Shree Cement Limited (SCL)

Environmental Clearance for Tiruttani Clinker Grinding Unit with Cement Production Capacity of 3.50 MTPA (OPC, PPC, PSC, RHPC, SRC and Composite Cement) along with Railway Sidings & DG Sets for total Capacity of 1250 KVA (Stand Alone Grinding Unit)

SF Nos. 329/2, 329/3, 329/4, 329/5, 329/6pt, 329/9, 329/10, 329/11A1pt, 329/11A2B, 330/2pt, 330/3, 330/4A, 330/4B, 330/4C, 330/4Dpt, 330/4Ept, 330/5, 330/6, 330/7, 330/8, 330/9, 330/10 of **Tiruttani Village**, 372/3Cpt, 372/4A, 372/4B, 374/2Apt, 374/3B2pt, 374/3Cpt, 374/3D, 374/3E, 374/3F1, 374/3F2, 374/3Gpt, 374/3Hpt, 374/4A1pt, 374/4A2pt, 374/5, 374/6, 374/7, 374/8pt, 374/9pt, 374/10, 374/11pt, 374/12, 374/15B1, 374/15B2, 378/10, 378/11, 378/12, 378/13, 378/15, 379/18, 379/19, 379/20, 379/7B, 379/11B, 383/5, 383/6, 383/7A, 383/7B, 383/7C, 383/8A, 383/8B, 383/8C of **Devasenapuram Village** & 423/3pt, 423/4pt, 424/1, 424/2, 424/3A, 424/3B, 424/3C, 424/4, 424/5, 425pt, 426pt of **Valliammapuram Village**,

Karthikeyapuram Panchayat, Tiruttani Taluk, Tiruvallur District, Tamil Nadu

Environmental Clearance under EIA Notification 2006
Schedule Sl. No. 3(b) - Category 'B'

Summary Environmental Impact Assessment Report

(after TOR for Public Hearing)

Awarded TOR Identification No. TO25B1103TN5124110N dated 19.08.2025

Baseline Data Collection Period : Jun.-Aug. 2025 (Premonsoon Season)

October 2025

EIA Consultant

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ABC Techno Labs India Private Limited, Chennai
Accreditation Certificate : NABET/EIA/2225/RA0290 dated 11.06.2023
with Validity till 15.02.2026 (Sl. No. 4 of QCI/NABET List)
Lab Accreditation : NABL Certificate No. TC-5770 dated 03.04.2024-valid till 02.04.2026

Executive Summary

1.0 Introduction

1.1 Name of the Project, Applicable Schedule & Category as per EIA, 2006

M/s. Shree Cement Limited (SCL) are one of the largest Cement manufacturers in India. SCL's Cement and Clinker manufacturing facilities are located at Beawar, Ras & Nawalgarh in Rajasthan, Balodabazar-Bhatapara in Chhattisgarh, Sedam in Karnataka, Guntur in Andhra Pradesh and Ras Al Khaimah (RAK) in United Arab Emirates (UAE). It has split grinding units at twelve locations Pan-India. Presently, the cement production capacity of SCL Group stands at 62.8 Million Tonnes per Annum (MTPA). The communication addresses are :

Registered Office :	**Corporate Office :**
M/s. Shree Cement Limited, Bangur Nagar, Masuda Road, Andheri Deori, Beawar (Erstwhile Ajmer), Rajasthan – 305901 Phone: (+91)1462-228101-06 Fax: (+91)1462-228117/228119	**M/s. Shree Cement Limited,** DLF Epitome, Building No 5, Tower B, 9th Floor Cyber City, DLF Phase 2, Sector-24, Gurugram, Haryana – 122002. Contact Mobile No. : +91 9773350412 Email : sunil.deshmukh@shreecement.com

The cement demand is steadily increasing in northern Districts of Tamil Nadu including Chennai and Southern Districts of nearby Andhra Pradesh State due to infrastructure development activities. Thus, SCL is proposing its Tiruttani Clinker Grinding Unit (TCGU) at Tiruttani near the Raw Material sources at Chennai and Marketing Centres.

After the Tamil Nadu Global Investors Meet in 2024, a Memorandum of Understanding (**MoU**) has been signed on 08.01.2024 between **GUIDANCE**, a nodal Agency of Government of Tamil Nadu and SCL for establishing the Cement Grinding Unit at Tiruttani in two Phases. In the first Phase, SCL TCGU is proposed with a Cement production capacity of **3.50 Million Tonnes per Annum (MTPA)** (OPC/PPC/PSC/RHPC/SRC/CC- Composite Cement) along with Railway Siding and DG Sets for total capacity of 1250 KVA (1000 KVA or 2x500 KVA & 1x250 KVA) for standby operations. Project Cost of Rs. 838 Crores.

The identified Site is over an extent of **19.58 Ha** with 14.848 Ha of SCL's own Land and 4.735 Ha is Govt. Poramboke Land (on exchange for SCL's nearby lands). The entire land is located outside Tiruttani Municipal Limit in Tiruttani Village, Devasenapuram Village & Valliammapuram Villages, Karthikeyapuram Panchayat, in Tiruttani Taluk, Tiruvallur District of Tamil Nadu.

The Stand Alone Grinding Unit falls under Sl. No. 3(b) & Category 'B' with non-applicability of General Conditions of EIA Notification 2006 (as amended thereof) and requires Prior Environmental Clearance (EC) from the State Environment Impact Assessment Authority-Tamil Nadu (SEIAA-TN).

Location : SCL has proposed TCGU over an extent of **19.58 Ha**, **outside Tiruttani Municipal Limit**, in SF Nos. 329/2, 329/3, 329/4, 329/5, 329/6pt, 329/9, 329/10, 329/11A1pt, 329/11A2B, 330/2pt, 330/3, 330/4A, 330/4B, 330/4C, 330/4Dpt, 330/4Ept, 330/5, 330/6, 330/7, 330/8, 330/9, 330/10 of **Tiruttani Village**, 372/3Cpt, 372/4A, 372/4B, 374/2Apt, 374/3B2pt, 374/3Cpt, 374/3D, 374/3E, 374/3F1, 374/3F2, 374/3Gpt, 374/3Hpt, 374/4A1pt, 374/4A2pt, 374/5, 374/6, 374/7, 374/8pt, 374/9pt, 374/10, 374/11pt, 374/12, 374/15B1, 374/15B2, 378/10, 378/11, 378/12, 378/13, 378/15, 379/18, 379/19, 379/20, 379/7B, 379/11B, 383/5, 383/6, 383/7A, 383/7B, 383/7C, 383/8A, 383/8B, 383/8C of **Devasenapuram Village** & 423/3pt, 423/4pt, 424/1, 424/2, 424/3A, 424/3B, 424/3C, 424/4, 424/5, 425pt, 426pt of **Valliammapuram Village**, Karthikeyapuram Panchayat, Tiruttani Taluk, Tiruvallur District, Tamil Nadu (**Fig. 1.1**). Site in FMB Sketch is given as **Plate I**. About 14.848 Ha is SCL's own Patta Lands and 4.735 Ha is Govt. Poramboke Land (SF Nos. 2 & 4 in Tiruttani Village - Dug wells and Rock-0.2914 Ha & SF No. 425 pt in Valliammapuram Village - Maichal land-4.4435 Ha). SCL owns additional lands over an extent of 6.4831 Ha near the Site and offered to exchange them for Govt. Poramboke Land of 4.735 Ha suitably as required by the State Government. Site Regional Setting is shown in **Plate II**. Site in Google Earth Image is shown in **Plate III**. Site Photographs are shown in **Plate IV**.

The Site falls in Survey of India Topo Sheet No. 57 O/12 (Open Series Map D44N12). Study Area of 10 km Radius falls in Topo Sheets No. 57 O/11 & 57 O/12 (**Fig. 1.2**). Site falls within the Coordinates 13º9'36.54" to 13º9'51.65" North Latitude & 79º37'29.42" to 79º37'56.66'' East Longitude. There are **no Eco Sensitive Areas** like National Parks, Wildlife Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar Sites, Tiger/Elephant Reserves, etc. (existing as well as proposed), within 10 km from the Site. There are two Reserved Forests (RFs) viz. **Kolattur RF** @ 8.5 km in SE direction & **Ammanur RF** near Arakkonam @ 8.0 in SSE direction. The shortest Tamil Nadu-Andhra Pradesh State Border is at 10.1 km in northeast. **Arulmighu Sri Subramaniaswamy Temple-Tiruttani**, a Hindu Pilgrimage Centre, is at 2.4 km in northwest. INS-Rajali Defence Air Strip, Arakkonam is at 11.4 km in SSE direction. The seasonal Nandi River flows at 1.3 km in north and confluences into Nagari River in northeast. There are dugwells and rainfed irrigation Tanks in the Study Area. There is **no nalla crossing** at the Site.

Accessibility : Site is accessible from **Tiruttani Bypass** connecting NH-716 (Chennai-Tirupati Section) and is connected to SH-58 Tiruttani-Arakkonam-Kancheepuram Section).Site is well connected by Road and Rail networks (Southern Railway BG Line of Chengalpattu-Kancheepuram-Arakkonam-Tiruttani-Renigunta Section). Southern Railway BG Line runs adjacent to the Site. Railway Sidings are proposed from Icchiputhur Railway Station (3 km in south)/Tiruttani Railway Station (2 km in NW). Arakkonam Railway Junction is at 9.3 km in SSE direction. District Head Quarters Tiruvallur is at 28 km in the east and State Head Quarters Chennai is at 55 km in the east.

There is **no Rehabilitation & Resettlement** (R&R) issue due to the Proposal. Also, there is **no Litigation/Pending Case** against the Proposal.

Fig. : 1.1 Index Map

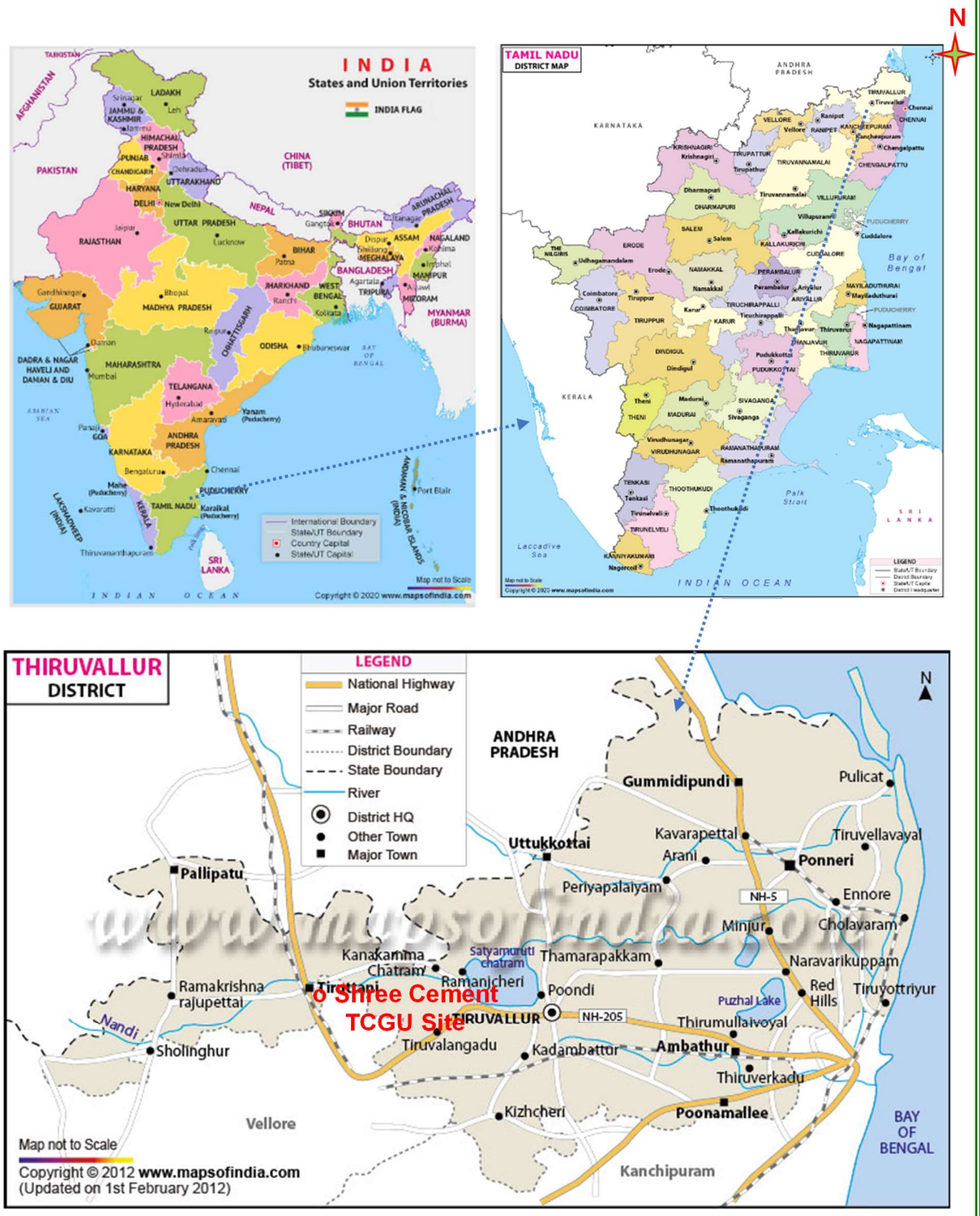


Plate : I Site in FMB Sketch

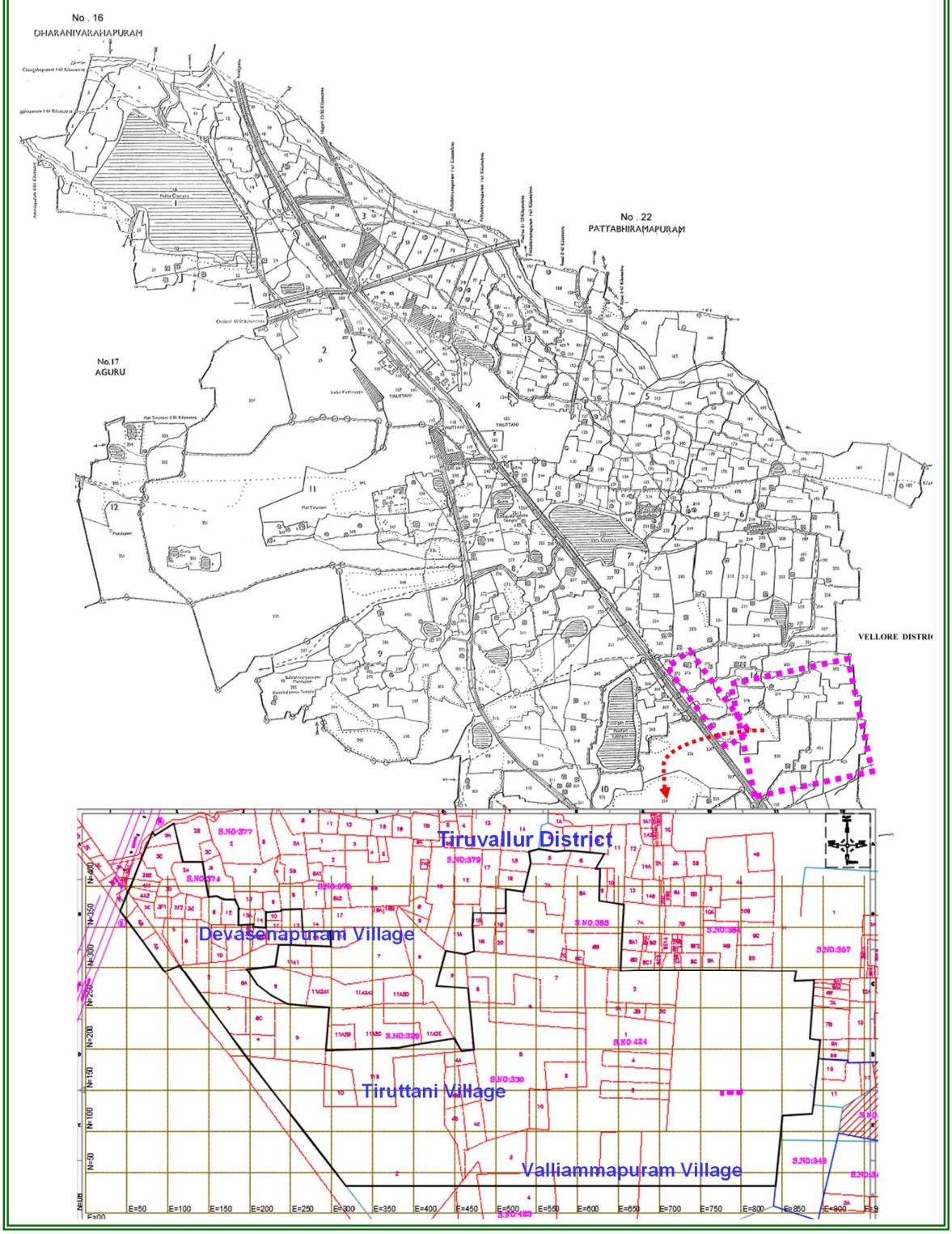
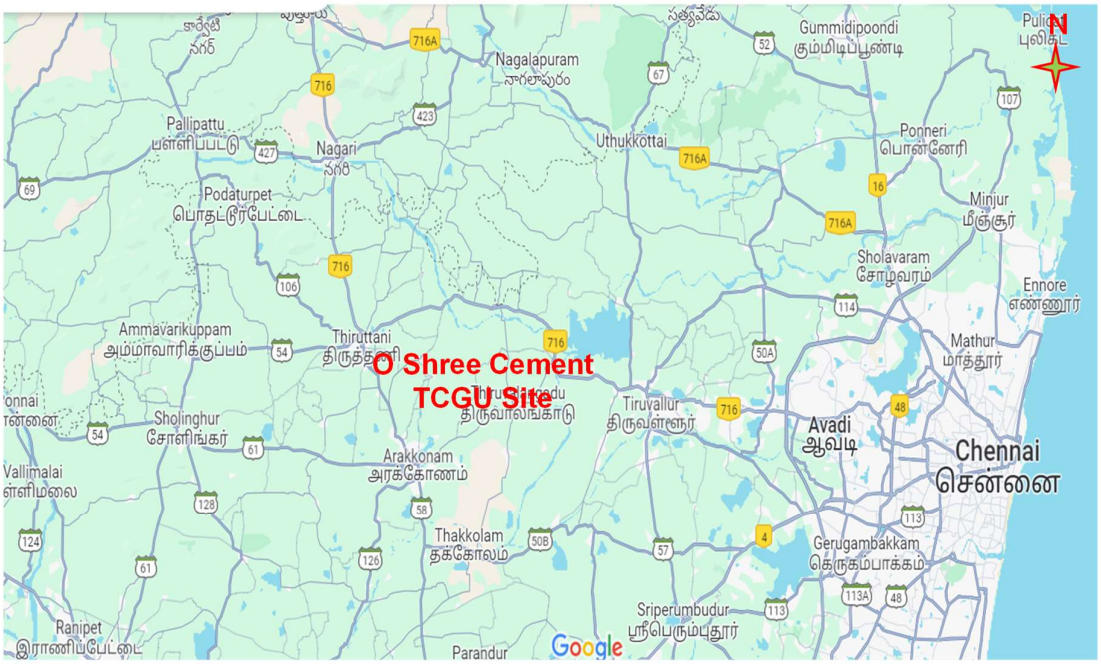


Plate : II Site - Regional Setting



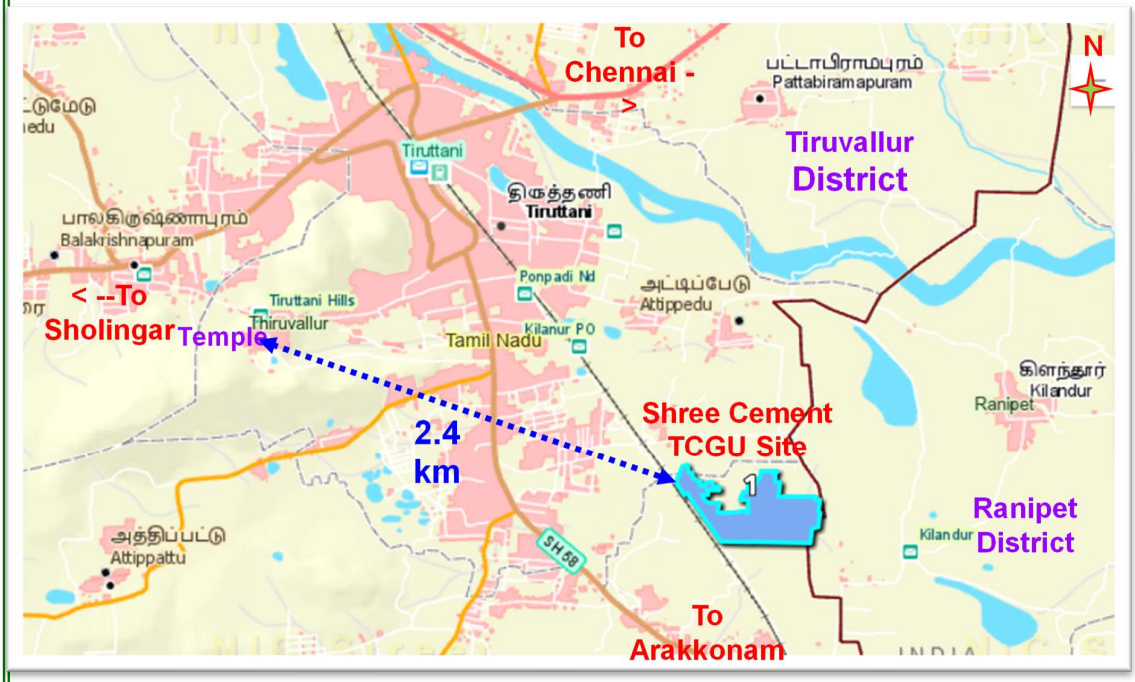
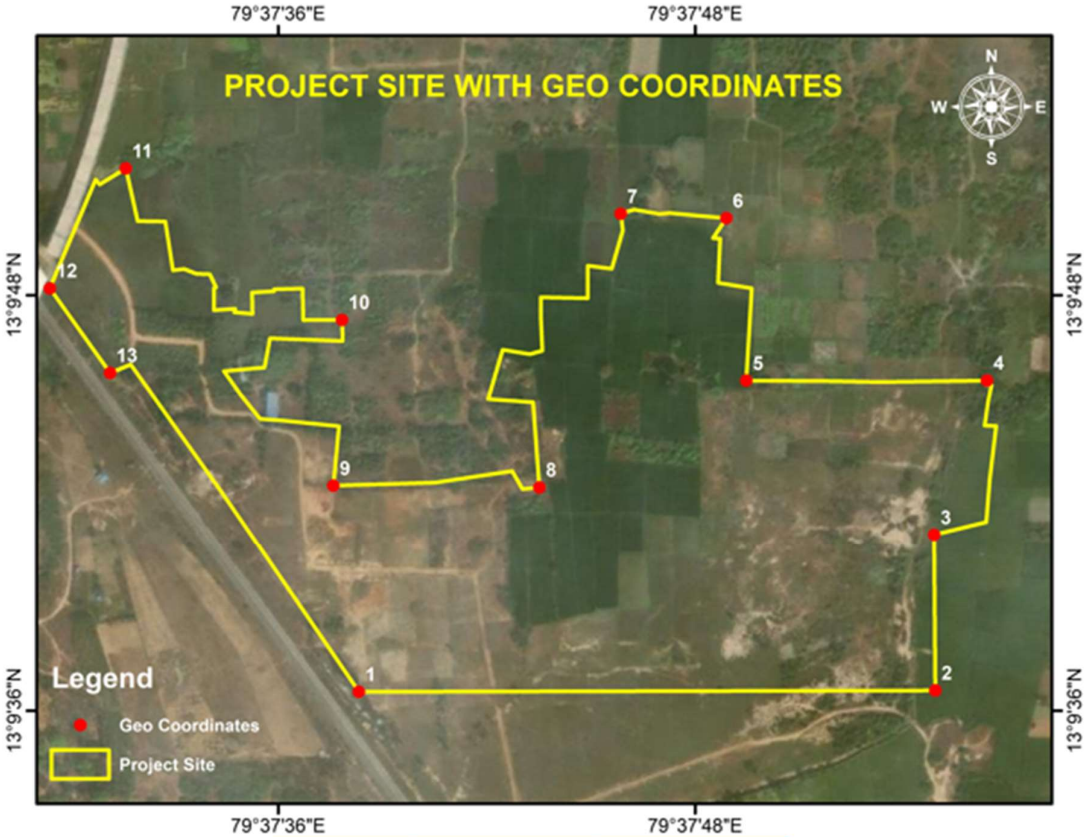


Plate : III Site in Google Earth Image



Location ID	North Latitude	East Longitude
1	13° 9'36.54"	79°37'38.32"
2	13° 9'36.58"	79°37'54.90"
3	13° 9'41.09"	79°37'54.87"
4	13° 9'45.54"	79°37'56.66"
5	13° 9'45.54"	79°37'49.47"
6	13° 9'50.22"	79°37'48.89"
7	13° 9'50.34"	79°37'45.86"
8	13° 9'42.46"	79°37'43.51"
9	13° 9'42.51"	79°37'37.59"
10	13° 9'47.29"	79°37'37.84"
11	13° 9'51.65"	79°37'31.62"
12	13° 9'48.20"	79°37'29.42"
13	13° 9'45.76"	79°37'31.16"

Site Coordinates:

13°9'36.54" - 13°9'51.65" North Latitude
79°37'29.42"-79°37'56.66" East Longitude

Plate : IV Site Photographs

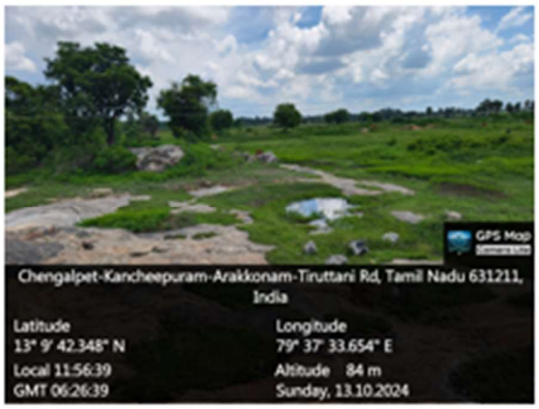
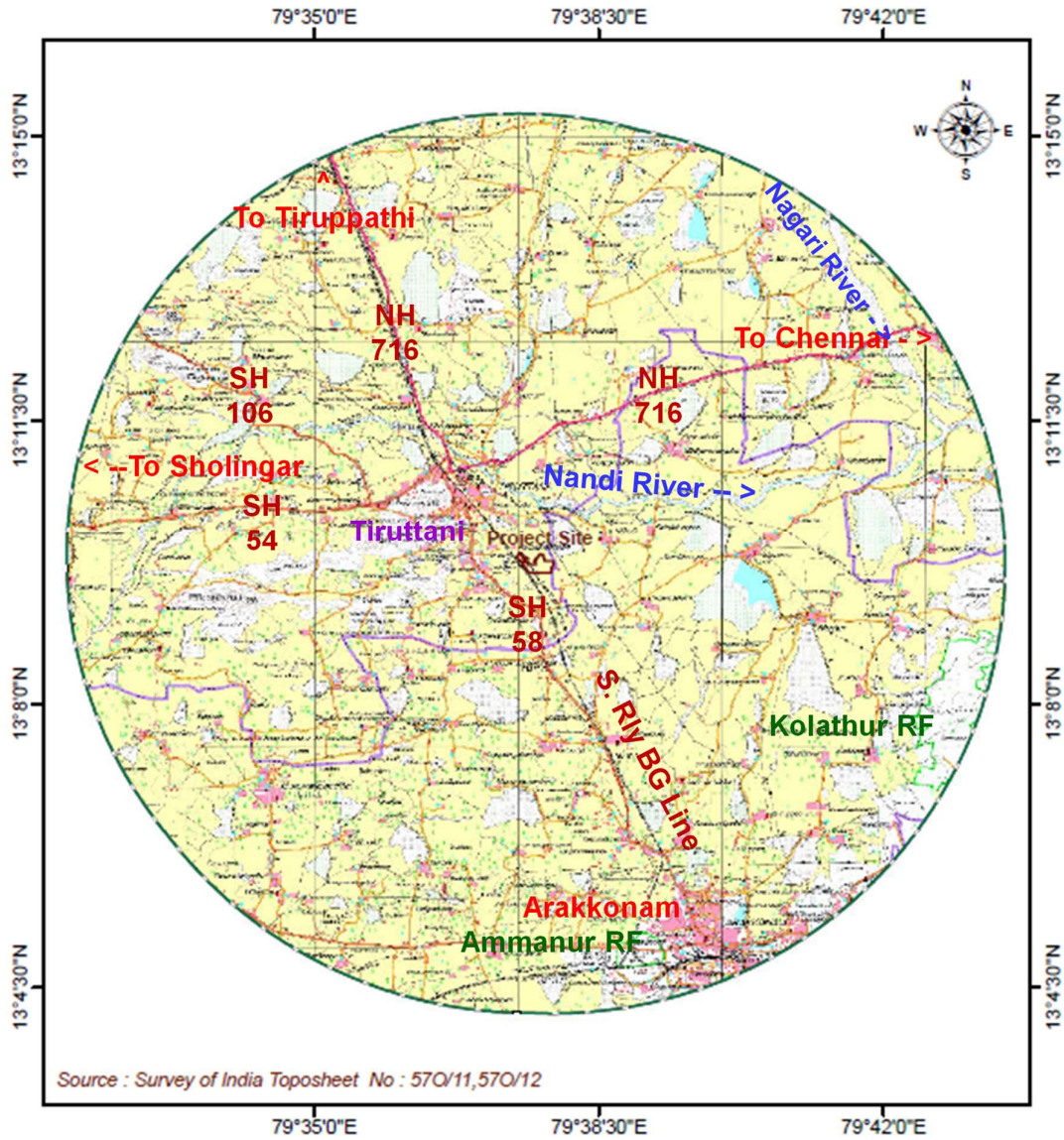


Fig. : 1.2 Topo Map – 10 km Radius



No ESA/ESZ within 10 km Radius.

Scale 1:1,25,000

0 1.25 2.5 5 km

Project Site

10 km Radius

Tiruttani Municipality Limit with a Population of 44,781 Persons is at 0.4 km in the west (aerial distance). Kilandur with a Population of 2,945 is at 0.7 km (NNE). There are **no major industry** in the Study Area.

The Stand Alone Grinding Unit falls under Sl. No. 3(b) & Category 'B' with non-applicability of General Conditions of EIA Notification 2006 (as amended thereof) and requires Prior Environmental Clearance (EC) from State State Environment Impact Assessment Authority-Tamil Nadu (SEIAA-TN). Accordingly, TOR Application was submitted by SCL vide Parivesh Online proposal No. **SIA/TN/IND1/542782/2025 on 25.06.2025**. After paying Online Scrutiny Fees, the File has been accepted by SEIAA on 27.06.2025 under File No. 12367.

The Proposal was deliberated by the State Expert Appraisal Committee (SEAC)-Tamil Nadu in its 595th Meeting held on 21.07.2025 and SEIAA-TN in its 868th Meeting held on 08.08.2025. TOR has been awarded vide Identification No. TO25B1103TN5124110N dated 19.08.2025 with Public Hearing.

The EIA Consultant, M/s. ABC Techno Labs India Private Limited, Chennai has been accredited for various Sectors including Sector-9 (Cement Plants) for Category 'A' by NABET vide Certificate NABET/EIA/2225/RA0290 dated 11.06.2023 with validity till 16.11.2025 (Sl. No. 4 of the List) which will be extended by NABET periodically. ABC Laboratory is accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) vide Certificate No. TC-5770 dated 03.04.2024 with validity till 02.04.2026. Baseline Data (BLD) was collected during Jun.-Aug. 2025 (Premonsoon Season) for the EIA Study as the area experiences NE Monsoon during Oct.-Dec. months.

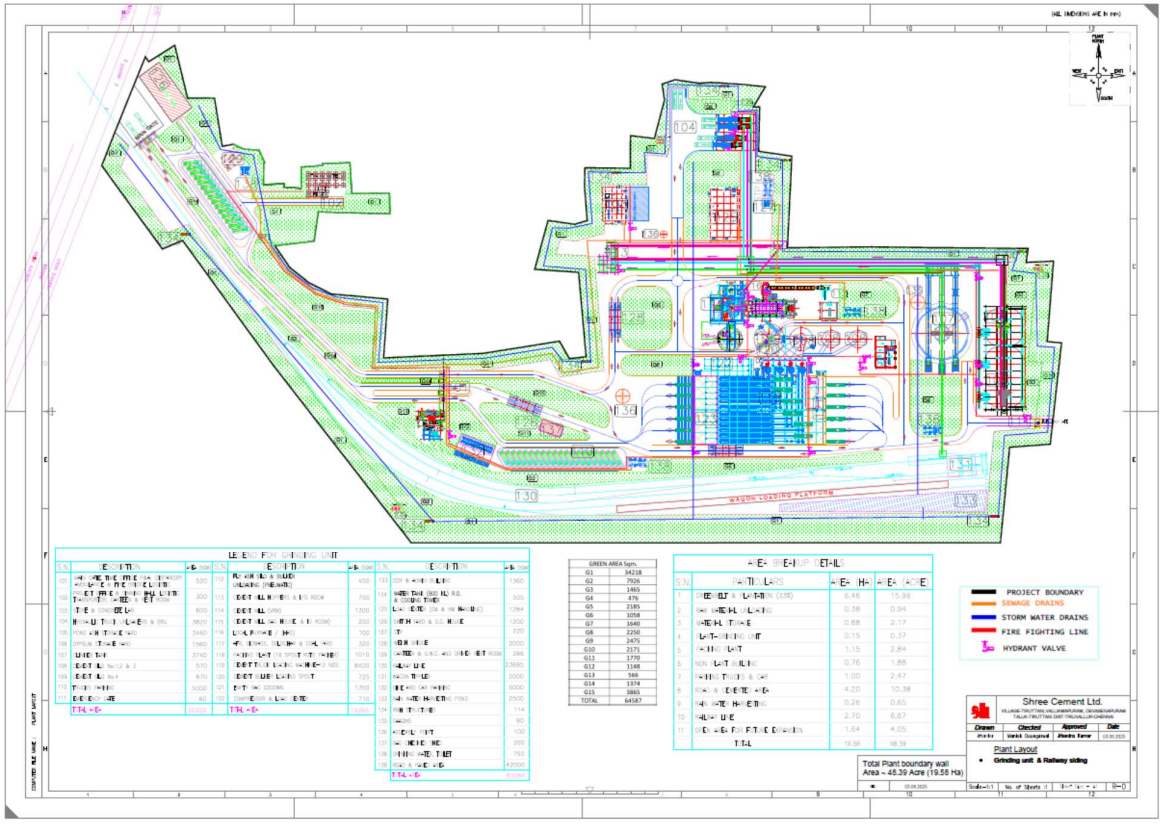
The Draft Environmental Impact Assessment (Draft EIA) Report has been prepared in compliance with **Awarded Standard TORs & Specific TORs** for Cement Plants and also as per the generic structure proposed in Appendix III of EIA Notification 2006. The Draft EIA along with Summary EIA Reports (both in English & Tamil Languages) are submitted for the Public Consultation & Public Hearing.

2.0 Project Description

2.1 Resource Requirements

Land : The identified Site is over an extent of 19.58 Ha. The emphasis has been given for an optimum Layout (**Fig. 2.1**). Greenbelt, preferably native Tree species, will be developed in 3-Tiers along the boundaries as well as inside the Plant over an extent of **6.46 Ha** (33% coverage) **@ 1,500 trees/Ha,** thus a total of **9,690 Trees w**ith about **90% Survival Rate**. **All internal roads** are designed for minimum **6 m width and 9 m turning radius** for smooth traffic flow inside the Unit including fire tender, as per NBC Norms.

Fig. : 2.1 Proposed Layout



Water : As this is only a grinding unit, water is mainly required for equipment cooling (100 KLD in addition to 3 KLD RO Rejects), domestic consumption (15 KLD) and Green Belt (5 KLD). Total fresh water requirement for the Grinding Unit will be **120 KLD**. With recycled water, total Water Demand will be 134 KLD. The area falls in '**Semi Critical Area**' and Ground Water drawl for industrial purpose is permitted with Rain Water Harvesting measures. Existing Dugwells and Borewells at the Site will be the source for initial Phase. Required **NOC** will be obtained from State PWD and submitted. Surface water from an intake well in Nandi River will also be explored after obtaining prior permission from PWD. Desalination Plant supply will also be utilised.

Fuel : A small quantity of coal (0.015 MTPA) is required for HAG operation to remove the moisture from the raw material. **Coal having Sulphur content <0.5%** will be utilised. Further, **Dolochar @ 25 TPD and Biomass @ 25 TPD** will also be utilised **as alternatives for Coal**. HSD @ 300 LPD will be utilised for standby DG Set operations.

Power : Total power requirement will be around 22 MW which will be sourced from TN State Electricity Grid and DG Sets for back-up. Energy consumption per ton of cement will be 28 Kwh (PPC) to 51 KWh (PSC). Solar Street Lights, LED Bulbs utilisation & Energy Management System will be in place. SCL plans to have a 10 MWp Solar Plant nearby in future.

Manpower : The Project will give Direct Employment to 50 persons and Indirect Employment to 200 persons, thus, total **250 employment during Construction Phase**. Local labourers will be pooled for the Construction. The Project will give Direct Employment to 50 persons and Indirect / Contract Employment to 150 persons, thus, total **200 employment during Operation Phase**. Local people will be given preference for Contractual Works

Construction period of **24 months** from the date of signing/ effectiveness of the contract is foreseen for the project.

2.2 Operational Activity

SCL TCGU will be with a **cement grinding capacity of 3.5 MTPA @ 10,500 TPD** of various Cements viz. Ordinary Portland Cement (OPC), Pozzolana Portland Cement (PPC), Portland Slag Cement (PSC), Rapid Hardening Portland Cement (RHPC), Sulphate Resistant Cement (SRC), Composite Cement (CC) etc. along with Railway Siding and DG Sets for standby operations of total capacity of 1250 KVA (1000 KVA or 2x500 KVA & 1x250 KVA) (**Table 2.1**).

Table : 2.1 SCL TCGU – Plant Configuration

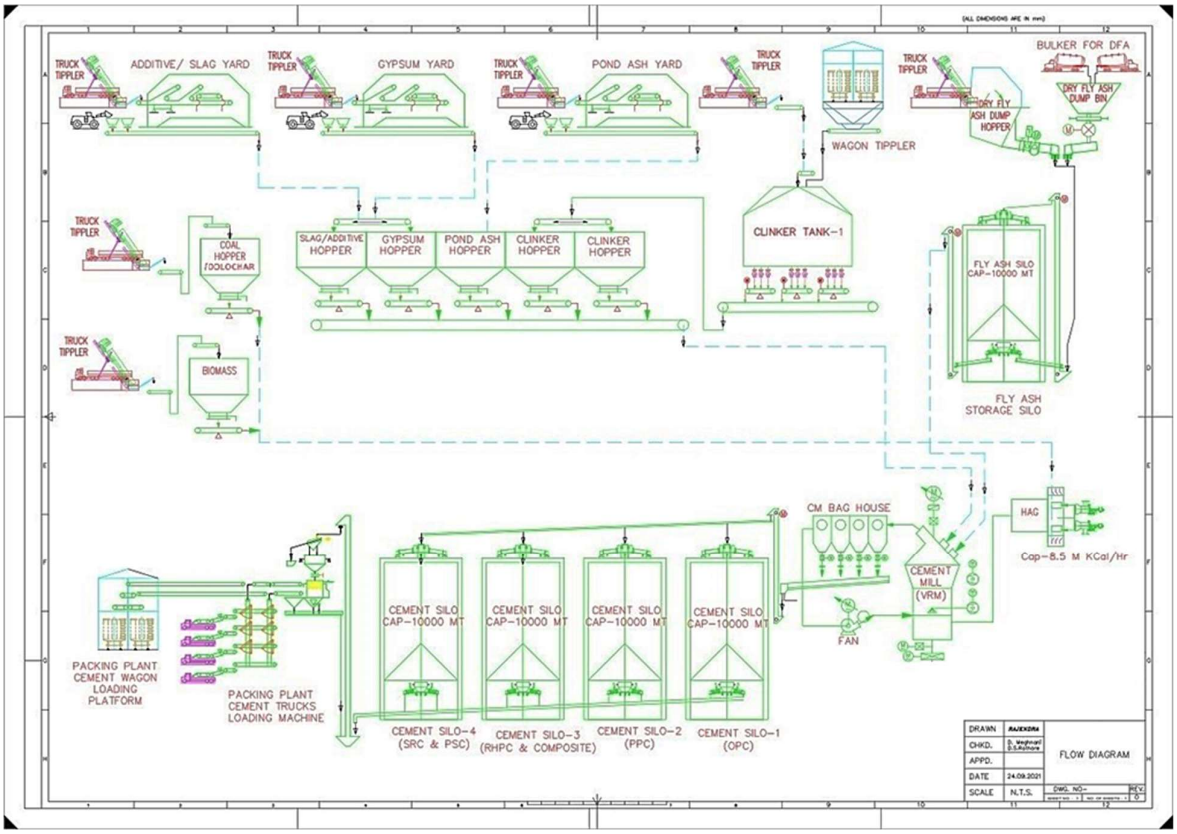
Project Component	Capacity
Cement Grinding (OPC, PPC, PSC, RHPC, SRC and Composite Cement)	3.5 MTPA
DG Sets for Standby Operations	1250 KVA [1000 KVA or (2 x 500 KVA) & 250 KVA]
Railway Siding for Raw Material & finished Product Transportation	Part of Project

There will be **no Clinker manufacturing in this Grinding Unit**. Main process of manufacturing of Cement involves **inter-grinding of Clinker** (received from SCL Cement Plants)**, Gypsum and other Pozzolana materials** in the specified ratio in a Cement Mill for Packing and Dispatch it to the local market. Major steps involved in the process of Clinker Grinding Unit are given as below:

- Clinker storage & handling.
- Gypsum storage & handling.
- Fly Ash, Pond Ash and slag storage, handling and drying with Hot Air Generator.
- Coal, Dolochar & Biomass storage, grinding & handling.
- Cement production and storage.
- Cement packing and dispatch.

Clinker will be transported from SCL sister Plants at Guntur in Andhra Pradesh, Kodla in Karnataka & Balodabazar (Chhattisgarh) by Railway Wagons and as well as through roads. Fly Ash will be sourced from Thermal Power Plants in Chennai. The general Process Flow Chart is given as **Plate V**.

Plate : V Process Flow Chart



The sources of raw materials i.e. Clinker; Fly ash, Gypsum & Slag and their approximate distances with mode of transportation from proposed project site separately for OPC, PPC, PSC, RHPC, SRC & Composite Cement are given in **Table 2.2**.

Table : 2.2 Raw Materials Quantity, Source & Mode of Transportation

Raw Material	Requirement, MTPA				Source	Road Distance & Mode of Transportation
	OPC/ RHPC/ SRC	PPC	PSC	CC		
Clinker	3.255	2.03	1.33	1.33	SCL's Plant in Karnataka, Andhra Pradesh and Chhattisgarh	By Road & Rail Karnataka-660 km, Andhra Pradesh-447 km & Chhattisgarh-1267 km
Gypsum	0.245	0.245	0.245	0.245	Chemical Gypsum (Vizag); Synthetic Gypsum from sister unit of SCL at Kodla (Karnataka), Imported Gypsum from Iran via Ennore Port	By Road & Rail Vizag, A.P-800 km Karnataka-660 km Ennore Port- 80 km

Raw Material	Requirement, MTPA				Source	Road Distance & Mode of Transportation
	OPC/ RHPC/ SRC	PPC	PSC	CC		
Fly ash	-	1.225	-	1.225	NTPC and nearby Thermal power plants	By Road & Rail 80 km
Slag	-	-	1.925	0.7	Salem & Vizag Steel,	By Road & Rail: 275 – 300 Km & 800 km – 850 Km
Total	3.50	3.50	3.50	3.50	-	-

*Cement production will be done 3.5 Million TPA only either from various options as OPC, RHPC, SRC, PPC, PSC & Composite Cement.

Ordinary Portland Cement (OPC): OPC is manufactured by inter-grinding of ordinary Clinker with gypsum only. No other additives are mixed with the cement. RHPC/SRC are also manufactured by inter-grinding of ordinary Clinker with gypsum only.

Pozzolana Portland Cement (PPC): PPC is manufactured by inter-grinding of Clinker with gypsum and pozzolanic materials like fly ash, etc.

Portland Slag Cement (PSC): PSC is manufactured by either inter-grinding the clinker, Gypsum & Granulated Slag (or GGBS) with Ordinary Portland Cement by means of mechanical blenders.

Portland Composite Cement (PCC): Composite cement is a mixture of high quality clinker (IS:16353-2015), fly ash (IS:3812 (Part 1) - 2013), granulated slag (IS:12089-1987) and gypsum.

2.3 Key Pollution Concerns

Air Pollution : The main pollutant expected from the Cement Grinding Unit will be Particulate Matter (PM). The identified sources of dust/PM are : Wagon Tippler, Truck unloading (Tippler), Hoppers, Storage Silos, Weigh feeders, Cement Mills, and Packers. Emissions from these sources, other than Cement Mills & Packers, would be fugitive in nature. Fully covered Storage Facilities (Covered Sheds, RCC Silos) are proposed for Raw Materials and Products. In total, **61 Nos. Bag Filters** are proposed for both Process Stacks & Fugitive Source to control PM emission **<30 mg/Nm^3**. Dust collected from the Bag Filters will be recycled in the Cement manufacturing process. DG stacks will be with **acoustic enclosures and stack height** as per TNPCB/CPCB Norms.

Water Pollution : A 5 KLD RO Plant is proposed to treat the Ground water for drinking purpose. RO Rejects of 3 KLD will be fully utilized for equipment cooling in the Unit. Domestic Sewage to the tune of 12 KLD will be treated in a 15 KLD Sewage Treatment Plant (STP) based on MBBR Technology and Treated Sewage of 11 KLD, in compliance with TNPCB **Norms for On-land**

irrigation, will be fully utilized for Green Belt development & maintenance. Thus, **'Zero Effluent Discharge'** will be adopted/practiced.

Solid/Hazardous Wastes : There will not be any process wastes generation from the Unit. STP Sludge (1.0 kg/day) generated from STP will be used as manure for greenbelt. Municipal (organic) solid wastes @ 40 kg/day from the Unit will be composted and used as manure for the Green belt. Inorganic wastes (Non-biodegradable) @ 10 kg/day will be sold to local Vendors. Solid waste such as road dust comprises of a mixture of dust, clay and soil will be generated from regular sweeping of roads @ 0.5 TPA which will be utilised for filling the low lying areas within the Plant Site.

Used oil / Spent oil @ 25 KL/Annum, Grease & Waste residue (contaminated cotton rags) containing oil @ 2.0 Tonnes/Annum and Empty Barrels @ 100 Nos./ Annum will be generated as per Schedule- I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016; which will be sold to CPCB/ TNPCB authorized recyclers.

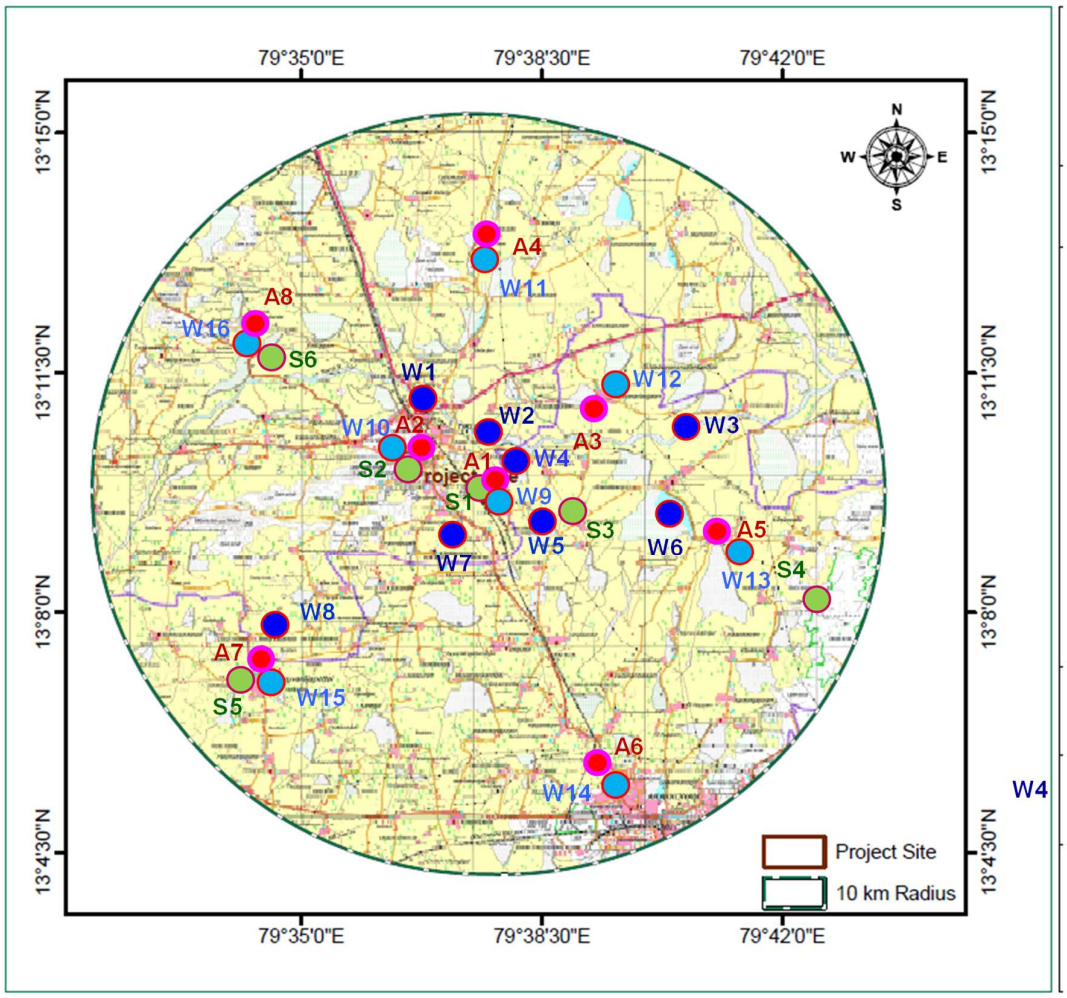
3.0 Baseline Environmental Studies

The study area of **10 km radius (from boundary of the Site) (Fig. 3.1)** has been considered for assessing the baseline environmental status. **Project area does not fall in Critically Polluted Industrial Clusters** listed by CPCB. As Bay of Bengal is at 70 km from the Site, Coastal Regulation Zone (**CRZ) applicability is not there**. Considering the Environmental setting of the project, project activities and their interaction, environmental regulations and Standards, following Environmental Attributes have been included in EIA Study :

- **Site specific Micro-meteorological Data** from Study Area for the Season on wind speed, wind direction (wind roses), temperature, humidity, cloud cover, atmospheric pressure, rainfall, etc.
- **Ambient Air Quality Monitoring at 8 locations** on 24-hourly basis, continuously for 2 days in a week for 4 weeks in a month for 3 months in the season for all 12 parameters as per Revised NAAQ Norms.
- Noise Level Measurements at **8 locations** (air quality monitoring stations) for Leq, Lday and Lnight values once in the season.
- Water Quality Monitoring – grab sampling of Surface Water (**8 locations**) and Ground Water (**8 Locations**) - once in the Season.
- Soil Quality Monitoring at **6 locations** once in the Season for Textural & Physical Parameters, Nutrients, etc.
- **Land Use Pattern** based on recent available Satellite Imagery.
- Biotic Attributes for : **Flora & Fauna** in Core & Buffer Zones.
- **Socio-Economic** Profile, based on 2011-Census and **Need Based Assessment**, once in the study period for: Total Population / Household Size, Gender Composition, SC / ST Population, Literacy Levels, Occupational Structure, etc.

The summary of baseline status is given in **Table 3.1**.

Fig. : 3.1 Environmental Quality Monitoring Stations



Source : Survey of India Toposheet No : 57O/11,57O/12

Legend:-

Ambient Air Quality & Noise Monitoring Stations
- A1-Project Site
- A2-Tiruttani
- A3-Perungalathur
- A4-Talavedu
- A5-Mudur
- A6-Arakonam
- A7-Guruvarajapet
- A8-Suryanagaram

Surface Water Quality Monitoring Stations
- W1-Nandi River Upstream
- W2-Nandi River near Site
- W3- Nandi River Downstream
- W4-Kilanthur Lake
- W5-Ulliyampakkam Lake
- W6-Valarpuram Lake
- W7-Perumaltangal Pond
- W8-Chinnakadampur Lake

Ground Water Quality Monitoring Stations Borewells at:
- W9-Project Site
- W10-Tiruttani
- W11-Talavedu
- W12-Perungalathur
- W13-Mudur
- W14-Arakonam
- W15-Guruvarajapet
- W16-Suryanagaram

Soil Quality Monitoring Stations
- S1-Project Site
- S2-Barren Land, Tiruttani
- S3-Agri. Land, Ulliyampakkam
- S4-Kolattur RF
- S5-Dry Field, Guruvarajapet
- S6- Agri. Land, Suryanagaram

Table : 3.1 Environmental Baseline Status

Envl. Component	Main Parameters	Minimum	Maximum	Mean	Desirable Norms
Ambient Air Quality, µg/m^3	PM2.5	15	29	**22.0**	**60**
	PM10	31	61	**46.0**	**100**
	SO_2	5	11	**6.9**	**80**
	NOx	11	20	**14.7**	**80**
Ambient Noise, dB(A)	Leq-Day	43.8	53.3	**48.9**	**55**
	Leq-Night	40.8	48.0	**43.3**	**45**
Surface Waters	TDS, mg/l	370	650	-	**500/2100**
Ground Waters	TDS, mg/l	410	1050	-	**500-2000**
Soil Status	EC, uS/cm	124	207	-	**200-500**
	SAR	0.84	1.10	-	**<5**

Legend : PM2.5-Particulate Matter size less than 2.5 um; PM10- Particulate Matter size less than 10 um; SO_2-Sulphur dioxide; NOx-Oxides of Nitrogen; Leq-Day & Leq-Night - Equivalent Noise Levels during Day & Night Times; TDS-Total Dissolved Solids; EC-Electrical Conductivity & SAR-Sodium Absorption Ratio.

There is **adequate buffer** for the proposed Project in the physical, biological and edaphic environments of the study area.

3.1 Ambient Air Quality

Micrometeorology : Predominant winds were from WSW/SW directions (215° – 259°). Mean Wind velocity was 7.2 kmph with Calm condition 1.6%. Temperature values were ranging from 23.5 °C to 39.3 °C with mean value of 30.6 °C. Mean maximum relative humidity value was 64.0%. Mean atmospheric pressure value was computed as 757.6 mm of mercury. Clear sky prevailed predominantly. There was no rainy day in the Season. The monitored meteorological data were found to be **in compliance with local weather phenomena**.

Ambient Air Quality : All **12 AAQ parameters** (**24/8/1 hourly basis**) were monitored in compliance with NAAQ Norms. During the study, each **192 samples** were collected, analysed and reported.

Particulate Matter size less than 2.5 µm-**PM2.5** values (24 hours Time Weighted) were monitored in the range between 15-29 **microgram/cu.m (ug/m^3)** in the Study Area with a **mean value of 22.0 µg/m^3** against NAAQ Norm value of **60 µg/m^3** (24 hours Time Weighted). Particulate Matter size less than 10 µm-**PM10** values were monitored in the range between 31-61 µg/m^3 with a **mean value of 46.0 µg/m^3** against NAAQ Norm value of **100 µg/m^3** (24 hours Time Weighted). **SO_2** values were monitored in the range between 5-11 µg/m^3 with a **mean value of 6.9 ug/m^3** against NAAQ limit value of **80 ug/m^3** (24 hours Time Weighted). **NOx** values were monitored in the range between 11-20 µg/m^3 with a **mean value of 14.7 µg/m^3** against NAAQ limit value of **80 ug/m^3** (24 hours Time Weighted).

O_3 concentrations (**hourly samples reported for 8-hour average**) were monitored in the range between <10-17.1 µg/m^3 with a **mean value of 13.2 µg/m^3** against NAAQ limit value of 100 µg/m^3 (8 hours Time Weighted). NH_3-Ammonia; CO-Carbon monoxide; Pb-Particulate Lead; As-Particulate Arsenic; Ni-Particulate Nickel; C_6H_6-Benzene and BaP-Benzo (a) pyrene in particulate phase levels were monitored below respective detectable limits.

While comparing with the National Ambient Air Quality (NAAQ) Standards, **all monitored values were found to be well within the respective limit values for 24-hourly periods** for Industrial, Residential, Rural and other Areas.

3.2 Ambient Noise Levels

Ambient Noise Levels were ranging from 28.0 dB(A) to 101.7 dB(A) during day times and from 27.4 dB(A) to 101.2 dB(A) during night times on the monitoring days. Noise Levels monitored at the Site had the influence of Traffic in Tiruttani Bypass and Railway Line round the clock. Ambient Equivalent Noise Levels (Leq) were ranging from 43.8 dB(A) to 53.3 dB(A) during day times and from 40.8 dB(A) to 48.0 dB(A) during night times on the monitoring day. Day Equivalent Noise (Lday) level was found to be 48.9 dB(A) and Night Equivalent Noise (Lnight) level was 43.3 dB(A). While comparing with the MoEF&CC Leq Norms for day and night times, the monitored **ambient noise levels were well within the limit values** for their respective Category Area.

3.3 Traffic Study

For assessing the baseline status, the Traffic Survey based on Indian Road Congress-IRC: 64/106 Norms were carried out at Tiruttani Bypass - Muthur Road Junction during a Week Day (Wednesday; 16.07.2025) and also during the Week end (Sunday; 20.07.2025). Based on the Survey, existing Traffic Volumes at the Junction is computed in Passenger Car Units (PCUs). The existing traffic volume in the Project vicinity was found to be **5,491.9 PCU/day**.

3.4 Surface Water Quality

The **surface water** samples were monitored with pH in the range 6.98-7.89 against the Limit value of 6.5-8.5. DO levels were in the range 4.5-5.9 mg/l against the minimum requirement value of 4.0-6.0 mg/l for Surface Waters. While EC values were in the range 580-970, TDS values were monitored in the range of 370-650 mg/l against the Limit values of 500/2100 mg/l. Chloride values ranging from 87 mg/l to 145 mg/l. Iron content was found to be in the range 0.21-0.91 mg/l. Oil and grease, phenolic compounds, cyanides, sulphides and insecticides were found to be absent. Trace metals were found to be in traceable levels. BOD and COD values were found to be <2-8.4 mg/l and 18-46 mg/l respectively. The surface water quality were found to be within the prescribed CPCB Norms for **Class-C** (Drinking Water Source after Conventional Treatment and Disinfection) Norms.

3.5 Ground Water Quality

The pH of the **ground water** samples were ranging from 7.18-8.17 against the BIS Norm of 6.5-8.5. While EC values were in the range 640-1580, TDS values were monitored in the range 410-1050 mg/l (Norm 500 mg/l or 2,000 mg/l in the absence of alternate source). Chloride values were found to be in the range 108-287 mg/l (Norm 250/1000 mg/l). Iron content was found to be in the range BDL-0.41 mg/l. Oil & Grease, Cyanides, Phenols, Pesticides, etc. were found to be absent. Most of the trace metals were monitored to be below their detectable limits. In general, the water quality of ground waters were found to be within the prescribed IS:10500-2012 Norms for Drinking in the absence of an alternative source.

3.6 Soil Quality

Soils with medium compaction and Loam/Clay Loam texture are dominant in the study area. Soil pH values were found to be in alkaline range (7.46-8.11) and Electrical Conductivity values were in the range 124-207 µS/cm. There was low moisture content at the monitoring locations. Significant levels of Nitrogen, Phosphorous and Potassium (NPK) values were monitored at all locations. Sodium Absorption Ratio was in the range 0.84-1.10 (desirable value being <5). There was **no heavy metals intrusion**/leaching into the ground strata. The soils would support the vegetation, if amended suitably.

3.7 Land Use

Agricultural Land occupies the majority of the study area with about 59.26% of area. Plantation occupies 1.88% and Forest area occupies 1.03%. Barren Land occupies about 16.91% and Scrub Land occupies 2.30%. Industry Land occupies 0.53% of the study area only. Built-up Land occupies 10.29% and Water body occupies about 7.80% of the study area.

3.8 Biological Environment

A general ecological survey was carried out in the study area of 10 km radius area. **Study Area is not part of any National Park, Sanctuary, Biosphere Reserve, Wildlife Corridors, Migratory Path, etc**. The detailed study revealed dominance of *Cocos nucifera, Azadirachta indica, Acacia auriculiformis, Acacia nilotica* etc. Totally 38 species of trees found in the study area along with 19 shrub species, 27 herb species and 17 climber species. During the vegetation survey in the study area, *Tectona grandis* (Teku) were categorized as endangered species under IUCN (International Union for Conservation of Nature and Natural resources) guidelines.

No wild mammalian species was directly sighted during the field survey. Common Indian hare, Palm squirrel, House mouse, etc. were observed during primary survey. Livestock like cattle, goat, poultry, duck are reared for dairy products, meat, egg and for agriculture purpose. Majority of cattle are of local variety. Summary of Fauna Survey is :

Endangered species	:	None
Threatened species	:	None
Near Threatened species	:	None
Vulnerable species	:	None

3.9 Socio-economic Environment

The area within a 0-2 km radius includes both rural and urban settlements, represented by Kilandur village and Tiruttani Town. Together, they account for 18,904 households with a total population of 77,175 persons (38,558 males and 38,617 females). Within the 0–2 km radius, no major industries have been reported. The 2-5 km zone is characterized by a dense educational ecosystem with numerous schools and colleges, including specialized institutions for pharmacy, nursing, education, and women's studies. The healthcare network is well-established, with both government and private hospitals ensuring accessibility. Industrial activity is sparse, with only one glass industry identified in this range. This combination of educational, health, and industrial institutions indicates a socially supportive environment with balanced access to learning, medical services, and livelihoods.

Local people are frequently suffering from fever, asthma, diarrhea, etc. and no occupational related disease recorded.

4.0 Anticipated Environmental Impacts

Any Project would create impact on the environment in two distinct phases viz. Construction Phase which may be regarded as temporary & short term and Operation Phase which would have long term effects. The impacts have been assessed for the Project by assuming that the **Cumulative Impact of existing industrial activities has already been covered under baseline environmental status** and continue to remain same till the operation of the Project.

4.1 Construction Phase

No buildings/structures in the site and no demolition works is required. Proposed Grinding Unit construction will be for : Clinker storage & handling, Gypsum storage & handling, Fly Ash, Pond Ash and slag storage, handling and drying with Hot Air Generator, Coal, Dolochar & Biomass storage, grinding & handling, Cement production and storage & Cement packing and dispatch.

Site is having uniform terrain and no levelling is required as such. Top Soil @ 26,240 cu.m will be scrapped, stored and utilised for Green Belt development.

4.1.1 Impact on Land Use

Plant area will be established over an extent of 4.08 Ha out of 19.58 Ha (20.80% coverage) with Railway Siding over an extent of 2.70 Ha. Greenbelt & plantation will be developed in 6.46 Ha (33% coverage) and maintained. No Township is proposed other than a small Guest House. Being located under the Bypass and adjacent to Railway Line, the developments at the Site will have relatively low impact on Land Use of the Area. Construction residues will be utilised for leveling and landscaping works and no demolition waste.

4.1.2 Impact on Road & Traffic

On an average, 10-15 Truck loads/day will be visiting the site and will not have any adverse impact to the existing traffic volume in Tiruttani Bypass.

4.1.3 Impact on Ambient Air Quality

The main sources of emission during the construction period are the movement of materials & equipments at site and dust emitted during the installation related activities. However, the impact will be for short duration and confined locally at the Site.

4.1.4 Impact on Noise Levels

There will be very less impact on the existing noise levels due to construction, traffic for loading and unloading, construction, fabrication and handling of equipments & materials, etc. The likely increase of about 1-2 dB(A) in Leq Noise Levels will be confined locally.

4.1.5 Impact on Surface & Ground Water Quality

The District enjoys a **tropical climate**. Annual Normal rainfall of the Site area is **950 mm**. Pre-Project Runoff is 37,202 KL/ Annum and Post Project Runoff is 74,312 KL/ Annum. About 87% of natural drain from the Site 32,215 KL/Annum will be maintained after effective Rain Water Harvesting (RWH) measures and thus, there will not be any significant impact on the receiving water bodies in the vicinity. There are 3 Nos. Dugwells (irrigation wells) & 2 Borewells at the Site About 50 KLD fresh water demand will be there during Construction Phase which will be tapped from permitted Dugwells and Borewells within the premises. As Tiruttani Block falls in 'Semi Critical' Area, the **ground water tapping will be permitted** with the proposed RWH Measures.

4.1.6 Impact on Biological Environment

There are 12 Neem, 37 Palmyra, 15 Date Palm, 8 Teak, 10 Nuna (total 72) Trees along with 18 Coconut Trees and Plantain plantation in the Site. Well grown trees including Palmyra trees **will be numbered and transplanted** as such to the boundaries of Site for Green Belt development. Other than 2 Reserved Forests at 8 km distance, there are **no Eco Sensitive Areas** like National Parks, Wildlife Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar Sites, Tiger/Elephant Reserves, etc. (existing as well as proposed), within 10 km from the Site.

4.1.7 Impact on Socioeconomic Environment

There is no rehabilitation and resettlement involved in the project. The Project will give Direct Employment to 50 persons and Indirect Employment to 200 persons, thus, total 250 employment during Construction Phase. Local labourers will be pooled for the Construction and provided with all Personal Protective Equipments (PPEs) like Mask, Gloves, etc. Sanitization will be ensured at the all workplaces. Water, electricity, toilet facilities, etc. will be provided to Construction Labours during the Construction Phase.. This is a positive impact due to the Proposal.

4.2 Operation Phase

4.2.1 Impact on Air Quality

Emissions from sources, other than Cement Mills & Packers, would be fugitive in nature. Bag Filters are proposed to control PM emission <30 mg/Nm^3. Other stack emissions will not have significant contribution. All material conveyors are fully covered and provided with Bagfilters at Transfer Points. The Plant operations will be in compliance with new Emission Standards issued by MoEF&CC for Cement Industry vide Notifications dated 25.08.2014 and amended on 09.05.2016 & 10.05.2016. Standby DG sets will be with in-built acoustic enclosures and required stack height as per TNPCB Norms.

AERMOD View (9.6.5 Version) is used for Prediction Modelling for applicable Parameters **PM2.5, PM10, SO_2 & NOx (CO levels were below BDL)**. The **maximum incremental GLC** for PM2.5 is 0.22 µg/m^3, PM10 - 0.75 µg/m^3, SO_2 – 1.95 µg/m^3 & NOx 2.92 µg/m^3. There will be **adequate Buffer** in the Air Environment for proposed activities. The cumulative impacts were found to be confined locally i.e. within 0.9 km radius from the Plant boundaries.

4.2.2 Impact on Ambient Noise Quality

Grinding Mill be the main source of noise. The noise level within the plant at a distance of one meter from the source will be maintained at <85 db(A) level for 8-hours exposure. Noise level at nearest plant boundary will be <55 dB(A) during day times and <45 dB(A) during night times. Thus, the noise levels will be well within the permissible MoEF&CC Norms for Residential Areas.

4.2.3 Impact on Traffic Volume

Raw and Finished Materials are being transported by **both Rail and Road Modes**. Tiruttani Bypass from NH-716 will be the transportation route for the TCGU. Road Over Bridge on Railway Line near the Site will have Service Road of 12 m width on either side for to & fro traffic meant for the Grinding Unit. Railway Sidings are proposed from Icchiputhur Railway or Tiruttani Railway Station in north. There will be 1,694 Truck movements for transportation of Raw Material & finished Product Cement during the Operation Phase.

In the Post-Project Scenario, there will be an addition of **2,428 Vehicles** (in 2 ways) i.e. 5,943 PCU/Day to the existing traffic volume. Cumulatively, the traffic volume in the Project vicinity will be **11,170.4 PCU/day**. **The net increase (cumulative) will be 5,679 PCU/day**. The existing Bypass, Service Roads and NHs are adequate to handle the proposed traffic volume due to the Project.

4.2.4 Impact on Surface Waters Resource and Quality

Nandi River originates from Nandi Hills in Karnataka and flows through Tiruttani. Nandi River irrigates a substantial amount of agricultural land (744.48 acres) in the Tiruttani region. Surface water from an intake well in Nandi River, that flows 1.3 km north of the Site, will be utilised to meet the fresh water demand of 120 KLD after obtaining prior permission from PWD.

4.2.5 Impact on Ground Waters Resource and Quality

The area falls in '**Semi Critical Area**' and Ground Water drawl for industrial purpose is permitted with Rain Water Harvesting measures. Existing Dugwells and Borewells at the Site will be the source for initial Phase. Required **NOC** will be obtained from State PWD and submitted. Alternatively, Desalination Plant supply will also be utilised (purchase water). Domestic Sewage to the tune of 12 KLD will be treated in a 15 KLD Sewage Treatment Plant (STP) based on MBBR Technology (**Fig. 2.5**) and Treated Sewage of 11 KLD, in compliance with TNPCB **Norms for On-land irrigation**, will be fully utilized for Green Belt development & maintenance. Thus, '**Zero Effluent Discharge**' will be adopted/practiced.

4.2.6 Impact on Solid Wastes

The dust collected from the various Air Pollution Control (APC) Measures viz. Bag Filters will be totally recycled in the process for cement manufacturing. Thus, there will not be any process wastes generation from the Unit. STP Sludge (1.0 kg/day) generated from STP will be used as manure for greenbelt. Municipal (organic) solid wastes @ 40 kg/day from the Unit will be composted and used as manure for the Green belt. Inorganic wastes (Non-biodegradable) @ 10 kg/day will be sold to local Vendors.

Used oil / Spent oil @ 25 KL/Annum, Grease & Waste residue (contaminated cotton rags) containing oil @ 2.0 Tonnes/Annum and Empty Barrels @ 100 Nos./ Annum will be generated as per Schedule- I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016; which will be sold to CPCB/ TNPCB authorized recyclers.

Used Lead acid batteries of about 150 Nos./Annum will be generated which will be stored in the designated storage area and will be disposed-off / sold to registered vendors as per Battery waste Management Rules 2020.

E-Wastes @ 0.15 Tonnes/Annum will be generated after 2 years of start of operation in the form of used electrical equipment, Cables, CFL/ LED Lights, which will be sold to registered vendors as per E- Waste Management Rules, 2016.

4.2.7 Impact on Terrestrial and Aquatic Habitat

The plant will not have any significant impact on surrounding ecology and biodiversity. About 33% green belt has been developed and maintained. No waste water will be discharged outside Plant boundary as well as no natural water course will be disturbed. Therefore, impact on aquatic habitat is not envisaged.

Green Belt, preferably native Tree species, will be developed in 3-Tiers along the boundaries as well as inside the Plant over an extent of **6.46 Ha @ 1,500 trees/Ha,** thus a total of **9,690 Trees** with about **90% Survival Rate**.

4.2.8 Impact on Socio-economic Environment

About 200 persons will get employment (50 Direct & 150 Contractual) during Operation Phase of the Project. The Project will bring Rs. 838 Crores investment to the Region. There will be a huge positive impact due to the proposal, by way of employment, better socioeconomic conditions, improved local and regional economy, etc. This would be a positive long term impact due to the Project.

As per the Companies Act 2013, Companies should spend at least 2% of the Profit after Tax of the previous year for CSR activities but not lower than 2% of average of previous three years Profit after Tax. SCL will carry out various Social Measures for the local as well as regional populations as per CSR Norms. As per OM dated 30th Sept., 2020, & OM dated 20th Oct., 2020 Socio-Economic Developmental activities will be formulated on the basis of the issues raised during Public hearing which will be addressed in EMP and implemented in a time bound manner with the start of the industrial activities.

4.2.9 Impact on Occupational Health

An industrial worker may be exposed to Physical, Chemical, Biological, Mechanical and Psychosocial hazards. All efforts will be taken and followed to avoid the accidents and have a good 'Occupational Environment'. Entry Level and Periodical Medical Examinations of the Employees will be undertaken by the Unit. The Medical Reports will be reviewed and evaluated for Occupational Health related problems.

5.0 Alternative Analysis

Initially, 3 Locations were identified viz. Tiruttani, Chitteri & Mosur in Tiruvallur District and Ranipet Districts in Tamil Nadu. Keeping in view the proximity to the major markets in the Northern Tamil Nadu and Andhra Pradesh State, the proposed Tiruttani Clinker Grinding Unit has been selected near Tiruttani.

6.0 Environmental Monitoring Programme

6.1 Ambient Air, Noise, Water & Soil Quality

Periodical monitoring of the ambient air quality, fugitive emissions, stack emissions, noise levels, water and soil quality shall be undertaken. The periodical status reports shall be submitted to TNPCB on monthly basis and SEIAA-TN & Integrated Regional Office, MoEF&CC-Chennai as Half Yearly Status Reports.

Continuous online stack monitoring equipment/systems for PM will be installed to Cement Mill stack and the online real time monitoring data will be transmitted to TNPCB Care Air Centre & CPCB servers continuously. **Three (3 Nos.) Continuous Ambient Air Quality Monitoring Stations (CAAQMS)** will be installed in the Plant for transmission of real time monitoring data to TNPCB Care Air Centre & CPCB servers continuously.

Data on Stack Emission s and Ambient Levels of PM2.5, PM10, SO_2 & NO_X will also displayed at the Main Gate for general public view.

Further Online Continuous Effluent Monitoring (CEM) System is installed in the STP and it is connected to the TNPCB Water Watch Centre.

SCL will be estimated the demand of infrastructure (Physical & Social) in the nearby area of the plant site and appropriate developmental activities will be undertaken under for various rural developmental programmes and initiatives for the up-liftment of the nearby communities from time to time.

7.0 Additional Studies

Risk Assessment : Detailed risk assessment and mitigative measures are delineated and an effective Disaster Management Plan, for natural and man-made disasters, will be in place.

Public Consultation & Hearing : Adequate Budget will be allotted in **EMP Budget** for addressing Public Hearing issues for execution in 2-3 years period, in compliance with OM dated 30th Sept., 2020, & OM dated 20th Oct., 2020.

8.0 Project Benefits

Environmental Benefits : Waste materials from other Industries like Fly Ash, Gypsum, Slag, etc. are beneficially utilised for the cement manufacturing.

Social Benefits : The Unit will generate employment for about 250 people (50 Direct & 200 Indirect) during the Construction Phase. About 200 persons will get employment (50 Direct & 150 Contractual) during Operation Phase of the Project.

Financial Benefits : The Project will bring **Rs. 838 Crores** investment to the Region. There will be a huge positive impact due to the proposal, by way of employment, better socioeconomic conditions, improved local and regional economy, etc.

9.0 Environmental Management Plan

An Environmental Management Plant (EMP) is formulated for mitigation of adverse impacts and is based on present environmental status and impact appraisal. The following environmental management plans are proposed for mitigation of impacts on the environment.

9.1 Construction Phase

The following EMP measures shall be undertaken during the Construction Phase:

- It shall be ensured that no change due to the constructions to the hydrology/natural drainage of the area.
- All the topsoil excavated shall be stored and maintained for use for Green Belt development.
- The construction materials like sand, stone chips, etc. shall be obtained only from approved quarries.
- Proper placement of construction machineries shall be ensured to eliminate vibrations and noise.
- All construction machinery items shall be well lubricated to reduce noise.
- High Speed Diesel with low sulphur content shall be used for running the construction machineries.

- The labourers for the construction works shall be pooled from the local public.
- Adequate drinking water and sanitary facilities shall be provided for construction workers.
- PPEs shall be provided to the construction workers. Protection devices viz. ear plugs/ear muffs shall be provided to the workers during welding works.
- The safe disposal of wastewater and solid wastes generated shall be ensured.
- On completion of construction, all debris and extraneous materials shall be cleared off and no residuals should be left at the site.
- EMP Cell ensure the periodical Monitoring of Environmental Parameters during the Construction Period and ensure its compliance with Norms.

9.2 Operation Phase

9.2.1 Traffic Volume

- Adequate measures shall be taken to avoid any traffic congestion near the entry and exit points.
- Security Guards will be posted at the Road Junction to handle the inward and outward vehicles from the Plant to the Bypass/Highway.
- Adequate parkings will be provided in the Plant.
- Facilities for **drivers (rest room, toilet, etc.)** will also be provided.
- All Trucks will be fully covered with Tarpaulin to avoid any spillage on transportation.
- Regular and preventive maintenance of transport vehicles has to be ensured.
- Compliance to 'Pollution under Control' Certification has to be checked periodically.

9.2.2 Air Quality Management Plan

- Adequate air pollution control systems viz. Bag Filters, etc. shall be installed in the Cement Mills & Packers to control PM emissions <30 mg/Nm^3.
- Inside the Plant, all materials transfer shall be through closed conveyor belts.
- Adequate dust extraction systems shall be installed at various transfer points.
- Fully covered sheds shall be provided for Gypsum & Coal storages.
- RCC Silos shall be provided for Clinker, Fly Ash & Cement storages.
- Suction arrangements with suitably designed Bag Filters shall be provided at Silos to arrest the fugitive emissions.
- Dense Phase Pneumatic Handling System for receiving and conveying Fly Ash.
- Charter on Corporate Responsibility for Environmental Protection (CREP) Guidelines for Fugitive Emission Control in Cement Industries shall be fully complied.
- The periodical evaluation for the efficiency performance of Bag Filters shall be carried out.
- Periodical Ambient Air Quality and Stack Emissions shall be undertaken and the Status Reports shall be submitted to the Authorities as required.

9.2.3 Noise Quality Management Plan

- Noise generating sources would be maintained properly to minimise noise and vibrations.
- For all fans, compressors etc. vibration isolators shall be provided to reduce noise.
- Provision of silencers shall be made wherever possible.
- The operators shall be provided with necessary safety and protection equipment like ear plugs, ear muffs etc.

9.2.4 Effluent Management Plan

- Water consumption shall not be more than the consented quantity.
- No trade effluent shall be discharged from the Plant.
- The domestic sewages from the Plant shall be treated effectively in the Sewage Treatment Plant so as to meet the TNPCB Discharge Norms and the treated sewage shall be used for Green Belt.
- 'Zero Effluent Discharge' shall be practiced.
- Effective Rain Water Harvesting Systems shall be adopted and harvested water shall be utilized for the industrial needs so as to conserve the fresh water demand.
- Periodical monitoring for specific parameters shall be done regularly.

9.2.5 Solid & Hazardous Waste Management Plan

- It should be ensured that there is no industrial solid waste from the Plant.
- The dust collected from APC Measures will be consumed in the Plant fully.
- Solid wastes from STP Plant shall be vermi composted and used as manure for Green Belt.
- Waste Oil shall be collected and sold to the CPCB/TNPCB Authorised Agency for further treatment & disposal.
- The municipal wastes shall be collected, transported, treated in a landfill (composting) within the Plant vicinity to make use of it as manure for Green Belt.
- Used Lead acid batteries will be generated which will be stored in the designated storage area and will be disposed off / sold to registered vendors as per prevalent rules.

9.2.6 Storm Water Management Plan

- SCL shall harvest Rain Water through Roof Tops, RWH Ponds with Recharge Mechanism. Roof Top Collections shall be directly stored and used as Raw Water for the Plant.
- Harvested water by surface drain shall also be utilized for the industrial needs so as to conserve the fresh water demand.

9.2.7 Biodiversity Plan

- Green Belt (33% Coverage) shall be developed and maintained effectively.
- Local species and fruit bearing trees may also be developed to have a thick canopy cover.

- The treated sewage shall be used fully for the Green Belt development.
- There will be **ban on one time use and throw away Plastic usage** in the Plant in compliance with Tamil Nadu, Environment and Forests (EC-2) Department, G.O.(D) No. 84 dated 25.06.2018. SCL will encourage the use of eco friendly alternative such as banana leaf, areca nut palm plate, stainless steel glass, porcelain plates / cups, cloth bag, jute bag etc.

9.2.8 Occupational Health

- SCL shall provide a safety & healthy working conditions and continually improve the occupational health and safety performance.
- Its objectives shall be to achieve zero accident and safe work environment, to improve moral and health of all employees and to maintain the emission levels below the norms.
- SCL shall provide ergonomic support in work comfortness with periodical review.

9.2.9 Socio-economic Management Plan

As per the Companies Act 2013, Companies should spend at least 2% of the Profit after Tax of the previous year for the CSR activities but not lower than 2% of average of previous three years Profit after Tax.

9.3 Project Cost & EMP Implementation Budget

The total Project Cost of Rs. 838 Crores. A budgetary allotment of Rs.19.23 crores has been made as Capital EMP Cost and Rs.1.30 crores per annum towards Operating EMP Cost (Table 8.2). Adequate Budget for Corporate Environmental Responsibility (**CER**) **Budget** will be allotted in compliance with MoEF&CC OMs dated 30th Sept., 2020 & OM dated 20th Oct., 2020, on the basis of the issues raised during the Public Hearing and will also be part of EMP Cost.

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