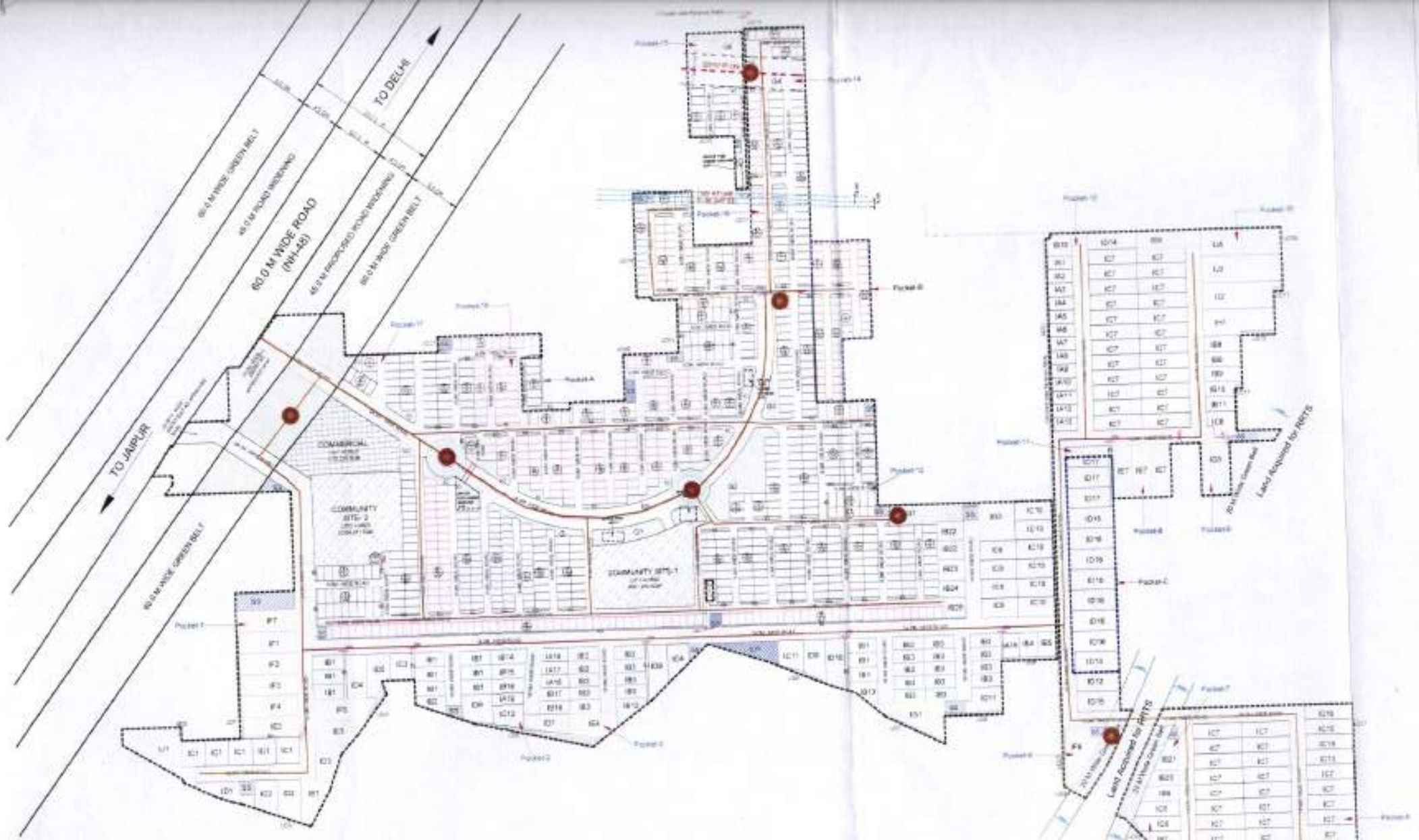
OWNER :

SUNGOLD HEIGHTS DEV
COLLABRATION WITH S
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN
MEASURING 6.08
LICENSED AREA OF
LICENSE NO
135.7260 ACRES
MANESAR, DISTT
BY SIGNATUREG

1140



Plot legend -

TYPE-A - 9.0x16.65 M

TYPE-B - 9.0x13.00 M

TYPE-B1 - 9.0x11.50 M

TYPE-C - 8.0x13.50 M

LEGEND:-

OWNER :

SUNGOLD HEIGHTS DEVELOPE
COLLABRATION WITH SIGNATU
(INDIA) LIMITED

PROJECT :

PROPOSED LAYOUT PLAN FOR A
MEASURING 0.06875 ACRES ADJ
LICENSED AREA OF 129.65621 AC
LICENSE NO. OF DATED
135.7250 ACRES IN VILLAGE SH
MANESAR, DISTRICT GURUGRAM
BY SIGNATUREGLOBAL (INDIA) LTD

DRAWING TITLE :

LAYOUT PLAN

Annexure VIII: Air Simulation Plan

Vehicular emissions and DG set emissions are the major sources of air pollution. During Operation phase, cars, scooter/motorcycle will be owned by the residents of colony. Ground Level Concentration of pollutants (as added by the project) will depend upon the following:

- Emission of pollutants from additional traffic on the roads due to the project
- Meteorological conditions
- Emission sources from D.G. Sets

PM, NO_2, SO_2 and CO will be the main pollutants of primary concern released from traffic movement, DG sets emissions. The dispersion of vehicular emissions would be confined within limited distance from the road and concentration will decrease with the increase in distance from road as worked out by the line source model. It was anticipated that the contribution of vehicular emissions from the exhaust in ambient air quality will be marginal as Pollution Under Control (PUC) Certified vehicles and branded vehicles with low sulphur diesel will be used. Ground Level Concentration (GLC) of pollutants is found to be well within the stipulated National Ambient Air Quality Standards due to traffic movement and vehicles used inside the premises. Air modeling for DG set using AERMOD Cloud Version 18 has been done for prediction of impacts caused by DG sets operation during Operation Phase. Stack & emission data was used as per design value provided by standard make and stipulated standards. Other primary data used as input for model were hourly meteorological data of Wind speed & direction, temperature, cloud amount and mixing height. Mixing height used in the model was taken from secondary data source "Atlas of Hourly Mixing Height Assimilative Capacity of Atmosphere in India published in 2008 by IMD, Delhi". Hourly meteorological monitored at site during study period data was compared with long term data available from the nearest IMD Station.
There is provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

In the project, D.G. set will be used only during power failure and low sulphur diesel will be used as fuel to minimize SO_2 emission. Incremental load in the ambient air environment will be found to be very low as given in the report. An adequate stack height for D.G. sets is proposed as per the stipulated guidelines of Central Pollution Control Board (CPCB)/ National Building Code Manual to facilitate adequate dispersion of pollutants and to minimize the impact on Ambient Air Quality under the influence of local meteorology.

The predictions for air quality during operation phase was carried out using CPCB/MoEFCC approved USEPA, Industrial Source Complex (AERMOD Cloud Version 18)

Dispersion model developed by the US Environmental Protection Agency (USEPA) for prediction of pollutants dispersion from single or multiple point sources using emission and hourly meteorological data of the study period. Assumption used in the model was as follows:

The plume rise is limited to that of the mixing layer as published by IMD in the Catalogue of Atlas of Mixing Heights in India for the site:

- Stack down wash is not considered.
- Flat terrain is used for computations.
- It is assumed that the pollutants do not undergo any physico-chemical transformation
- Chemical and scavenging process occurred in the atmosphere in the pollutants released at the stack exit is not considered.
- Prediction is based on single/multiple point sources, pollution released at stack exit and dispersed on the ground under influence of local meteorological conditions during the season.

AERMOD Cloud Version 18 was used to predict GLC caused by a single point source (1 stack) at each receptor of 100 m x 100 m of grid network covering total area of 2000 m x 2000 m around the proposed source with stack & emission values and 1-hourly meteorological data. It was observed that SO_2, NO_2, CO, PM_{10} & $PM_{2.5}$ were significant pollutants released from the fuel of the D.G. sets. Emission of PM_{10}, $PM_{2.5}$, CO and SO_2 were found insignificant with low values. In this proposed project, NO_2 was the worst affected pollutant released into the atmosphere. 24-h GLC were predicted for SO_2, NO_2, CO and PM.

Table 1: DG Stack and Emission Details

Stack No.	DG set Capacity (kVA)	Stack & Flue details				Pollutants Emission				
		Height (m)	velocity (m/s)	Temp (K)	Dia (m)	NO_2 (g/s)	SO_2 (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)	CO (g/s)
1.	2*750	30	25	773	0.332	0.274	0.006	0.0075	0.015	0.063
2.	1*350	30	25	773	0.176	0.595	0.0013	0.003	0.002	0.0136
3.	1*1000	30	25	773	0.271	0.084	1.148	1	0.64	0.04
Total Emission in g/s from 4no. of DG sets of total capacity 2850 kVA [(2 x 750 + 1 x 350 + 1 x 1000 kVA)]						0.953	1.155	1.0105	0.657	0.116

Discussion of Results

AERMOD - Dispersion model was used to predict GLC of all pollutants; SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO with stack & emission and hourly meteorological data. 24-hours average maximum Incremental GLC of NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO were 0.66 $\mu g/m^3$, 0.07$\mu g/m^3$, 0.68$\mu g/m^3$, 0.43 $\mu g/m^3$ & 0.73 $\mu g/m^3$, occurred respectively at (700m distance) from the DG sets occurred at the same distance. It was found that GLC of SO_2 was less than the permissible limit of 80$\mu g/m^3$ (as per CPCB guidelines) under worst meteorological condition with meteorological data monitored from 1st Dec,2023 to 29th Feb 2024.

25

Conclusion

High to moderate wind speed and minimum stack height of 30 m facilitates dispersion at the distance of 500 m under the influence of local meteorology.

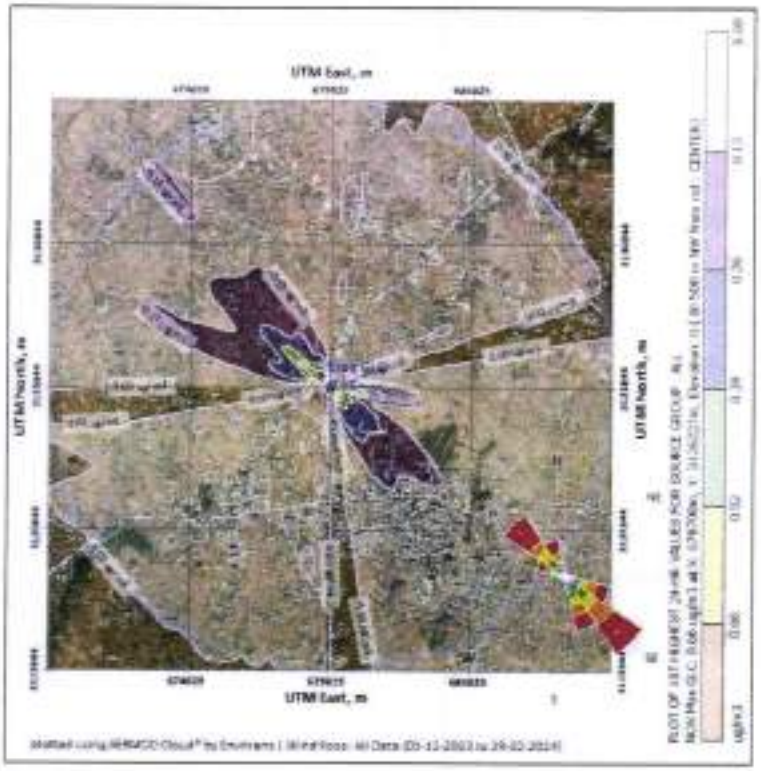


Figure 1- Spatial distribution of 24-hours average NO_2 concentrations (µg/m³)

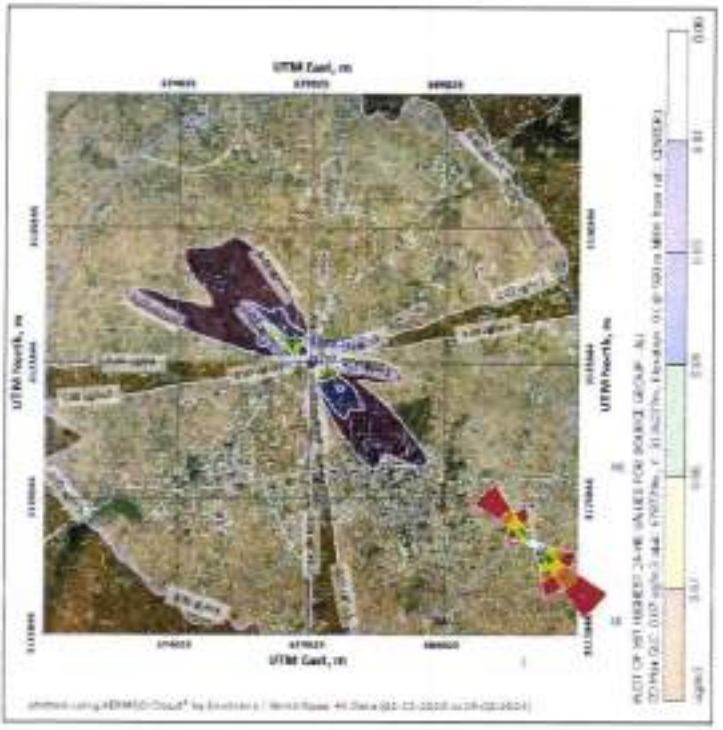


Figure 2 -Spatial distribution of 24-hours average CO concentrations (µg/m³)

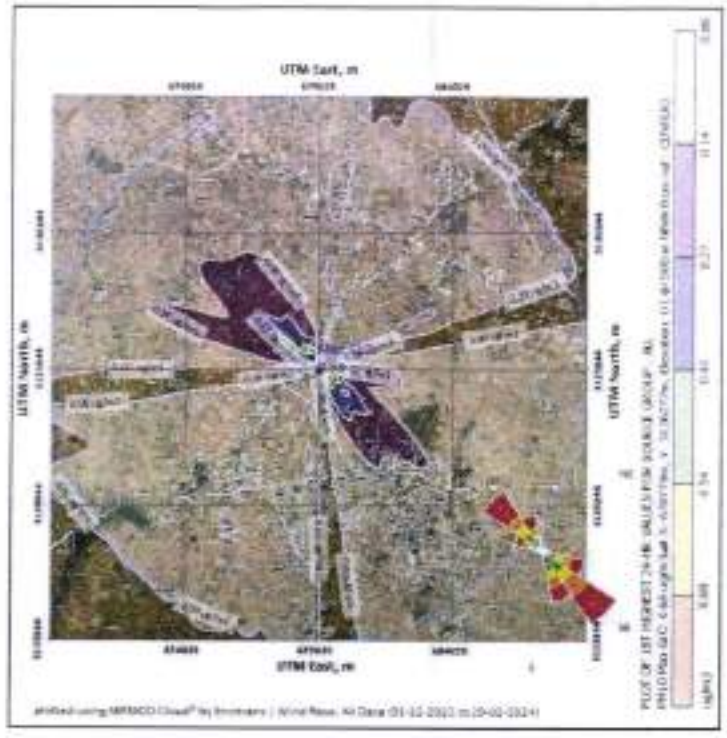


Figure 3- Spatial distribution of 24-hours average PM_{10} concentrations (µg/m³)

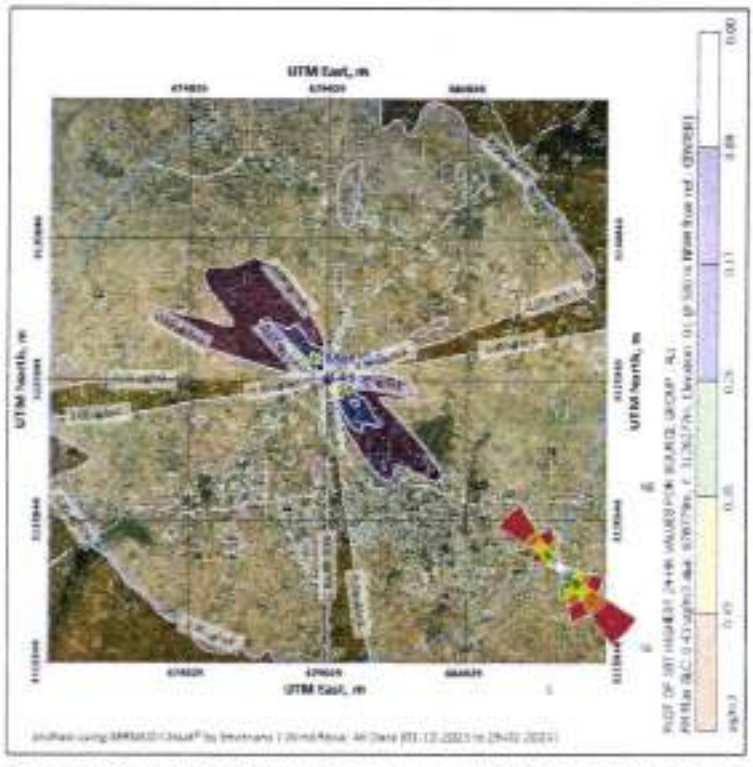


Figure Error! No text of specified style in document.**- Spatial distribution of 24-hours average $PM_{2.5}$ concentrations (µg/m³)**

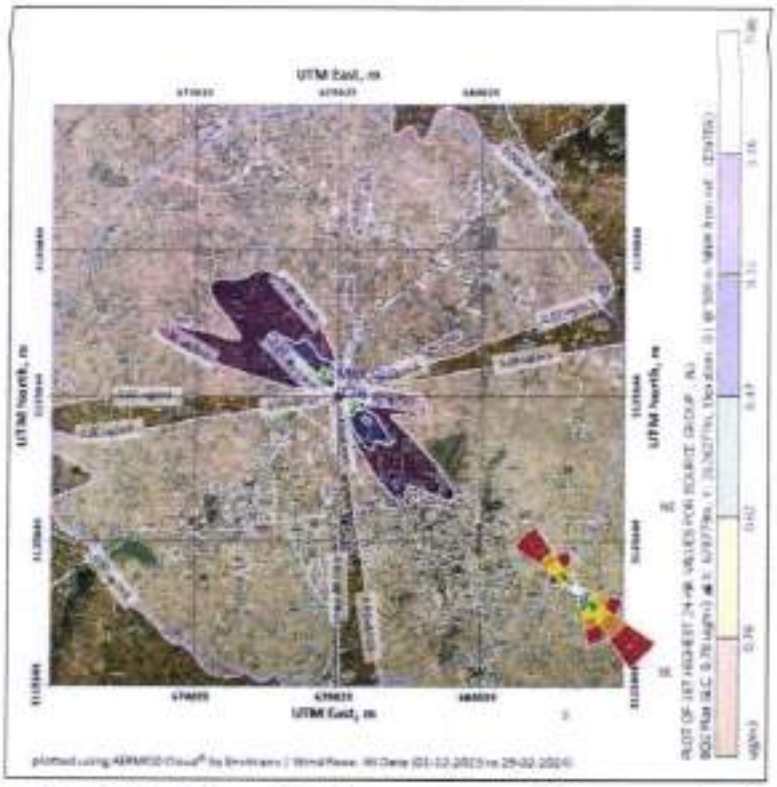


Figure 5- Spatial distribution of 24-hours average SO_2 concentrations (µg/m³)

Mitigation Measures: The project proponent will develop a green belt inside the premises of the project site and along the internal road, which will work as barrier for the movement of pollutants and help in pollution control.

Native plants species will be selected for peripheral and avenue plantation.

— 880 —

ANNEXURE-IX

DAKSHIN HARYANA BIJLI VITRAN NIGAM

DHBVN

Superintending Engineer 'OP' Circle-I
Mehrauli Road, Gurugram.
Tele No. 0124-2366490
e-mail seop1gurugram@dhbvn.org.in

To

M/s Signature Global (India) Ltd.
Ground Floor, Tower-A,
Signature Tower, South City-1
Gurugram-122001.

Memo No. Ch.28/ Drg.-PLC Dated: 06 /09/2024

Sub: **Assurance Certificate of DHBVN for development of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of village Shidharawali, Tehsil Manesar, Distt. Gurugram (License No.104 of 2024 dated 01.08.2024 valid upto 31.07.2029) to be developed by M/s Signature Global India Ltd. Decalared load 14313.37 KVA.**

Ref : Your Firm Letter No. Nil dated 24.08.2024(Received in this office on dt. 28.08.2024).

It is hereby assured that the power requirement of tentative load of 14313.37 KVA shall be considered from the nearest 220/33KV substation at the time of actual requirement as per DHBVN norms at the voltage level of 33KV subject to the following conditions:-

1. Subject to availability of power and infrastructure at the time of actual release of connection.
2. Necessary charges will be got deposited by your as per latest Nigam instructions and compliance of all other instructions of Nigam will be ensured as per standing instructions of the Nigam/HERC regulation.
3. The necessary infrastructure will be laid by you at your own cost. The piece of land will be provided by you for the switching station / sub-station as per instructions of the Nigam.
4. The letter will be valid till the validity of license in view of Sales Circular No.D-6/2022 issued by CE/Commercial DHBVN, Hisar vide Memo No. Ch-06/SE/C/R-16/380/Vol-I dated 10.03.2022.

06/9/2024

Superintending Engineer
'OP' Circle-I DHBVN, Gurugram

Copy to:-

The XEN 'OP' Divn. DHBVN Manesar for information, please.

29

— 881 —

GMDA

ANNEXURE-X

OFFICE OF THE EXECUTIVE ENGINEER-V, SEW. DIVISION, GMDA, GURUGRAM
Address : 6th Floor, Plot No. 3, Sector-44, Gurugram,
E-mail -xen4infra2.gmda@gov.in

To,

M/s Signature Global Business Park Pvt. Ltd.,
Ground Floor, Tower -A, Signature Tower,
South City -I, Gurugram, Haryana – 122001
Email – compliance@signatureglobal.in

Memo No. GMDA/SEW/2024/417 Dated. 02-09-2024

Sub: - **Assurance for supply of 1450 KLD STP treated water for construction purpose of the proposed Industrial Plotted Colony over an area measuring 129.65625 acres (License No. 104 of 2024 dated 01.08.2024 valid upto 31.07.2029) falling in the revenue estate of village – Sidhrawali, Tehsil – Manesar, District - Gurugram being developed M/s Signature Global Business Park Pvt. Ltd.**

Ref: - **Your office latter dated 24.08.2024.**

With reference to the above cited subject, it is intimated that 1450 KLD tertiary treated water is available at CETP Manesar Gurugram. The tertiary treated water can be purchased from STP with your own transportation arrangement through online module of GMDA available at www.gmda.gov.in.

Executive Engineer-V,
Sew. Division, GMDA
Gurugram

30

547
D. Branch / Pawan, Office Asstt.

1149

—882—

Annexure—X

हरियाणाशहरीविकासप्राधिकरण

HSVP

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To,

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 317249 **Dated:** 26-11-2024

Sub: - **Assurance for Fresh water supply drinking water during operational phase total fresh water Requirement 1823 KLD of for our Industrial Park Project under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil- Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for sohna has yet not been acquired and master services of Water Supply will be planned after acquisition of land accordingly. After approval and execution of Water Supply Scheme, the water supply connection will be sanctioned on your request as per HSVP by law.

This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram.

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ANNEXURE-XI

हरियाणाशहरीविकासप्राधिकरण

HSVP

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 31725\ **Dated:** 26-11-2024

Sub: - **Assurance for External Sewerage Connection for discharge of 1195KLD surplus treated domestic effluents after commissioning for our proposed Industrial park Plotted Colony under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil-Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for Pataudi has yet not been acquired and master services of Sewerage Line will be planned after acquisition of land accordingly. After approval and construction of Sewerage Treatment Plant & laying of master sewer line, the Sewerage connection will be sanctioned on your request as per HSVP by law.

This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram

37

M/s Signatureglobal India Limited

307th STATE EXPERT APPRAISAL COMMITTEE MEETING, HARYANA

6 307.14

w.r.t.

EC PRESENTATION FOR

INDUSTRIAL PLOTTED COLONY PROJECT

Village-Shidrawali, Tehsil- Manesar, District-Gurugram, Haryana

(Proposal No. :SIA/HR/INFRA2/496874/2024)

(Agenda Item no. 307.14)

20th December 2024

Environment Consultant:
Grass Roots Research & Creation India (P) Ltd.

Save Globe
GRC

ENVIRONMENT CONSULTANT

Grass Roots Research & Creation India (P) Ltd.
(An ISO 9001:2015 Certified Co.)

Corporate Office : **F - 374 & 375, Sector-63, NOIDA-201301, U.P.**
Regd. Office : **Unit No. 102, Ist Floor, Vardhman Mayur Market, CSC 1, Mayur Vihar Phase-III, New Delhi – 110096**

QCI NABET accredited as per Certificate No: NABET/EIA/24-27/RA 0354

As per QCI NABET 'List of Accredited Consultant Organizations as on 29th October 2024, under Category 'A' Sl. No. 109

GRC INDIA TRAINING & ANALYTICAL LABORATORY
A Unit of GRC India (P) Ltd.

NABET ACCREDITATION CERTIFICATE

QUALITY COUNCIL OF INDIA

National Accreditation Board for Education and Training

Certificate of Accreditation

Grass Roots Research & Creation India (P) Ltd, Noida

F- 375, Sec – 63, Noida – 201301

The organization is accredited as ***Category A under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations, Version 3.*** *for preparing EIA/EMP reports in the following Sectors:*

S. No	Sector Description	Sector (as per) NABET	Sector (as per) MoEF&CC	Cat.
1.	Mining of minerals including opencast / underground mining	1	1 (a) (i)	A
2.	River Valley projects	3	1 (c)	A
3.	Thermal power plants	4	1 (d)	A
4.	Coal Washeries	6	2 (a)	A
5.	Mineral beneficiation	7	2 (b)	A
6.	Metallurgical industries	8	3 (a)	A
7.	Cement Plants	9	3(b)	A
8.	Coke oven plants	10	4 (b)	A
9.	Asbestos milling and asbestos based products	12	4 (c)	A
10.	Synthetic organic chemicals industry	21	5 (f)	A
11.	Distilleries	22	5 (g)	A
12.	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	33	7(c)	A
13.	Bio-medical waste treatment facilities	32A	7 (da)	B
14.	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
15.	Common Municipal Solid Waste Management Facility	37	7 (i)	B
16.	Building and construction projects	38	8 (a)	B
17.	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in NABET website dated October 13, 2024 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/EIA/Accl/22/24/0406 dated November 12, 2024. The accreditation needs to be reviewed before the expiry date by Grass Roots Research & Creation India (P) Ltd. Noida following due process of assessment.

Issue Date
November 11, 2024

Valid up to
August 16, 2027

Dr. Ajay Kumar Jha
(Sr. Director, NABET)

Certificate No.
NABET/EIA/24-27/RA 0354

Prof (Dr) Varinder S Kanwar
(CEO NABET)

For the updated list of Accredited EIA Consultant Organizations with approved Sectors, please refer to QCI-NABET website

CHRONOLOGY OF THE EC APPLICATION OF PROJECT

TOR application submitted to SEIAA, Haryana on 10.09.2024 and ToR was issued vide ToR Identification no. TO24B3813HR5427969N dated 10.09.2024

↓

EIA/EMP report submitted to SEAC, Haryana on 16.09.2024

↓

EDS was raised on 17.09.2024 and the reply for the same was submitted on 11.12.2024

↓

Now the project was considered in 307TH SEAC Haryana Meeting dated 20.12.2024

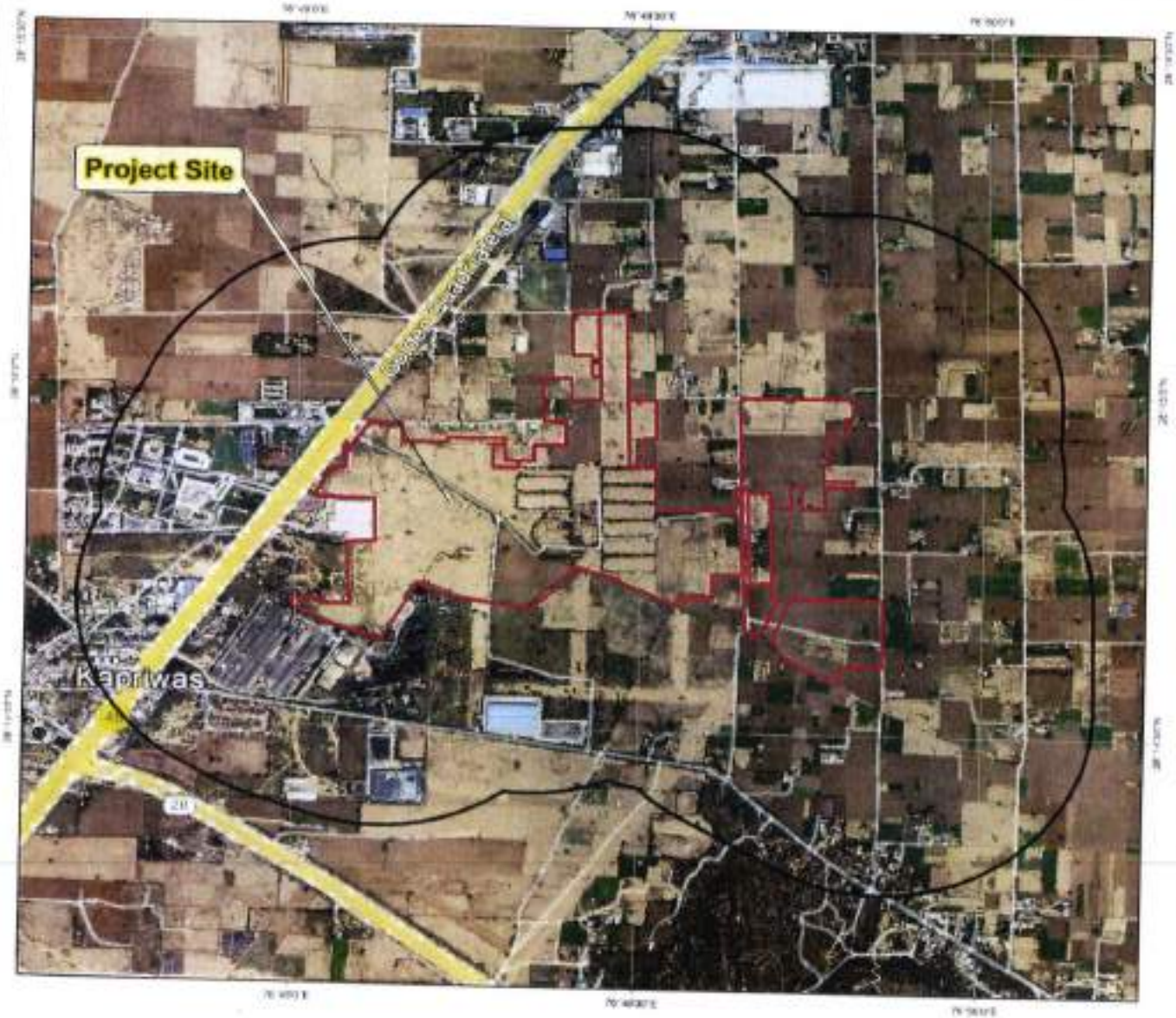
INTRODUCTION

- The Industrial Plotted Colony Project is to be developed by M/s Signatureglobal India Limited. The project site is located at Village-Shidrawali, Tehsil-Manesar, District-Gurugram, Haryana on a land measuring 135.7250 acres.

- The total plot area measures 5,49,258.716 m^2 (135.7250acres) and estimated built-up area is 7,24,895.645m^2.

- The project facilities include:
  - **Industrial Plotted Development** (Area= 2,30,351.102m^2)
  - **Residential Plotted Development** (Type 1 :285 plots & Type 2: 677 plots)
  - **Community facilities** (Community 1 area = 9351.919 m^2 & Community 2 area = 10290.508 m^2)
  - **Commercial facilities** (Retail Shop area = 11417m^2)

PROJECT SITE & SURROUNDING - 500 m RADIUS





N
W
E
S

Project Site

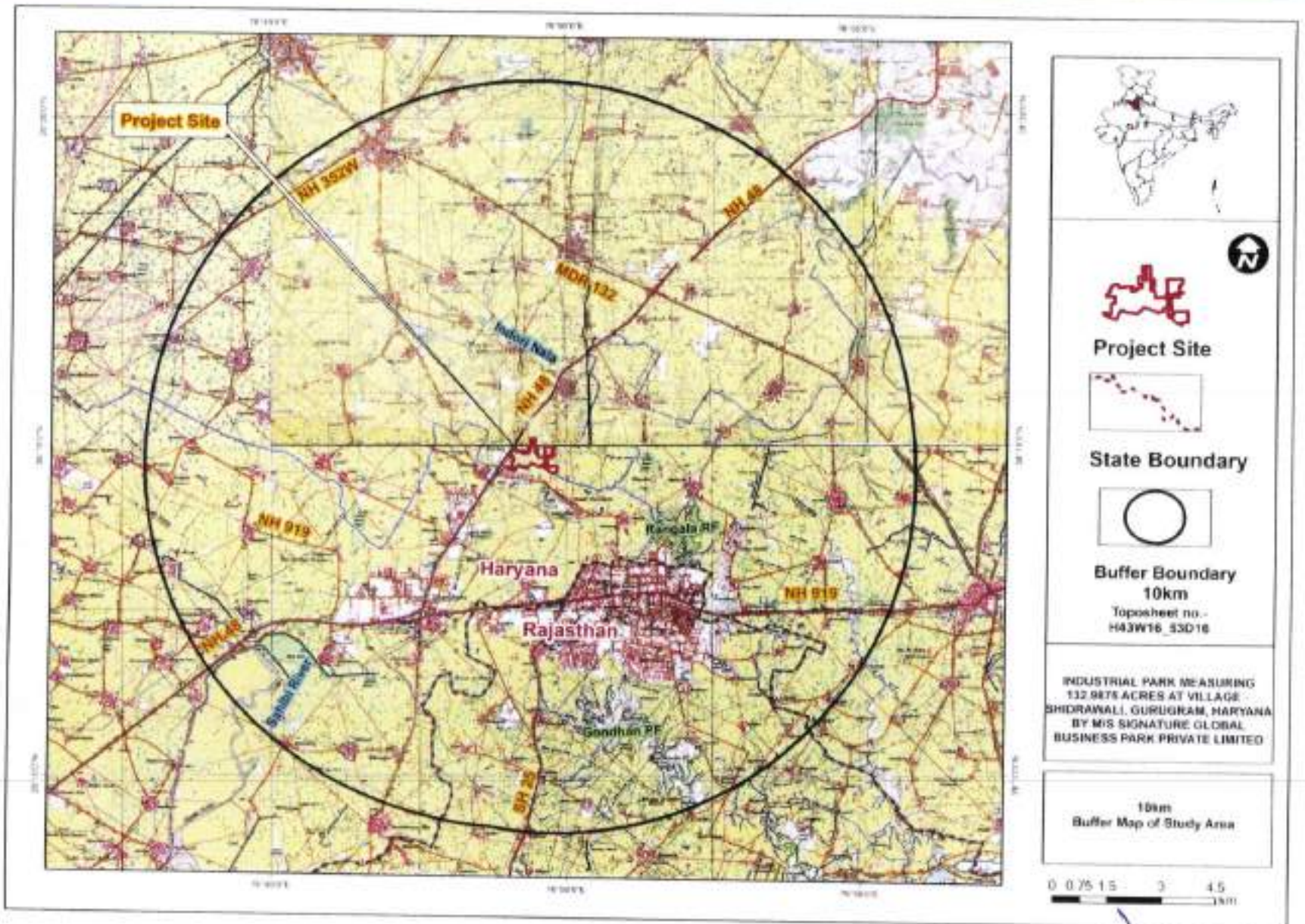
Buffer Boundary

SOURCE : Satellite Image

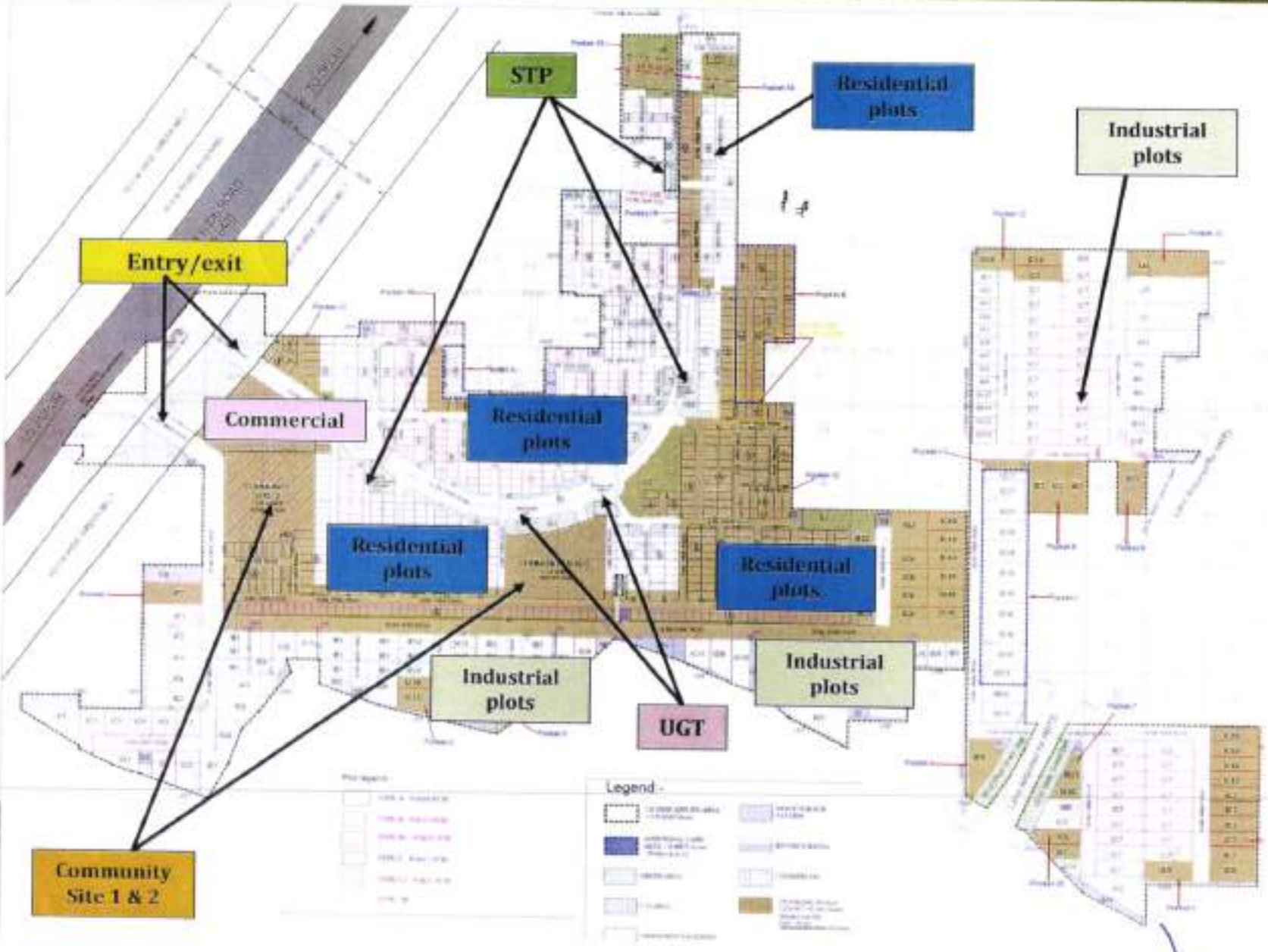
Industrial Park Project at
Village- Shehrawali District- Gurugram,
Haryana by
M/s Signature Global (India) Limited

500 Meters Buffer Map of
The Study Area

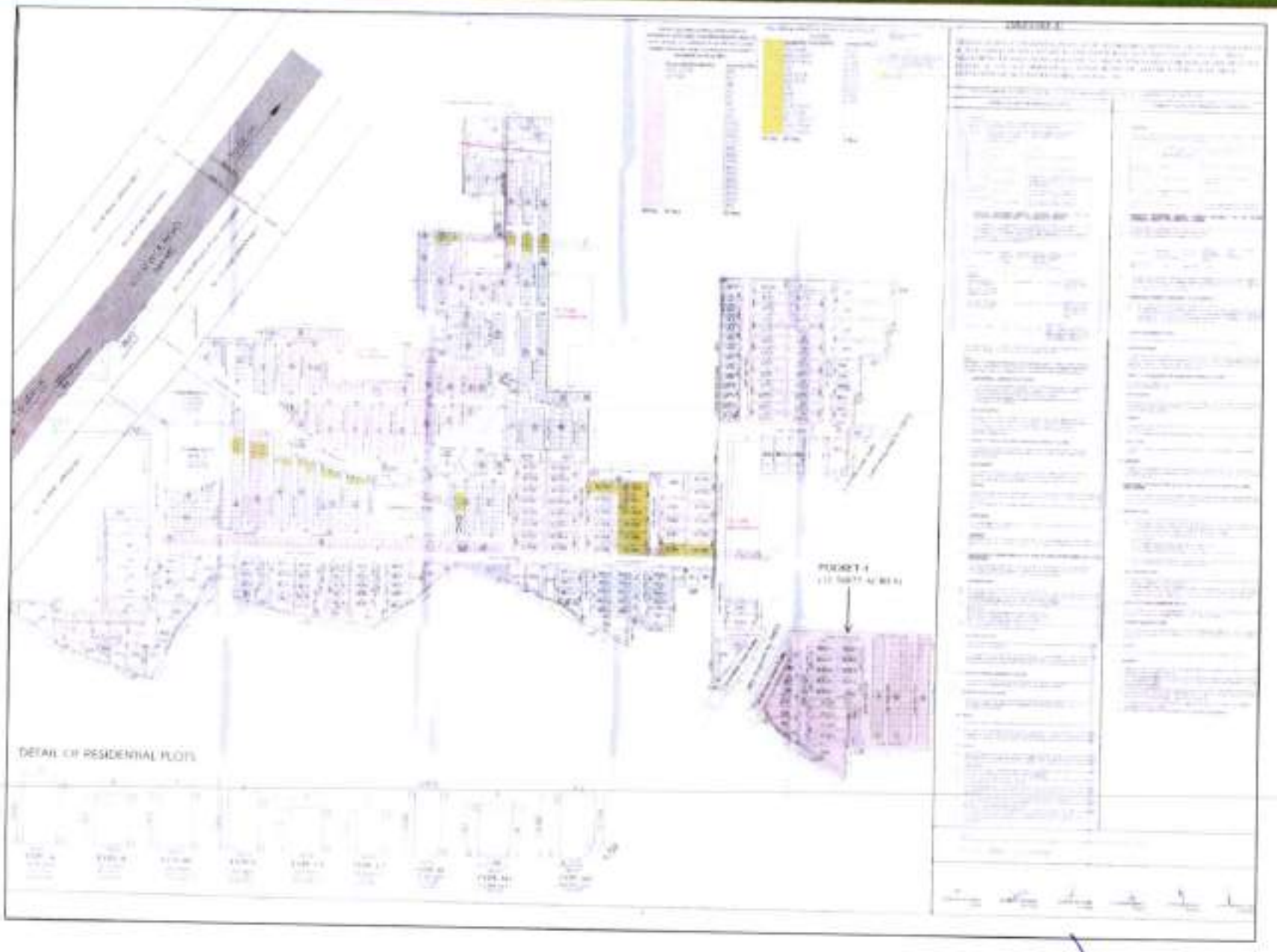
SoI TOPOSHEET SHOWING 10 km RADIUS AROUND PROJECT SITE



SITE PLAN


STP
Residential plots
Industrial plots
Entry/exit
Commercial
Residential plots
Residential plots
Residential plots
Industrial plots
Industrial plots
UGT
Community Site 1 & 2
Legend -

ZONING PLAN



1159

SITE CONNECTIVITY

S. No.	Description	Details	Distance & Direction
1.	**Geographical Co-ordinates**	Latitude 28° 14' 59.529"N Longitude 76° 49'48.329"E	
2.	**Nearest Railway Station**	Inchhapuri Railway Station	12.6 km towards NW direction
3.	**National Highway/Roads**	NH-48 SH-28 SH-25 NH-919 Western Peripheral Expressway MDR 132 NH-352W	Adjacent to the project site. 0.58 km towards SW direction 4.1 km towards S direction 3.8 km towards S direction 8.7 km towards NE direction 5.1 km towards NE direction 9.5km towards S direction
4.	**Nearest Airport**	Indira Gandhi International Airport	40 km towards NE direction

SALIENT FEATURES

DESCRIPTION	DETAILS
Estimated Population	61,489 persons
Total Water Requirement	3475 KLD ; Source: GMDA
Waste Water demand	**2516 KLD; Source: GMDA** ▪ Waste water for Residential Plots (Type 1)= 389 KLD ▪ Waste water for Residential Plots (Type 2), Community Buildings & Commercial Buildings = 1175 KLD ▪ Waste water for Industrial Plots = 952 KLD
Solid Waste	18139 kg/day
Electrical load	12,883 kW; Source: Dakshin Haryana Bijli Vitran Nigam (DHBVN).
Power backup	• 2 no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA • 2 no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA
No. of RWH Pits	65 Nos. of Rainwater harvesting Pits
Cost of Project	INR 1593.7 Crores
Parking	For plotted development the parking shall be within the plots by the individual plot owners

AREA STATEMENT

S. No.	Particulars	Area (in m^2)
1.	**Total Licensed area**	**5,49,258.716**
2	Area under Road (Delhi -Jaipur Road) Widening	10,194.015
3	Area under proposed Green Belt of Delhi -Jaipur Road (considering 60 m wide on either side)	13677.139
4	Area under green belts of RRTS (considering 20m on either side)	5293.280
5.	Total area to be deducted (2+3+4)	29,164.434
6.	**Balance area (1-5)**	**5,20,094.282**
7.	**50% benefit of area under road** (Delhi -Jaipur Road) Widening, Green Belt of Delhi -Jaipur Road & green belts of RRTS	**11,935.577**
8.	**Net Area (6+7)**	**5,32,029.859**
9.	Area under undetermined use	5,516.641
10.	**Net Planned area (8-9)**	**5,26,513.219**
11.	**Proposed Area under plots**	**319,416.066**
	• Area under Industrial Plots	1,84,280.882
	• Area under Residential plots	1,27,433.845
	• Area under Commercial plots	7701.339
12.	**Total Permissible FAR**	**5,78,220.453**
	• Industrial Permissible FAR (1.250)	2,30,351.102
	• Commercial Permissible FAR (4.2857/Plot)	11,417
	• Residential Permissible FAR (2.64)	3,36,452.351
13.	**Total Proposed FAR**	**5,78,220.453**
	• Industrial FAR	2,30,351.102
	• Commercial FAR	11,417
	• Residential FAR	3,36,452.351
14.	NON-FAR Area	**1,46,675.192**
15.	**Total Built up area**	**7,24,895.645**
16.	**Green Area (7.073% of Plot area)**	**37,241.664**
	❖ Green Area under DDJAY	14942.433
	❖ Green Area under Green Belt	13677.139
	❖ Green Area Metro/RRTS Green Belt	5293.280

LAND USE BREAK-UP OF SITE

S. No	Description	Area (acre)	Area (m^2)	Percentage of Net planned area (%)
1	Area under Industrial Plots	45.537	1,84,280.882	33.55
2	Area under DDJAY Residential Component	31.490	1,27,433.845	23.02
3	Area under Commercial Plots	1.903	7701.339	1.402
4	Area under Road/Road widening/Open/Green /Public Facilities etc	56.795	2,29,842.913	41.84
	Total land area	135.7250	**5,49,258.716**	**100**

POPULATION BREAKUP

The total population of the project will be 61,489 persons

Population Break-up for Residential Population

S. No.	Description	Total no. of floors per plot	DUs/FAR (sqm)	PPU	Total Population
A.	**Residential plots (Type 1)**				
1.	Residential plots	4	285	18	5130
2.	Visitor's	10% of Residential population			513
3.	Staff (Operation & Maintenance)				200
B.	**Residential plots (Type 2)**				
4.	Residential plot Population	4	677	18	12186
5.	Visitor's	10% of Residential population			1219
6.	Staff (Operation & Maintenance)				200
	Grand Total of Residential Population				**19,448**

POPULATION BREAKUP

Population Break-up for Community buildings,& Commercial Population

S. No.	Description	Area (m^2)	PPU/ Person/m^2 FAR	Total Population
C.	**Community Building -1**			
7.	**Community Building Population**	9351.919	1.4	**6680**
8.	**Staff**	10% of Community Building 1 population		668
9.	**Visitors**	90% of Community Building 1 population		6012
D	**Community Building -2**			
10.	**Community Building Population**	10290.508	1.4	**7351**
11	**Staff**	10% of Community Building 2 population		736
12.	**Visitors**	90% of Community Building 2 population		6615
	Total Community buildings population			**14,031**
E.	**Commercial Building**			
13.	**Retail Shops (Ground Floor)**	4,566.8	(@ 1 Person/3 m^2)	**1522**
	• Staff	(@10% of the Retail shop population)		152
	• Visitors	(@90% of the Retail shop population)		1370
14	**Retail Shops (Above Floors)**	6,850.2	(@ 1 Person/6m^2)	**1142**
	• Staff	(@10% of the Retail shop population)		114
	• Visitors	(@90% of the Retail shop population)		1028
	Total Commercial building population			**2664**
	Grand total of Community buildings & Commercial buildings population			**16,695**

POPULATION BREAKUP

Population Break-up for Industrial Population

S. No.	Description	Area (m^2)	PPU/ Person/m^2 FAR	Total Population
F.	**Industrial Plots**			
	Industrial plots population	2,30,351.102	(@ 1 Person/10 m^2)	23,035
	Visitors	10% of Industrial plots population		2303
	Total Industrial plots population			**25,338**

POINT-WISE COMPLIANCE OF ToR CONDITIONS

ToR Letter No. TO24B3813HR5427969N dated 10th September 2024

1. PROJECT DETAILS

TOR Point No 1.1 : ***Need and benefits of the project.***

Reply:

Need of the project

The project will provide direct or indirect **employment opportunities** for a large section of society.

The employment will have positive impact thereby improving the standard of living.

Benefits of the project

The proposed project will **generate revenue**, **employment opportunities,** improves **physical infrastructure, social infrastructure.**

TOR Point No 1.2: ***Submit data for built-up area for each building, the use and occupancy classification in line with NBC 2016 also to be indicated [for differential functional requirements].***

Reply: Details of area and population breakup are discussed in above slides.

1. PROJECT DETAILS

TOR Point No 1.3: ***The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.***

Reply : Cost of the proposed project is approx. INR 1593.7 Cr and Cost for EMP is INR 797 lakhs (Capital) and INR 108.37 lakhs (recurring).

Environmental Management Plan details and the environmental quality control measures which are proposed for this project by complying with the stipulated standard limits specified by State Pollution Control Board and CPCB. The environmental management plan includes all preventive as well as mitigation measures to minimize impact on environment. Environmental Management Plan, which is to be implemented in the project has detailed under the following heads:

- Land use pattern and environment
- Air Environment
- Noise Environment
- Water Management
- Solid Waste Management
- Biological Environment including Plantation Development
- Implementation of EMP and Monitoring Program

Detailed Environmental Management Plan during both construction and operation are given in subsequent slides

EMP COST

DURING CONSTRUCTION PHASE		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Labor Sanitation & Wastewater Management	15	3.75
Dust Mitigation Measures Including site barricading, water sprinkling and anti-smog gun)	15	3.75
Storm Water Management (temporary drains and sedimentation basin)	10	2.5
Solid Waste Management	5	1.25
TOTAL	**45**	**11.25**

During Operation Phase		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Sewage Treatment Plant	120	30
Rainwater Harvesting System	97.5	24.37
Solid Waste Management	60	15
Environmental Monitoring	0	9
Green Area/ Landscape Area	65	16.25
Others (Energy saving System, miscellaneous)	10	2.5
Sub-Total	**352.5**	**97.12**
CER		

EMP COST

During Operation Phase		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Govt. Sr. Sec. School, Sidhrawali ▪ Complete makeover ▪ Construction of toilets ▪ Installation of Solar Panels ▪ Painting of School Building ▪ Replacement of doors and windows ▪ Energy efficient lighting ▪ Smart Classroom equipment	399.5	--
Total	752	97.12

TOTAL EMP BUDGET		
COMPONENT	**CAPITAL COST(INR LAKH)**	**RECURRING COST(INR LAKH/YR)**
During Construction Phase	45	11.25
During Operation Phase	752	97.12
TOTAL	**797**	**108.37**

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2. LAND ENVIRONMENT

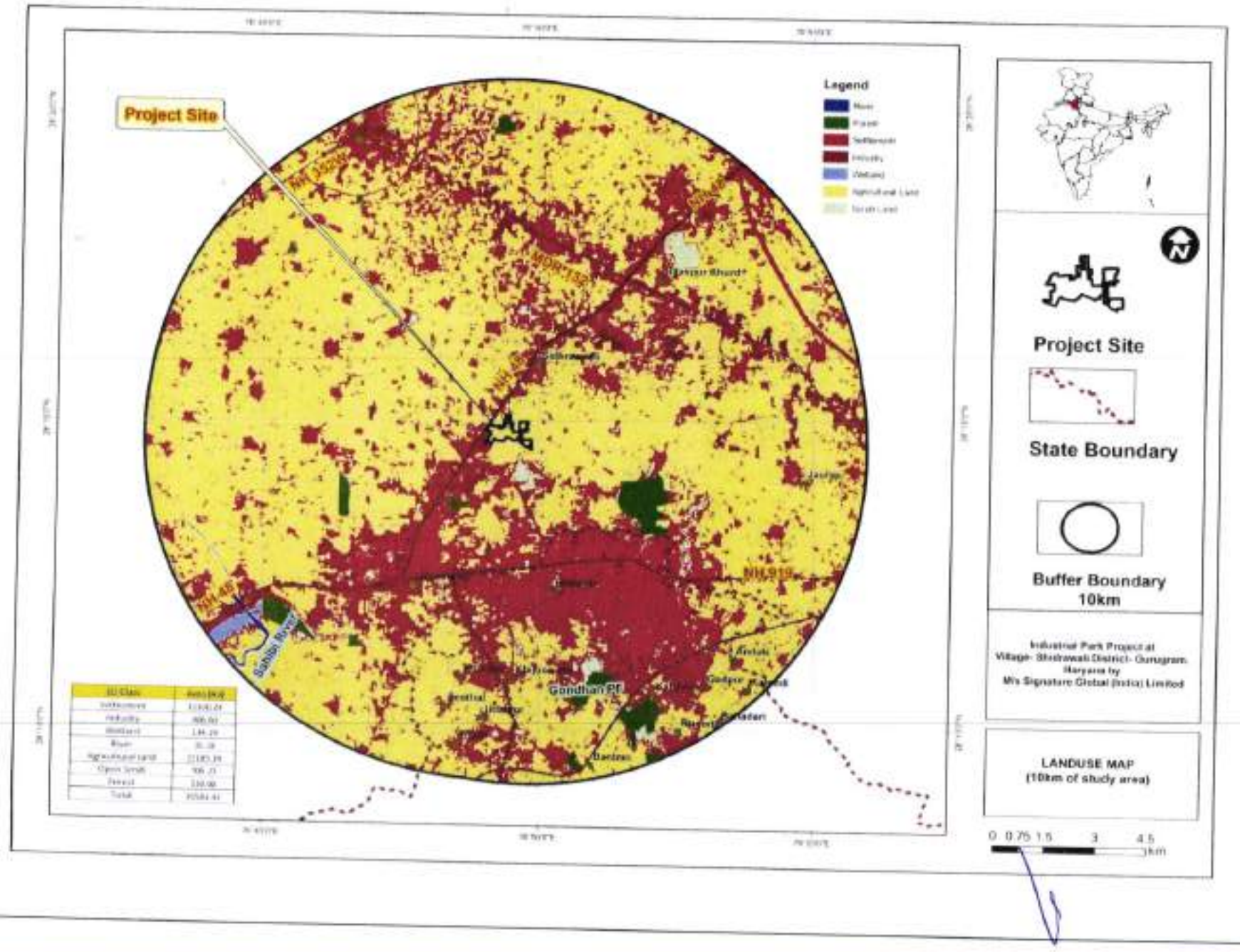
TOR Point No 2.1: ***Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.***

Reply: Development of Project is as per Master Plan of the region.
Net Plot area = 5,32,029.859 sqm (135.7250 acres)
No river is passing through 10 km radius of project site.
Land use within 10 km radius is given below:

Sl no	LU/LC Class	Area (ha.)	Percentage
1.	Settlement	11100.24	31.19
2.	Industry	906.60	2.54
3.	Wetland	134.19	0.377
4.	River	35.78	0.100
5.	Agricultural Land	22185.39	62.35
6.	Open Scrub	709.23	1.99
7.	Forest	510.00	.43
Total Study Area		**35581.43**	**100**

Project site is not located in Flood Plain.

Land use of 10 km radius



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3. Land acquisition & R&R

TOR Point No 3.1: ***Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.***

REPLY :

- The project site is outside ESZ area.
- Land is in possession of PP.
- There is no R&R involved in the project.
- There are no human settlements at site, so rehabilitation of communities/village is not involved.
- The License are shown in next slides.

LICENSE NO. 104 of 2024

FORM LC -V
(See Rule 12)
HARYANA GOVERNMENT
TOWN AND COUNTRY PLANNING DEPARTMENT

License No. 104 of 2024

This License has been granted under the Haryana Development and Regulation of Urban Areas Act, 1975 & the Rules 1976, made thereunder to Suncity Heights and Developers LLP, in collaboration with SignatureGlobal (India) Limited, 11th Floor, Dr. Gopal Das Bhawan, 28 Barakhamba Road, Connaught Place, New Delhi-110001, for setting up of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of Village Sidhrawali, Tehsil- Manesar, District Gurugram.

1. The particulars of the land, wherein the aforesaid Industrial Plotted Colony is to be set up, are given in the Schedule annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.

2. The License is granted subject to the following conditions:

(i) To deposit a sum of Rs. 16,56,83,860/- on account of Infrastructural Development Charges in two equal installments. First within 60 days from issuance of license and second within six months online at www.tcpharyana.gov.in. In failure of which, an interest @ 18% per annum for delay period shall be paid.

(ii) The licencee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereafter to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(iii)(b) of the Haryana Development and Regulation of Urban Areas Act, 1975.

(iii) The licencee has not submitted any other application for grant of license for development of the said land or part thereof for any purpose under the provisions of the Haryana Development and Regulation of Urban Areas Act, 1975 or any application seeking permission for change of land use under the provision of the Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963.

(iv) The licencee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.

(v) The licencee shall make own arrangements for water supply, sewerage, drainage etc. to the satisfaction of DTCP.

(vi) The licencee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.

(vii) That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.

(viii) That such TDR deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

(ix) The implementation of such mechanism shall, however, have no bearing on EDC installment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC installments that are due for payment get paid as per the prescribed schedule.

(x) The licencee shall take prior permission from the Divisional Forest Officer, Gurugram regarding cutting of any tree in their applied site.

(xi) Only green category industry shall be allowed in the area of the licensed industrial colony which is falling within 2 kilometers from the boundary of urbanisable zone of the development plan, excluding the peripheral roads, if proposed along urbanisable boundary. All categories of industries will be allowed in the industrial colony outside 2KM belt subject to the condition of obtaining certificate from Haryana pollution Control Board.

(xii) You shall pay at least the cost of infrastructure made available by various agencies/Department of the state Government, including infrastructure sought and availed in the agriculture zone as and when demanded by the competent authority.

(xiii) That you shall also take necessary measures for setting up of an effluent treatment plant of appropriate size and its appropriate use and also for safe disposal of effluents after proper treatment.

3. The area/pocket-1 measuring 11.5625 acres which derives approach from land acquired for RRTS, shall be kept frozen till submission of the NOC /access permission from NCRTC/competent authority.

4. That you shall not raised any construction within 30 mtr buffer zone on either side of acquired alignment of RRTS and the same shall be kept as green/buffer zone.

5. That no third party rights shall be created over any frozen area till such area is de-freezed.

6. That plots beneath the 2 nos. incr. of 11 KV HT line and 1 no. of 220 KV HT line falling in the licensed land shall be kept frozen till shifting of respective HT lines.

7. The license is valid up to 31.07.2029

(Amit Khatri, IAS)
Director,
Town & Country Planning
Haryana, Chandigarh

Dated: The 01.08.2024
Chandigarh

Endst. No. LC-5139/Asstt(MS)/2024/27509 Dated: 01-08-2024

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action:-

LETTER OF INTENT

Directorate of Town and Country Planning, Haryana

Nagar Yojana Bhawan, Plot No.3, Sector-18A, Madhya Marg, Chandigarh, Chandigarh.
Phone: 0172-2549349 e-mail: tcphary.red@gmail.com

Regd.

LC-III
(See Rule 10)

To

Sungold Heights Developers LLP.,
In collaboration with Signature Global (India) Ltd.,
13th Floor, Dr. Gopal Das Bhawan,
28 Barakhamba Road, Connaught Place,
New Delhi-110001.

Memo No. LC-5139-B-DS (AK)/2024/ 38456 Dated: 05-12-24

Subject: Letter of Intent:-Request for grant of licence for setting up of Industrial Plotted Colony over an area measuring 6.05875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram- Signature Global (India) Ltd.

Please refer to your application dated 07.06.2024 on the above cited subject.

Your request for grant of licence under section 3 of the Haryana Development and Regulation of Urban Areas Act, 1975, and Rules framed there under for development of Industrial Plotted Colony over an area measuring 6.0875 acres (in addition to licence no. 104 of 2024 dated 01.08.2024) falling in the revenue estate of village Sidhrawali, Tehsil Manesar, District Gurugram has been considered and it is proposed to grant license for setting up of aforesaid Industrial Plotted Colony. You are, therefore, called upon to fulfill the following requirements/ pre-requisites laid down in Rule 11 of the Haryana Development and Regulation of Urban Areas Rule, 1976 within a period of 60 days from the date of issue of this letter, failing which request for grant of licence shall be refused:-

1. To deposit an amount of Rs. 1,69,054/- on account of scrutiny charges in favour of the Director, Town & Country Planning, Haryana through online mode.

2. You have an option to either to deposit an amount of Rs. 76,89,89,881/- Crore on account of External Development Charges in favour of Director, Town and Country Planning, Haryana, Chandigarh through online on e-payment portal of the Department before grant of licence or furnish 25% Bank Guarantee of Rs.19,22,47,470/- lacs on account of External Development Charges before grant of licence and shall pay the amount of EDC in the ten half yearly installments each with nominal interest of 12% p.a. and penal interest of 3% for the delayed period in favour of Director, Town & Country Planning, Haryana, payable at Chandigarh.

D.T.C.P.(Hry.)

3. To furnish bank guarantee amounting 64.48075 lacs against 25% of the total cost of Internal Development Works amounting Rs. 257.923 lacs.

**It is made clear that bank guarantee of Internal Development Works has been worked out on the interim rates and you will have to submit the additional bank guarantee, if any required, at the time of approval of Service Plan/Estimate. With an increase in the cost of construction, you would be required to furnish an additional bank guarantee within 30 days on demand.

4. To execute two agreements i.e. LC-IV & Bilateral Agreement on Non-Judicial Stamp Paper of 100/-. Further, following additional clauses shall be added in LC-IV agreement as per Government instruction dated 14.08.2020.

Unregulated Development Act, 1963 or have not applied for licence/ permission under any other law for the time being in force.

10. That you shall submit an undertaking from the land owning companies/ owners that this land has not been sold to any person after entering into collaboration agreement with the colonizer to whom LOI is being issued and also that presently there is no collaboration agreement enforced with any other person for the same land.

11. That certificate from DRO/Deputy Commissioner, Gurugram will be submitted certifying that the applied land is still under ownership of applicant company, encumbrance free and not under acquisition proceedings.

12. That you shall submit the NOC/Access permission from NCRTC/competent authority regarding R.O.W of RRTS, before issuance of final permission.

13. You shall submit an indemnity bond indemnifying Director w.r.t. final outcome of the SLP(C) no. 15439 of 2022 of Hon'ble Supreme Court of India.

14. That company will intimate their official Email ID and the correspondence on this Email ID by the Deptt. will be treated as receipt of such correspondence.

(Amit Khatri, IAS)
Director,
Town & Country Planning,
Haryana, Chandigarh

Endst no. LC-5139-B-DS(AK)/2024/ Dated:

A copy is forwarded to the following for information and necessary action:-

i. Deputy Commissioner, Gurugram.
ii. Senior Town Planner, Gurugram.
iii. District Town Planner, Gurugram.
iv. District Town Planner(E), Gurugram.
v. Director Urban Estate Haryana, Sector-6, Panchkula.
vi. Project Manager (IT) with a request to update the status on website.

(Sanjay Narang)
District Town Planner (HQ)
For Director, Town & Country Planning
Haryana Chandigarh

4. Environmental Monitoring & Management

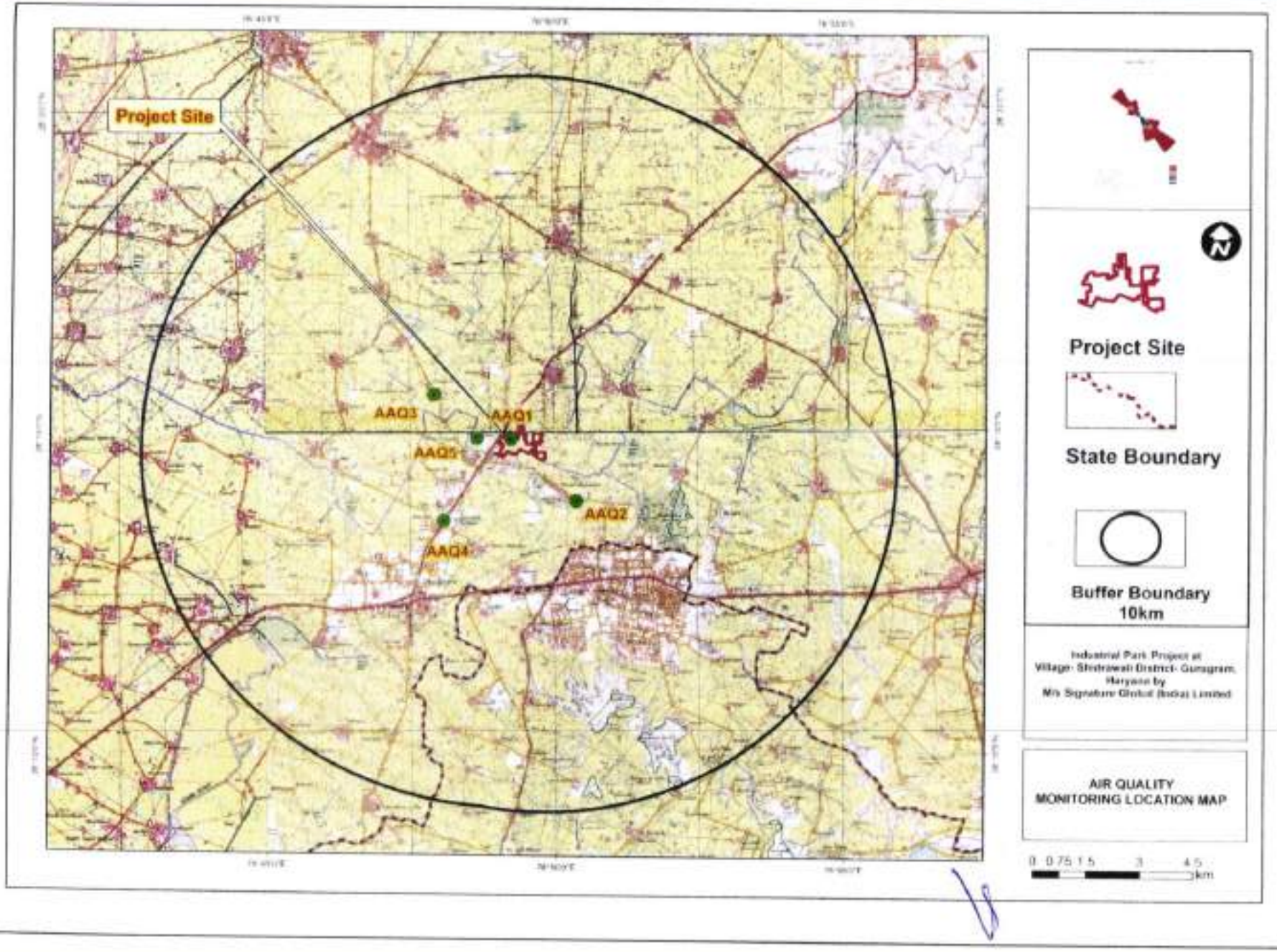
TOR Point No 4.1 : Examine baseline environmental quality along with projected incremental load due to the project.

REPLY: The baseline environment study for the project has been done during winter season (1st December 2023 to 29th February 2024)

AMBIENT AIR SAMPLING LOCATIONS

Code	Location	Description	Distance & Direction from Plant	Latitude/Longitude
AAQ-1	Project Site	Centre	0 km	28° 14' 54.426" N 76° 49' 15.1E
AAQ-2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Upwind	Approx 1.3 km, SE	28° 13' 56.477" N 76° 50' 22.8"E
AAQ-3	Downtown, Palasoli	Down Wind	Approx 2.2 km, NW	28° 15' 35.973" N 76° 47' 55.6" E
AAQ-4	Indraprastha Gas Limited CNG Station, Malpura	Crosswind	Approx 2.5 km, SW	28° 13' 38.848" N 76° 48' 4.47" E
AAQ-5	Near BMU D Block crossing	Downwind	Approx 0.6 km, NW	28°14'55.45"N 76°48'39.86"E

AMBIENT AIR QUALITY MONITORING LOCATION MAP



Summary of Ambient Air Quality Concentration in the Study Area (1st December 2023 to 29th February 2024)

Parameters	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	CO (µg/m³)
AAQM Norms	100	60	80	80	4000
AAQ-1: Project Site					
Min	151.5	78.3	8.6	30.3	710.0
Max	183.7	97.6	11.1	49.7	1030.0
Mean	167.2	87.4	9.7	42.0	903.8
98 Percentile	182.3	97.2	11.0	49.4	1030.0
AAQ-2:Bharat Petroleum Petrol Pump, Akerabhiwadi					
Min	117.2	59.7	8.2	26.3	470
Max	145.1	73.9	9.9	35.1	830
Mean	129.8	67.7	9.0	30.5	701
98 Percentile	142.8	73.8	9.9	35.0	830
AAQ-3: Downtown, Palasoli					
Min	138.7	68.0	8.2	29.9	450.0
Max	173.2	85.5	10.7	48.6	810.0
Mean	156.2	76.1	9.3	41.6	654.6
98 Percentile	171.9	85.3	10.6	48.6	796.2
AAQ-4: Indraprastha Gas Limited CNG Station, Malpura					
Min	147.2	82.5	9.4	32.4	750.0
Max	186.5	103.7	12.7	50.1	1030.0
Mean	165.8	91.3	11.2	43.1	912.1
98 Percentile	185.7	102.7	12.6	50.1	1030.0
AAQ-5: Near BMU D Block crossing					
Min	140.7	64.2	9.6	32.9	680.0
Max	174.3	83.4	12.3	41.6	940.0
Mean	155.9	72.6	11.1	36.7	765.4
98 Percentile	170.6	81.5	12.3	41.2	935.4

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Summary of Ambient Air Quality Concentration in the Study Area (1st December 2023 to 29th February 2024)

- Ambient Air Quality Monitoring reveals that the minimum and maximum concentrations of $PM_{2.5}$ for all the 05 AAQM stations were found to be 59.7 $\mu g/m^3$ to 103.7 $\mu g/m^3$ respectively, while for PM_{10} it varies between 117.2 $\mu g/m^3$ to 183.7 $\mu g/m^3$.
- As far as the gaseous pollutants SO_2 and NO_2 are concerned, the prescribed CPCB limit of 80 $\mu g/m^3$ for residential, rural and industrial areas has never surpassed at any station. The minimum and maximum concentrations of SO_2 were found to be 8.2 $\mu g/m^3$ to 12.7 $\mu g/m^3$ respectively. The minimum and maximum concentrations of NO_2 were found to be 26.3 $\mu g/m^3$ to 50.1 $\mu g/m^3$ respectively. Also, the minimum and maximum concentrations of CO were found to be 450$\mu g/m^3$ to 1030$\mu g/m^3$ respectively.
- High concentration of $PM_{2.5}$ and PM_{10} may be attributed to Vehicular emission and nearby construction activities in the area.

DG STACK EMISSION DETAILS

- There will be provision of 2no. of DG set of total capacity 1100kVA for Commercial Facility which includes 1 x 750kVA +1x 350 kVA and 2no. of DG set of total capacity 1750 kVA for Common Services which includes 1 x 750kVA +1x 1000 kVA are proposed for power back up.

- The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

- AERMOD - Dispersion model was used to predict GLC of all pollutants; SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO with stack & emission and hourly meteorological data. 24-hours average maximum Incremental GLC of NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO were 0.66 µg/m^3, 0.07µg/m^3, 0.68µg/m^3, 0.43 µg/m^3 & 0.73 µg/m^3, occurred respectively at (700m distance) from the DG sets occurred at the same distance. It was found that GLC of SO_2 was less than the permissible limit of 80µg/m^3 (as per CPCB guidelines) under worst meteorological condition with meteorological data monitored from 1st Dec,2023 to 29th Feb 2024.

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DG STACK EMISSION DETAILS

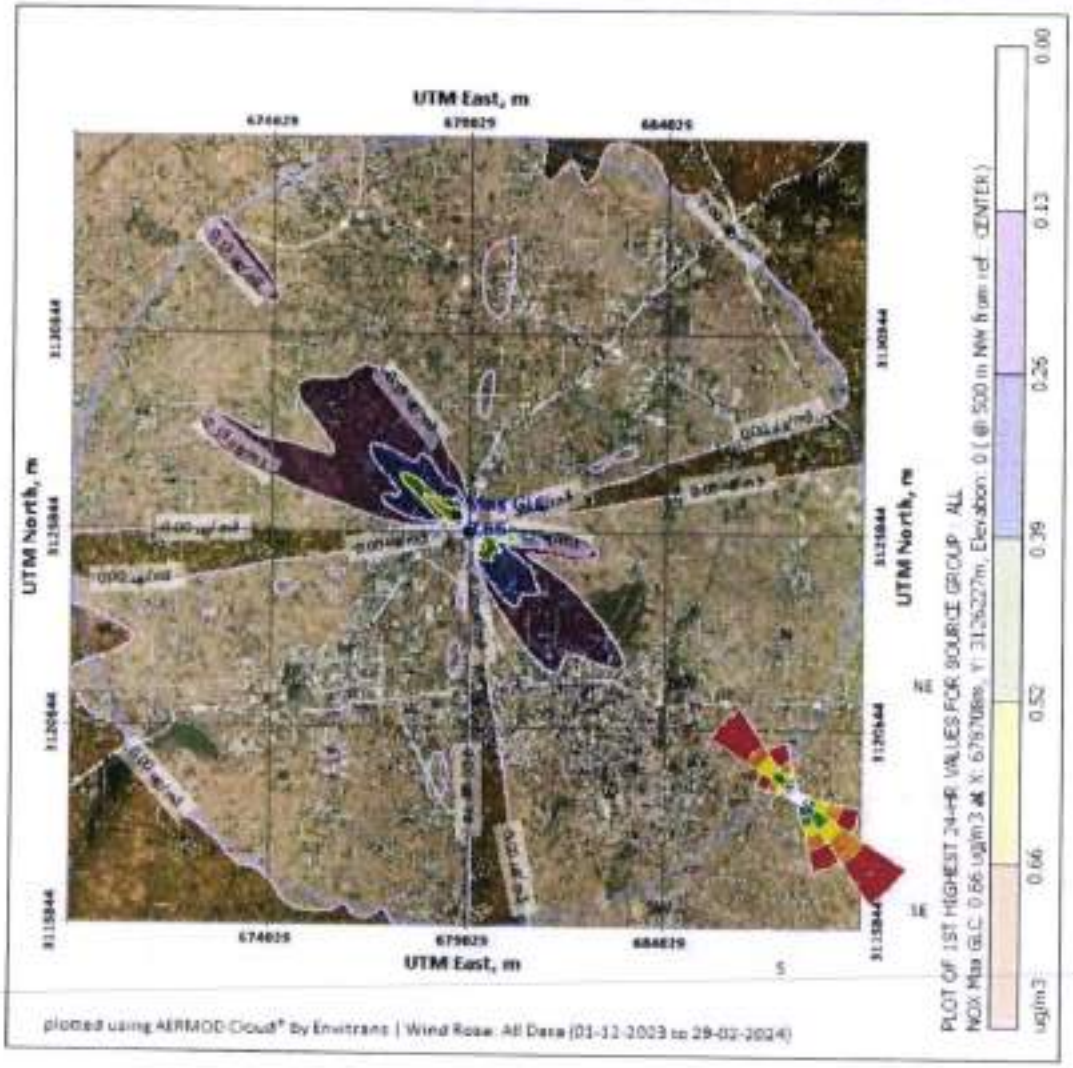
Stack No.	DG set Capacity (kVA)	Stack & Flue details				Pollutants Emission				
		Height (m)	velocity (m/s)	Temp (K)	Dia (m)	NO2 (g/s)	SO2 (g/s)	PM10 (g/s)	PM2.5 (g/s)	CO (g/s)
1.	2*750	30	25	773	0.332	0.274	0.006	0.0075	0.015	0.063
2.	1*350	30	25	773	0.176	0.595	0.0013	0.003	0.002	0.0136
3.	1*1000	30	25	773	0.271	0.084	1.148	1	0.64	0.04
Total Emission in g/s from 4no. of DG sets of total capacity 2850 kVA [(2 x 750 + 1 x 350 + 1 x 1000 kVA)]						0.953	1.155	1.0105	0.657	0.116

Incremental GLC Table

Description	Background value (98 percentile) in $\mu g/m^3$	Incremental GLC in $\mu g/m^3$	Resultant concentration in $\mu g/m^3$	Percentage of Incremental GLC in $\mu g/m^3$
PM_{10}	183.7	0.68	184.38	0.368
$PM_{2.5}$	97.6	0.43	98.03	0.438
NO_2	49.7	0.66	50.36	1.310
SO_2	11.1	0.07	11.17	0.626
CO	1030	0.73	1030.73	0.07

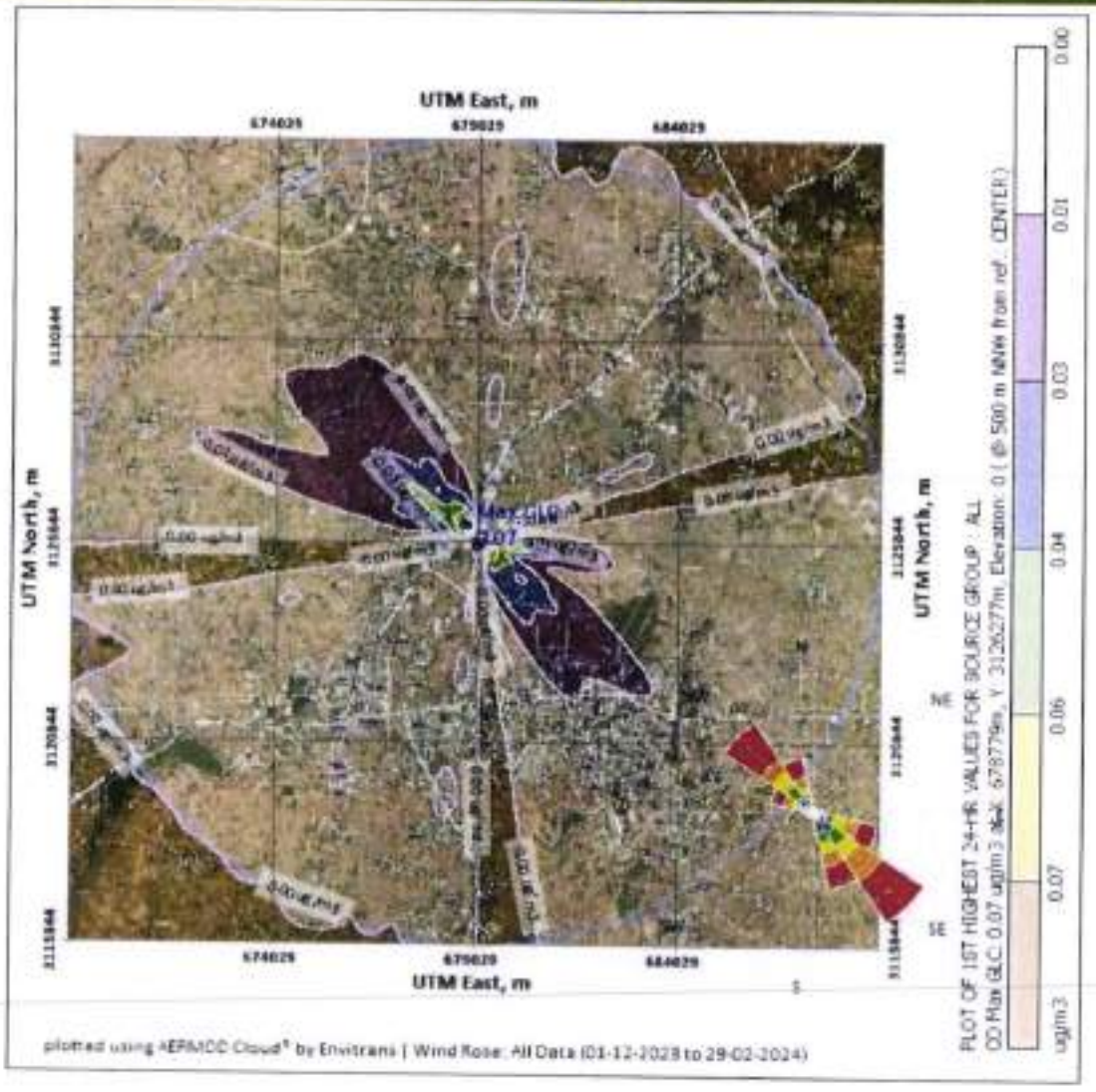
1183

SPATIAL DISTRIBUTION OF 24-HOURS AVERAGE NO_2 CONCENTRATION µg/m³



Spatial distribution of 24-hours average NO_2 maximum incremental GLC 0.66 µg/m³ at 500 m in NW direction

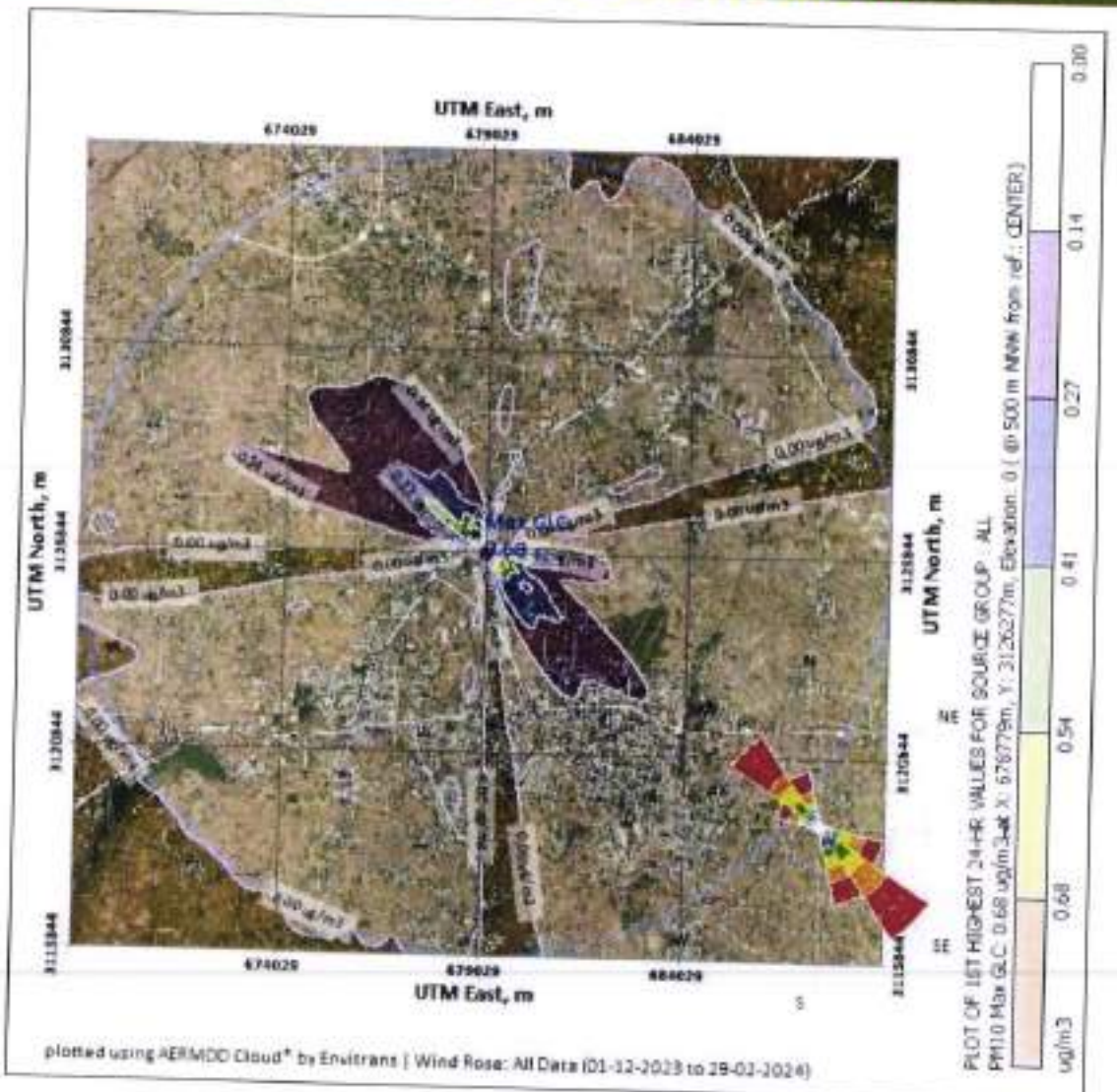
SPATIAL DISTRIBUTION OF 24-HOURS AVERAGE CO CONCENTRATION $\mu g/m^3$



Spatial distribution of 24-hours average CO maximum incremental GLC 0.07 $\mu g/m^3$ at 500m in NNW direction

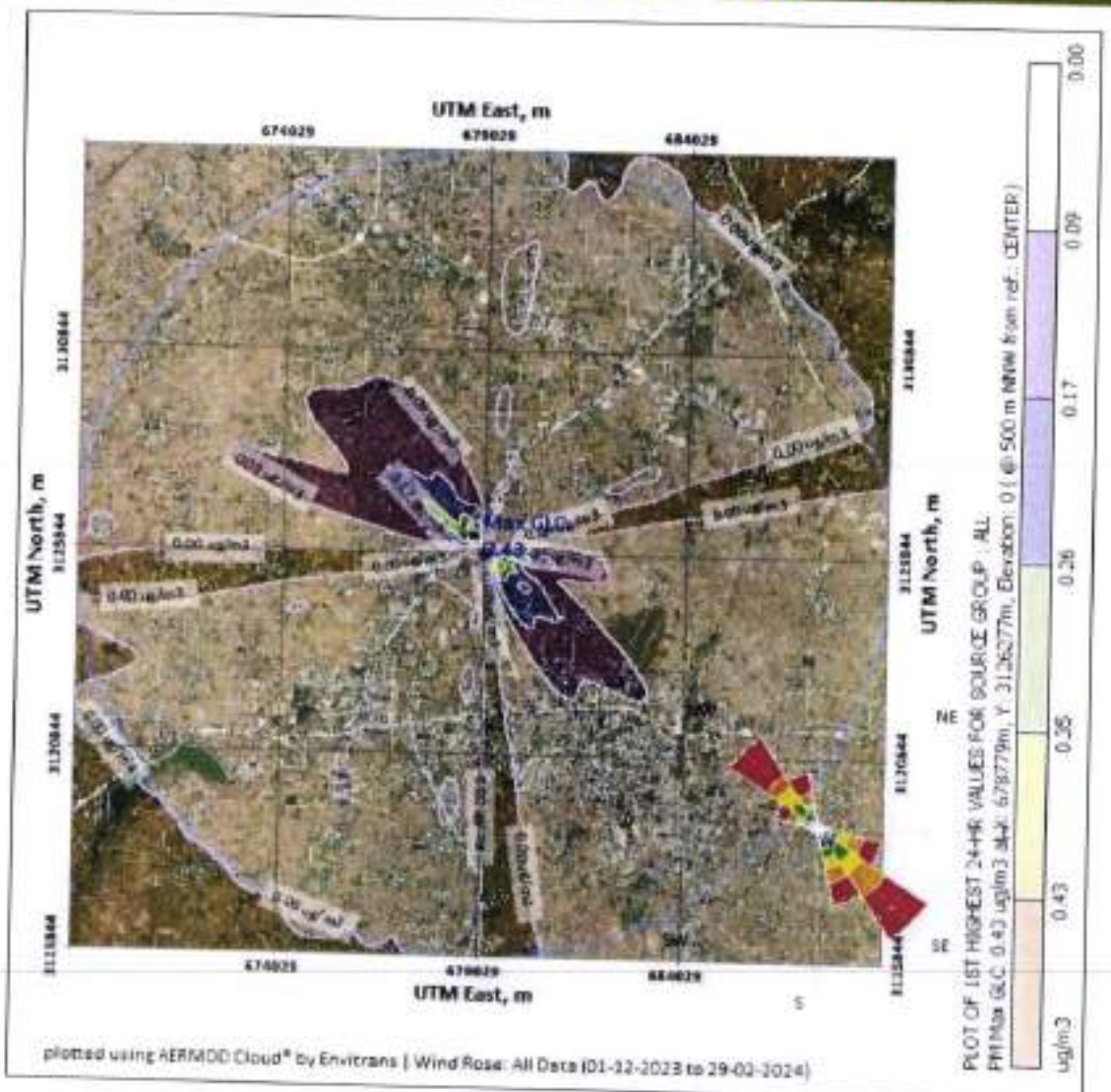
1185

SPATIAL DISTRIBUTION OF 24-HOURS AVERAGE PM10 CONCENTRATION µg/m³



Spatial distribution of 24-hours average PM10 maximum incremental GLC 0.68µg/m³ at 500m in NNW direction

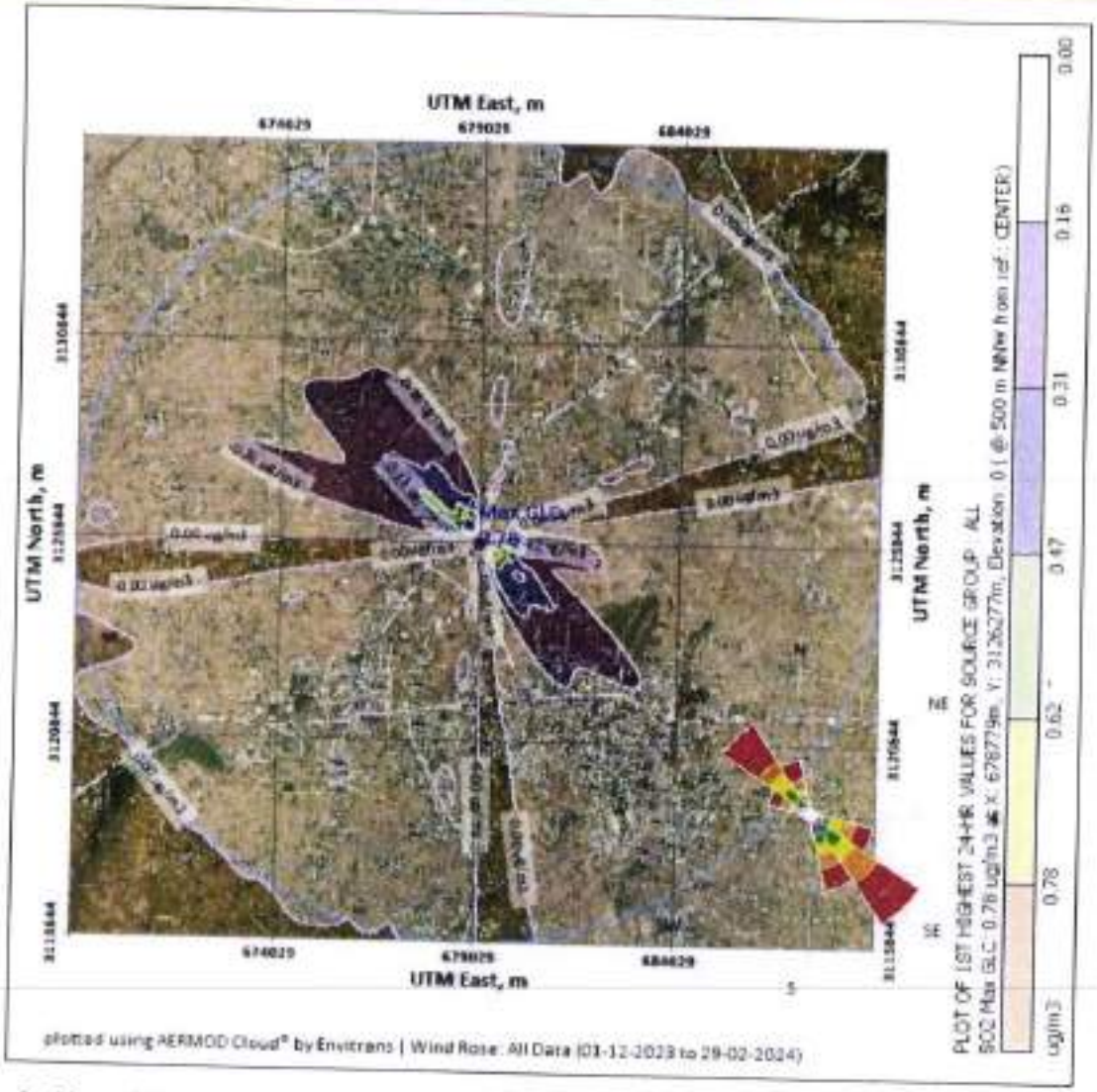
SPATIAL DISTRIBUTION OF 24-HOURS AVERAGE PM2.5 CONCENTRATION µg/m³



Spatial distribution of 24-hours average PM2.5 maximum incremental GLC 0.43 µg/m³ at 500m in NNW direction

1187

SPATIAL DISTRIBUTION OF 24-HOURS AVERAGE SO_2 CONCENTRATION µg/m³



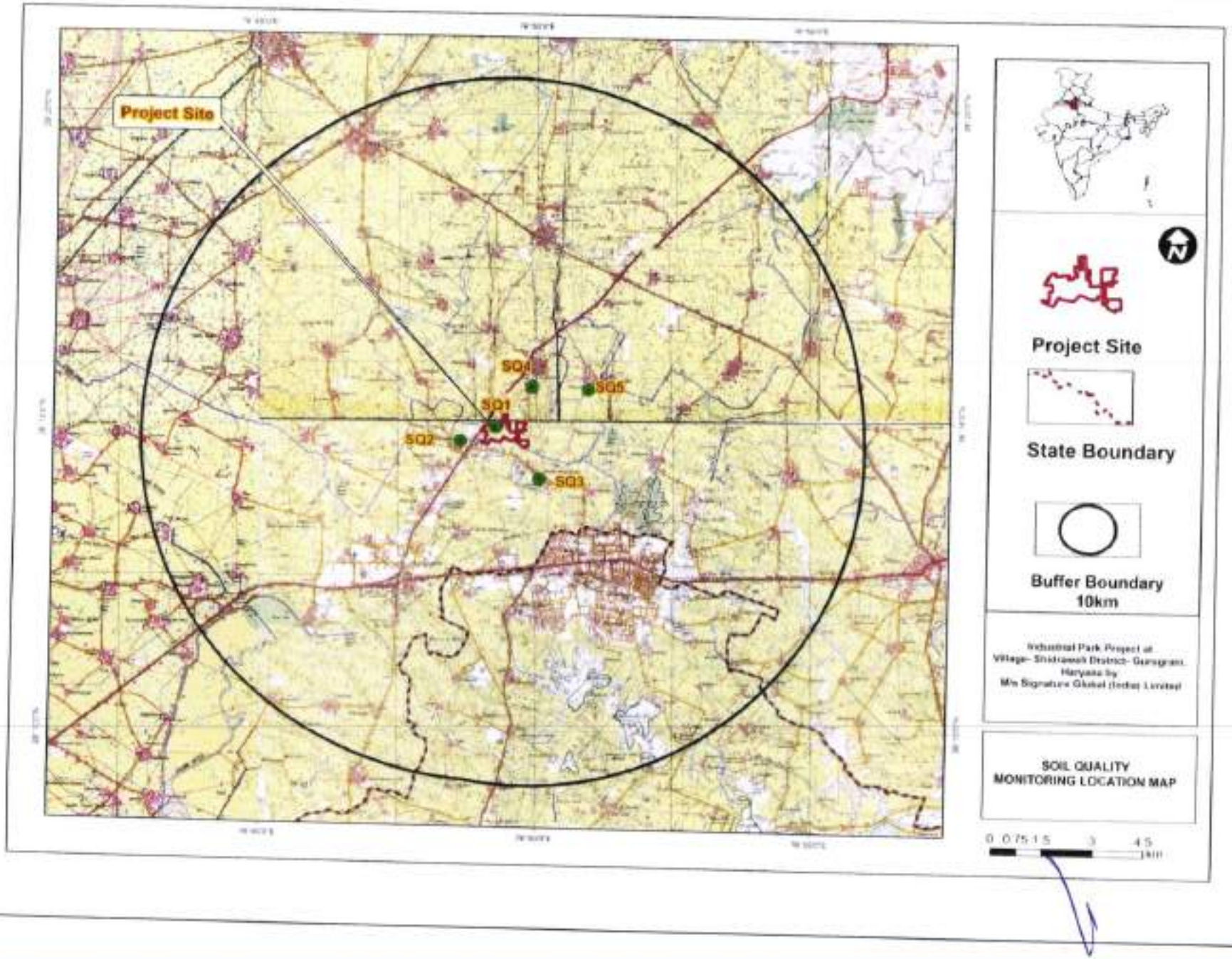
Spatial distribution of 24-hours average SO2 maximum incremental GLC 0.78 µg/m³ at 500 m in NNW direction

NOISE MONITORING LOCATIONS

Code	Monitoring location	Description	Direction and Distance	Latitude /Longitude
NQ1	Project Site	Commercial Area	0 km	28° 14' 54.426" N 76° 49' 15.1E
NQ2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Commercial Area	Approx 1.3 km, SE	28° 13' 56.477" N 76° 50' 22.8E
NQ3	Downtown, Palasoli	Residential Area	Approx 2.2 km, NW	28° 15' 35.973" N 76° 47' 55.6 E
NQ4	Indraprastha Gas Limited CNG Station, Malpura	Commercial Area	Approx 2.5 km, SW	28° 13' 38.848" N 76° 48' 4.47 E
NQ5	Samrat hotel, Bilaspur NH 8, Rathiwas mod	Commercial Area	Approx 3.2 km, NE	28° 16' 31.587" N 76° 50' 38.3E

1189

AMBIENT NOISE QUALITY MONITORING LOCATIONS MAP



NOISE LEVEL IN STUDY AREA

S. No.	Locations	ZONE	LIMIT as per CPCB Guidelines Leq, dB(A)		Observed value Leq, dB(A)	
			DAY*	NIGHT**	DAY*	NIGHT*
1	Project Site	Commercial Area	65	55	56.8	47.3
2	Bharat Petroleum Petrol Pump, Akerabhiwadi	Commercial Area	65	55	50.5	42.7
3	Downtown Palasoli	Residential Area	55	45	53.2	43.5
4	Indraprastha Gas Limited CNG Station, Malpura	Commercial Area	65	55	63.6	52.9
5	Samrat Hotel, Bilaspur NH-8 Rathiwas Mod	Commercial Area	65	55	60.9	50.5
*	Day time (6.00AM TO 10.00PM)					
**	Night time (10.00PM TO 6.00AM)					

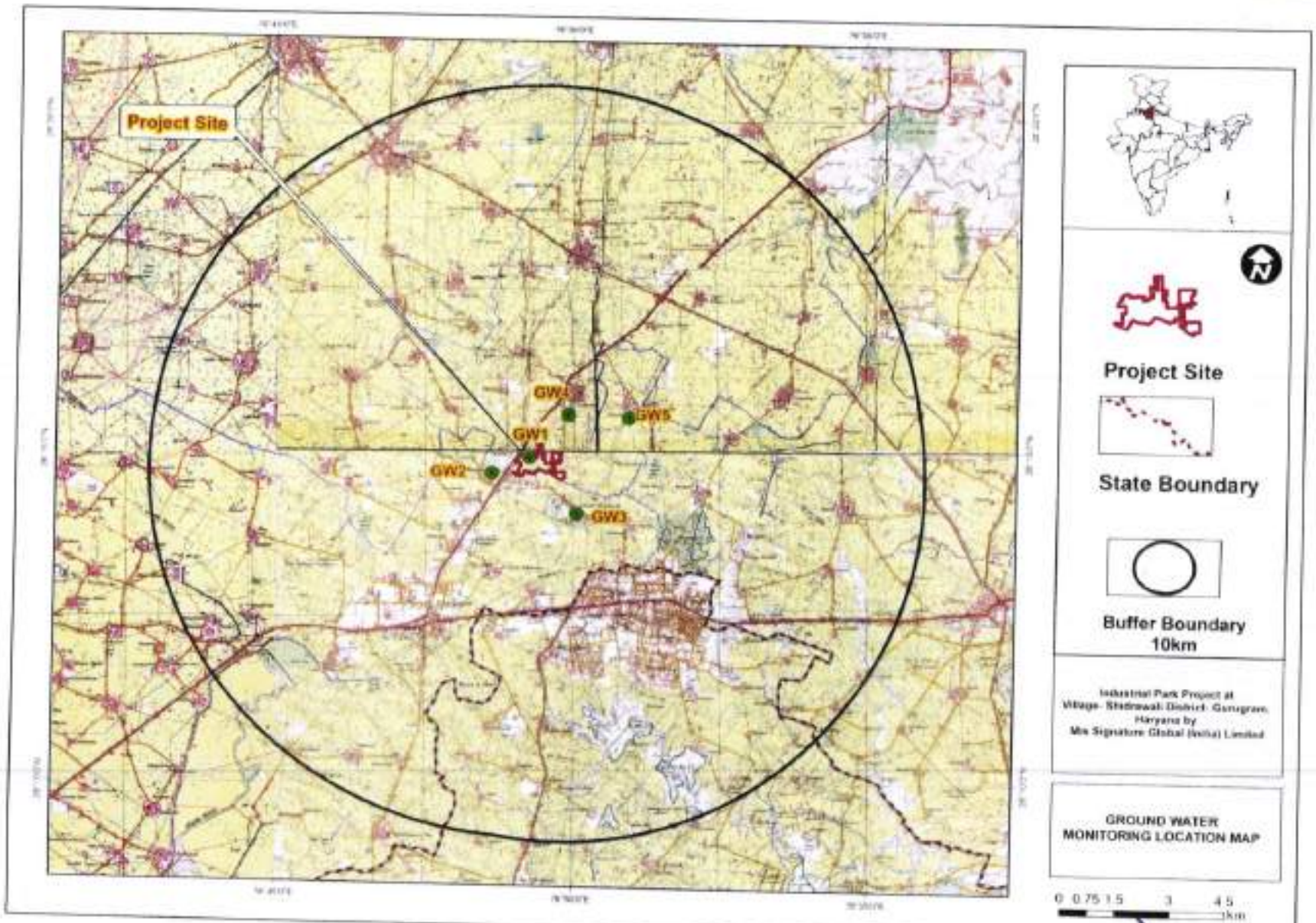
- In rural areas wind blowing and chirping of birds would contribute to noise levels especially during the nights.
- Assessment of day noise levels around the study area range between 50.5 to 63.6dB(A) during study period whereas the night equivalents were in the range of 42.7 to 52.9 dB (A).

1191

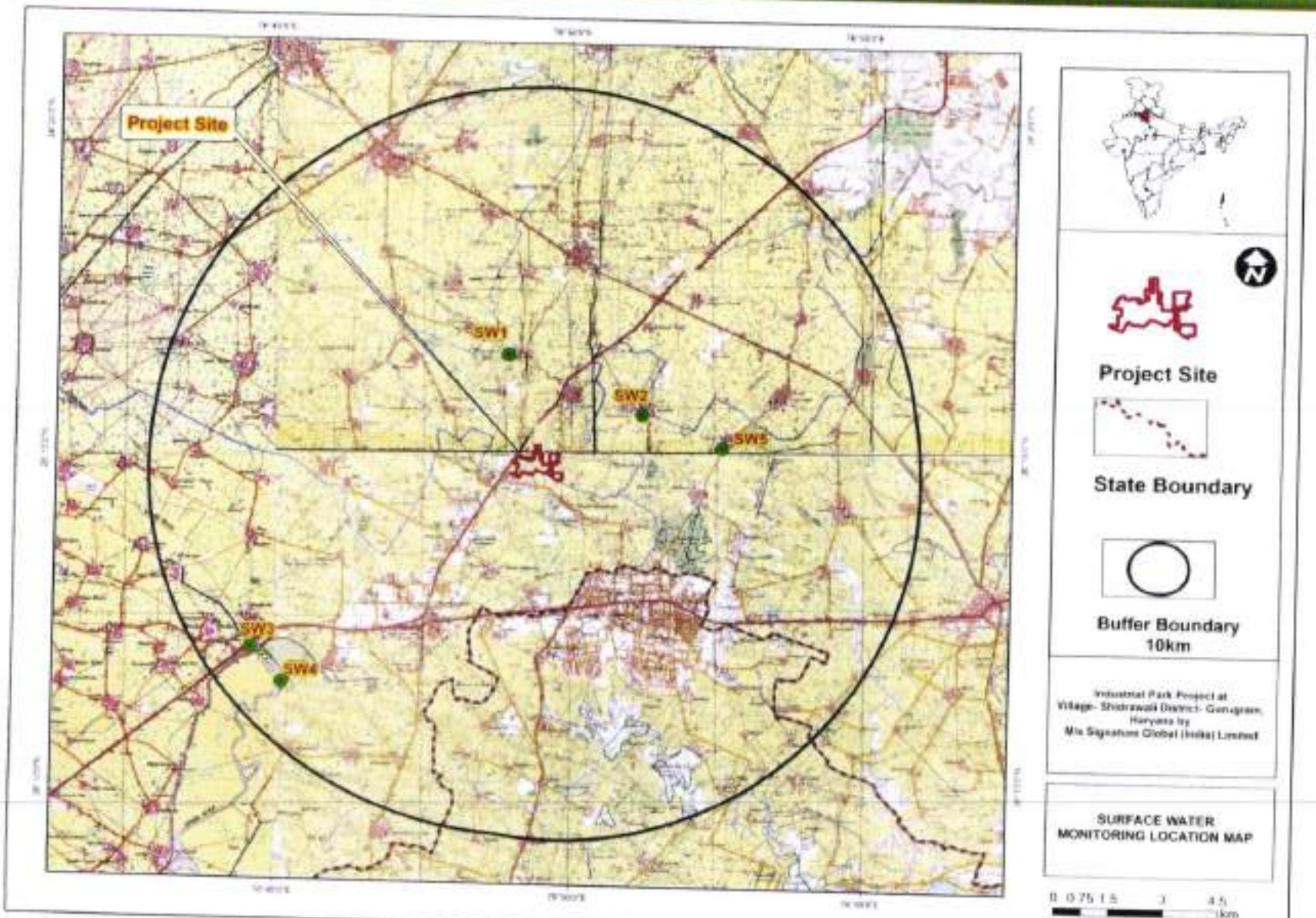
WATER SAMPLING LOCATIONS (SURFACE & GROUND WATER)

Code	Location	Distance from site (Km)	Direction	Latitude	Longitude
	Ground Water				
GW-1	Near Project Site	0 km	Centre	28°14'54.74"N	76°49'15.44"E
GW-2	Borewell Village Kapriwas	Approx. 0.6 km	W	28°14'40.88"N	76°48'37.63"E
GW-3	Borewell Village Gurjar Ghatal	Approx. 0.9 km	SE	28°14'4.46"N	76°50'3.13"E
GW-4	Borewell Village Sidhrawali	Approx. 1 km	N	28°15'33.36"N	76°49'55.20"E
GW5	Borewell Village Rathiwas	Approx. 2 km	NE	28°15'30.82"N	76°50'56.94"E
	Surface Water				
SW-1	Indori nala u/s	Approx. 2.8 km	N	28° 16' 29.251" N	76° 48' 56.095" E
SW-2	Indori nala d/s	Approx. 2.9 km	NE	28° 15' 34.801" N	76° 51' 13.415" E
SW-3	Sahibi river u/s	Approx. 8.7 km	SW	28° 12' 1.691" N	76° 44' 36.184" E
SW-4	Sahibi river d/s	Approx. 8.8 km	SW	28° 11' 30.345" N	76° 45' 7.498" E
SW-5	Untwan village pond	Approx. 4.6 km	E	28° 15' 4.792" N	76° 52' 35.990" E

GROUND WATER QUALITY MONITORING LOCATION MAP



SURFACE WATER QUALITY MONITORING LOCATION MAP



GROUND WATER ANALYSIS RESULT (1st December 2023 to 29th February 2024)

S. No	Parameter	Unit	Limit (IS-10500:2012)		GW1	GW2	GW3	GW4	GW5
			Desirable	Permissible	Near Project Site	Borewell Village Kapriwas	Borewell Village Gurjar Ghatal	Borewell Village Sidhrawali	Borewell Village Rathiwas
1	Colour	Hazen	5	15	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	1	5	<1	<1	<1	<1	<1
4	pH	-	6.5-8.5	No Relaxation	7.88	7.93	7.89	7.92	7.89
5	Total Dissolved Solids (TDS)	mg/l	500	2000	1420	1450	1440	1480	1580
6	Total Hardness (as $CaCO_3$)	mg/l	200	600	413	447	458	439	466
7	Total Alkalinity (as $CaCO_3$)	mg/l	200	600	426	478	487	467	487
8	Chlorides (as Cl)	mg/l	250	1000	343	330	335	363	378
9	Fluoride (as F-)	mg/l	1	1.5	0.7	0.6	0.5	0.7	0.06
10	Calcium(as Ca^{2+})	mg/l	75	200	100	107	110	105	112
11	Magnesium (as Mg^{2+})	mg/l	30	100	40	43	44	42	45
12	Sulphate (as SO_4)	mg/l	200	400	160	154	136	146	170
13	Nitrate(as NO_3)	mg/l	45	No Relaxation	18	20	19	21	17
14	Iron (as Fe)	mg/l	1	No Relaxation	0.68	0.56	0.63	0.54	0.49
15	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	<0.01	<0.01	<0.01	<0.01
16	Copper (as Cu)	mg/l	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
17	Manganese (as Mn)	mg/l	0.1	0.3	<0.01	<0.01	<0.01	<0.1	<0.01

GROUND WATER ANALYSIS RESULT (Contd.)

S. No	Parameter	Unit	Limit (IS-10500:2012)		GW1	GW2	GW3	GW4	GW5
			Desirable	Permissible	Near Project Site	Borewell Village Kapriwas	Borewell Village Gurjar Ghatal	Borewell Village Sidhrawali	Borewell Village Rathiwas
18	Boron (as B)	mg/l	0.5	1	<0.01	<0.01	<0.01	<0.01	<0.01
19	Zinc (as Zn)	mg/l	5	15	<0.01	<0.01	<0.01	<0.01	<0.01
20	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
21	Arsenic (as As)	mg/l	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
22	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001
23	Total Chromium (as Cr^{3+})	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001
27	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01

GROUND WATER ANALYSIS RESULT (Contd.)

Ground Water Quality Monitoring Results									
S.No	Parameter	Unit	Standard Limit (IS-10500:2012, RA 2018)		GW1	GW2	GW3	GW4	GW5
			Desirable Limit	Permissible Limit	Near Project Site	Borewell Village Kapriwas	Borewell Village Gurjar Ghatal	Borewell Village Sidhrawali	Borewell Village Rathiwas
28	Phenolic Compounds (as C6H5OH)	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
29	Anionic Detergent (as MBAS)	mg/l	0.2	1	<0.01	<0.01	<0.01	<0.01	<0.01
30	Silica (as SiO_2)	mg/l	,---	,---	5.4	5.1	5.3	4.8	5.7
31	Phosphate (as PO_4)	mg/l	,---	,---	1.1	1.3	1.1	1.3	1.2
32	Specific Conductivity	µS/cm	,---	,---	2130	2170	2150	2220	2360
Bacteriological Parameter									
1	Total Coliform	MPN/100ml	Shall not be detectable in any 100ml Sample		Not Detected (<2)	Not Detected (<2)	Not Detected (<2)	Not Detected (<2)	Not Detected (<2)
2	E.coli	MPN /100ml	Shall not be detectable in any 100ml Sample		Absent (<2)	Absent (<2)	Absent (<2)	Absent (<2)	Absent (<2)

Analysis of results of ground water is as follows;

- pH varies from to 7.88 to 7.93.
- Total Hardness varies from 413 to 466 mg/L.
- Total Dissolved Solids varies from 1420 to 1580 mg/L.

Review of the ground water quality results indicate that there is some variation in chemical composition of water tapped from different sources and the ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed for drinking water standards promulgated by Indian Standards (IS: 10500).

1197

SURFACE WATER ANALYSIS RESULT (1st December 2023 to 29th February 2024)

S. No.	Parameter	Unit	S.W. 1	S.W. 2	S.W. 3	S.W. 4	S.W. 5
			Indori Nala Upstream	Indori Nala Downstream	Sahibi River Upstream	Sahibi River Downstrea m	Untwan Village Pond
1	Color	Hazen	6	7	7	8	5
2	Turbidity	NTU	18	24	44	56	23
3	Temperature	°C	18.7	19.1	18.7	19.3	19.7
4	pH Value	-	7.75	7.78	7.43	8.2	8
5	Dissolved Oxygen	mg/l	3.8	3.2	1.2	1	5.2
6	Biochemical Oxygen Demand (BOD) 3 Days at 27°C	mg/l	8.3	8.6	20.4	26.2	6.8
7	Chemical Oxygen Demand	mg/l	22.8	24.5	62.4	76.4	22.4
8	Total Dissolved Solids	mg/l	940	950	1200	1350	720
9	Total Hardness (as $CaCO_3$)	mg/l	367	370	380	410	240
10	Total Alkalinity (as $CaCO_3$)	mg/l	460	463	360	390	230
11	Chlorides (as Cl)	mg/l	138	140	280	320	160
12	Fluoride (as F)	mg/l	0.7	0.7	0.8	0.9	0.7
13	Calcium (as Ca^{2+})	mg/l	88	89	91	98	58
14	Magnesium (as Mg^{2+})	mg/l	35	36	36	40	23
15	Sodium (as Na^{+})	mg/l	190	192	218	245	169
16	Potassium (as K^{+})	mg/l	20.4	22.5	25.6	28.4	18.6
17	Sulphate (as SO_4)	mg/l	110	113	180	210	106
18	Total Kjeldahl Nitrogen (as N)	mg/l	3.8	4.2	5.2	6.5	2.4
19	Free Ammonia (as NH_3)	mg/l	1.3	1.6	1.9	2.4	1.3
20	Nitrate (as NO_3)	mg/l	12.6	12.8	24	26	13.3

SURFACE WATER ANALYSIS RESULT (Contd.)

21	Silica (as SiO_2)	mg/l	19	22	9.2	9.3	7.5
22	Phosphate (as PO_4)	mg/l	1.7	2.2	2.8	3.2	1.6
23	Iron (as Fe)	mg/l	0.87	0.89	0.53	0.56	0.59
24	Aluminum (as Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
25	Boron (as B)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
26	Copper (as Cu)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Manganese (as Mn)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Zinc (as Zn)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Selenium (as Se)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
30	Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
31	Cadmium (as Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
32	Total Chromium (as Cr^{6+})	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33	Cyanide (as CN)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
34	Lead (as Pb)	mg/l	0.06	0.07	<0.01	<0.01	<0.01
35	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
36	Nickel (as Ni)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
37	Total Suspended Solids	mg/l	38.2	39.6	180	220	40
38	Sodium Adsorption Ratio	-	3.1	3.2	4.3	4.8	3.2
39	Phenolic Compounds (as C_6H_5OH)	mg/l	0.06	0.07	<0.001	<0.001	0.002
40	Anionic Detergent (as MBAS)	mg/l	0.07	0.08	<0.01	<0.01	0.03
41	Specific Conductivity	µS/cm	1410	1425	1790	2025	1075
	Bacteriological Parameters						
1	Total Coliform	MPN/100ml	1600	1600	1600	1600	840
2	Faecal Coliform	MPN/100ml	1600	1600	1600	1600	380

Analysis of results of surface water is as follows;

- pH varies from to 7.75 to 8.2
- Dissolved Oxygen varies from 1 to 5.2 mg/L
- COD varies from 22.4 to 76.4 mg/L

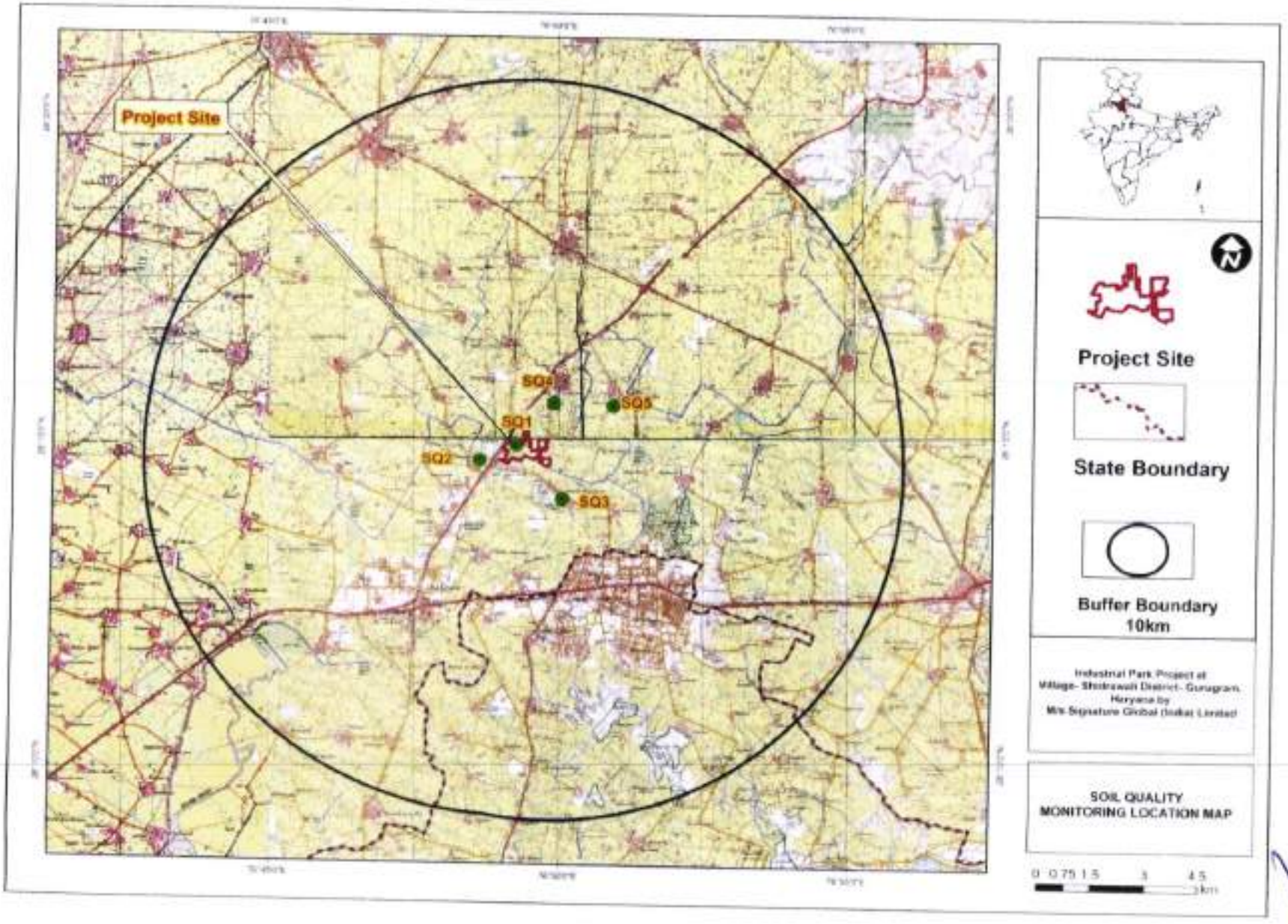
Review of the surface water quality results indicate that all the parameters are within the limits specified in Surface Water Standard IS: 2296. With regard to heavy metals, except Arsenic, Mercury, Nickel and Cadmium, all the others were not traceable.

1199

SOIL SAMPLING LOCATION

Code	Location	Distance & Direction from Project Site	Latitude	Longitude
SQ-1	Project Site	0 km	28°14'54.74"N	76°49'15.44"E
SQ-2	NON-Agricultural Land Village Kapriwas	Approx. 0.6 km, W	28°14'40.88"N	76°48'37.63"E
SQ-3	NON-Agricultural Land Village Gurjar Ghatal	Approx. 0.9km, SE	28°14'4.46"N	76°50'3.13"E
SQ-4	Agricultural Land Village Sidhrawali	Approx. 1 km, N	28°15'33.36"N	76°49'55.20"E
SQ-5	Agricultural Land Village Rathiwas	Approx. 2 km, NE	28°15'30.82"N	76°50'56.94"E

SOIL QUALITY MONITORING LOCATIONS MAP



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SOIL QUALITY RESULT (1st December 2023 to 29th February 2024)

S. No.	Parameter	Unit	SQ-1	SQ-2	SQ-3	SQ-4	SQ-5
			Project Site	Non-Agricultural Land Village Kapriwas	Non-Agricultural Land Village Gurjar Ghatal	Agricultural Land Village Sidhrawali	Agricultural Land Village Rathiwas
1	Texture	-	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	Particle Size Distribution						
	Sand	%	63.7	65.3	67.5	63.5	63.8
	Silt	%	16.9	17.2	15.3	16.8	16.9
	Clay	%	19.4	17.5	17.2	19.7	19.3
3	pH (1:20 Suspension)	-	7.59	7.67	7.69	7.78	7.88
4	Electrical Conductivity (1:20, Suspension)	µS/cm	447	443	441	447	437
5	Moisture Content	%	6.9	6.8	6.5	8.7	8.6
6	Cation Exchange Capacity	meq/100gm	13.0	13.6	13.5	14.1	14.1
7	Available Potassium (as K)	mg/kg	69	67	71	87	89
8	Exchangeable Sodium (as Na)	mg/kg	117	114	115	121	127
9	Exchangeable Calcium (as Ca)	mg/kg	1901	1947	1938	2018	2023
10	Exchangeable Magnesium (as Mg)	mg/kg	341	386	378	395	387
11	Sodium Absorption Ratio	-	0.65	0.62	0.62	0.64	0.68
12	Organic Matter	%	0.71	0.83	0.83	0.46	0.68
13	Total Nitrogen (as N)	mg/kg	40	42	38	45	44
14	Nitrate (as NO3)	mg/kg	5.7	5.3	4.9	6.3	6.7
15	Total Phosphorus (as PO4)	mg/kg	6.3	6.1	5.1	6.8	6.9

SOIL QUALITY RESULT (Contd.)

S. No.	Parameter	Unit	SQ-1	SQ-2	SQ-3	SQ-4	SQ-5
			Project Site	Non-Agricultural Land Village Kapriwas	Non-Agricultural Land Village Gurjar Ghatal	Agricultural Land Village Sidhrawali	Agricultural Land Village Rathiwas
16	Iron (as Fe)	mg/kg	5.5	4.8	3.2	9.7	10.8
17	Zinc (as Zn)	mg/kg	2.2	2.1	2.3	2.1	2.6
18	Copper (as Cu)	mg/kg	1.1	1.2	1.1	1.3	1.7
19	Boron (as B)	mg/kg	1.8	2.3	2.2	3.1	2.8
20	Manganese (as Mn)	mg/kg	7.6	7.4	6.8	8.9	10.1
21	Water Holding Capacity	%	25.7	25.3	26.4	27.1	26.7
22	Permeability	cm/hr	2.3	2.2	2.3	2.1	2.2
23	Porosity	%	38.7	39.8	39.7	32.6	33.1
24	Bulk Density	gm/cc	1.31	1.31	1.32	1.33	1.33

The analysis of results shows that soil is basic in nature as pH value ranges from 7.59 to 7.88 with Electrical Conductivity of 437 to 447 µmhos/cm. The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Sandy loam at project site.

4. Environmental Monitoring & Management

TOR Point No. 4.2: ***Environmental data to be considered in relation to the project development would be land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.***

Reply : Environmental data for land, groundwater, surface water, air and noise & vibration is presented in above slides.

Data related to bio-diversity, socio economic and health is presented in subsequent slides.

SOCIO ECONOMIC ENVIRONMENT

- The socio-economic status of the local people will improve substantially due to additional employment generation. The land rates will improve in the nearby areas due to the proposed expansion activity.
- Educational institutions will also come up and will lead to an improvement in the educational status of the people in the area.
- Primary health centers and medical facilities will certainly improve due to the proposed expansion of the project.
- The project will result in growth of the surrounding areas by increasing ancillary development and supporting infrastructure. State will get revenues in terms of taxes. Business opportunities for the local community will be available like transport, maintenance & house-keeping contract work etc.
- The project will need additional several skilled workers. Besides several semiskilled and unskilled workers will also be required for peripheral activities like transport, logistics, engineering, services, commercial services etc.
- The unskilled labor will be deployed from local area only.

SOCIO ECONOMIC ENVIRONMENT

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- The expansion project will result in growth of the surrounding areas by increasing ancillary development and supporting infrastructure. State will get revenues in terms of taxes. Business opportunities for the local community will be available like transport, maintenance & house-keeping contract work etc.
- The project will need additional several skilled workers. Besides several semiskilled and unskilled workers will also be required for peripheral activities like transport, logistics, engineering, services, commercial services etc.
- The unskilled labor will be deployed from local area only.

ECOLOGY & BIODIVERSITY STUDY

Existing village groves and vegetation supports habitat of few wildlife. The wildlife in study area is limited to a few common mammals, birds and reptiles. Animal species recorded in a study area have wider distribution and known to coexist with human settlement. Natural vegetation of study area is in degraded condition and wild mammal's density is also very low. Peafowl is very common in this area. Sultanpur Bird Sanctuary is not falling in study area, it is at 23.30 km in NNE direction. Peafowl is protected under schedule -I of wildlife protection act 1972 amended in 2022.

CONSERVATION PLAN (SCHEDULE I SPECIES)

3-tier greenbelt is proposed along the plant periphery.

Table 1.4: Schedule I Species found in the Buffer Zone

S. No.	English Name	Scientific Name	Schedule Status (WPA-1972)
Birds			
1	Peafowl	*Pavo cristatus*	I

Conservation Plan of Schedule I Species

Biological profile of study area revealed the presence of 1 schedules-I species which are listed in Table 2.1.

Biological importance of all these species along with their conservation and management planand environmental mitigation are as follows:

1. *Pavo cristatus* (Peafowl)



i. Classification

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Galliformes
Family	Phasianidae
Genus	*Pavo*
Species	*cristatus*

ii. Distribution: The Indian peafowl is a resident breeder across the Indian subcontinent and is found in the drier lowland areas of Sri Lanka. It is found in moist and dry-deciduous forests, but can adapt to live in cultivated regions and around human habitations and is usually found where water is available.

Breeding Season: Mostly breed in rainy season from April to August

Threats: There is no major or direct threat to the peafowl in India. These species are produced. Plantation is perfect solution to minimize the erosion and improves the macroclimate as well as provides the habitation for wild fauna.

- The project area shall be strictly used for only the activities permitted. The workers must be instructed to not to enter in the adjoining forest. Project Proponent must instruct all the workers not to harm or kill any animal, and also they must not cut trees for their various needs.
- Project proponent must instruct all the workers to not to harm or kill any animal and also they must not cut trees for their need.
- People must be educated and aware that speed of the vehicles must be in limit to avoid accidents/ killing while passing such roads where wild animals usually cross sides.
- The people living in the surrounding area and employee of the company should be motivated towards the protection of the animals. The concerned authorities must be informed immediately if any illegal poaching, illegal trade or human- wild life conflict in the area is noticed.

Project activity must not be carried out in night time as animals are sensitive to noise and they also disturbed by lights. Measures for the dust and noise suppression should also be practiced to avoid any disturbance to the wild life.

Tentative Budget for Wildlife Conservation Plan of Schedule-I Species

As detailed above, there are 1 Schedule-I species in the buffer area. Following Conservation plan is proposed with a budget of INR 1.5 Lakhs.

Table 1.5: Expenditure for Conservation Plan to be Implemented in Three Years

S. No.	Proposed Conservation Activity	Capital Cost (INR Lakhs)
1	Construction of Water Holes/Khelis in the surrounding buffer area and their regular filling with water.	0.5
2	Habitat improvement activities and food availability for reptiles like development of grassland/ pasture land in surrounding buffer area, creation of bushy structures for black partridges, development of suitable roosting, creation of tree grooves at suitable places in buffer areas, development of some den like structures for big cats.	0.5
3	Development of tree grooves in the nearby areas.	0.5
4	Plantation of native plant species in the buffer areas.	0.5
5	Establishment of trained Primary response team (village level) for proper rescue of injured wild animals in distress to avoid man-animal conflict and provision for training of rescue teams.	0.5

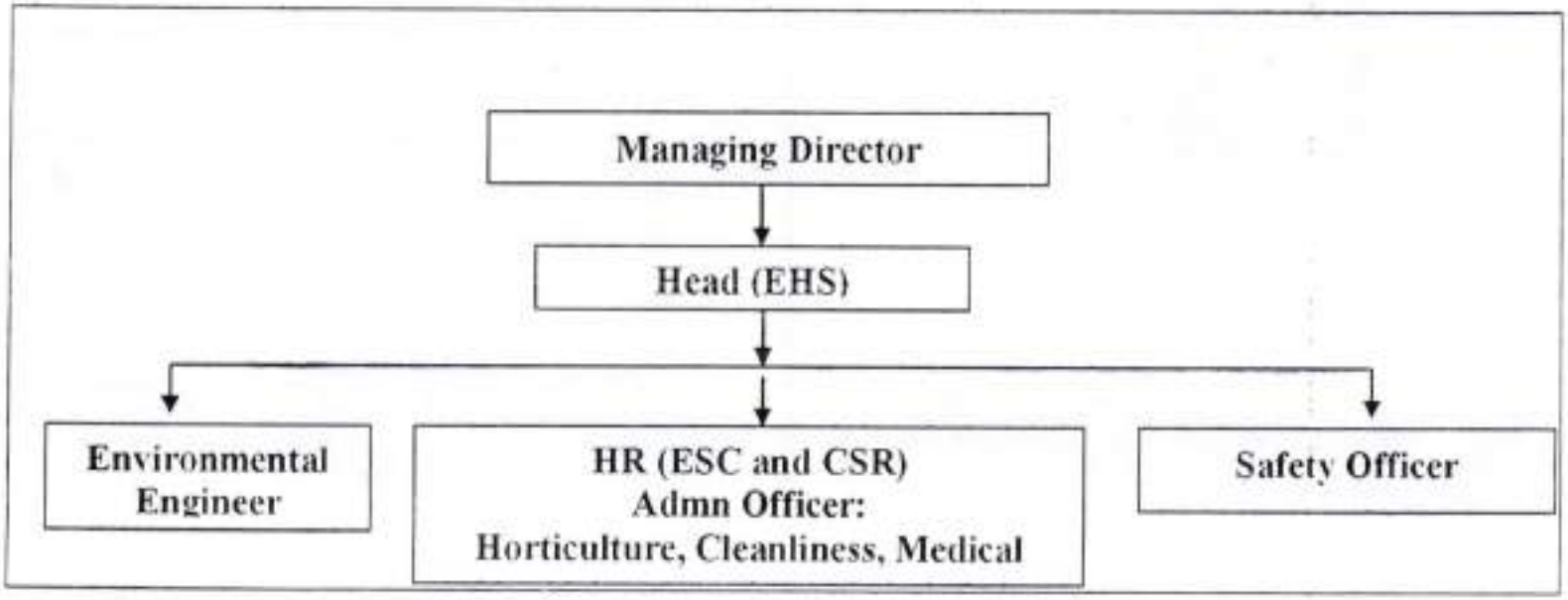
4. Environmental Monitoring & Management

TOR Point No 4.3 : ***Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.***

Reply : The Company has a well-defined Environment policy. Structure of Environment Management Cell (EMC) is presented below:

EMC will be responsible for the following:

- Interaction With The State Pollution Control Board
- Provide Training
- Structure of Environment Management Cell (EMC) is as shown below



4. Environmental Monitoring & Management

TOR Point No 4.4 : ***Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.***

Reply : A budget for monitoring of Air, water, Noise and Soil will be INR 7 Lakh (during construction Phase) and INR 9 Lakh (during Operation Phase).

Details of parameters to be monitored with monitoring frequency is presented in subsequent slides.

Environment Management Plan for Air, Water, Soil, Noise Environment is presented in following slides.

ENVIRONMENT MONITORING COST

CONSTRUCTION PHASE

S. No.	Particulars	Parameters	Frequency	Approx. Recurring cost /Annum (INR Lakh)
1.	Ambient Air Monitoring	$PM_{2.5}$, PM_{10}, SO_2 & NO_2	Once in a Month	2.0
2.	Water Quality Monitoring	Drinking Water Specifications	Once in three months	2.0
3.	Stack Emission Monitoring	$PM_{2.5}$, PM_{10}, SO_2, NO_2, HC & CO	Every Six Month	2.0
4.	Noise Level Monitoring	24 Hrs. Noise Level	Once in Every Week	1.0
TOTAL			**Rs. 7.0 Lakh**	

ENVIRONMENT MONITORING COST

OPERATIONAL PHASE

S. No.	Particulars	Parameters	Frequency	Approx. Recurring Cost /Annum (INR Lakh)
1.	Ambient Air Monitoring	$PM_{2.5}$, PM_{10}, SO_2 CO & NO_2	Once in Every Three Months	2.0
2.	Stack Emission Monitoring	$PM_{2.5}$, PM_{10}, SO_2, NO_2, CO HC	Every Six Months	2.0
3.	Treated Effluent Monitoring	pH, BOD, COD, Oil, Grease & Total Suspended solids	Daily	2.0
4.	Noise Level Monitoring	24 Hrs. Noise Level	Every Three Months	1.0
5.	Water Quality Monitoring	Drinking Water Specifications as per IS 10500	Once in three months	2.0
	TOTAL			9.0 Lakh

AIR ENVIRONMENT MANAGEMENT

Anticipated Impact	Mitigation Measures
Construction Phase: 1. Dust emission from transportation of construction material. 2. Gaseous emissions from construction machinery. 3. Dust from construction activities. 4. Emission from DG sets.	1. Site will be enclosed with 5 m high barricade around the project boundary which will act as a wind breaker. 2. Water sprinkling will be carried out for dust suppression. 3. All the machinery deployed at site are of highest standard and of reputed make and comply with the emission standards 4. Low sulphur diesel will be used for DG sets, vehicles and construction machinery. 5. Vehicles having valid pollution under control (PUC) certificate will be allowed to entre the project site. 6. The trucks carrying construction materials and debris will be suitably covered by tarpaulin/plastic sheet. 7. Speed of the vehicles will be restricted to 20 kmph by erecting speed bumps and signages at regular intervals within project site.

AIR ENVIRONMENT MANAGEMENT (Contd.)

Anticipated Impact	Mitigation Measures
Operation Phase: 1. Vehicular movement 2. DG sets operation	1. Tree plantation to attenuate particulate matter. 2. Low sulphur diesel will be used for DG sets. 3. Stack height will be provided as per CPCB norms. 4. Ensure smooth traffic circulation and restriction on vehicular speed within the premises.

WATER ENVIRONMENT MANAGEMENT

Anticipated Impact	Mitigation Measures
Construction Phase: 1. Use of large quantity of water in construction activities. 2. Wastewater generation	1. Curing water will be sprayed on concrete structures, free flow of water will not be done. 2. After liberal curing on the first day, all concrete structures will be painted with curing chemical to save water. 3. Concrete structures will be covered with gunny bags and water would be sprayed on them. 4. Mobile type toilets will be provided for laborers
Operation Phase: 1. Fresh water use for domestic activities. 2. Wastewater generation	1. In-house STP will be provided to treat waste water from the project. 2. STP treated effluent will be reused for flushing to reduce fresh water demand. 3. Rainwater Harvesting system proposed to recharge ground water.

NOISE ENVIRONMENT MANAGEMENT

Anticipated Impact	Mitigation Measures
1. Noise from construction machinery and vehicular movement 2. Noise from DG sets operation	1. Regular maintenance of construction machinery 2. The site will be enclosed with 5 m high barricade wall at the periphery. 3. DG room will be acoustically insulated.
1. Diesel Generator operations 2. Vehicular movement	1. Use of horn will be discouraged within the premises. 2. Broad leafy trees will be planted to act as Noise baffles. 3. DG sets will be acoustically enclosed.

4. Environmental Monitoring & Management

TOR Point No 4.5: ***Possible carbon footprint contribution from each activities and mitigation measures proposed shall be included as part of Environment Management Plan.***

Reply : To reduce the carbon footprint from the township a total area of **37,241.664** sqm is proposed for landscape which will be area under tree plantation within the project site and area under organized.

6730 no. of trees are proposed to be planted within project site which will sequester the carbon emissions from project.

Proposed Plantation List

S. No.	Botanical Name	Common Name	No.
1.	Acacia leucophloea	Raunj	300
2.	Albizzia lebbek	Siris	300
3.	Azadirachta indica	Neem	350
4.	Anogeissus pendula	Dhauk	300
5.	Bombax ceiba	Semal	300
6.	Boswelli aserrata	Salai	350
7.	Butea monosperma	Dhak	250
8.	Cassia fistula	Amaltas	350
9.	Cordia dichotoma	Lasura	320
10.	Dalbergia sissoo	Shisham	250
11.	Holoptelia integrifolia	Papri	300
12.	Kigelia pinnata	Kigelia	300
13.	Melia azedarach	Bakain	562
14.	Pongamia pinnata	Papri, Karanj	250
15.	Prosopis cineraria	Jand, Jandi	250
16.	Salvadora oleoides	Jal	400
17.	Terminalia arjuna	Arjun	350
18.	Bauhinia variegata	Kachnar	560
19.	Ficus religiosa	Peepal	400
20.	Ficus bengalensis	Bad	288
	Total		**6730**

LANDSCAPE PLAN

LANDSCAPE PLAN



PROPOSED TREE SPECIES LIST

S. No	Botanical Name	Common Name
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
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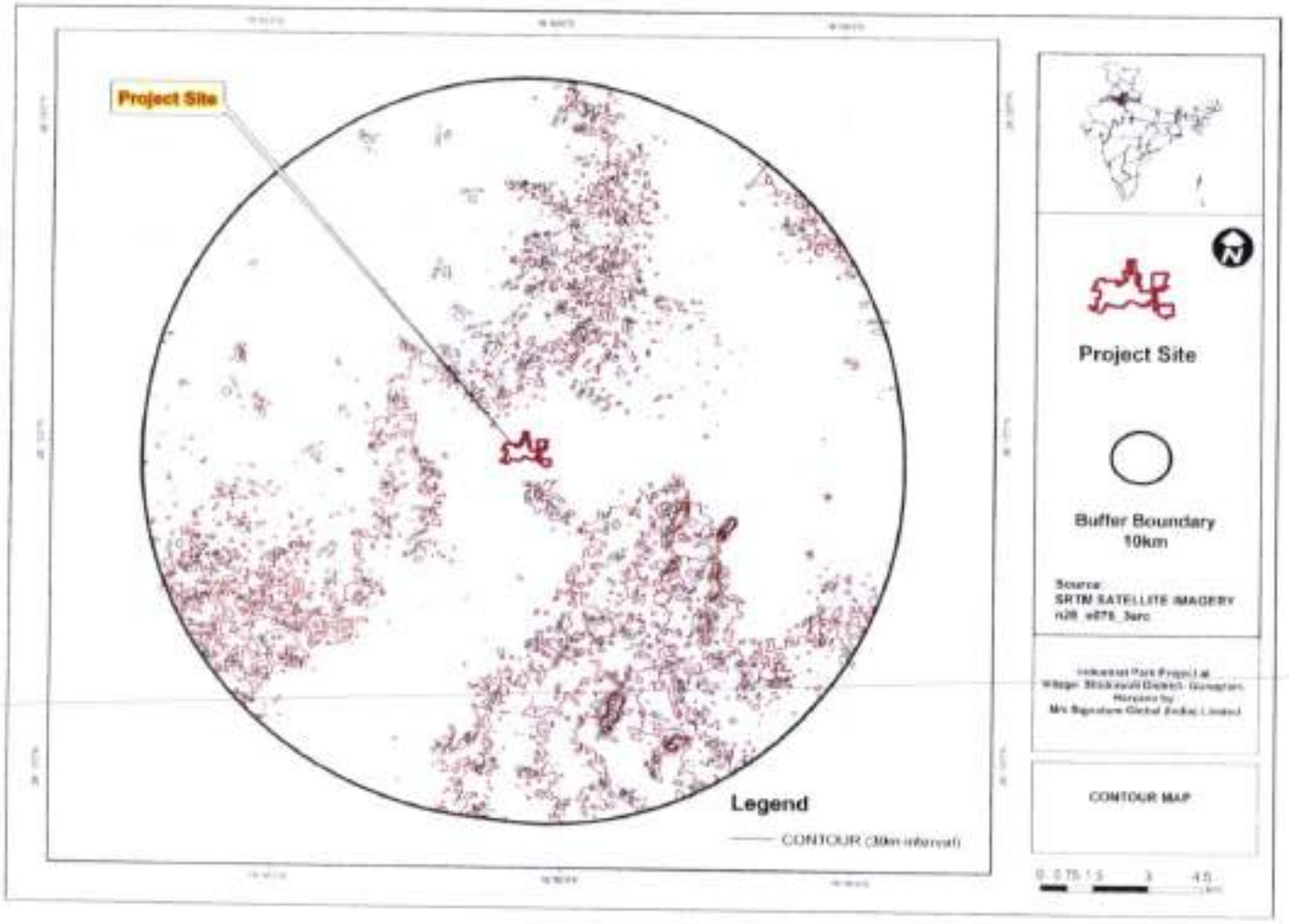
GREEN AREA DETAILS

Total Licensed area = 5,49,258.716 SQM
Net Area = 5,32,029.859 SQM
Net Planned area = 5,26,513.219 SQM
Green Area (7.07.3% of Net Planned area) = 37,241.664 SQM
Green Area under DDJAY = 14942.433 SQM
Green Area under Green Belt = 13677.139 SQM
Green Area Metro/RRTS Green Belt = 5293.280 SQM
Proposed no of trees = 6561
Block Plantation = 26,006.3 SQM. = 4.9% of Net Planned area

5. DRAINAGE

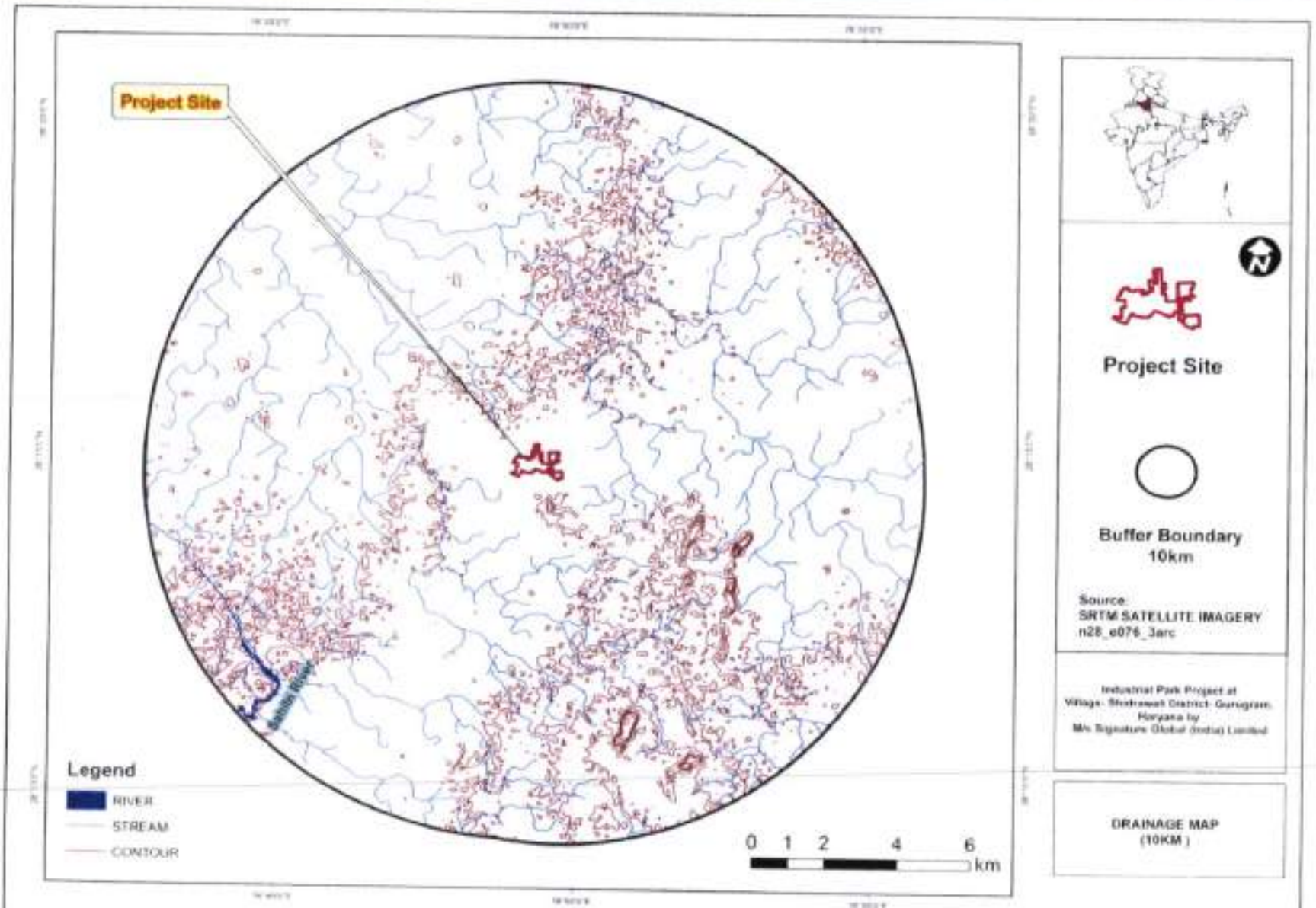
TOR Point No 5.1 : ***Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.***

Reply : The contour plan of the study area is presented below:



1219

DRAINAGE MAP



6. FOREST

TOR **Point No. 6.1:** ***Submit the details of the trees to be felled for the project, if any.***

Reply : There are few trees present at the project site which will be transplanted in the greenbelt. We will take the required permission.

TOR Point No 6.2 : ***Submit the present land use and permission required for any conversion such as forest, agriculture etc.***

Reply : The license has been granted by Town and Country Planning Department, Haryana vide license no. 104 of 2024 for 129.65625 acres dated 01.08.2024 and letter of Intent for 6.06875 acres vide Memo no. LC-5139-B-DS(AK)2024 dated 06.12.2024. Copies of License & LOI are shown in above slides.

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7. WATER ENVIRONMENT

TOR Point No 7.1 : ***Ground water classification as per the Central Ground Water Authority.***

Reply : As per the Central Ground Water Authority ground water classification, the project falls in over exploited zone.

During the pre-monsoon the water levels of 40 key observation wells are monitored and the water level ranges between 30.2 to 79.70 mbgl and during the post-monsoon, the water levels range between 30.2 to 77.55 m bgl

8. WATER MANAGEMENT

TOR Point No 8.1 : ***Examine the details of Source of water, water requirement, use of treated wastewater and prepare a water balance chart.***

Reply :

Water supply will be provided through private water tankers and during Operational phase, the source of water will be GMDA.

During the Construction Phase the Source of water will be Ground water. During operation phase, the source of water supply will be GMDA. The total water requirement for the project will be approx. 3475 KLD.

The domestic water demand for Residential (Type 1 & 2), Community Buildings, Commercial Buildings, & industrial Plots is 2905 KLD. The freshwater requirement for Residential (Type1 &2), Community Buildings, Commercial Buildings, & industrial Plots will be 1943 KLD. However, one-time freshwater demand for the project will be 3475 KLD.

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CALCULATION FOR DAILY WATER DEMAND

S. No.	Description	Occupancy	Rate of water demand (lpcd)		Total Water Requirement (KLD)		
			Fresh	Flushing	Fresh	Flushing	Total
A.	Domestic Water for Residential plots (Type 1)						
	Residential plots	5130	@ 65 lpcd	@ 21 lpcd	333	108	441
	Staff	200	@25 lpcd	@20 lpcd	5	4	9
	Visitors	513	@ 10 lpcd	@5 lpcd	5	3	8
					343 KLD	**115 KLD**	**458 KLD**
	Total Domestic Water= 458 KLD						
B.	Domestic Water for Residential plots (Type 2), Community buildings, & Commercial buildings						
	Residential plots (Type 2)	12186	@ 65 lpcd	@ 21 lpcd	792	256	1048
	Staff (for Community buildings, Operation & Maintenance for residential plots (type 2) & Commercial building)	1870	@25 lpcd	@20 lpcd	47	37	84
	Visitors (for Community buildings, Residential Plots, & Commercial building)	16,244	@ 10 lpcd	@5 lpcd	162	81	243
					1001 KLD	**374 KLD**	**1375 KLD**
	Total Domestic Water for Residential plots (Type 2), Community buildings & Commercial Buildings = 1375 KLD						
C.	Domestic Water for Industrial plots						
	Industrial Plots	23,035	@25 lpcd	@20 lpcd	576	461	1037
	Visitors (for Industrial plots)	2303	@ 10 lpcd	@5 lpcd	23	12	35
					599 KLD	**473 KLD**	**1072 KLD**
	Total Domestic Water for Industrial plots						**1072 KLD**
D.	**Horticulture**	37,241.664m^2	3 l/sqm		112 KLD		
	Grand Total (A+B +C+D) 3,475 KLD						

WASTEWATER CALCULATION

Wastewater Calculation for Residential plots (Type 1)

Domestic Water	**458 KLD**
• Fresh water	343 KLD
• Flushing water	115 KLD
Waste water [@80% fresh + 100% flushing]	274.4 +115 = **389 KLD**
STP Capacity	500 KLD

Wastewater Calculation for Residential plots (Type 2), Community buildings, & Commercial buildings

Domestic Water	**1375 KLD**
• Fresh water	1001 KLD
• Flushing water	374 KLD
Waste water [@80% fresh + 100% flushing]	801 + 374= **1175 KLD**
STP Capacity	1410 KLD

Wastewater Calculation for Industrial plots

Domestic Water	**1072 KLD**
• Fresh water	599 KLD
• Flushing water	473 KLD
Waste water [@80% fresh + 100% flushing]	479 + 473= **952 KLD**
STP Capacity	1150 KLD

Approx. 2516 KLD wastewater will be generated from the **Residential plots (Type 1 & 2), Community buildings, Commercial buildings & Industrial plots**. Wastewater will be treated in an in-house STP of total capacity 3060 KLD (500 KLD +1410 KLD +1150 KLD).

STP 1 [For Residential plots (Type 1)]: 500KLD

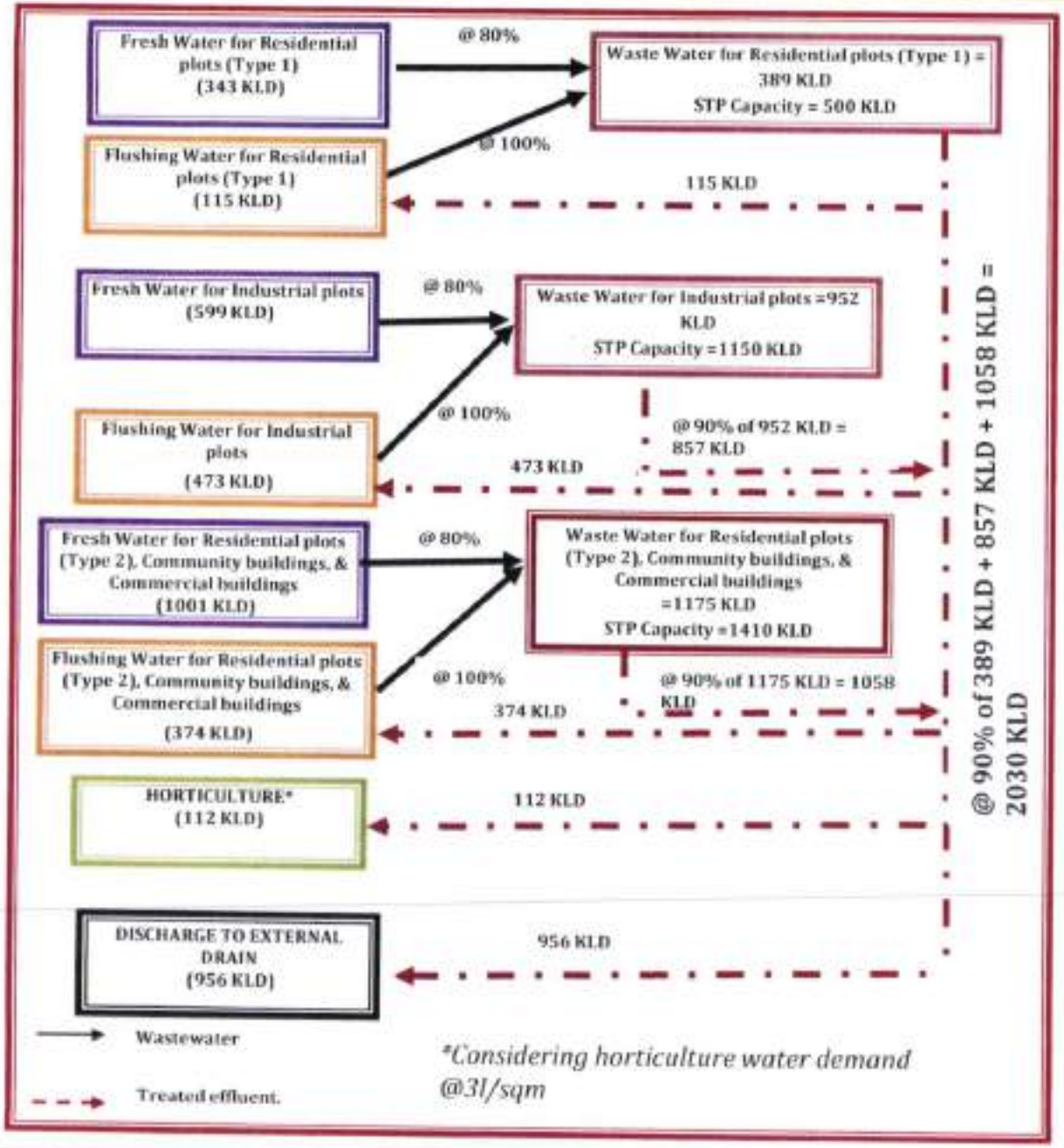
STP 2 [For Residential plots (Type 2), Community buildings, & Commercial buildings]: 1410 KLD

STP 3 [For Industrial plot]:1150 KLD

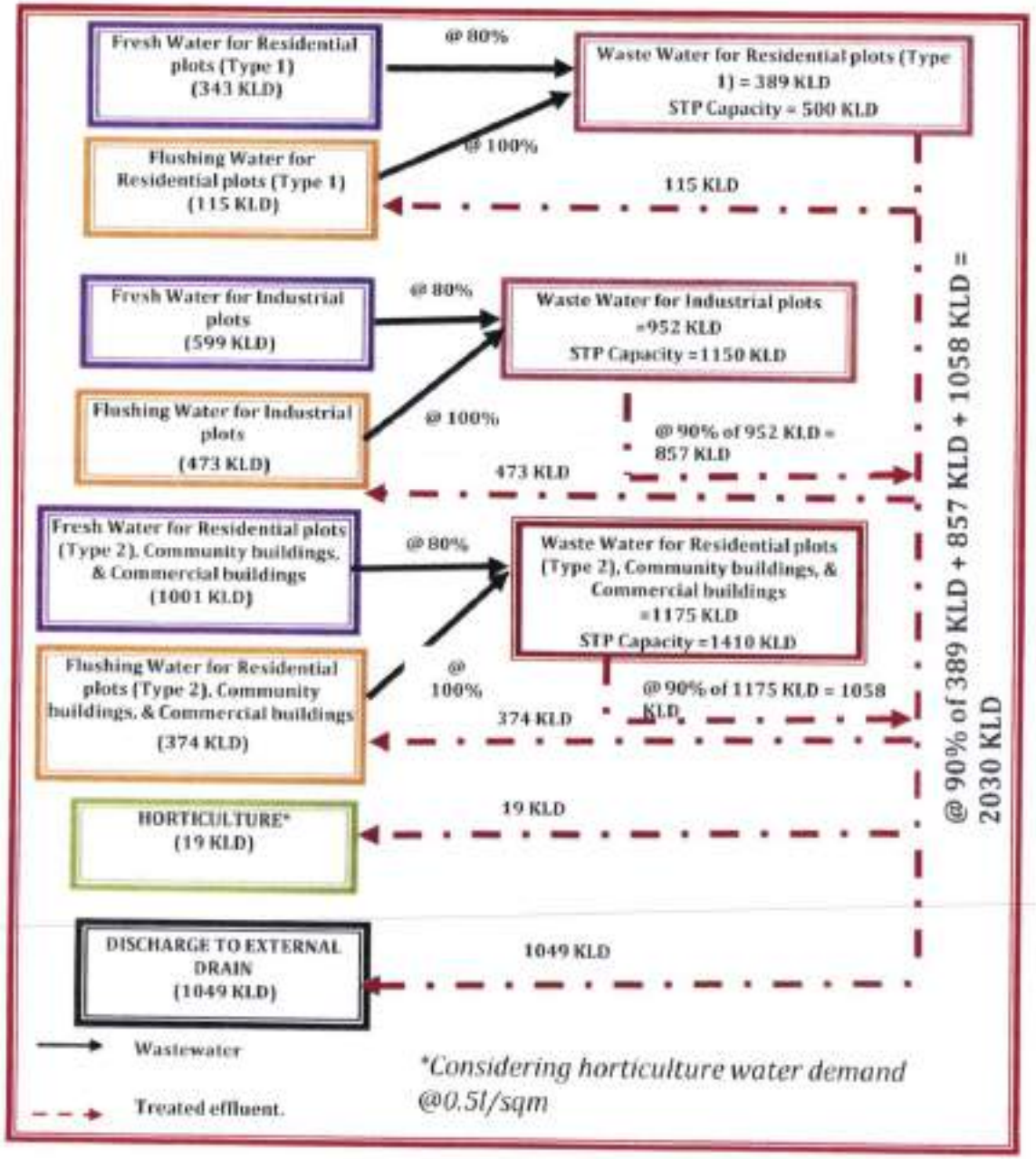
Treated wastewater will be used for flushing and horticulture and remaining water will discharge to External sewer.

1225

WATER BALANCE DIAGRAM (SUMMER SEASON)

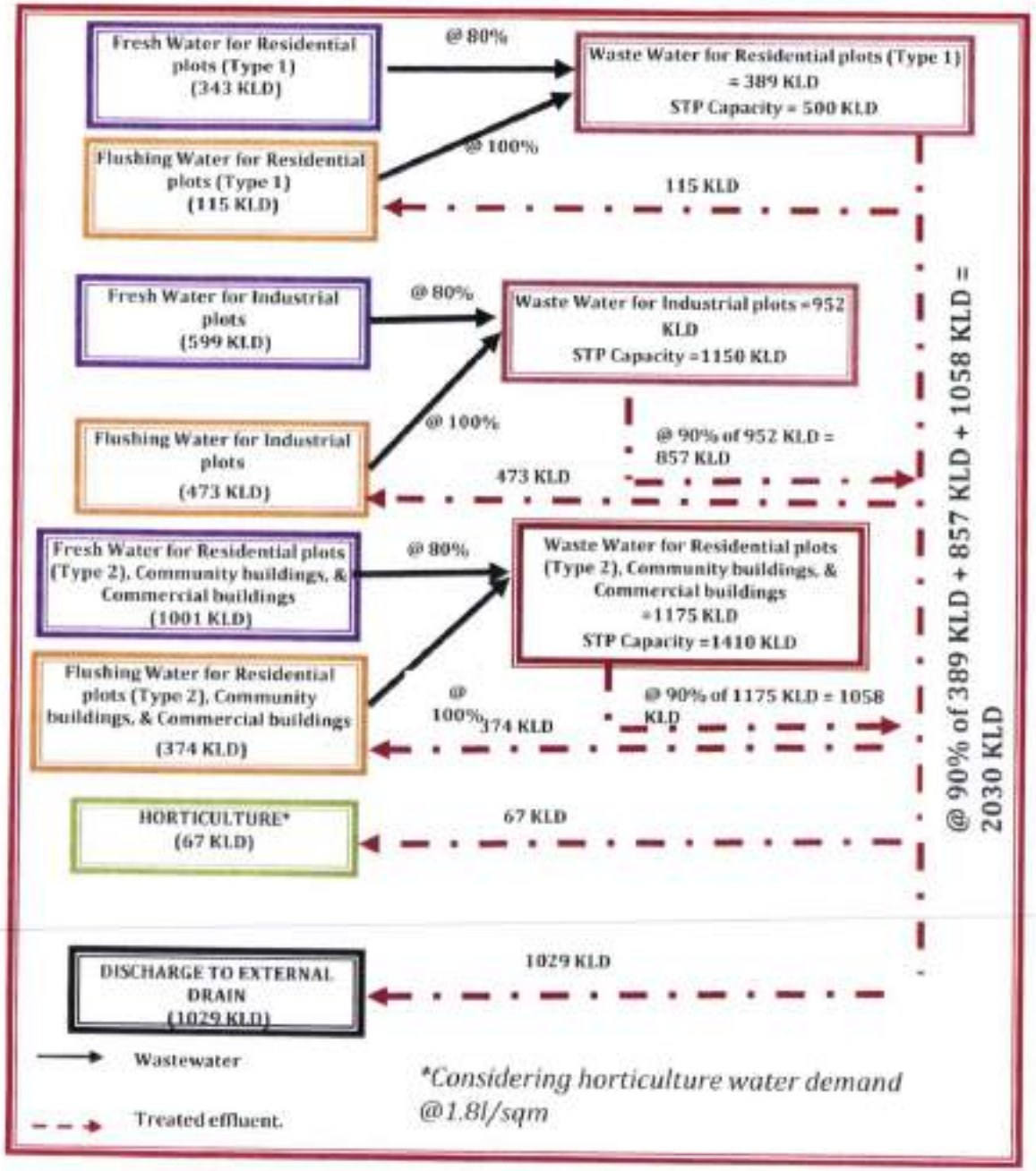


WATER BALANCE DIAGRAM (MONSOON SEASON)



1227

WATER BALANCE DIAGRAM (WINTER SEASON)



CONSTRUCTION PHASE WATER PERMISSION

GMDA

OFFICE OF THE EXECUTIVE ENGINEER-V, SEW. DIVISION, GMDA, GURUGRAM
Address : 6th Floor, Plot No. 3, Sector-44, Gurugram,
E-mail :xen5infra2.gmda@gov.in

To,

M/s Signature Global Business Park Pvt. Ltd.,
Ground Floor, Tower -A, Signature Tower,
South City -I, Gurugram, Haryana – 122001
Email – compliance@signatureglobal.in

Memo No. GMDA/SEW/2024/417 Dated. 02-09-2024

Sub: - **Assurance for supply of 1450 KLD STP treated water for construction purpose of the proposed Industrial Plotted Colony over an area measuring 129.65625 acres (License No. 104 of 2024 dated 01.08.2024 valid upto 31.07.2029) falling in the revenue estate of village – Sidhrawali, Tehsil – Manesar, District - Gurugram being developed M/s Signature Global Business Park Pvt. Ltd.**

Ref: - **Your office latter dated 24.08.2024.**

With reference to the above cited subject, it is intimated that 1450 KLD tertiary treated water is available at CETP Manesar Gurugram. The tertiary treated water can be purchased from STP with your own transportation arrangement through online module of GMDA available at www.gmda.gov.in.

Executive Engineer-V,
Sew. Division, GMDA
Gurugram

1229

FRESH WATER PERMISSION

हरियाणाशहरीविकासप्राधिकरण

HSVP

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To,

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 31249 **Dated:** 26-11-2024

Sub: - **Assurance for Fresh water supply drinking water during operational phase total fresh water Requirement 1823 KLD of for our Industrial Park Project under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil- Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for sohna has yet not been acquired and master services of Water Supply will be planned after acquisition of land accordingly. After approval and execution of Water Supply Scheme, the water supply connection will be sanctioned on your request as per HSVP by law.

This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram.

SEWER PERMISSION

हरियाणाशहरीविकासप्राधिकरण

HSVP

OFFICE OF THE EXECUTIVE ENGINEER,
HSVP DIVISION No. VI, GURUGRAM
Primary School Building, M-Block, South City-I Near Plot No-M-217.

By Email/By Dak/By Hand

To

M/s Signature Global India Ltd.,
Corp. Office: Unit No. 101, Ground Floor, Tower-A,
Signature Tower, South City-I, Gurugram.

Memo No: 21725 **Dated:** 26-11-2024

Sub: - **Assurance for External Sewerage Connection for discharge of 1195KLD surplus treated domestic effluents after commissioning for our proposed Industrial park Plotted Colony under Scheme (135.7250 Acres) falling in the revenue estate of village Sidhrawali, Tehsil-Manesar, Distt. Gurugram.**

Ref: - **Your application dated 26.11.2024 on the above noted subject.**

In this context, it is intimated that the land for Master Roads, Water Supply, Sewerage & SWD, for master plan of 2031-AD for Pataudi has yet not been acquired and master services of Sewerage Line will be planned after acquisition of land accordingly. After approval and construction of Sewerage Treatment Plant & laying of master sewer line, the Sewerage connection will be sanctioned on your request as per HSVP by law.

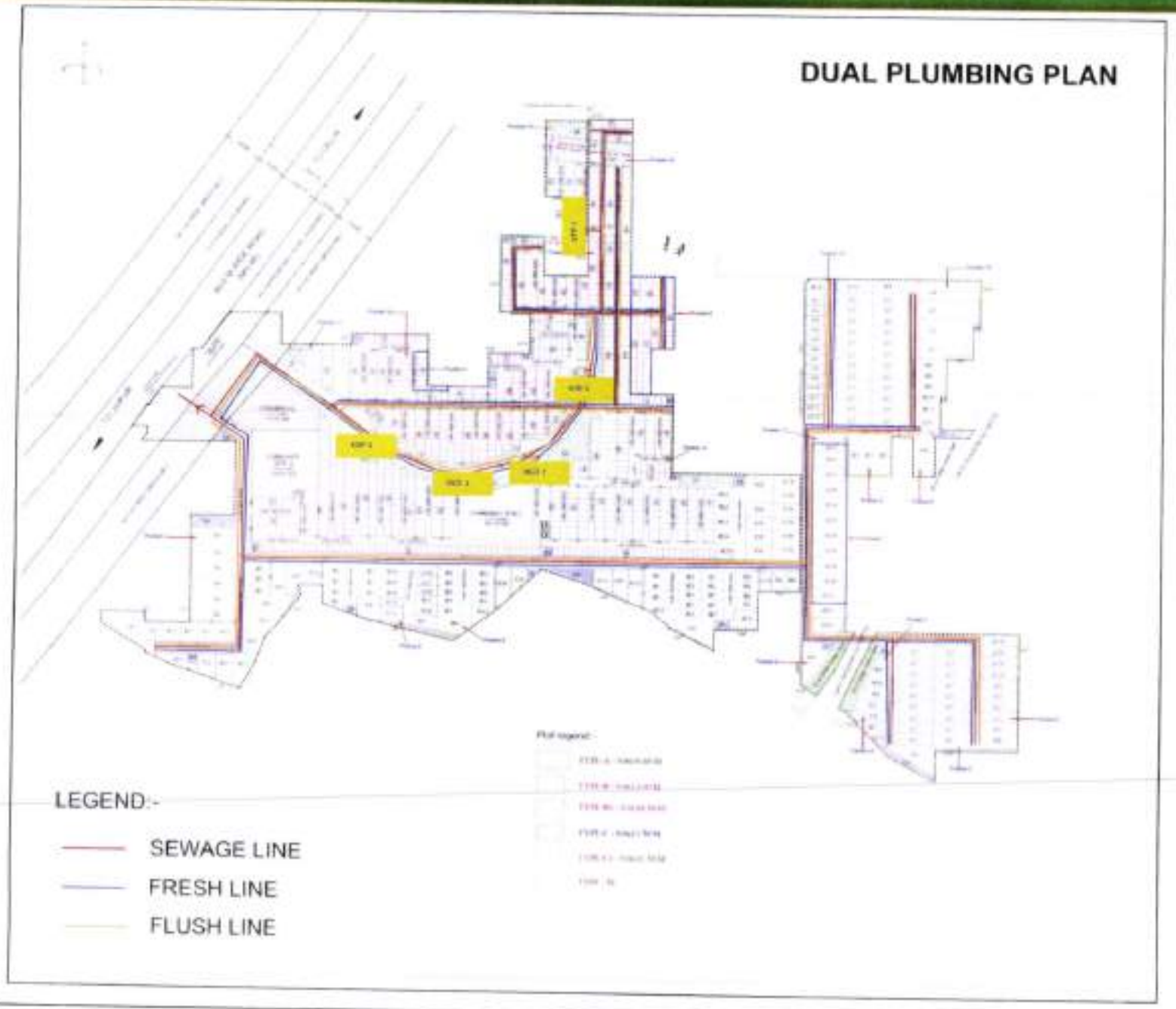
This is for your kind information please.

DA/- Nil

Executive Engineer,
HSVP, Division No-VI,
Gurugram

1231

DUAL PLUMBING PLAN



8. WATER MANAGEMENT

TOR Point No 8.2: ***Rainwater harvesting proposals should be made with due safeguards for ground water quality.***

Reply : 65 no. of pits proposed for artificial ground water recharge.

Green Area = 37,241.664m^2

Paved Area = 1,69,855.489m^2

Mean monthly rainfall for District as per IMD = 45 mm

Run-off from Green area = 37,241.664 x 0.045 x 0.20

= 335.174m^3

Run-off from Paved area = 1, 69,855.489 x 0.045 x 0.70

= 5,350.447m^3

Total runoff load from green and paved area = 335.174 + 5,350.447**= 5,685.621m^3**

Taking 20 minutes Retention Time, Total volume of storm water = 5,685.621/3

= 1,895.207m^3

Taking the effective diameter and depth of a Recharge pit 2.5m and 4 m respectively,

Volume of a single Recharge pit = $\pi r^2 h$ = 3.14 × 1.25× 1.25× 4= 29 m^3

Hence No. of pits required = 1,895.207/29 = 65 pits

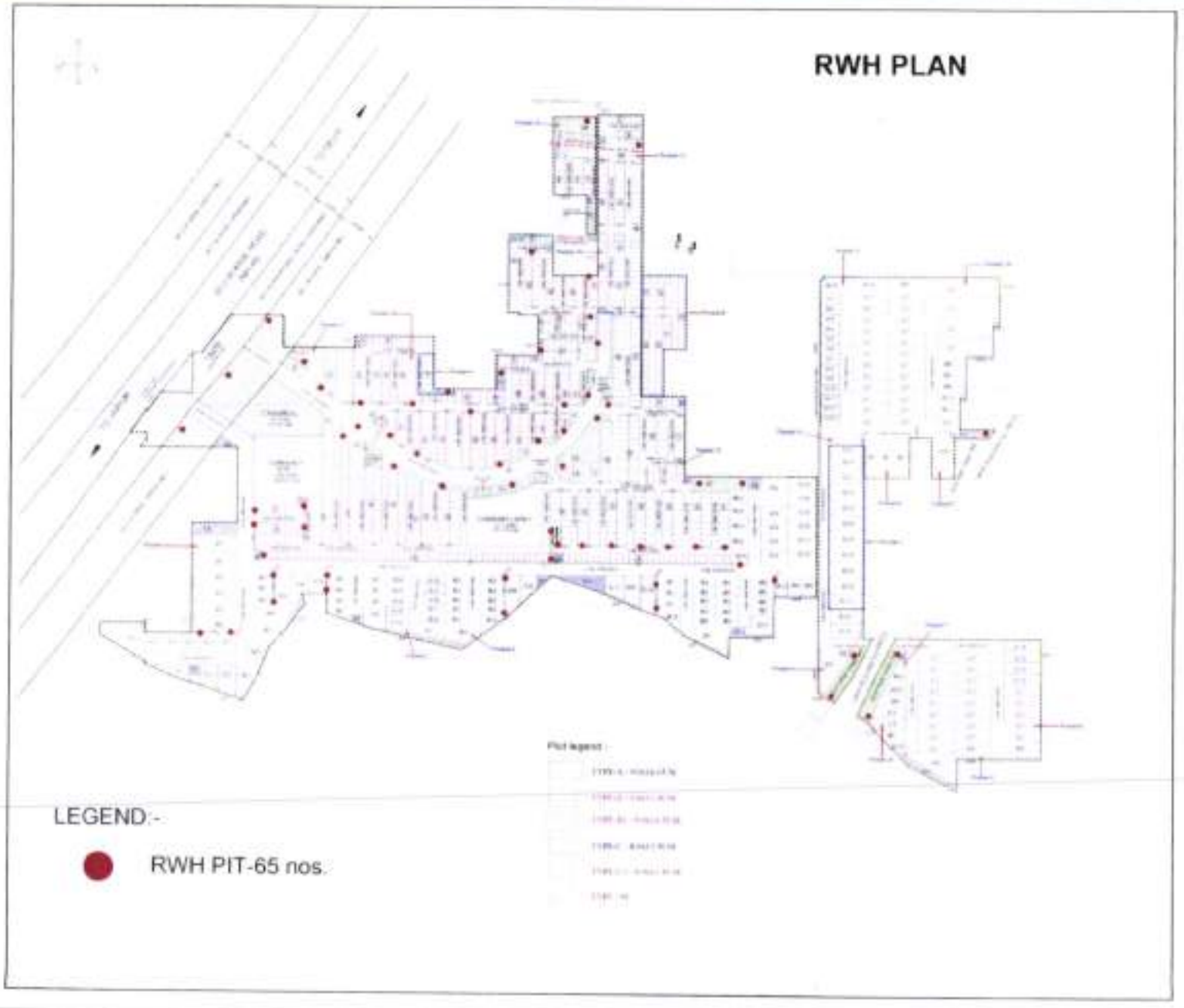
A total of 65 no. of pits proposed for artificial ground water recharge.

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1234

—967—

RWH PLAN



8. WATER MANAGEMENT

TOR Point No 8.3: ***Maximize recycling of water and utilization of rainwater. Examine details.***

Reply : 65 no. of pits proposed for artificial ground water recharge.

TOR Point No 8.4: ***Examine soil characteristics and depth of ground water table for rainwater harvesting.***

Reply : Details of soil characteristics provided in above slides.

TOR Point No 8.5 : ***Permission from CGWA for abstraction of groundwater, if any, including dewatering during basement excavation.***

Reply : During the Construction Phase the Source of water will be Ground water. During operation phase, the source of water supply will be GMDA. The total water requirement for the project will be approx. 3475 KLD.

The domestic water demand for Residential (Type 1 & 2), Community Buildings, Commercial Buildings, & industrial Plots is 2905 KLD. The freshwater requirement for Residential (Type1 &2), Community Buildings, Commercial Buildings, & industrial Plots will be 1943 KLD. However, one-time freshwater demand for the project will be 3475 KLD.

9. Waste Management

TOR Point No 9.1 : ***Examine details of solid waste generation treatment and its disposal***

Reply : Total Solid waste generated in operation Phase is 18139 kg/day.

Bio-degradable waste

- Bio-degradable waste will be subjected to composting through Organic Waste Converter and the compost will be used as manure.
- STP sludge is proposed to be used in horticulture.
- Horticultural Waste is proposed to be composted and used for gardening.

Recyclable waste

- Recyclable waste like paper, plastic, metal etc. will be disposed through local approved recyclers.

CALCULATION OF SOLID WASTE

S. No.	Description	Occupancy	Norms (kg/capita/day)	Waste Generated (kg/day)
1.	**Domestic Solid Waste for Residential plots**			
	• Residential plots	17316	0.5	8658
2.	**Domestic Solid Waste for Industrial plots**			
	• Industrial Plots	23035	0.25	5759
3.	Staff (Residential Maintenance, Community, Commercial, & Industrial)	2070	0.25	518
4.	Visitors(Residential, Community, Commercial, & Industrial)	19060	0.15	2,859
5.	Horticultural Waste (9.20 acres)	@ 0.2 kg/acre/day		1.84
6.	STP Sludge	Sludge generated x 0.35 x B.O.D difference/1000		343.434
Total Solid Waste Generation = 18,139kg/day				

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OWC CALCULATION

Use of Organic waste converter:

Operation cost of OWC:

Organic Waste Converter - 300 (Dim. 3m × 4m) 2 machines are proposed to be used for composting waste 120kg/batch or 3000 kg/day & it requires electricity of about 13.5 HP.

No. of batches /day = 3,000/120 = 25.

Biodegradable Waste to be converted = 40% of total solid waste generated = 7256 kg/ day
Taking 20% higher = 8707kg
No. of batches to convert 8707 kg = 8707 /120 = 73

Operation Cost-monthly per capita:

The operating cost of OWC - 300 = 1, 80,000 INR/month
Cost/day = 1, 80,000/30
= 6000/-
1 batch/day cost = 6000/25
= 240 INR
Cost for 73 batch/day = 73 × 240/-
= 17520 /-
Monthly operating cost = 30 ×17520
= INR 5, 25,600 /- per month

9. Waste Management

TOR Point No 9.2: ***Construction & Demolition Waste Management Plan shall be prepared as part of EMP providing details of demolition activities involved along with quantification and disposal mechanism.***

REPLY : Demolition activity is not involved.

A budget for monitoring of Air, water, Noise and Soil will be Rs. 7.0 Lakhs (during construction Phase) and Rs. 9.0 Lakhs (during Operation Phase) to be incurred by the project proponent for undertaking pollution prevention measures during the construction and operation activities.

10. Energy Requirements

TOR Point No 10.1: ***A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.***

REPLY : The total load of the project is 12,883 kW. The power will be supplied by Dakshin Haryana Bijli Vitran Nigam (DHBVN).
Assurance for the same has been obtained vide memo no. Ch.28/DRG.-PLC dated 06.09.2024.

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POWER NOC

DAKSHIN HARYANA BIJLI VITRAN NIGAM

DHBVN

Superintending Engineer 'OP' Circle-I
Nirlewali Road, Gurugram

email : sepl.gurugram@dhbvn.org.in

To

M/s Signature Global (India) Ltd.
Ground Floor, Tower-A,
Signature Tower, South City-1
Gurugram-122001.

Memo No. Ch.28 / Drg.-PLC Dated: 06 /09/2024

Sub: **Assurance Certificate of DHBVN for development of Industrial Plotted Colony over an area measuring 129.65625 acres in the revenue estate of village Shidharawali, Tehsil Manesar, Distt. Gurugram (License No.104 of 2024 dated 01.08.2024 valid upto 31.07.2029) to be developed by M/s Signature Global India Ltd. Decalared load 14313.37 KVA.**

Ref: Your Firm Letter No. Nil dated 24.08.2024(Received in this office on dt 28.08.2024).

It is hereby assured that the power requirement of tentative load of 14313.37 KVA shall be considered from the nearest 220/33KV substation at the time of actual requirement as per DHBVN norms at the voltage level of 33KV subject to the following conditions:-

1. Subject to availability of power and infrastructure at the time of actual release of connection.
2. Necessary charges will be got deposited by your as per latest Nigam instructions and compliance of all other instructions of Nigam will be ensured as per standing instructions of the Nigam/HERC regulation.
3. The necessary infrastructure will be laid by you at your own cost. The piece of land will be provided by you for the switching station / sub-station as per instructions of the Nigam.
4. The letter will be valid till the validity of license in view of Sales Circular No.D-6/2022 issued by CE/Commercial DHBVN, Hisar vide Memo No. Ch-06/SE/C/R-16/380/Vol-I dated 10.03.2022.

Superintending Engineer
'OP' Circle-I DHBVN, Gurugram

Copy to:

The XEN 'OP' Divn. DHBVN Manesar for information, please.

10. Energy Requirements

TOR Point No 10.2: ***Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.***

REPLY :

- Solar energy will be used.
- Natural light and ventilation will be ensured.
- Energy efficient lighting and BEE start rated motors are proposed.
- Compliance to ECBC norms.

ENERGY CONSERVATION MEASURES

- ❖ LED based lighting will be done in the common areas, signages, entry gates and boundary walls etc.
- ❖ Use of solar lights in common areas
- ❖ Energy efficient motors.
- ❖ Appropriate design to reduce heat gain and loss.
- ❖ Maximization of natural ventilation & lighting.
- ❖ Compliance to HAREDA & ECBC norms.

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Energy Savings calculations

S. No.	DESCRIPTION	SAVINGS (kVA)
1.	Solar based Lighting will be done in the landscape areas, signage, entry gates and boundary walls etc.	1288.3
2.	LEDs for internal lighting	11,594.7
Total Energy Saved		**12883 kW**
Total energy consumption = 12883 kW Energy saved through various provisions = 3,220.75 kVA TOTAL ENERGY SAVING = 25%		

10. Energy Requirements

TOR Point No 10.3: *DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment.*

Reply : Details are given in slide no. 30 to 37.

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11. Road & Traffic

TOR Point No 11.1: ***Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble-free system to reach different destinations in the city.***

Reply : The project proponent will have a well-planned traffic circulation plan so that smooth passage of vehicles can take place.

The Nearest Highway is NH-48 which is adjacent to the project site , SH-28 is 0.58 km towards SW direction, SH-25 which is 4.1 km (S), NH-919 is 3.8 km towards S direction, Western Peripheral Expressway is 8.7 km towards NE direction, MDR 132 is 5.1km towards NE direction, & NH-352W which is 9.5 km (S) direction away from project site.
The nearest railway station being Inchhapuri Railway Station is about 12.6 km (NW) away from the project site.

The nearest Airport is Indira Gandhi International Airport 40 km (NE) from the project site.

11. Road & Traffic

TOR Point No 11.2 : ***A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.***

Reply :

Traffic Density at the NH-48

	2 wheeler	PCU (0.5)	3 wheeler	PCU (1.2)	4 wheeler	PCU (1)	B/L	PCU (3.7)	Total PCU
06:00-07:00	178	89	98	74	126	126	104	312	601
07:00-08:00	198	99	101	76	169	169	108	324	668
08:00-09:00	202	101	123	92	262	262	97	291	746
09:00-10:00	226	113	132	99	301	301	109	327	840
10:00-11:00	245	123	106	80	299	299	112	336	837
11:00-12:00	235	118	124	93	286	286	126	378	875
12:00-13:00	248	124	106	80	249	249	96	288	741
13:00-14:00	256	128	115	86	266	266	107	321	801
14:00-15:00	275	138	119	89	245	245	99	297	769
15:00-16:00	249	125	121	91	265	265	89	267	747
16:00-17:00	246	123	107	80	279	279	96	288	770
17:00-18:00	259	130	108	81	315	315	91	273	799
18:00-19:00	265	133	114	86	299	299	87	261	778
19:00-20:00	245	123	109	82	265	265	79	237	706
20:00-21:00	243	122	95	71	245	245	121	363	801
21:00-22:00	221	111	86	65	212	212	106	318	705
22:00-23:00	156	78	75	56	196	196	86	258	588
23:00-00:00	145	73	74	56	186	186	89	267	581
00:00-01:00	123	62	36	27	175	175	92	276	540
01:00-02:00	142	71	30	23	156	156	83	249	499
02:00-03:00	126	63	28	21	145	145	86	258	487
03:00-04:00	112	56	29	22	115	115	84	252	445
04:00-05:00	146	73	36	27	125	125	110	330	555
05:00-06:00	157	79	51	38	135	135	118	354	606

PCUs as per IRC-106:1990
Average PCU/hr = 737

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TRAFFIC STUDY

Existing Traffic Scenario & LOS

Road	V	C	Existing V/C Ratio	LOS
NH- 48	687	2400	0.286	B

V= Volume in PCUs/hr & C= Capacity in PCUs/ hr

The existing Level of Service is "B" i.e., Very Good

Capacity as per IRC: 106-1990 page no 11 table-2 for arterial road/ Highways

V/C	LOS	Performance	V/C
0.0 - 0.2	A	Excellent	0.0 - 0.2
0.2 - 0.4	B	Very Good	0.2 - 0.4
0.4 - 0.6	C	Good / Average / Fair	0.4 - 0.6
0.6 - 0.8	D	Poor	0.6 - 0.8
0.8 - 1.0	E	Very Poor	0.8 - 1.0

TRAFFIC STUDY

- The total proposed parking for the project is **1,168 ECS**, It is estimated that 90% of the vehicles will leave or be operating at the site from (Ready to ply or incoming) 7:00 AM to 8:00 PM i.e. **1,168 x 0.90 = 1,051** and the remaining 10% parking space will remain vacant or parked with Light Motor Vehicles i.e. **1,168 x 0.10 = 117**.

- Since the maximum number of trips will happen between 7:00am to 8:00 PM (i.e.) 12 hours

- Therefore, on average the total number of trips per hour is 1,051/12 = **88 vehicles/ hour.**

Modified Traffic Scenario

Road	V	C	Modified V/C Ratio	LOS
NH- 48	687 + 88= 775	2400	0.32	B

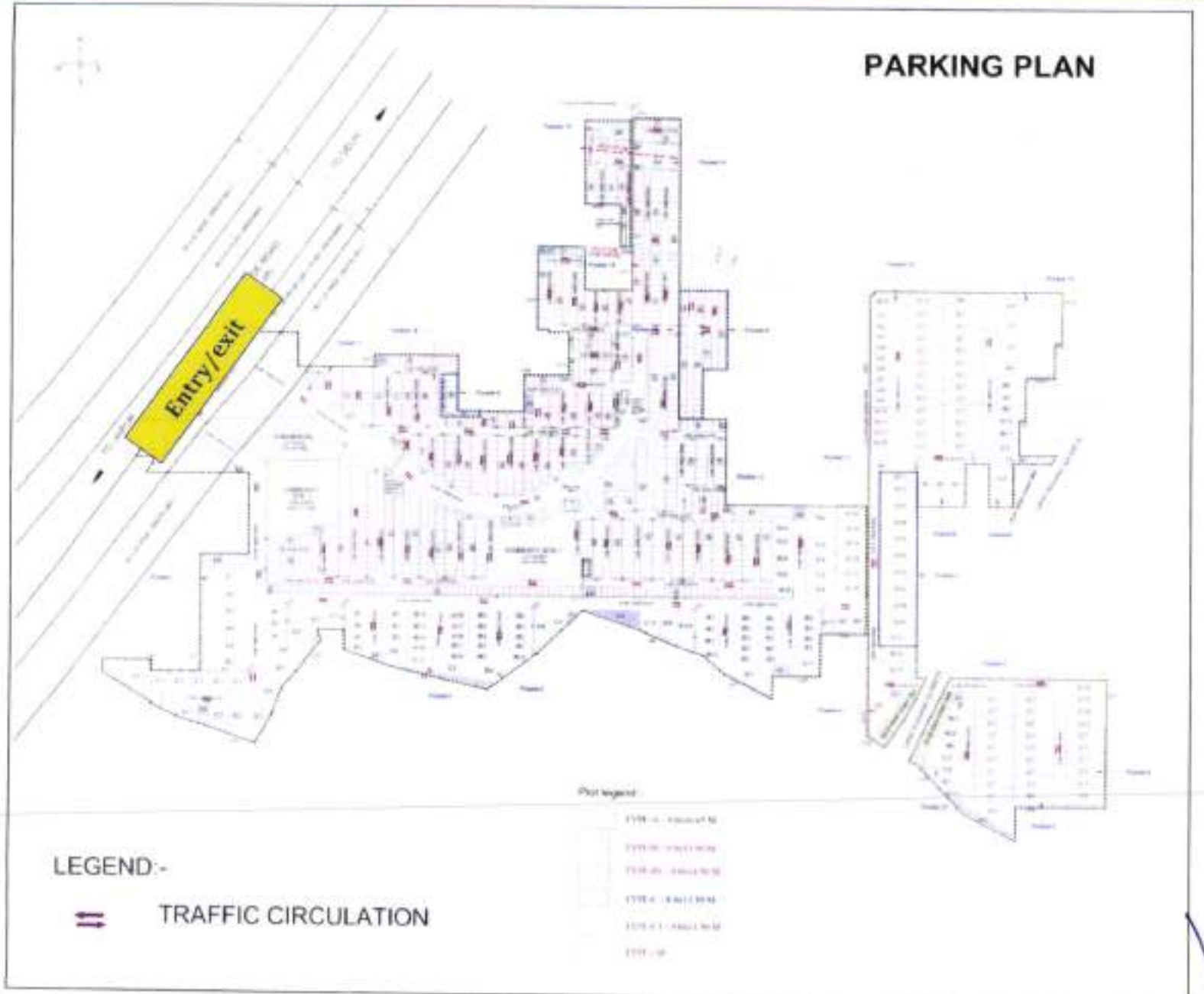
1247

TRAFFIC STUDY (contd.)

Modified Traffic Scenario & LOS (after completion of the project)

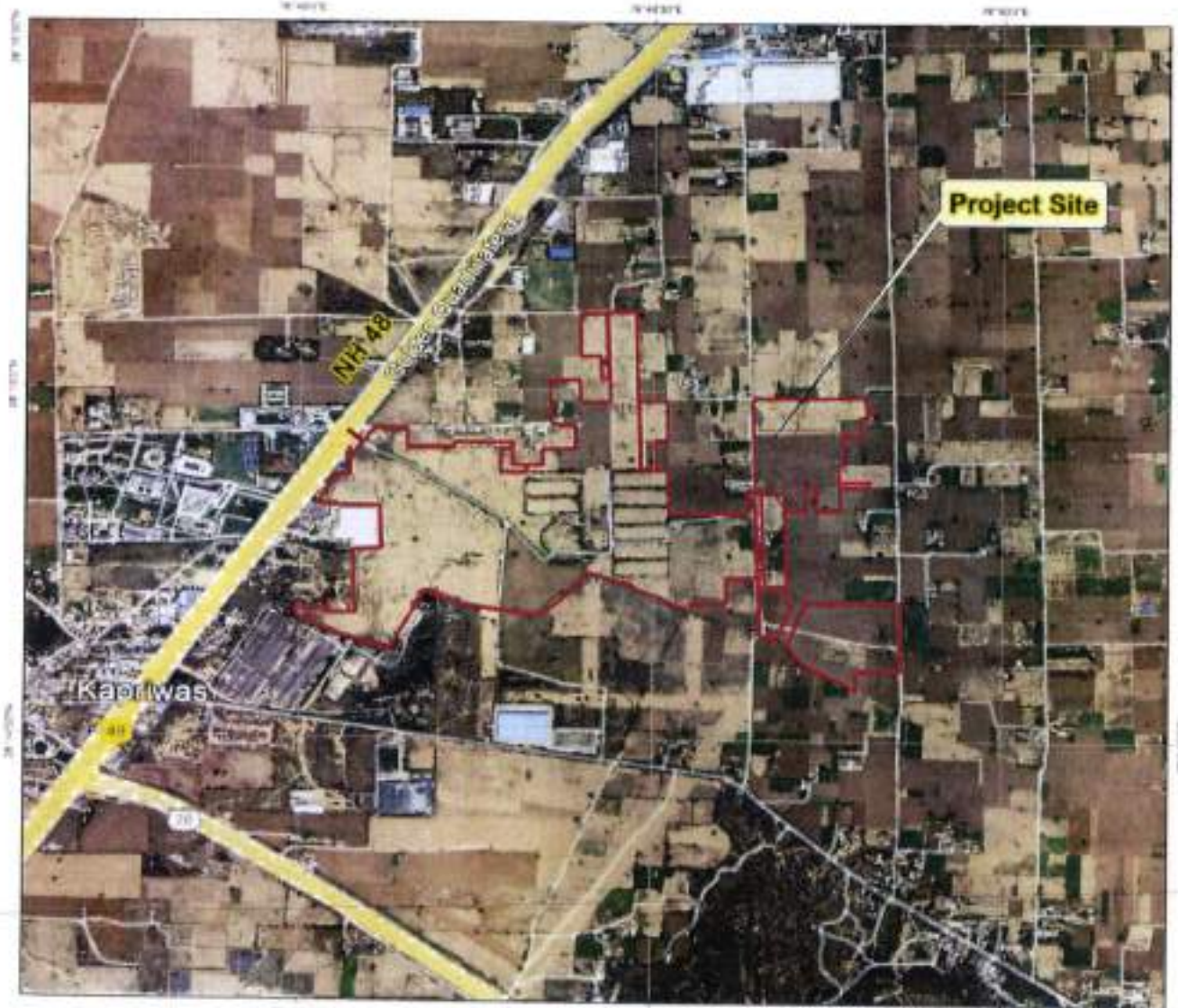
- The modified LOS will be "B", i.e. **"VERY GOOD"**; therefore there will be no change in LOS after completion of the project. The total parking proposed for the project = **1,168 ECS**.
- The project proponents will have a failsafe traffic circulation plan for the "Industrial Plotted colony " project so that smooth passage of vehicles can take place.
- The support staff will be trained to handle the morning and evening rush. The traffic generated from the project is assumed to be distributed between 6:00 AM to 10:00 AM & 19:00 PM- 00:00 AM and will distributed along all two directions of the project along the road.

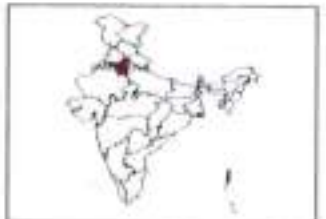
TRAFFIC CIRCULATION & PARKING PLAN



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ROAD MAP







Project Site

SOURCE : Satellite Image

Industrial Park Project at
Village- Shidrawali District- Gurugram
Haryana by
M/s Signature Global (India) Limited

ROAD CONNECTIVITY MAP

11. Road & Traffic

TOR Point No 11.3 : ***Examine the details of transport of materials for construction which should include source and availability.***

Reply : Construction Materials will be sources from local vendors.

12. Disaster Management Plan

TOR Point No 12.1 : ***Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster. This should cover details of vulnerabilities due to natural and manmade hazards (earthquake, flooding, cyclone, landslides, fire etc.) and details of disaster mitigation efforts for buildings and infrastructure through structural sufficiency and Fire and Life Safety compliance in line with National Building Code NBC, 2016.***

Reply : Details of Disaster Management plan including emergency evacuation during natural and man-made disaster is given below.

Disaster Management Plan for Earthquake & Fire is presented below:

12. Disaster Management Plan

Earthquake:

- Building will be designed as per IS & NBC norms for earthquake resistance.
- Structural stability study will be carried out before start of construction work at site.

Fire:

- Fire fighting facilities will be provided as per NBC norms.
- Fire NOC will be obtained before start of construction of project.
- Regular fire mock drills will be conducted for staff and residents.

SDMA will be informed in case of any disaster for seeking assistance.

13. Court Cases

TOR Point No 13 : ***Details of litigation pending against the project, if any, with direction/ order passed by any Court of Law against the Project should be given.***

Reply : No litigation is pending against the project.

No Litigation Affidavit

Bond

Indian-Non Judicial Stamp
Haryana Government

Date : 11/04/2024

Certificate No. G0K2024O1345 [redacted]

GRN No. 115394386 [redacted]

Stamp Duty Paid : ₹ 101

Penalty : ₹ 0

Deponent

Name : Signatureglobal India Ltd

H.No/Floor : Na Sector/Ward : Na Landmark : Na

City/Village : Gurugram District : Gurugram State : Haryana

Phone : 98******52

Purpose : AFFIDAVIT to be submitted at Others

The authenticity of this document can be verified by scanning this QrCode Through smart phone or on the website https://egrashry.nic.in

AFFIDAVIT

I Sanjay Varshney S/o Shri H.B.Varshney of M/s Signatureglobal India Limited, having its Corporate office at Ground floor, Tower-A, Signature Tower, South City-I, Gurugram, Haryana-122001 do hereby solemnly affirm, declare & undertake as given below:

1. That we are going to construct the Industrial Plotted Colony Project at Village -Shikrawali, Tehsil -Manesar, District -Gurugram Haryana.
2. That the company has not commenced any construction work at the project site we shall commence work only after obtaining the Environmental Clearance and receipt of all applicable NOC's/permissions from the prescribed/ competent authorities of state and Centre Govt.
3. That we will abide by the ruling given by the Hon'ble Courts with regard to the extraction of groundwater in the notified areas of Haryana.
4. That new scientific measures will be taken to reduce the consumption of water during the construction phase.
5. There is no litigation pending against Industrial Plotted Colony Project at Village Shikrawali, Tehsil -Manesar, District Gurugram Haryana by M/s Signatureglobal India Limitedand that for any such litigation what so ever, the sole responsibility will be borne by the project proponent.

DEPONENT
Name: Sanjay Varshney
Designation: COO

VERIFICATION:

VERIFIED at ..... on this .....2024 that the contents of para no.1 to para No 6 of the above undertaking are true and correct to the best of my knowledge and records. No part of it is false and nothing has been concealed therein.

DEPONENT
Name: Sanjay Varshney
Designation: COO

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14. Miscellaneous

TOR Point No 14 : ***Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http:// moef.nic.in/ Manual/ Townships".***

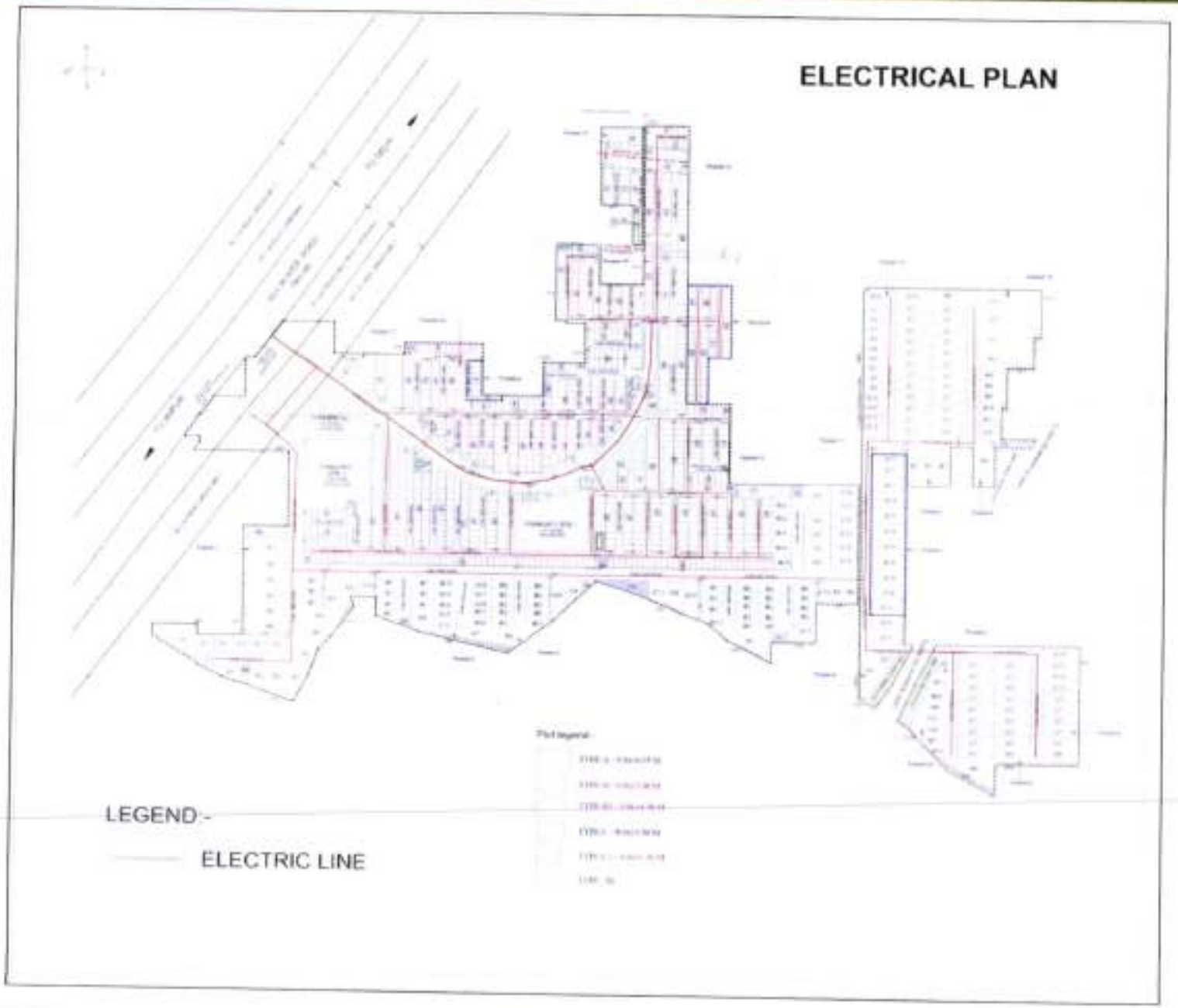
Reply : Complied.

FIRE FIGHTING PLAN



— 989 —

ELECTRICAL PLAN



Thank You!