EXECUTIVE SUMMARY FOR PUBLIC HEARING

For

PROPOSED GREENFIELD PROJECT OF STANDALONE GRINDING UNIT WITH CEMENT PRODUCTION CAPACITY OF 6 MMTPA (2 X 3 MMTPA)

Located at

VILLAGE- BORNAR, TALUKA & DISTRICT-JALGAON, MAHARASHTRA- 425116

(Study Period – March 2024 to May 2024)

SCHEDULE AS PER EIA NOTIFICATION, 2006 & ITS SUBSEQUENT AMENDMENTS TILL DATE - ACTIVITY 3(b), CATEGORY "B1" - CEMENT PLANTS (STANDALONE GRINDING UNIT) AS PER O.M. DATED 24TH DECEMBER, 2013

ToR Letter No. TO24B1103MH5898416N dated 09.10.2024 issued by State Level Expert Appraisal Committee (SEAC)

Project Proponent:

M/s. AMBUJA CONCRETE NORTH PRIVATE LIMITED

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Environment Consultant:

M/s. P AND M SOLUTION

QCI Certificate No. NABET/EIA/2326/RA 0298

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(Accredited by NABL, Recognized by MoEF&CC, GoI)

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1.0 PROJECT DESCRIPTION

M/s. Ambuja Concrete North Pvt. Ltd. (ACNPL) has proposed a Greenfield project of Standalone Grinding Unit with Cement Production Capacity of 2 x 3 Million Metric Tonnes per Annum (i.e. 6 MMTPA) which is based on Dry clinker grinding process.

The project site is located at survey Nos. 172, 173, 174/Part, 174/2/1, 175, 176, 178, 180/1, 180/2, 181/1, 181/2, 181/2 Part, 182, 183, 183 (Part), 184/A, 184/B, 189, 190, 192, 193/1, 194/1/2 at Village - Bornar, Taluka & District-Jalgaon, Maharashtra.

The road abutting the project is village Road towards N direction. SH-185 is at approx. 1.0 km towards North direction from the project site and NH-753J is at approx. 4.7 km towards North direction from the project site. Mhasavad Railway Station is approx. 1.4 km towards N direction from project site. Jalgaon Airport is approx. 20.5 km towards NE direction from project site. Girna River is at a distance of 1.2 km from the project site, Kurkund River is at a distance of 3.8 km from the project site and Anjani River is at a distance of 14.7 km from the project site. Hikers Chandrama Lake is at a distance of 14.8 km from the project site, Subhashwadi Lake is at a distance of 9.4 km from the project site, Lonwadi Lake is at a distance of 8.8 km from the project site and Dream Trekkers Lake is at a distance of 14.8 km from the project site. No National Park/ Wildlife Sanctuary falls within 10 km of the plant area.

The application was submitted for obtaining the Terms of Reference (ToR) for Environmental Clearance to the SEAC, Maharashtra, Environment Department on 31/08/2024. Thereafter, Standard ToR was granted vide File No. SIA/MH/IND1/494899/2024 and ToR Letter No. TO24B1103MH5898416N on 09/10/2024. The project activity is listed at Sr. no. 3(b), Cement Plants, under Category - "B", as per the EIA Notification, 2006 and its subsequent amendments till date. It is categorized as B1 as per *Office Memorandum dated 24th December, 2013 by MoEF&CC, New Delhi.*

Table 1: Salient Features of the Project

S. No.	Items	Details
1	Name of the Project	Proposed Greenfield project of Standalone Grinding Unit with Cement Production Capacity of 2 x 3 Million Metric Tonnes per Annum (i.e. 6 MMTPA) by M/s. Ambuja Concrete North Pvt. Ltd. (ACNPL).
2	S. No. in the Schedule	3 (b)- Cements plants
3	Proposed Capacity/ Area	Total Area = 26.37 ha Capacity = 2 x 3 MMTPA (6 MMTPA)
4	Category of Project	B1 as per the OM dated 13th December, 2013.
5	Toposheet	F43V5 & F43V9
6	Raw Material	**Sr.** | **Raw Material (Dry basis)**

No.	Particulars	Quantity
1.	Clinker	2 x 2.85 MMTPA
2.	Gypsum (natural/chemical)	2 x 0.24 MMTPA
3.	Fly ash	2 x 1.05 MMTPA
4.	Slag	2 x 1.95 MMTPA
5.	Coal (For HAG)	2 x 0.07 MMTPA

7	Water Requirement	During Construction Phase: 200 KLD During Operation Phase: 2 x 300 KLD i.e. 600 KLD
8	Power Requirement	

Sr. No.	Particular	Details
1	Power Requirement	2 x 18 MW (36 MW)
2	Source	State Grid (MSEDCL)

9	Manpower Requirement	

Description		Construction Phase	Operation Phase
Proposed	Permanent	30 nos.	30 nos.
	Contract	1500 nos.	125 nos.
Total (A)		**1530 nos.**	**155 nos.**
Period of employment in days (B)		545 nos.	365 nos./year
Total Man-days (A*B)		**8,33,850 nos.**	**56,575 nos./year**

10	Sanctuaries/ National Parks/ Biospheres, etc.	No Wildlife Sanctuary/ National Parks/ Wildlife Corridor/ ESZ within the study area.
11	Project Cost	INR 1400 Crores inclusive of capital expenditure estimated for Environmental Management and Protection Plan of INR 112 Crores as Capital cost and 4.15 crores as recurring cost.
12	Nearest Airport	Jalgaon Airport is approx. 20.5 km towards NE direction,
13	Nearest Railway Station	Mhasavad Railway Station is approx. 1.4 km towards North direction from project site.
14	Highway Connectivity	The road abutting the project is village Road towards N direction. SH-185 is at approx. 1.0 km towards North direction from the project site and NH-753J is at approx. 4.7 km towards North direction from the project site.

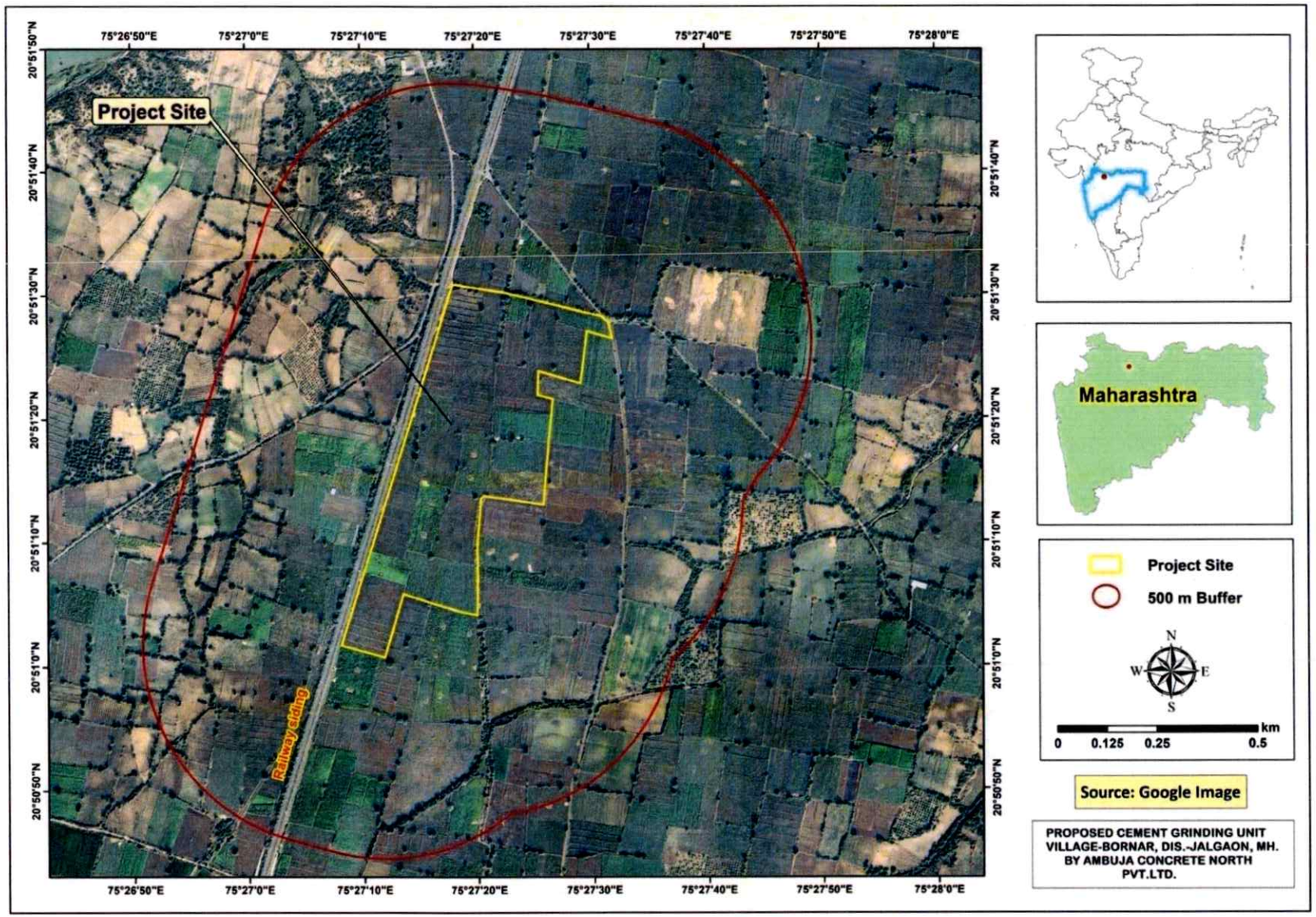

Figure 1: Google Image showing the site and surroundings

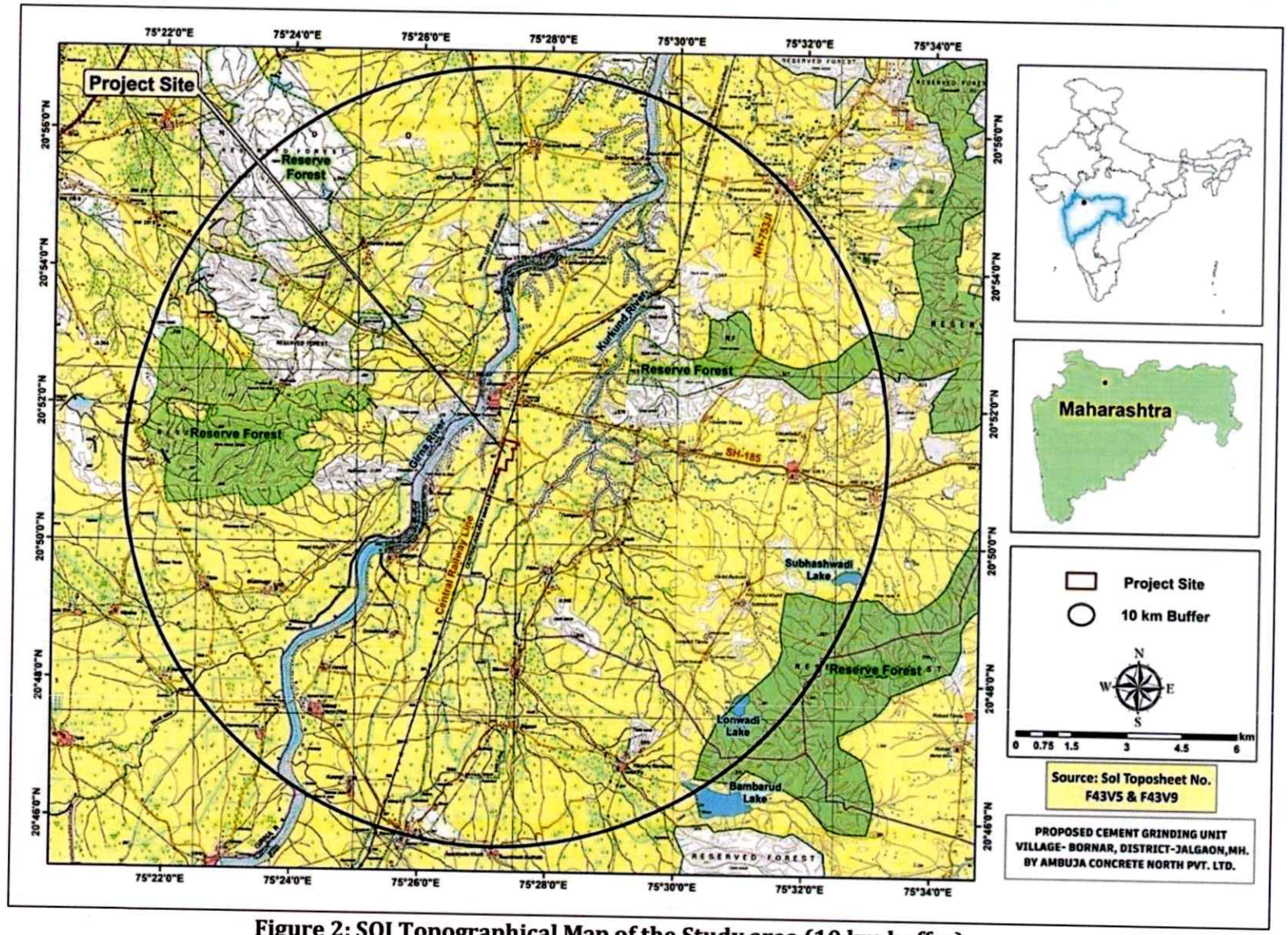

Figure 2: SOI Topographical Map of the Study area (10 km buffer)

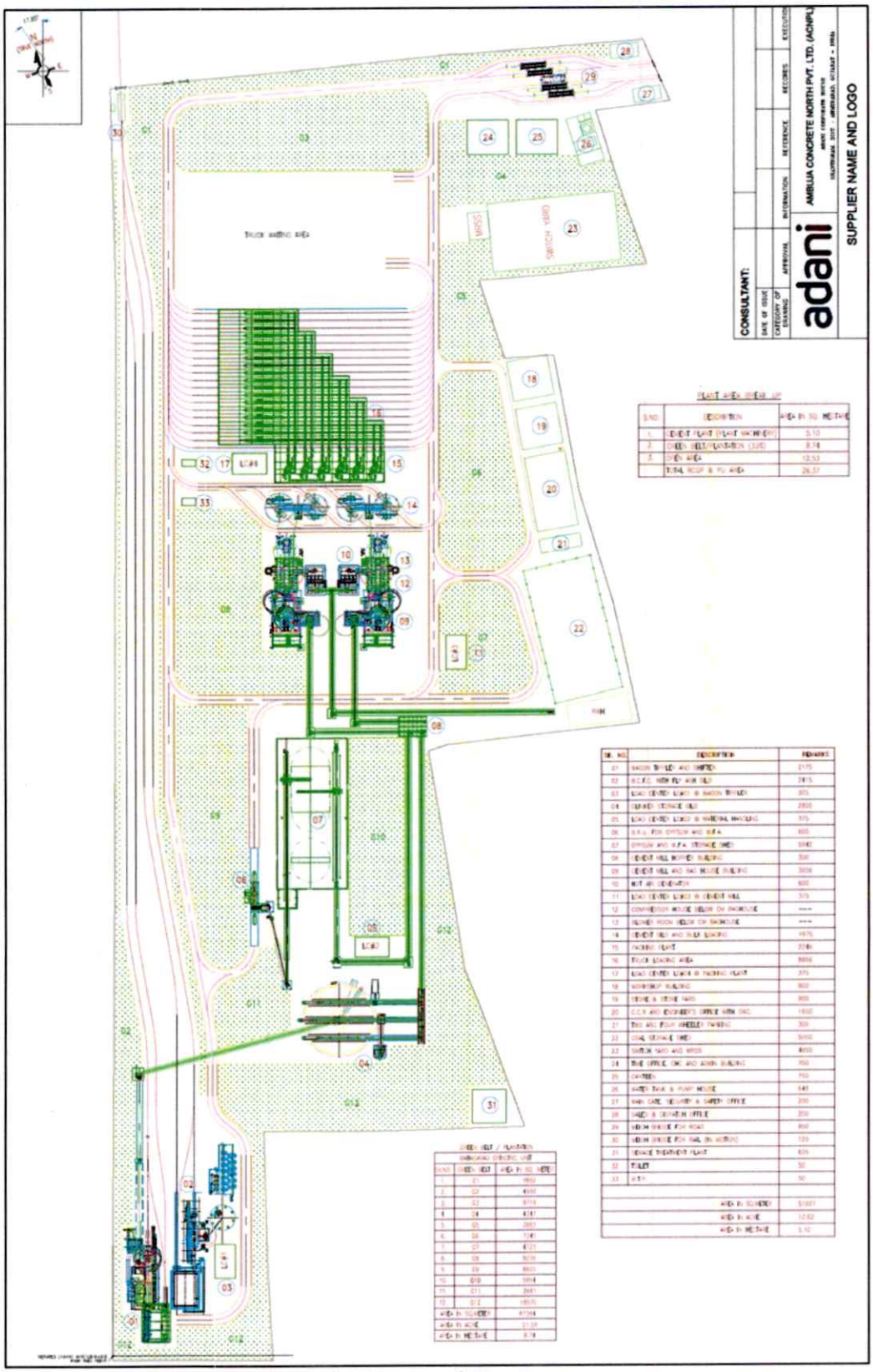

Figure 3: Proposed Site Layout

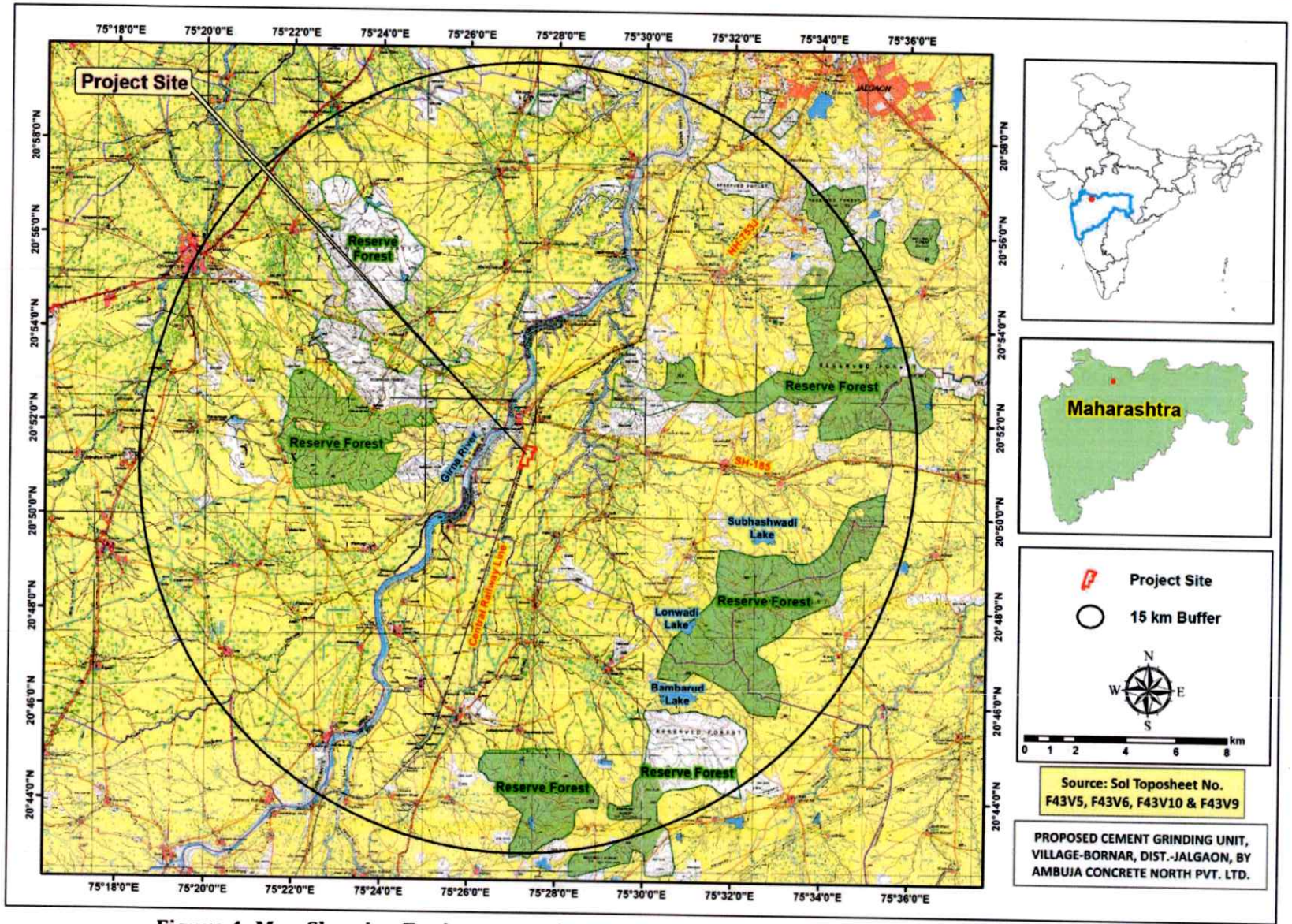

Figure 4: Map Showing Environmental Sensitive Places within 15 km Radius Buffer

Table 2: Production Capacities of the Proposed Project

Sr. No.	Unit	Proposed Capacity (MMTPA)		
		Mill 1	Mill 2	Total
1.	Clinker Grinding Unit (PPC, OPC, PSC, PCC & Other types)	3 MMTPA	3 MMTPA	6 MMTPA

The total area of the proposed clinker grinding unit for the production of cement is 26.37 ha. Out of which 8.74 ha i.e. 33.14% of total area is earmarked for greenbelt development, 5.10 ha will be utilized under installation of Grinding Unit, Storage facilities and packing plant.

The STP of 30 KLD (2 x 15 KLD) capacity will be installed to treat the domestic sewage whereas treated water from Sewage Treatment Plant (STP) will be reused for dust suppression and gardening purpose.

Total 17,500 trees are proposed for plantation @2000 tress per hectare of greenbelt area.

2.0 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline environmental study has been carried for the period 1st March, 2024 to 31st May, 2024 (Pre-Monsoon Season).

2.1 Summary of Ambient Air Quality

- Ambient Air Quality Monitoring reveals that the minimum and maximum concentrations of $PM_{2.5}$ for all the 8 AAQM stations were found to be 16.36 µg/m³ to 30.46 µg/m³ at Subhashwadi site and Mhasavad respectively.
- While for PM_{10}, the maximum value of 65.30 µg/m³ at Mhasavad and minimum 44.90 µg/m³ was recorded at Bhatkheda within the study area. 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 6.92 µg/m³ to 16.72 µg/m³ at Mhasavad and Kharchi Bk. respectively.
- The minimum and maximum concentrations of NO_2 were found to be 12.88 µg/m³ to 24.28 µg/m³ at Subhashwadi and Kharchi Bk. respectively.
- Also, CO values within study area was below permissible level of 2 mg/m³. The values of HC were below detectable limits.
- High concentration of $PM_{2.5}$ and PM_{10} may be attributed to Vehicular emission and nearby construction activities in the area.

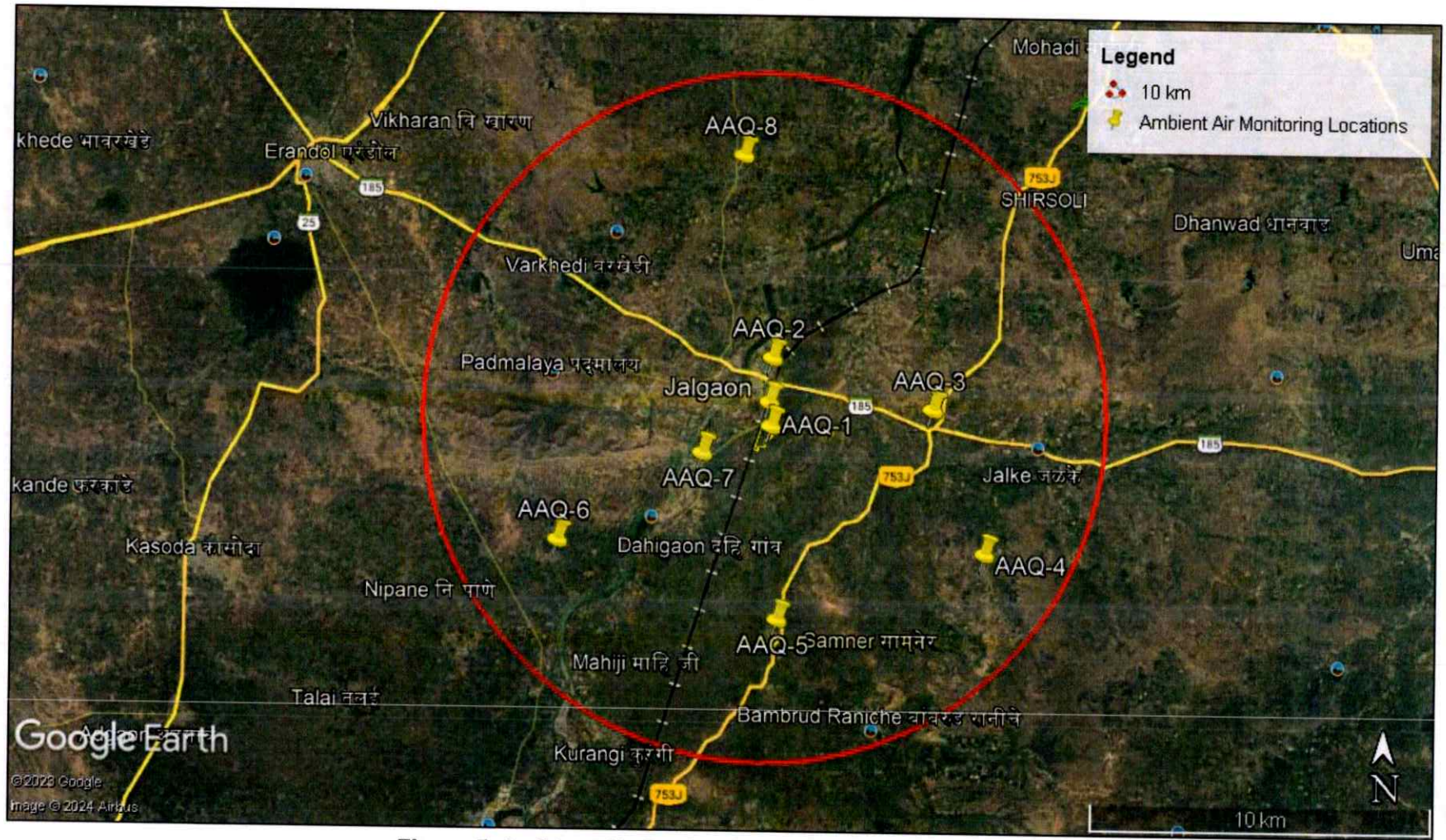

Figure 5: Ambient Air Quality Monitoring Location Map

2.2 Summary of Noise Levels

Assessment of day noise levels around the study area are ranging from 43.6 to 48.0 dB (A) during study period. Whereas, the range of the night equivalents were 33.0 to 36.3 dB (A).

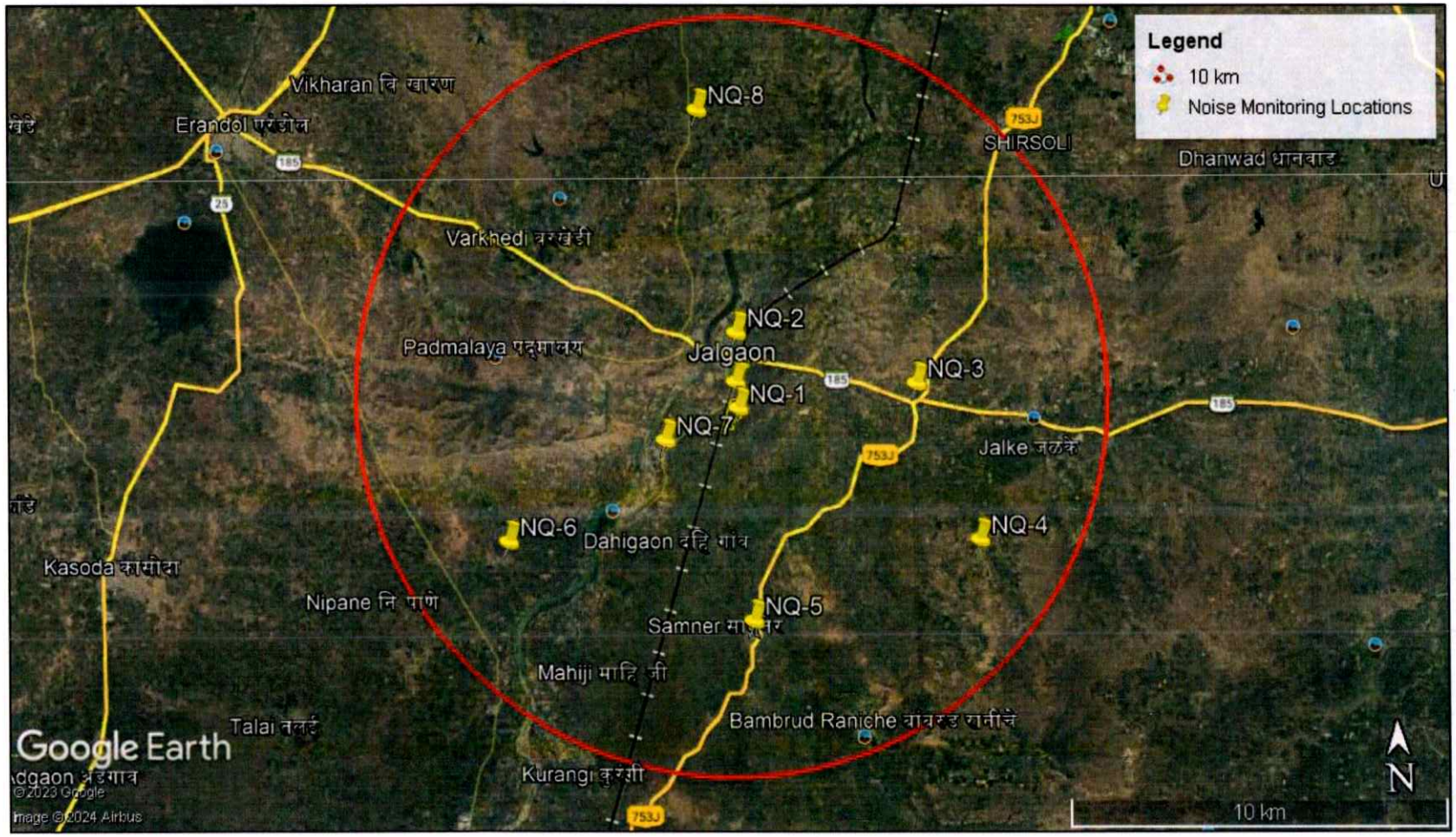

Figure 6: Ambient Noise Monitoring Location Map

2.3 Summary of Ground Water Quality

- pH of the ground water samples was in the range from 7.06 - 7.89 and is within the acceptable limit.
- Total dissolved solids found in the range of 260-1610 mg/l and was found within the limits of 500 mg/l.
- Turbidity from all the water samples was found below detectable limit.
- Nitrate was found to be within the acceptable limits in all the locations.
- Calcium from all the water samples were found in the range of 29.1-158.1 mg/l and are within the acceptable limit.
- Magnesium from all the water samples were found in the range of 13.8 – 102.1 mg/l and are within the acceptable limit.
- Total Hardness of water sample varied between 136-529 mg/l.
- Chloride from all the water samples were found in the range of 38.3-268.3 mg/l and are within the acceptable range.
- Sulphate in the all locations were found to be within the acceptable limit.
- Fluoride from all the water samples was found to be within the acceptable limit.
- Total Iron, Aluminum, barium, Boron, Copper, Selenium, Zinc from all the water samples were analyzed and found below detectable limit.
- Cadmium from all the water samples were found to be within the acceptable limit.
- Lead, mercury, nickel total arsenic and Chromium were found to be within the acceptable limits in all the locations.
- The analysis of microbiological parameters in all water samples reveals that the total Coliform and the Fecal Coliform were absent in the all water samples.

2.4 Summary of Surface Water Quality

The following description is based on the analysis of the samples:

- pH of the surface water samples was in the range from 7.23 to 7.86 and is within the acceptable limit.
- Total dissolved solids found in the range of 220 - 405 mg/l and was found within the limits of 500 mg/l.
- Nitrate was found to be within the acceptable limits in all the locations.
- Calcium was found in the range of 16.8 – 54.8 mg/L and was found to be within the acceptable limit.
- Magnesium from all the water samples were found in the range of 7.2 – 35.1 mg/l and are within the acceptable limit.
- Total Hardness of water sample varied between 44 - 128 mg/l.
- Chloride from all the water samples were found in the range of 38.1 – 98.4 mg/l and are within the acceptable range.

- Sulphate was found in the range of 6.2-32.1 mg/l and was found to be within the acceptable limit.
- Fluoride from all the water samples was found to be within the acceptable limit.
- Total Iron, Aluminum, barium, Boron, Copper, Selenium, Zinc from all the water samples were analyzed and found below detectable limit.
- Cadmium from all the water samples were found in the range of 0.002 - 0.003 mg/l.
- Lead, mercury, nickel and total arsenic were found to be within the acceptable limits in all the locations.
- Total Chromium from all the water samples were analyzed and found to be within the acceptable limit.
- The analysis of microbiological parameters in all water samples reveals that the total Coliform were found to be within the acceptable limit and the Fecal Coliform were found to be in the range of 70-280 MPN/100 ml which is within limits. It may be possible that the water bodies are subject to discharge of uncontrolled and untreated domestic waste water.

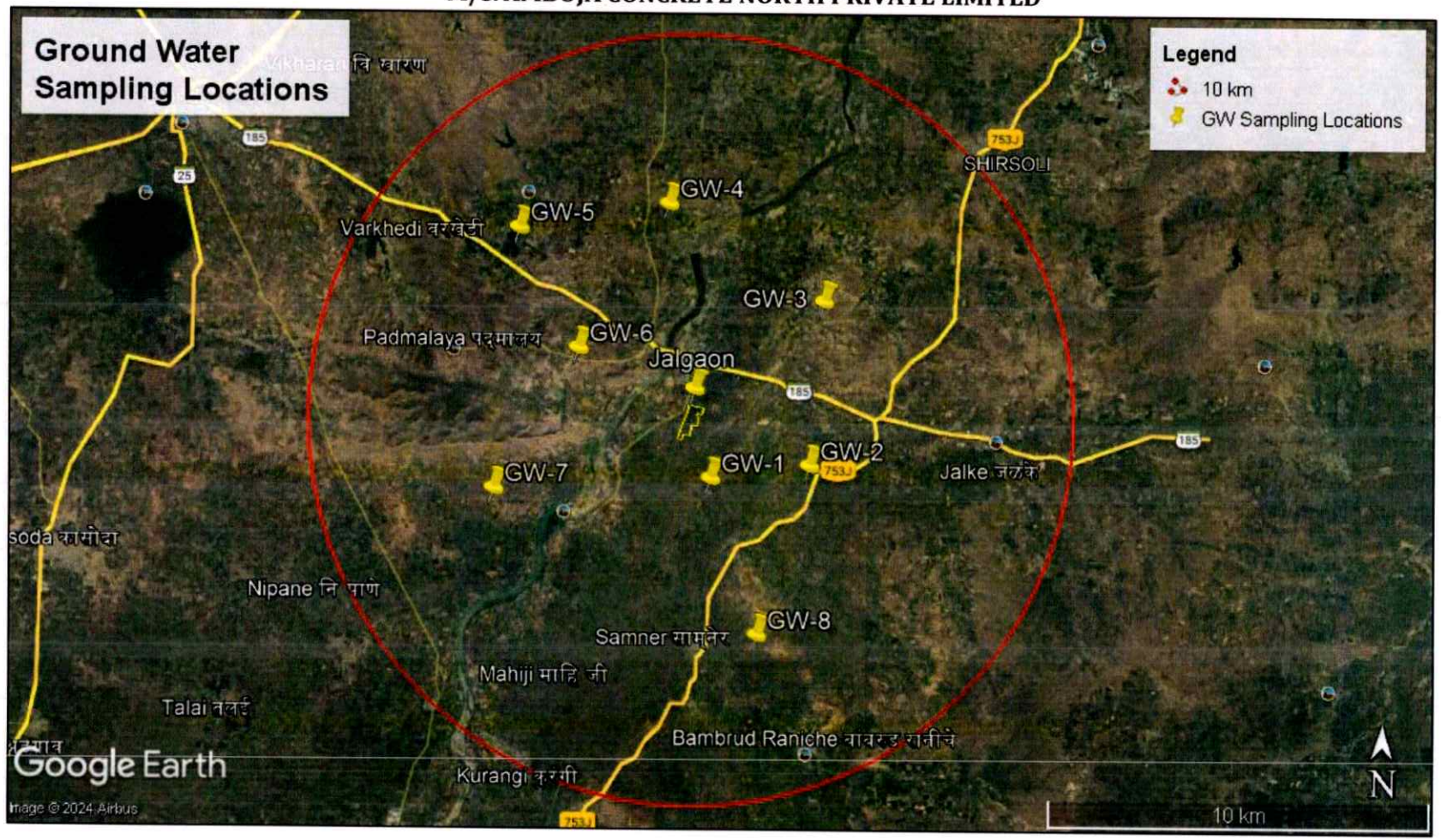

Figure 7: Ground Water Monitoring Location Map

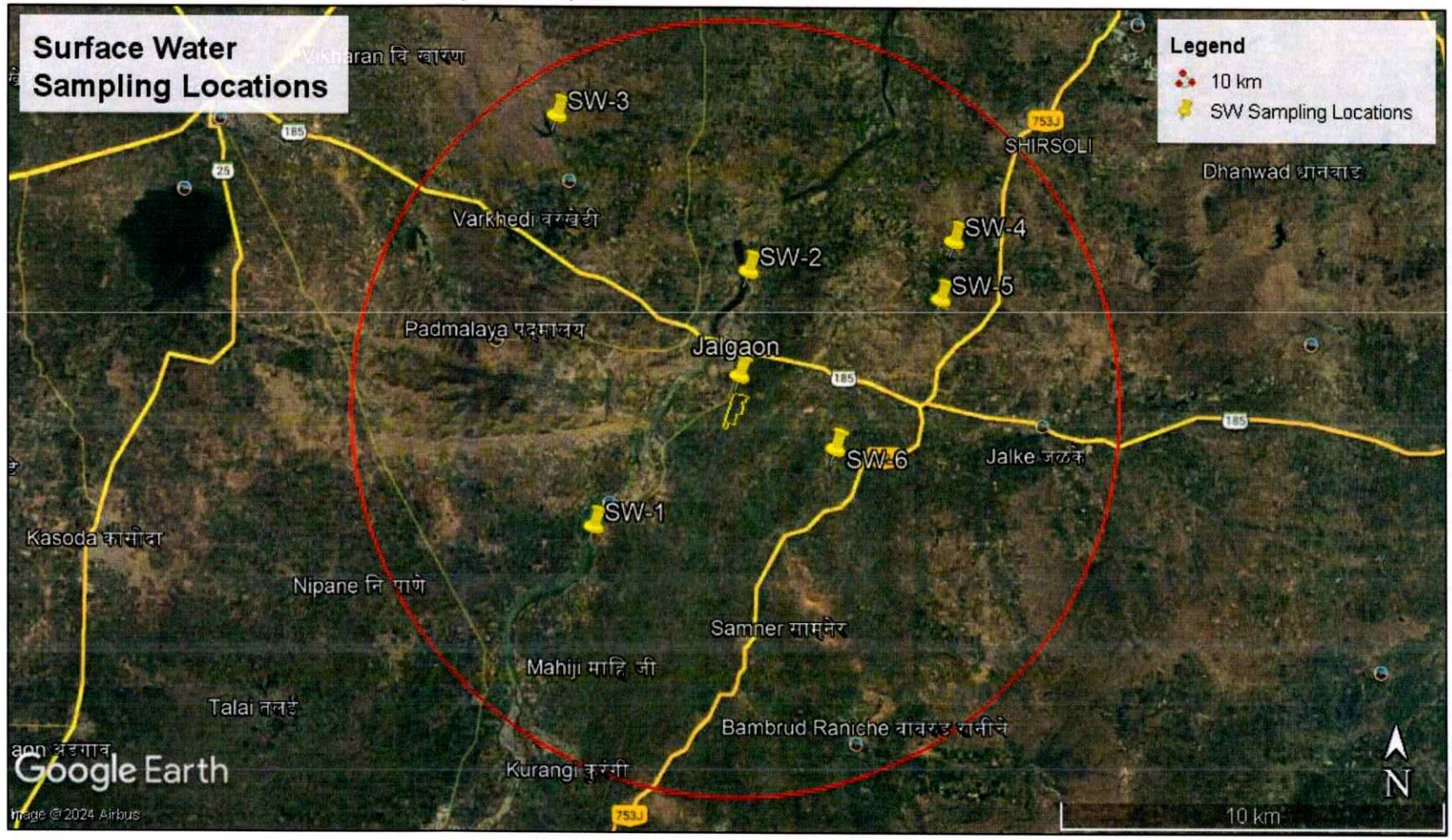

Figure 7: Surface Water Monitoring Location Map

2.5 Summary of Soil Quality

The color of the soil is Deep Black. The soil texture for all the locations was observed to be Clay. The permeability of the soil is in the range of 0.95 – 1.38 cm/hr. The porosity of soil is in the range of 56 – 59 %. Water holding capacity is in the range of 56.0 - 59.0 %. The bulk density of soil in the study area is found to be 0.65 - 0.76 g/cm^3.

Chemical properties represent the complex chemical reactions and processes occurring in the soils. They represent nutrient availability, deficiency, toxicity and salinity just to name a few. Almost all of the properties require field equipment or lab analysis for measurement.

They include: Electrical conductivity value ranges from 137 - 473 µS/cm. The pH of the soil samples varies from 7.01 – 8.63 which is an indicative of the Neutral to Moderately alkaline nature of soil. It is very important property of soil as it determines the availability of nutrients, microbial activity and physical conditions of soil. The cation exchange capacity of soil in the study area is found to be 0.66 – 1.9 meq./100g.

Soil sample was also analyzed for heavy metals such as Manganese (as Mn), Zinc (as Zn), Total Lead, Cadmium, Copper (as Cu) and Iron.

Lead, Cadmium were found below detectable limit (BDL).

It habitat a particular soil. Soil biological properties reflect how well-suited a soil is to support life.

They include organic matter contributes to plant growth through its effect on the physical, chemical and biological properties of the soil. Organic matter of the soils samples collected from the study was found to be in the range of 0.4-2.8 %. The soil samples show poor soil quality in terms of organic matter.

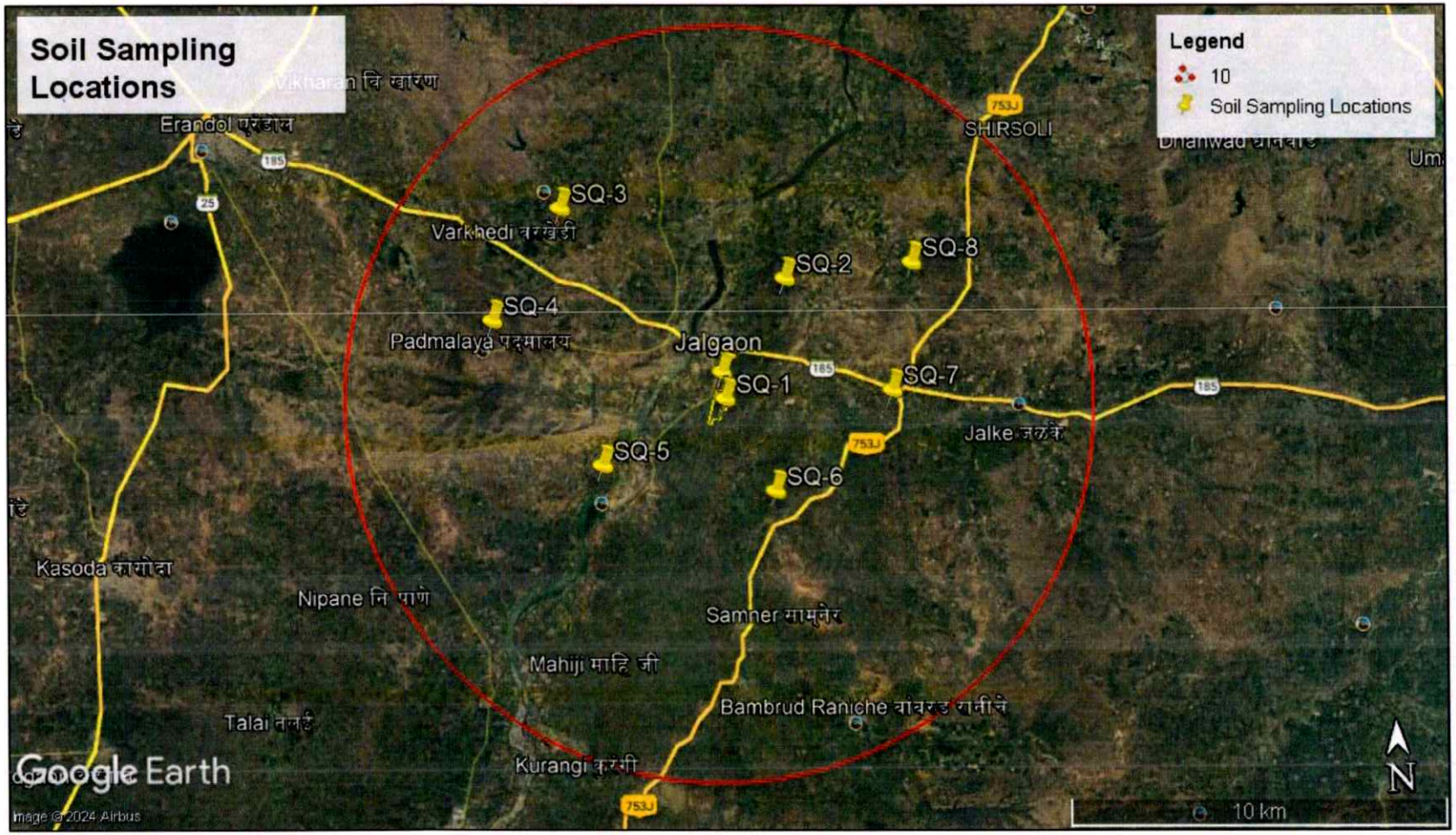

Figure 8: Soil Quality Monitoring Location Map

2.6 Socio-economic Study:

The socio-economic study area is restricted up to 10 km periphery from the project site. The area within 10 km limit of the proposed site includes most of Jalgaon Taluka (17 Villages), Pachora Taluka (11 Villages), part of Erandol Taluka (27 Villages) and Jamner Taluka (1 Village).

According to Population Census 2011 the study area has a total population of 28964 of which 48.06 percent are male and the remaining 51.93 percent are female. The term Sex ratio is used to describe the number of females per 1000 males. Of the total population in the study area 2896 are children belonging to 0-6 age group. This constitutes 10 percent of total population of the study area. Again, of the total population belonging to 0-6 age group 51.31 percent are male and the remaining 48.68 percent are female. The overall sex ratio in this group has been worked out to 851 females per 1,000 males.

This constitutes 12.7 percent of total population of the study area. Again, of the total population belonging to 0-6 age group 51.31 percent are male and the remaining 48.68 percent are female.

Density of population is a key geographical term. It refers to number of people per square Kilometer. The overall density of population in the study area has been worked out to 676 persons per square kilometer.

Of the total population of the study area Hindu counts highest, that is 81 percent of total population 28964. This is followed by Muslims (12.5 percent), Christians (0.4 percent), Buddhist (3.2 percent), Sikh (1.5 percent) and Jain (1.3 percent).

The project site and 10 km buffer radius around project site are encompassing a total area of 26.37 ha comes under Mumbai of Maharashtra state. The project comes under F43V5 and F43V9 (project and study area).

Table 3: List of Schools, Colleges and Hospitals

Sr. No.	Areas	Name/ Identity	Aerial distance
1.	Schools	P. D. Thepade High School, Mhasvad	1.5 km (N)
		Primary School Varsade	7 km (SEW)
		Dr. Ram Manohar Lohiya Madyamik Vidyalaya	8.3 km (SE)
		Z.P. Primary School Galapur	9.5 km (W)
		Iqra Urdu High School Bornar	1.7 km (SW)
		Jilha Parishad Marathi Primary School. Domgaon	2.43 km (SE)
2.	Colleges	Shri. Narayandas Ramdas Jr. College	8.6 km (NW)
3.	Hospitals	Primary Health Centre, Ringangaon	11.1 km (N)
		Sanjeevan General Hospital Mhasavad	1.4 km (NNW)
		Nipane Primary Health Sub Centre	10.8 km (SW)

Sr. No.	Areas	Name/ Identity	Aerial distance
		Mauli Hospital	14.4 km (NE)
4.	Religious Places	Girneshwer Mahadev Temple, Mhasavad	0.98 km (NNW)
		Mahadev Mandir, Nagduli	2.08 km (NNW)
		Hanuman Mandir, Erandol	2.05 (WNW)
		Vitthal Mandir, Pathari	3.29 (SE)
		Bhawani Mata Temple, Bilwadi	3.28 (E)

2.7 Ecology & Biodiversity:

In buffer area following Schedule-I species were found as per the WLPA, 1972 and amended in 2022: *Pavo cristatus* (Indian Peafowl), *Accipiter badius* (Shikra), *Semnopithecus hypoleucos* (Black-footed gray langur), *Urva auropunctata* (Small Indian Mongoose), *Felis chaus* (Jungle cat), *Naja Naja* (Indian Cobra).

2.7.1 Floral Diversity

- Total number of plant species observed in the core site including trees, herbs, and shrubs: 94
- Total number of species observed in the buffer region: 106
- Number of quadrates used in studying buffer region: 16
- Number of locations studied in Buffer: 4
- No Rare, Endangered, vulnerable or protected species encountered in the project site area.

2.7.2 Faunal Diversity

- Total number of species in core: 55 species
- Total number of species in buffer: 148 species
- In buffer area following Schedule-I species were found as per the WLPA, 1972 and amended in 2022: *Pavo cristatus* (Indian Pea fowl), *Accipiter badius* (Shikra), *Semnopithecus hypoleucos* (Black-footed gray langur), *Urva auropunctata* (Small Indian Mongoose), *Felis chaus* (Jungle cat), *Naja Naja* (Indian Cobra).
- Least Concened species encountered in the project site area.
- Rare, Endangered, vulnerable or protected species encountered in the project site area: As per IUCN red list, Alexandrine Parakeet (*Psittacula eupatria*) is categorized as Near Threatened species.

3.0 ANTICIPATED IMPACTS AND MITIGATION MEASURES

Table 4: Anticipated Impacts and Mitigation Measures

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
1.	Air Environment	• Deterioration of air quality due to fugitive dust emissions from construction activities (especially during dry season) like excavation, back filling and concreting, hauling and dumping of earth materials and from construction spoils. • Emission of gaseous pollutants due to operation of heavy vehicles and movement of machineries and equipment for material handling, earth moving, laying of sands, metal, stones, asphalt etc.	• Raw Material and product handling areas. • Production process. • Movement of Vehicles. • The operational phase of the project comprises of various activities each of which will have an impact Air Quality. Both Dust & Gaseous emissions are likely to be emitted. The key emissions from the proposed Project are emissions due to Particulate Matter, Sulphur dioxide (SO_2), Nitrogen dioxide (NO_2) & CO.	• Suitably designed Bag filters will be installed cement mill stacks which separate out the incoming dust in the dust laden gas and limit the dust concentration at its designed outlet concentration of 30 mg/Nm^3. • The dust generated from coal handling plant will be insignificant because of handling of fine coal in closed circuit. For further suppression of dust adequate water spray shall be provided.
2.	Noise Environment	The major activities which are likely to increase ambient noise levels during construction phase are foundation work, fabrication of structures, operation of construction equipment and movement of vehicles. The study area may likely to experience	During the normal operation of various plants, the ambient noise levels are expected to increase significantly with the attributes of the respective equipment, but this noise will be restricted close to the concerned equipment.	• Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise. • Improved silencers within the equipment generating high noise.

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
		increment in ambient noise level due to the above- mentioned activities. The areas closer to the site will have slight increase in noise level.		
3.	Water Environment	Stagnant pools of water would promote breeding of mosquitoes and generally create unsanitary conditions. However, adequate arrangements would be made to ensure proper drainage of wastewater from the construction sites, so that such waters do not form stagnant pools nor aggravate soil erosion.	Total water requirement during operation phase will be 600 KLD (2 x 300 KLD) which will be met from the ground water resources.	• Wastewater will not be generated in the dry grinding process. • About 26.37 ha of the total project area will be covered under greenbelt & plantation. Treated waste water from the STP will be reused in greenbelt development and for dust suppression.
4.	Land Environment	The project site is more or less leveled land. Thus, there will be not much cutting or filling required. For the leveling of land, soils from within the site would be enough and no soil will be transported from outside, thus reducing impact of fugitive emission outside the site due to transportation.	No water bodies or drains are passing through the project site. The current land use of the project site is for agricultural purpose. After the commencement of construction of grinding unit, the land use of area will change from agricultural to industrial. About 26.37 ha of the total project area will be covered under	--

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
			greenbelt & plantation.	
5.	Biological Environment	There is no forest land involves within the 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. Greenery shall be developed along most of the periphery of the project area as well as along roads.	The green area will be developed with local species that will attract local bird and insect species. Greenbelt 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. Therefore, there will be no effect on the ecology of the core and buffer zone.	• 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.
6.	Traffic Environment	There would be congestion due to transport of construction materials to the site during construction phase of the project.	There would be congestion due to transport of raw materials and finished products.	• Construction raw materials will be transported only during non-peak hours. • Internal roads within the Cement grinding unit premises will be maintained sufficiently wide to allow free flow of incoming and outgoing transport vehicles.

4.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) has been made to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC reports to the Plant Head. Qualified staff will be recruited in EMC. Environmental monitoring of ambient air, stack emission, fugitive dust emission, noise levels, groundwater quality, surface water quality and soils are carried out as per norms. EMC is responsible for the following functions:

Regular monitoring of:

- Measuring fugitive emissions, measuring $PM_{2.5}$ and PM_{10} in work environment and report any abnormalities for initiating corrective and preventive actions.
- Measuring the ambient air quality at upwind and downwind direction of crusher, at plant boundary.
- Checking the wastewater quality (inlet and outlet).
- Checking the ground water quality near the project area, and surrounding villages.
- Water quality of water body present in study area at upstream and downstream of site.
- Noise monitoring at plant boundary, nearest habitation, near highway, and work areas.
- Development and maintenance of greenbelt and greenery within the plant boundary.

Table 5: Observations of Environmental Monitoring

Sr. No.	Environmental Attributes	Parameters	Monitoring Location	Monitoring Duration	Monitoring Frequency
1.	Meteorology	Wind Speed, Wind Direction, Temperature, Humidity & Rainfall	Project site	24 Hours	Daily
2.	Ambient Air Quality	PM_{10}, $PM_{2.5}$, SO_2, NOx & CO.	2 Location (Upwind & downwind)	24 Hours	Twice a Week
3.	Noise level	Day and Night Equivalent Noise Level dB(A)	1 Location	24 Hours	Weekly Once
4.	Surface Water Analysis	Physico-chemical, biological characteristics	2 Locations (Upstream & downstream)	---	Once in Six Months
5.	Ground Water Analysis	Physico-chemical, biological characteristics	1 Location	---	Once in Six Months
6.	Soil Quality	Physico-chemical, micro-biological characteristics	1 Location	---	Once in Six Months
7.	Stack Attached to APCE & DG sets	Particulate Matter, SO2, NOx	---	Isokinetic	Once in a Week
8.	Ecology	Loss of Flora and Fauna	Construction	---	During site

Sr. No.	Environmental Attributes	Parameters	Monitoring Location	Monitoring Duration	Monitoring Frequency
			Site		Preparation
9.	Occupational Health & Safety	General Health aspects of Workers and Staff	Project Site	---	Once in Six Months

Adequate fire mitigation measures will be ensured for handling fire in project area in case of emergency. Disaster Management Plan has been prepared to take care of public health and safety during any accident.

CER will be done as per CER norms. Generally, the CER amount is used to spend as per the issues raised during the public consultation as per Office Memorandum vide F.No.22-65/2017-IA.III dated 30th September 2020 by MoEF&CC, New Delhi.

5.0 PROJECT BENEFITS

The proposed project is expected to yield a positive impact on the socio-economic environment within the study area. It helps to sustain the development of this area including further development of physical infrastructural facilities.

About 1530 Nos. of people on daily wages basis will get employment during the construction stage. During operation of the proposed Cement Grinding Unit, total 155 Nos. of people will get employment. The preference will be given to local population for employment in the semi-skilled and unskilled category; this will increase the employment opportunity in the surrounding area. More revenue will be generated by the way of GST to the State & Central exchequers.

6.0 ENVIRONMENTAL MANAGEMENT PLAN

The cost of project is proposed to be INR 1400 Crores. The capital cost for environmental management of the proposed project is estimated to be INR 112 crores. INR 4.15 crores per year will be required as annual recurring expenses to meet the recurring expenditure for implementing the measures. The break-up of the investment is shown in **Table 7.**

Table 7: EMP Budget

S. No.	Particulars	Estimated Cost (INR Crores)	
		Capital	Recurring
1	Air Pollution Control System on VRMs (Bag Filters) & Industrial Vacuum Cleaners, Road sweeping machine, stack, etc.	56.0	0.85
2	Compressing system, ZLD system, Construction of Garland drains, Water Reservoir	5.0	0.4
3	Sewage Treatment Plant and Water Treatment Plant	5.0	0.3

4	Rain Water Harvesting System	5.0	0.3
5	Solid Waste Management	2.0	0.3
6	Green Area/ Landscape Area	8	0.2
7	Energy saving devices	9.5	0.3
8	Noise Reduction system	1	0.2
9	Fire-fighting measures	2.5	0.2
10	Environment Monitoring	1.5	0.1
11	Environment Management Cell	-	0.5
12	Disaster Management Plan & Occupational Health & Safety	2.5	0.5
13	CER	14	-
	Total	**112**	**4.15**

6.1 Environmental Management Cell

An Environmental Management Cell (EMC) will be established in the plant under the guidance of Project Head. The Environmental Management Cell (EMC) will be headed by an Environmental Experts having adequate qualification and experience in the field of environmental management. Hierarchical Structure of environmental management cell is shown in following figure.

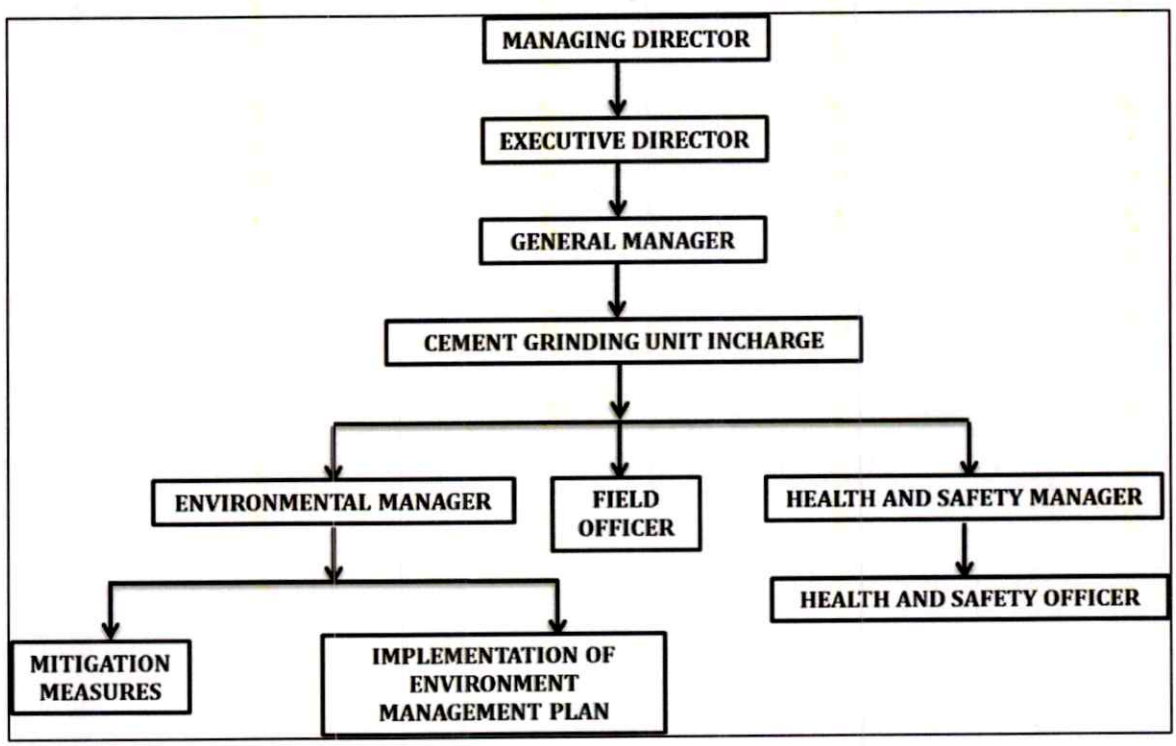

Figure 9: Hierarchical Structure of environmental management Cell