# EXECUTIVE SUMMARY

**OF**

# "Establishment of a 300 TPD (0.09 million TPA) VSK Clinker manufacturing Unit and 500 TPD (0.15 million TPA) cement manufacturing unit"

**AT**

## Dag no. 229, 230, 231 & 232 and Patta no. 3 & 4, Village Samata Pathar, Mouza Sonapur, District Kamrup (Metro), Assam

Total Area: 2.007 Ha
**Proposed Production:** 0.09 MTPA Clinker & 0.15 MTPA Cement
Schedule – 3(b) Category 'B1'
Total Cost of the project: Rs. 40 Crores

**Reference: TOR issued vide File No. SEIAA.3366/2023/TOR/2036 dated 24.03.2023.**


**PROJECT PROPONENT**

## DAIVIK CEMENT MANUFACTURING PRIVATE LIMITED

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**ENVIRONMENTAL CONSULTANT**

**M/s PERFACT ENVIRO SOLUTIONS PVT. LTD.**
**(NABET Registered vide list of accredited consultants organizations/Certificate no. NABET/EIA/1922/SA0143 & validity extension letter no. QCI/NABET/ENV/ACO/23/2692 till 01.06.2023)**
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# 1. Executive Summary

## 1.1. Introduction

Daivik Cement Manufacturing Private Limited proposed a Greenfield Project of a 300 TPD (0.09 million TPA) VSK Clinker manufacturing Unit and 500 TPD (0.15 million TPA) cement manufacturing unit in an area of 2.007 ha. at Dag no. 229, 230, 231 & 232 and Patta no. 3 & 4, Village Samata Pathar, Mouza Sonapur, District Kamrup (Metro), Assam.

The project falls under category 'B1' of Schedule 3(b) as per EIA notification 2006 and its subsequent amendments, as the capacity of the proposed cement plant is less than 1 MTPA.

CTE has been granted to M/s Daivik Cement Manufacturing Private Limited vide letter no. WB/GUW/T-4498/22-23/11 dated 14th June 2022 valid up to 13th of June 2029 . The Eco-Sensitive Zone (ESZ) boundary of Amchang wildlife sanctuary is located at a distance of 5.3 Km from the project site in NW direction and Amchang wildlife sanctuary is at a distance of 6.3 Km in NW direction vide letter No. B/GWL/74/Survey/2018/283 dated 5th of March 2018.

Terms of Reference (TOR) for the proposed project has been granted by MoEF&CC File No. SEIAA.3366/2023/TOR/2036 dated 24.03.2023.

### 1.1.1. About the Project

The total area of the plant will be 2.007 ha and the land is already in the possession of Daivik Cement Manufacturing Private Limited. Total capacity of the plant will be 300 TPD (0.09 million TPA) VSK Clinker manufacturing Unit and 500 TPD (0.15 million TPA) cement manufacturing unit.

### 1.1.2. Location & Accessibility

The proposed project is located at Dag no. 229, 230, 231 & 232 and Patta no. 3 & 4, village Chamata Pathar, Tehsil Sonapur, District Kamrup (Metro), Assam. The minimum elevation of the site is about 73 AMSL and maximum elevation is 76 AMSL.

The site can be accessed from SH-3B is approx 0.23 km E from the plant. The nearest Railway station is Tetelia Railway Station which is approx. 2.06 km in ESE direction from the plant site. The nearest Airport is Guwahati Airport which is approximately 41.52 km in WSW direction from the plant site.

# 1.2. Project Description

| Details | Proposed |
|---|---|
| Production Capacity | Cement (OPC, PPC) - 0.15 MTPA and Clinker - 0.09 MTPA |
| Type of Cement | OPC, PPC |
| Total plot area | 2.007 ha |
| Total green area | 0.66 ha |
| Total Water Requirement | 28KLD |
| Fresh Water Requirement | 21 KLD |
| Water Source | Ground water |
| Power Required | 3.6 MW (3.5 MW from Assam Power Distribution Company Ltd. & 0.1 MW from Solar Panels) |
| D.G. Sets | 1*600 kVA & 1*250 kVA |
| Waste water | 8 KLD |
| STP capacity | 10 KLD of MBBR technology |
| APCS proposed for process emissions | Jet pulse bag filters, Reverse Pulse Jet Type Bag Filter, Foot mounted Pulse jet type Dust Collector & Bag filter & Cyclone Separator |
| Process waste generated | STP Sludge- 3 kg/day,<br>Dust from Bag filter - 12.6 TPD |
| Total Cost of the Project | Rs. 40 crores |
| Manpower Details | 150 nos. during the construction phase and 50 nos. during operation phase |

**Resource Requirements**

- **Land:** The total area of the plant will be 2.007 ha and the land is already in the possession of Daivik Cement Manufacturing Private Limited.
- **Water Requirement:** The total water requirement will be 28 KLD out of which 21 KLD will be freshwater which will be sourced from Groundwater used for plant and treated water which will be used is 7 KLD.
- **Power Requirement:** Total Power load will be 3.6 MW which will be 3.5 MW from Assam Power Distribution Company Ltd. & 0.1 MW from Solar panels. DG sets (for emergency use only) of capacity 1*600 kVA & 1*250 KVA will be used for the power backup.
- **Fuel:** 600 liter/day of Low Density Diesel will be required for the operation of DG set (emergency use only).
- **Manpower:** 150 no. workers required during the construction phase and 50 no. of workers will be required during the operation phase. There will be indirect

employment opportunities such as in transportation, workshop, packing, repair & maintenance etc. Lots of ancillary units will also come up.

- **Operational Activities:** Operational activities involved in the unit are transportation, unloading of raw material, Raw material Crushing & Grinding, Raw Meal Homogenization or Nodulization, Pre-Calcination, Calcination & Clinkerization/ Sintering, Cement Clinker Cooling, Fuel (coke breeze) handling, Gypsum storage and handling, Fly ash storage and handlingClinker grinding and storage, Cement grinding and storage, Cement packing and dispatch.
- **Pollution Sources:** Main Pollution sources from the project will be air & noise emission, wastewater generation and Solid & Hazardous waste.

**Total quantity of wastewater generation** from the industry will be 8 KLD and will be treated in STP of capacity 10 KLD.

**Air Emissions** will be from the process machinery (Limestone jaw Crusher, Coke crusher, Clinker Crusher, Gypsum Crusher, Raw Mill (including HAG), Vertical Shaft Kiln, Cement Mill (Ball), and Packing Unit, Vehicles & DG sets (emergency use only) & fugitive emission will be from raw material unloading area, blending & storage section etc.. To prevent emissions, APCS like Pulse Jet Type Bag Filter, Cyclone Separator & Pulse Jet Type bag filter, dust collectors, Flush & bin mounted Pulse Jet Type Bag Filter will be installed with appropriate stacks in accordance with CPCB norms.

The main sources of **noise generation** from the unit will be operation of machinery, transportation & DG sets (emergency use only) etc. Adequate engineering control will be taken to minimize the noise level during construction and operations.

**Manufacturing Process:**

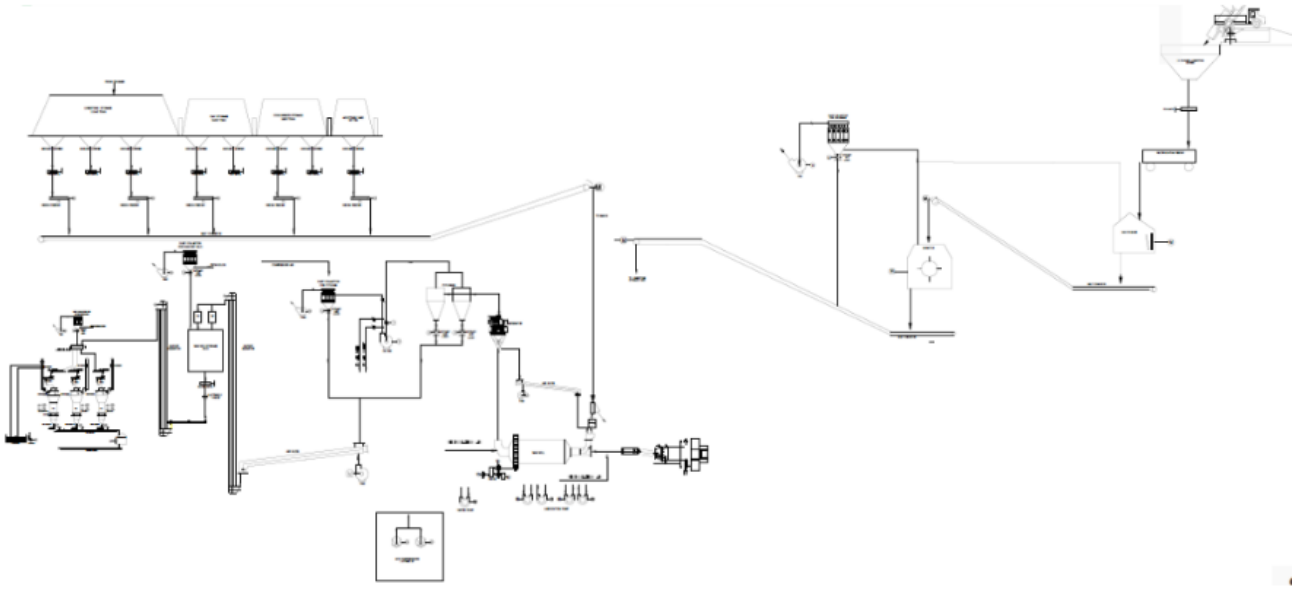

**Fig: Schematic Process Flow Diagram of Clinker Unit**

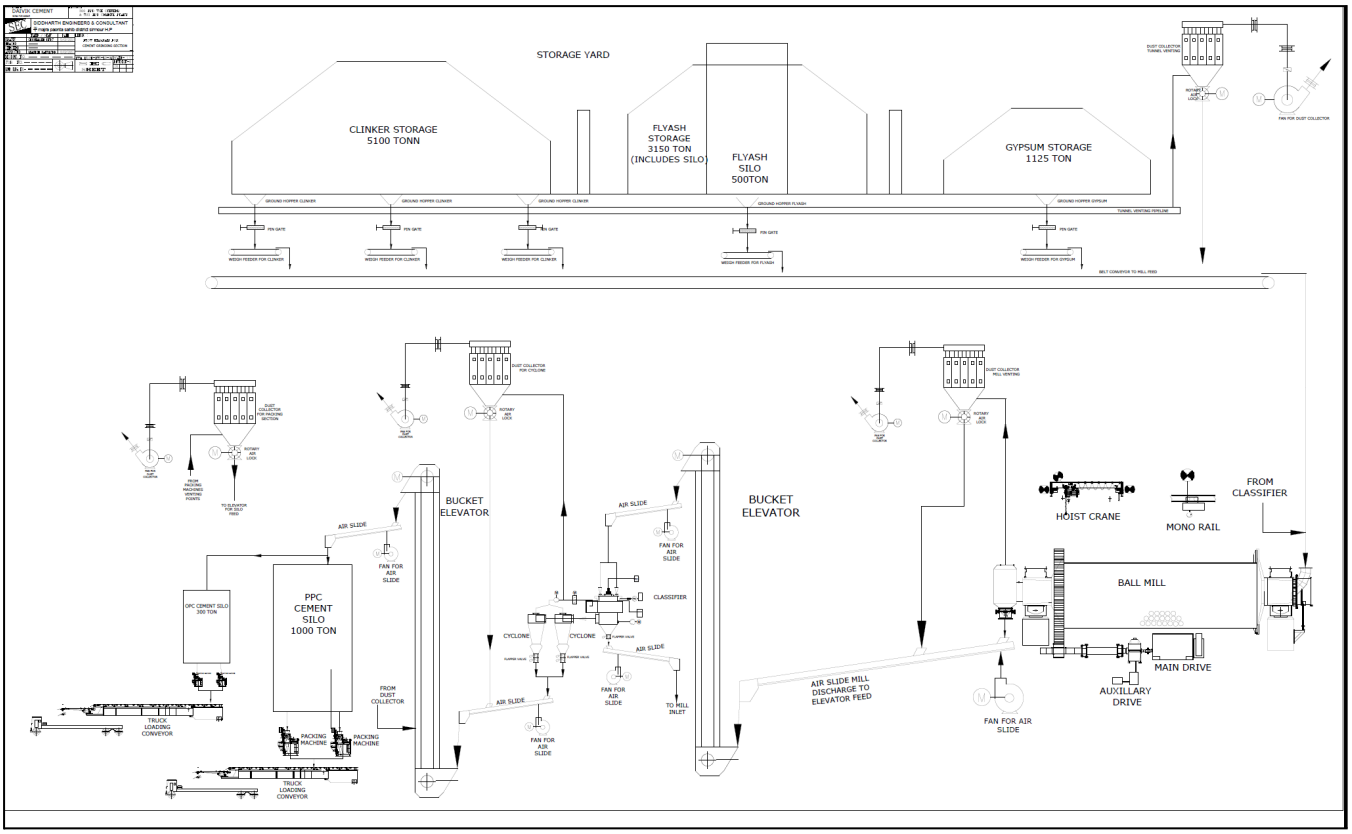


**Fig: Schematic Process Flow Diagram of Cement Grinding Unit**

# 1.3. Description of Environment

The baseline data is generated through field study within the impact zone (Core Zone and Buffer Zone i.e. 10 Km from Project Boundary) for various components of the environment viz. Air, Noise, Water, Soil, Land, Traffic, Ecology and Socioeconomic. The baseline environmental quality has been assessed for Winter Season (October 2022- December 2022) (by NABL accredited laboratory Perfact Researchers Pvt Ltd, New Delhi) in a study area of 10 Km radius from the project site. The baseline data obtained is summarized below:

- **Land Use:**

  **Core Zone:** The proposed Clinker and Cement manufacturing unit will be located in an area of 2.007 ha owned by Daivik Cement Manufacturing Private Limited. Presently the land use of the area is classified as Baotoli land for conversion of the same into industrial land application has been applied to the Circle officer.

**Buffer Zone:** Out of total 10 km radius study area i.e. 32192.26 Ha, barren/ rocky land is about 4361.21 hectares (13.54%), built up area is about 983.42 hectares (3.05 %), industrial land is about 282.21 hectares (0.87%), Water bodies area is about 262.37 hectares (0.81 %), open scrub/vegetation land is about 1661.25 hectares (5.16%), Forest land is about 16385.2 hectares (50.89%) and Agricultural land (crop land) is about 8256.8 hectares (25.64%) of the total 10 km radius study area. There are a total of 3 brick kilns near the project site.

- **Geology:**This zone has flat topography. The maximum elevation 76m AMSL is found at the north of the core zone and minimum elevation 73m AMSL is in the south of the project site. The area comprises an older flood plain. The buffer area occupies part of the basin formed by the mighty river Brahmaputra. The topography of the area is undulating. Study area comprises high and low dissected structural hills and valleys and pediment pediplain complex also there are some patches of younger alluvial plain. The maximum elevation of the buffer area is 567 m AMSL near the South eastern periphery at top of hill and minimum elevation is 51 m AMSL lies in the Northern eastern periphery. The study area consists of two different geological features mostly with indifferent fluvial sediments covering 311.93271 sq km area where in south eastern side the assam-meghalaya gneissic complex covers 50.81976 sq km area.
- **Hydrology:** The area forms part of flat terrain. The general slope of the area is towards the north. A stream Digaru river flows located at 1.23 Km from south west to north in the west north western part of the core area. Kathoni Beel is at the distance of 0.20 km NW from the site & the back water of the Kathoni Beel is crossing the plant site and it flows towards northeastward and further it joins into Digaru river in north. The natural drainage of the area is modified by a network of roads, canals, and railway lines. Buffer zone comprising various water bodies such as drains, river and Beel. Major rivers fall in the buffer area are Digaru river flows SW-N West and Kapili (Kalang) river flows NE-NW located 8.51 Km in NE. Digaru river is the tributary of Kalang river which ultimately meets into Brahmaputra river. The drainage in the surrounding area is dendritic in nature. 1$^{st}$, 2$^{nd}$ and 3$^{rd}$ streams orders are found in the buffer area. Trend of the buffer area in the south eastern part is flowing towards NE. There is not an alignment in drainage in the Northern part of Buffer area. In addition, the floodplain is also found in the North and North east direction. By and large the slope of the buffer area is towards the North.
- **Ambient Air Quality:**

  **Core Zone**: The mean value of PM10 at core zone locations ranges from (69.22 - 72 µg/m3) & PM2.5 ranges from (33.13 - 34.45 µg/m3), SO2 ranges from (7.7-8.01 µg/m3), NO2 ranges from (15.78 - 16.41 µg/m3) & CO (0.47 - 0.49 mg/m3), are within the limits of National Ambient Air Quality Standards (NAAQS). As per the Air Quality Index by CPCB, the air quality of the core zone is found to be Satisfactory during the sampling period - October 2022 - December 2022.

**Buffer zone:** The mean value of PM10 ranges from (74.46 - 91.38 µg/m3), PM2.5 ranges from (35.78 - 43.06 µg/m3), SO2 ranges from (8.32 - 10.02 µg/m3), NO2 ranges from (17.04 - 20.52 µg/m3) & CO ranges from (0.512 - 0.61 mg/m3) which are within the limits of National Ambient Air Quality Standards (NAAQS). As per the Air Quality Index by CPCB the air quality of the buffer zone is found to be Satisfactory during the period - October 2021 - December 2021.

- **Ambient Noise levels:** The ambient noise level during day time at the proposed project site varies from 54.6 dB (A) to 54.9 dB (A) which are within the day time standard limit of industrial area ~ 75 dB (A). During night the noise level at the project site ranges from 47.2 dB (A) to 47.5 dB (A) which are also within the night time standard limit of industrial area ~ 55 dB (A). In the residential area of Buffer Zone, noise levels at the day time range from 53.8 dB(A)- 55.4 dB(A) and at night time it ranges from 44.2 dB (A) to 44.9 dB (A). The daytime noise level in commercial area (buffer zone) range from 62.3 dB(A) to 73.5 dB(A) during the day while it goes down to 54.5 to 66.4 dB(A) during the night. The noise levels in the region seem to be slightly higher than the ambient noise standards which could be attributable to vehicular and residential activities.
- **Soil Quality:**

  **Core Zone (S1):** The samples collected from the onsite - S1 shows that the soil moisture content in the core zone is 1.4%, pH is 6.61. Amount of primary nutrients like Organic matter is 0.4%, the available nitrogen is 51.80 mg/kg is very low, available Potassium is 22.22 mg/kg is very low while the available Phosphorus is 8.05 is medium in range. Therefore, the Primary nutrient profile shows that soil is low fertile in the core zone due to low concentration of available nitrogen.

  **Buffer Zone (S2- S11):** The samples collected from the site S2- S11 shows that the soil moisture content in the buffer zone is between 0.8 -1.3 %, pH is 4.82 - 7.14. Amount of primary nutrients like Organic matter is 0.72 - 1.50 %, the available nitrogen 74.2 - 118.6 mg/kg is low, available Potassium 11.35 - 22.5 mg/kg is low while the available Phosphorus 3.68 - 20.61 mg/kg is in higher range. Therefore, the Primary nutrient profile shows that soil is low fertile in the buffer zone due to the availability of extremely low amounts of nitrogen.

- **Surface Water Quality**: The results of water quality of surface water (SW1 (i.e. man-made drain made by railways), SW2 (Bomani Beel) & SW6 (Doani Beel)) & shows that it is meeting the criteria class “D” i.e. Propagation of Wildlife and Fisheries as per CPCB surface water quality- Designated Best Use Water Quality Criteria defined by CPCB except SW3, SW4 & SW5 i.e Digaru river downstream, Digaru river & Digaru river upstream respectively shows that it is meeting the criteria class “B” i.e. Outdoor Bathing (Organised) as per CPCB surface water quality- Designated Best Use Water Quality Criteria defined by CPCB. The majority of the water quality parameters in the selected sites were within their respective drinking water quality standards.

- **Ground Water Quality**: For the Buffer zone all the values are found within the drinking water standards (IS:10500). Total Dissolved Solids (TDS) of the sampling locations ranges from 26.8 mg/l to 191 mg/l., Total Hardness of the sampling locations ranges from 16 mg/l to 122 mg/l, Alkalinity of the sampling locations ranges from 16 mg/l to 118 mg/l, Calcium Concentration of all the sampling locations ranges from 4.8 mg/l to 32.8 mg/l, Chloride Concentration of all the sampling locations ranges from 4.25 mg/l to 56 mg/l. The results are well within the prescribed drinking water standard.
- **Biological Environment:** Amchang Wildlife Sanctuary is situated on the southern bank of mighty Brahmaputra and lies entirely within the civil district of Kamrup and located within the geographical limits of 91º55'E longitude and 26º10' N latitude. The distance of Amchang Wildlife Sanctuary & ESZ Amchang WIldlife Sanctuary from the site is 5.3 km & 6.3 km respectively. The distance of Pobitora Wildlife Sanctuary from the site is 12.37 km NNE. In the Core Zone no significant varieties of flora and fauna were observed. The nearby area is limited to 3 to 4 differentiated forms of flora species. The names of flora species found at the time of site visit are *Arundinaria gigantea, Musa acuminate, Eupatorium perfoliatum, Ageratum conyzoides, Cynoglossum glochidiatum etc.*

  As per The Indian WildLife (Protection) Act, 1972, eleven (11) numbers of species are the 'Schedule - I' species, nine (9) numbers of species under 'Schedule II', four (4) numbers of species under 'Schedule III', eighteen (18) numbers of species under 'Schedule IV' were observed in the study area. The schedule I species observed in the buffer zone are, . *Bos gaurus (Gaur), Elephas maximus indicus (Indian Elephant), Hoolock hoolock (Western hoolock gibbon), Manis pentadactyla (Chinese pangolin), Nycticebus bengalensis (Slow loris), Panthera pardus (Leopard), Trachypithecus pileatus (Capped langur), Python molurus (Indian Python), Varanus bengalensis (Indian Monitor Lizard), Prionailurus bengalensis (Leopard Cat), Lophura leucomelanos (Kalij Pheasant).*

- **Socioeconomic Environment:** The total population of the study area is 124151 constituting 25227 households as per Census of India, 2011. Primary survey was carried out in 5 villages namely, Kewa Gawn (Rewa) village, Hahara village, Gomoria village, Sonapur village, Chamata Pathar. During the survey it was found that Agriculture, Service, Labour, Private Job, Private Business etc. were principal work in the villages. Main water source in the surveyed area are Open Wells & Handpumps. Paddy is the most cultivated crop in the survey villages. Fruits and Vegetables etc are also cultivated in the surroundings. All surveyed areas had 100% toilet facility; sanitation facility was satisfactory. The project will generate employment opportunities for the local people which will reduce unemployment and enhance the lifestyle of the community.

# 1.7. Additional Studies

**Risk Assessment**

Risk Assessment was carried out in order to ensure effective management of any emergency situations that may arise from the failure of isolated storages, natural hazards, and electrical malfunctions with respect to the proposed project. As it is a cement Manufacturing unit all the precaution measures while handling, storage of raw material and coke will be taken.

**General safety measures**

- The Environment will be free from obstacles (Tools and equipments).
- All emergency exits including fire exits will be free from obstacles and will have proper signage and emergency lights.
- Safe distance marking for keep the workers away from the heavy equipment and machineries (Crusher, Grinding unit, VSK).
- At the project site an emergency First Aid facility will be provided.
- Microprocessor Based Parameter Control Unit will be used to Avoid high Voltage & to maintain the Specified Voltage & Current within limits.

**Occupational Health & Safety management plan**

- Occupational health surveillance programmes will be done six monthly & and their records will be maintained.
- Health check-up camps will be organized on a regular basis at company dispensary/nearby locations for nearby people.
- Label Precautions and First Aid facilities will be provided.
- Emergency plan will be prepared and mock drills of the on-site emergency will be conducted.
- Inspection of the industrial activity will be done at least once in a year and an annual status report on the compliance with the Rules will be submitted.
- An Environment, Health and Safety (EHS) Manager will be available, who will handle all the safety issues related to man, machine & materials.
- Exterior refuge or safe areas include parking lots, open fields or streets which will be located away from the site of the emergency and which provide sufficient space to accommodate the employees.
- Specific written instructions will be obtained before any welding, burning, grinding or other flame heat producing work commences in coal processing areas.

# 1.8. Project Benefits

The unit will generate direct & indirect employment and benefits with respect to availability of social, physical infrastructure and other benefits, such as,

- The project will cater to the increasing demand of cement in the country as well as increase export capacity of the country
- The industry will spend Rs. 35 Lakhs as Social welfare activities in the area including activities for rural development, health and sanitation, education and livelihood development.
- Employment opportunities will lead to a rise in income and improved standard of living. The industry would also generate jobs for the labourers during the construction phase as well as during the operation phase. It will provide direct and indirect employment to local youth.
- Daivik Cement Manufacturing Private Limited will improve their efficiencies and use technological advances to reduce their impact on the environment. The industry also aims to use dust collected in Jet pulse bag filters, Cyclone Separator & Flush and bin mounted Pulse Jet Type bag filter.
- Daivik Cement manufacturing Private Limited is using technological advances to reduce their impact on the environment. With this proposal, Daivik Cement has a provision for installation of Vertical Shaft Kiln in place of rotary kiln which will having advantages like less power consumption, ample fuel saving. The industry also aims at continuing their use of dust collected in bag filters back into the process to minimize the quantity of waste generated by the plant.
- The industry is Environmental Friendly as it will be consuming Fly ash which is a waste material from coal based power plant.
- Coke breeze will be used as a fuel for kiln instead of coal as it produces less smoke in comparison of coal.

# 1.10. Environment Management Plan

**Air Quality Management Plan**

**For Construction Phase**

- Water sprinkling with a fixed sprinkling system will be done at the location where dust generation is anticipated.
- No excavation of soil will be carried out without adequate dust mitigation measures in place.
- No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust will be left uncovered.
- Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste will be prohibited
- Only covered vehicles carrying construction material and machinery and waste will be permitted.

- Construction and Demolition Waste processing and disposal sites will be identified and required dust mitigation measures be notified at the site.
- To minimize the occupational health hazard, proper masks will be provided to the workers who are engaged in dust generation activity.

**For Operation Phase**

- To control fugitive emissions, enclosures will be provided for all unloading operations, except wet materials like gypsum, to control the dust emissions from dropping/transfer points of the belt and bucket conveyors, proper cover and water sprinklers will be provided at various locations of the transfer points.
- Road sweeping machines/ Mist fogging system will be installed, the spilled cement from the packing machine will be collected properly and sent for recycling.
- For the Proposed DG sets of 1x600 KVA & 1*250 KVA (emergency use only), a stack of 4.5 & 3.2 m resp. shall be provided above roof level.
- Process emissions will be from the stack attached to the (Limestone jaw Crusher, Coke crusher, Clinker Crusher, Gypsum Crusher, Raw Mill (including HAG), Vertical Shaft Kiln, Cement Mill (Ball), and Packing Unit, from which pollutants/gasses PM, SO2, NO2 will be released in the form of gasses. To control the same the Pulse Jet Type Bag Filter, Cyclone Separator & Pulse Jet Type bag filter, Foot & bin mounted Pulse Jet Type Bag Filter will be installed at each and every point to avoid emission of particulate matter. Collected dust will be reused in the cement manufacturing process & the packing machines will be equipped with dust extraction arrangements & the dust collected may be reused again in the process.
- Green area of 0.66 Ha (33% of plot area) shall be developed.

**Noise Level Management Plan**

**For Construction Phase**

- During the construction stage, expected noise levels will be in the range of 60-80 dB(A), which will decrease with increase in distance. Hence most of the activities will be carried out during the day.
- There will be some noise generation due to movement of vehicles carrying materials during the installation phase and as this is only a temporary phenomenon it can be managed by properly regulating the movement of vehicular traffic so that the ambient air quality with respect to noise is not adversely affected.
- To prevent any occupational hazard, earmuffs/earplugs will be given to the workers working around or operating plant/ machinery emitting high noise levels. Hence most of the activity is carried out mostly in the day. Careful planning of machinery operation and scheduling of operation will be done to minimize such impact.

**For Operation Phase**

To reduce Ambient Noise level the following measures will be adopted-:

- Noise generating units like machinery areas etc. will be well insulated with enclosed doors. Earplugs and earmuffs will be provided to the workers exposed to high noise levels.
- Maintenance of vehicles and machinery will be done in a sustainable manner to ensure best performance and less loss.
- Vehicle and people flow during shift changes will be regulated by allowing exits in a phased manner.
- The green belt will help in reducing noise levels in the complex as a result of attenuation of noise generated due to plant operations and transportation.
- DG sets of capacity 1x600 & 1*250 KVA will be acoustically enclosed and kept on the surface. The DG set will strictly be used for emergency purposes only.

**Solid & Hazardous Waste Management plan**

- Total 8 kg/day solid waste will be generated out of which 3 kg/day of biodegradable waste and the waste will be composted and will be used as manure for green belt development in Organic Waste Converter (OWC). Recyclable waste of 5 kg/day will be given to authorized recyclers or used as a fuel in kiln.
- Used oil of 0.144 KLPA and will be given to authorized recyclers.
- Non hazardous Waste: 3 kg/day of STP sludge will be Used as manure for plantation and 12.6 TPD of Dust from APCS/Bag filter will be recycled in cement manufacturing and bags & containers of 50 TPA will be sold to authorized vendor/ will use in VSK as an alternate fuel.
- E- waste of 0.020 TPA, battery waste 15 no. & other solid waste of 2 TPA will be sold/dispose to authorised vendor.

**Wastewater & Effluent Management Plan**

**For Construction Phase**

- Total 25 KLD of water will be required, which is sourced from tanker suppliers and in house STP. Only fresh water from tanker suppliers will be provided for drinking purposes.
- Runoff from the site will not be allowed to stand (water logging), the same will be channelized & collected into tanks for reuse in construction activities.

**For Operational Phase**

- Total water requirement will be 28 KLD which consists of water requirement for the Cement plant make up water is 15 KLD, for gardening it is 3 KLD, for wheel washing 4 KLD and dust suspension it will be 3 KLD and for domestic will be 3 KLD. Out of Total water requirement fresh water requirement is 21 KLD & treated water requirement is 7 KLD.
- For fresh water usage, the groundwater will be sourced from bore Wells which will be used for domestic purposes, Cement Plant makeup water & gardening, and treated water generated from STP will be used for wheel washing and dust suppression.

**Biological Environment Management Plan**

- Green belt area in the plot will be 0.66 Ha (33% of plot area) along with vertical green.
- Total 1987 nos. of trees will be planted in the proposed site.
- Plantation Maintenance: it is important to clear or cut the unnecessary vegetation "Weed" regularly. This will help the required seeds to grow properly and increase the survival rate.

**Socio Economic Environment management plan**

- The Industry will require raw materials, skilled and unskilled laborers. It will be available from the local area. Due to increasing industrial activities, it will boost the commercial and economical status of the locality, to a positive extent.
- About 150 people will be employed during construction of the project.
- In the operation phase, the proposed plant will require a significant workforce of nontechnical and technical persons. About 50 people will be employed during the operational stage of the project. There will be indirect employment opportunities such as in transportation, workshop, packing, repair & maintenance etc. Lots of ancillary units will also come up.
- The proposed project land consists of a total plot area of 2.007 Ha. The part of land is Baotoli land & its application has already been applied to circle officer for conversion to industrial land. The entire land is non-productive agricultural land where no crops have been grown on the land for more than 10 years. Thus, no R&R will be applicable.

# 1.11. Cost & EMP Implementation Budget

The total cost of the project is Rs. 40 Crores. The total capital cost for the EMP Budget will be Rs. 313 lakhs and recurring cost will be Rs 80.3 lakhs/Year.

| Sr. No. | Particulars | Capital Cost (Rupees in Lacs) | Recurring Cost (Rupees in lakhs) |
|---|---|---|---|
| 1 | Air/ Noise management (Air Pollution Control Devices (Bag filters, along with ventilation system, stacks, enclosures etc, water sprinkling, Vacuum sweeper for cleaning dust) | 225 | 51 |
| 2 | Sewage Treatment Plant | 8 | 2 |
| 3 | Environment monitoring | 5 | 8.3 |
| 4 | Landscaping / plantation | 10 | 2 |
| 5 | Rain water harvesting | 10 | 2 |
| 6 | Social Activities (to be spent in 5 years) | 35 | 0 |

| | | | |
|---|---|---|---|
| 7 | Occupational Health and Safety and Public Health & Safety | - | 15 |
| 8 | Wildlife Conservation Plan (to be spent in 10 years) | 20 | - |
| | Total | **Rs 313 lakhs** | **Rs 80.3 lakhs** |

**Cost Summary**

| S.No. | COST Summary | Cost for Total (Rs. in Crores) | % of the project Cost |
|---|---|---|---|
| 1 | Project Cost | 40 | 100 |
| 2 | Capital cost for Environment Management Plan | 3.13 | 7.825 |
| 3 | Recurring cost for Environment Management Plan | 0.803 | 2.007 |
| 4 | Wildlife Conservation Plan (included in EMP capital) | 0.20 | 0.5 |
| 5 | Social activities (included in EMP capital) | 0.35 | 0.875 |
| 6 | Occupational Health and Safety and Public Health & Safety (included in EMP capital) | 0.15 | 0.375 |