APPLICATION FOR PRIOR ENVIRONMENTAL CLEARANCE

FORM-1

FOR

ENHANCEMENT OF PRODUCTION CAPACITY OF RAIN LIMESTONE MINE FROM 1.60 MTPA TO 3.94 MTPA WITHIN EXISTING MINE LEASE AREA (417.95 HA)

AT

REVOOR & MELLACHERUVU VILLAGES, MELLACHERUVU MANDAL, SURYAPET DISTRICT, TELANGANA

Submitted to:

Ministry of Environment, Forest & Climate Change

Submitted by:

RAIN CEMENTS LIMITED

RAMAPURAM, SURYAPET, TELANGANA

Environmental Consultant:

Vimta Labs Ltd.

142, IDA, Phase-II, Cherlapally

Hyderabad–500 051, Telangana State

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(QCI/NABL Accredited and ISO 17025 Certified Laboratory, Recognized by MoEF, New Delhi)

October, 2017

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FORM-1

(I) BASIC INFORMATION

Sr. No.	Item	Details
1	Name of the project/s:	Enhancement of limestone mines production capacity from 1.60 MTPA to 3.94 MTPA at Revoor & Mellacheruvu Villages, Mellacheruvu Mandal, Suryapet District, Telangana
2	S. No. in the schedule	Activity 1(a), Category 'A'
3	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	Proposed capacity enhancement of Limestone from 1.60 MTPA to 3.94 MTPA Total Mine Lease Area: 417.95 ha
4	New/Expansion/Modernization	Expansion
5	Existing Capacity/ Area etc.	Existing Capacity : 1.60 MTPA Proposed Capacity : 2.34 MTPA Total capacity : 3.94 MTPA
6	Category of Project i.e. 'A' or 'B'	Category 'A' ($\geq$ 50 ha)
7	Does it attract the general condition? If yes, please specify.	Yes, 'Interstate boundary of Telangana and Andhra Pradesh is at distance of 3.2 km (areal distance) NE direction from the mine lease boundary)'
8	Does it attract the specific condition? If yes, please specify.	No
9	Location:	Located at Revoor and Mellacheruvu, Mellacheruvu Mandal, Suryapet District, Telangana State. Latitude: 16° 49' 23.7"N to 16° 50' 31.6" N Longitude: 79° 57' 39.0" E to 79° 59' 43.7"E Survey of India-Toposheet no – E44T13 Index map and study area map is enclosed as **Annexure-I** and **Annexure-II**
	Plot/ Survey/Khasra No.	The entire Limestone lease falls in survey nos. 1081 to 1085, 1089 to 1094, 17, 19, 20, 21, 22, 24, 25, 26, 37 to 44, & parts of 23, 27 to 32, 36, 133, 1088 of Revoor village and 366 to 383, 427, 429 to 432 of Mellacheruvu village of Mellacheruvu Mandal, Suryapet District, Telangana State.
	Village	Revoor and Mellacheruvu
	Tehsil	--
	District	Suryapet
	State	Telangana
10	Nearest railway station/ airport along with distance in kms	Railway Station: Ramapuram, 2 km, NE Khammam, 48.3 km, NNE Airport: Gannavaram (Vijayawada), 91 m, ESE

Sr. No.	Item	Details
11	Nearest town, city, district headquarters along with distance and direction in kms	Nearest town : Kodad, 17.8 km, N Nearest City : Vijayawada, 75 km, SE District headquarters: Suryapet, 50 km, NNE
12	Village panchayats, Zilla parishad, Municipal corporation, local body (complete postal addresses with telephone nos. to be given)	Village panchayat: Ramapuram Zilla parishad: Suryapet
13	Name of the applicant	M/s Rain Cements Limited
14	Registered Address	M/s. Rain Cements Limited 34, Rain Center Srinagar Colony Hyderabad Telangana – 500 073
15	Address for correspondence	M/s Rain Cements Limited Ramapuram Village, Mellacheruvu Mandal, Suryapet (Dist), Telangana State- 508 246.
	Name	Shri. C. Balanagaiah
	Designation (Owner/Partner/CEO)	Sr. General Manager (W)
	Address	M/s Rain Cements Limited Ramapuram Village, Mellacheruvu Mandal, Suryapet (Dist), Telangana State.
	Pin Code	508 246
	E-mail	balanagaiah@priyacement.com
	Telephone No.	08683234605
	Fax No.	08683234602
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet	Proposed project is a brown field project; hence no alternative sites have been examined.
17	Interlinked Projects	Yes. The captive limestone will be supplied as a raw material to Rain Cement Plant.
18	Whether separate application of interlined project has been submitted	Yes, A separate application for cement plant expansion will be submitted.
19	If yes, date of submission	-
20	If no, reason	Not applicable
21	Whether the proposal involves approval/clearance under: (a) The Forest (Conservation) Act, 1980 (b) The Wildlife (Protection) Act, 1972 (c) The C.R.Z Notification, 1991	Not applicable - - -
22	Whether there is any Government Order/Policy relevant/relating to the site	Letter obtained from Indian Bureau of Mines (IBM) vide its letter no: AP/NLG/MS/LST-247-SZ/751, DTD: 03.10.2012 Enclosed as

Sr. No.	Item	Details
		Annexure-III. Environment clearance have been obtained for operating mine from MoEF, New Delhi vide its letter no: No: F.N.J-11011/152/2008-IAII(I), Dated: 27/10/2010. Enclosed as **Annexure-IV**.
23	Forest land involved (hectares)	No forest land involved
24	Whether there is any litigation pending against the project and/ or land in which the project is propose to be set up (a) Name of the Court (b) Case No. (c) Orders/ directions of the Court, if any and its relevance with the proposed project.	Not Applicable

(II) ACTIVITY

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Present land use is already under industrial mining purposes. No new change in land use is envisaged for the proposed increase in production of lime stone within ML area.
1.2	Clearance of existing land, vegetation and building?	No	Since the proposal is for enhancement in the lime stone production within existing ML area, no clearance of existing land, vegetation and building is required.
1.3	Creation of new land uses?	No	There will be no change in present land use. However, after completion of mining activities, most of the mined out area will be afforested and converted into water reservoir under the post mining land use plan.
1.4	Pre-construction investigations e.g., bore houses, soil testing?	No	Mining exploration has been conducted and Review of Mining Plan and Progressive Mine Closure Plan for the ML area over 417.95 ha was submitted to the Regional Controller of Mines, IBM
1.5	Construction works ?	No	There will be no major civil construction works involved in the mine lease area. Facilities like office building, workshop, first aid room etc already exist and the

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
			same facilities will be utilized after expansion.
1.6	Demolition Works ?	No	There are no buildings within the active ML area other than mines office, workshop, rest shelter, first aid room, etc. Hence, no demolition works are involved.
1.7	Temporary sites used for construction works or housing of construction workers?	No	Existing facilities within ML area will be used after proposed mine expansion.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	No	No new above ground buildings, structures or earthworks proposed other than the extension of mine void which is already created.
1.9	Underground works including mining or tunneling?	No	Not applicable since limestone will be mined out by opencast mining method.
1.10	Reclamation works?	No	No reclamation works proposed in the ML area as there is no generation of waste material. After completion of mining in ML area, the same will be converted in to rain water reservoirs.
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing Process?	Yes	Proposed increase in production of limestone from 1.60 MTPA to 3.94 MTPA within existing ML area of 417.95 ha. The methodology of mining process is open cast mining technology with shovel and dumper combination. Surface plan, geological plan and conceptual plan are shown in **Annexure—V, VI & VII**.
1.14	Facilities for storage of goods or materials?	No	No additional storage facilities anticipated. Existing facilities such as explosives and fuel storages will be utilised.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	 Yes	No solid waste generation. There are no effluents from limestone mine; hence there is no need for treatment. Domestic wastewater will be routed to STP. Waste water from vehicle washings will be used for greenbelt after removal of oil & grease and suspended solids by siltation tanks.

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
			Top soil will be used for plantation.
1.16	Facilities for long term housing of operational workers?	No	Existing facilities such as canteen, first aid rest shelters will be utilized for operational workers.
1.17	New road, rail or sea traffic during construction of operation?	Yes	Haulage of the raised limestone will be within the ML area. No road, rail or sea traffic is envisaged.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc.?	No	No road, rail, air or waterborne transport network is envisaged for the mining project
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	No such diversions are envisaged
1.20	New or diverted transmission lines or pipelines?	No	No such diversions are envisaged
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not envisaged No streams crossing in ML area
1.22	Stream crossings?	No	A seasonal drainage channel originating from the Northern Part of the area is flowing in between Pit No.1 and Pit No.2 towards southeast, and joins with Revoor nala close to ML 12 near Southern boundary.
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	No water is required for processing. For dust suppression water is being abstracted from the accumulated rain water pits.
1.24	Changes in water bodies or the land surface affecting drainage or run-off	No	The proposed expansion activities will not disturb the natural drainage.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	No	The proposed project involves expansion of limestone production. No construction activities involved. The transportation facilities currently under usage will be extended after the proposed expansion which will not lead to any physical changes in the locality.
1.26	Long-term dismantling or decommissioning or restoration works?	No	No dismantling works are envisaged. However, part of the voids formed due to mining activities will be left out as water reservoir.

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not envisaged
1.28	Influx of people to an area in either temporarily or permanently?	Yes	No major influx is envisaged due to the proposed expansion of mining project. About 18 persons will be employed.
1.29	Introduction of alien species?	No	Not envisaged
1.30	Loss of native species or genetic diversity?	No	Not envisaged
1.31	Any other actions?	No	Not envisaged

2. Use of Natural resources for construction or operation of Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply).

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
2.1	Land specially undeveloped or agricultural land (ha)	No	ML area of 417.95 ha is under possession. No additional land is proposed to be acquired. The present land use is already under industrial category
2.2	Water (expected source & competing users) unit KLD	Yes	Total water requirement is about 100 KLD for operating mine and after expansion the total water requirement will be 250 KLD and will be met from the existing rain water pits.
2.3	Minerals (MT)	Yes	3.94 MTPA of limestone will be extracted after expansion.
2.4	Construction material – stone, aggregates, and/soil (expected source - MT)	No	Not required as the proposed expansion do not envisage any addition construction.
2.5	Forests and timber (source-MT)	No	No timber is used in the mining project.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	The fuel oil requirement for mining operations after expansion will be 5.0 KL/day. Power requirement is about 150 KW.
2.7	Any other natural resources (use appropriate standard units)	No	Not envisaged

3.0 Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	No usage of hazardous substances except fuel storage and explosives storages.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not envisaged
3.3	Affect the welfare of people, e.g., by changing living conditions?	Yes	Direct and indirect employment avenues will be created due to project activities. Living standards of the surrounding villagers will be improved due to socio-economic measures being taken up by RCL.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	Not envisaged
3.5	Any other causes	No	Not envisaged

4.0 Production of solid wastes during construction or operation or decommissioning (MT/month)

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	Yes	No overburden. Top soil will be used for plantation.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Domestic waste generated will be vermi-composted and used as manure for green belt development.
4.3	Hazardous wastes (as per hazardous waste management rules)	Yes	Used oil & grease will be sold to authorized recyclers. Used batteries will also be disposed off through the authorized dealers
4.4	Other industrial process wastes	No	No other solid wastes are envisaged
4.5	Surplus product	No	Not envisaged
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Domestic sewage sludge will be used as manure for plantation. No other sludge will be produced
4.7	Construction or demolition wastes	No	Not envisaged
4.8	Redundant machinery or	Yes	Redundant machinery/equipment will be

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	equipment		disposed of as scrap
4.9	Contaminated soils or other materials	No	Not envisaged
4.10	Agricultural wastes	No	Not envisaged
4.11	Other solid wastes	No	Not envisaged

5.0 Release of pollutants or any hazardous, toxic or noxious substances to air (kg/hr)

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	There will be no combustion of fossil fuels. However, emissions due to operation of diesel driven HEMM etc. will emit SO_2, CO and NO_X. However, these minor emissions will be controlled by proper maintenance of the vehicles.
5.2	Emission from production processes	Yes	Fugitive dust will be generated during mining operation and adequate mitigation measures (such as dust suppression and greenbelt development) will be undertaken.
5.3	Emissions from material handling including storage or transport	Yes	Dust emissions during loading and unloading, storage and transportation of limestone. Adequate mitigation measures such as water sprinkling will be under taken to control the dust.
5.4	Emissions from construction activities including plant and equipment	No	No major construction activities are envisaged
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	Yes	Dust will be generated during handling of material. Adequate mitigation measures will be taken.
5.6	Emissions from incineration of waste	No	No incineration is envisaged
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No waste will be brunt in open
5.8	Emissions from any other sources	No	Not Applicable

6.0 Generation of Noise and Vibration, and emissions of Light and Heat

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines,	Yes	Noise will be generated from shovels, dumpers, drills, dozers and blasting activities. The noise

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	ventilation plant, crushers		level inside operator cabins will range in between 75dB (A). Required noise control equipment's like mufflers, acoustic enclosures to equipment's were installed. Greenbelt at the periphery of the mine area will act as noise barrier. Regular maintenance of the mining machinery will help in reducing these noise levels.
6.2	From industrial or similar processes	Yes	The main source of noise generation from the mine area would be from drilling, blasting and mining machinery i.e. diesel operated HEMM.
6.3	From construction or demolition	Yes	Noise will be generated from the operation of HEMM.
6.4	From blasting or piling	Yes	Noise will be generated during blasting operations, which is being instantaneous in nature. Nonel technology is used to minimize the ground vibration and noise during blasting. Explosives will be used under the supervision of mines manager and mining engineer/mining foreman with necessary precautions as per rules and regulations. Only controlled blasting is being carried out in accordance with the Explosive Act and MMR 1961. Precautions will be taken to minimize the noise and vibration by blasting.
6.5	From construction or operational traffic	Yes	Noise will be generated due to movement of trucks and other vehicles used during mine operation. Use of horns near human habitat and other sensitive receptors shall be restricted
6.6	From lighting or cooling systems	No	Not envisaged
6.7	From any other sources	No	Not envisaged

7.0 Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea

Sr. No	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	Yes	Fuel storage of 35 KL capacity is present in the mines. The handling and storage of this facility is being done according to MSDS.
7.2	From discharge of sewage or other effluents to water	No	No wastewater generation is envisaged from mining activities. Waste water from vehicle

Sr. No	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	or the land (expected mode and place of discharge)		washings will be used for greenbelt after removal of oil & grease and suspended solids. There will not be any external discharge of wastewater
7.3	By deposition of pollutants emitted to air into the land or into water	Yes	Dust will be generated during mining operations. But appropriate dust control systems such as dust suppression and dust extraction are provided within the mine to control the dust emissions well within the prescribed standards.
7.4	From any other sources	No	Not envisaged
7.5	Is there a risk of long term buildup of pollutants in the environment from these sources?	No	Not envisaged

8.0 Risk of accidents during construction or operation of the project, which could affect human health or the environment

Sr. No	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances	Yes	Explosives are stored in secured magazines after taking necessary permits from regulatory authorities No other risk of accidents is envisaged as there will be no other major storage of hazardous substances All safety rules and regulations are implementing while storing and transporting the explosives
8.2	From any other causes	No	Not envisaged
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloud burst etc)?	No	The mine lease area is a gently undulating rocky terrain, hence, there is no possibility of site getting affected by floods, cloud bursts etc The project site falls in zone-II as per IS 1983 (part-I): 2002

9.0 Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

Sr. No	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g • Housing development • Extractive industries • Supply industries • Others	Yes No	The mining project under operation aid the overall socio-economic development of the region. Direct and indirect employment avenues created due to project, which would improve the living conditions of the people and also through various socio-economic measures taken up by RCL. No major developments envisaged No major extractive industries are envisaged in the area Group owned cement plant Not envisaged
9.2	Lead to after use of the site, which could have an impact on the environment	Yes	After mine closure, the left over mine pits will act as rain water reservoirs and will improve ground water table in the surroundings.
9.3	Set a precedent for later developments	Yes	Ancillary industries will be developed as a consequence and improvement of local socio-economic conditions.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not envisaged

(III) ENVIRONMENTAL SENSITIVITY

Sr. No	Areas	Name/ Identity	Aerial distance (with 15 km) project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil	Nil
2	Areas which are important or sensitive of ecological reasons – wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests	<u>Water Bodies:</u> Krishna River Palleru River <u>Forests:</u> Balusupasdu R.F Buduvada R.F Kuntimaddi R.F	 8.1 km, ESE 5.8 km, NNE 6.3 km, NE 4.3 km, ENE 9.0 km, ESE

Sr. No	Areas	Name/ Identity	Aerial distance (with 15 km) project location boundary
		Venkatayapalem R.F Chintalapalem R.F Yepalmadhavaram R.F	9.2 km, SE 6.8 km, SSE 4.1 km, SW
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Nil	Nil
4	Inland, coastal, marine or underground waters	Krishna River Palleru River	8.1 km, ESE 5.8 km, NNE
5	State, national boundaries	Andhra Pradesh	2.7 Km, NE
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	NH-65	13.6 km, NE
7	Defense installations	Nil	Nil
8	Densely populated or built-up area	Nil	Not Applicable
9	Areas occupied by sensitive man made land uses *(hospitals, schools, places of worship, community facilities)*	Nil	Not Applicable
10	Areas containing important, high quality or scarce resources *(ground water resource, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	<u>Water Bodies:</u> Krishna River Palleru River	8.1 km, ESE 5.8 km, NNE
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	Nil	Nil in 15 km radius
12	Areas susceptible to natural hazard which could cause the project to present environmental problems *(earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)*	Nil	The area not known for these natural hazards. Seismically, this area is categorized under zone-II as per IS-1893 (Part-1)-2002

(IV) PROPOSED TERMS OF REFERENCE FOR EIA STUDIES

In order to assess the environmental impacts due to the mining project on the surrounding environment, Rain Cements Limited proposes to carry out EIA studies covering various environmental attributes and to suggest an effective Environment Management Plan. Proposed Terms of Reference for EIA studies are given in **Annexure-VIII.**

I hereby give an undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project be rejected and clearance given, if any, to the project will be revoked at our risk and cost:

For Rain Cements Ltd;

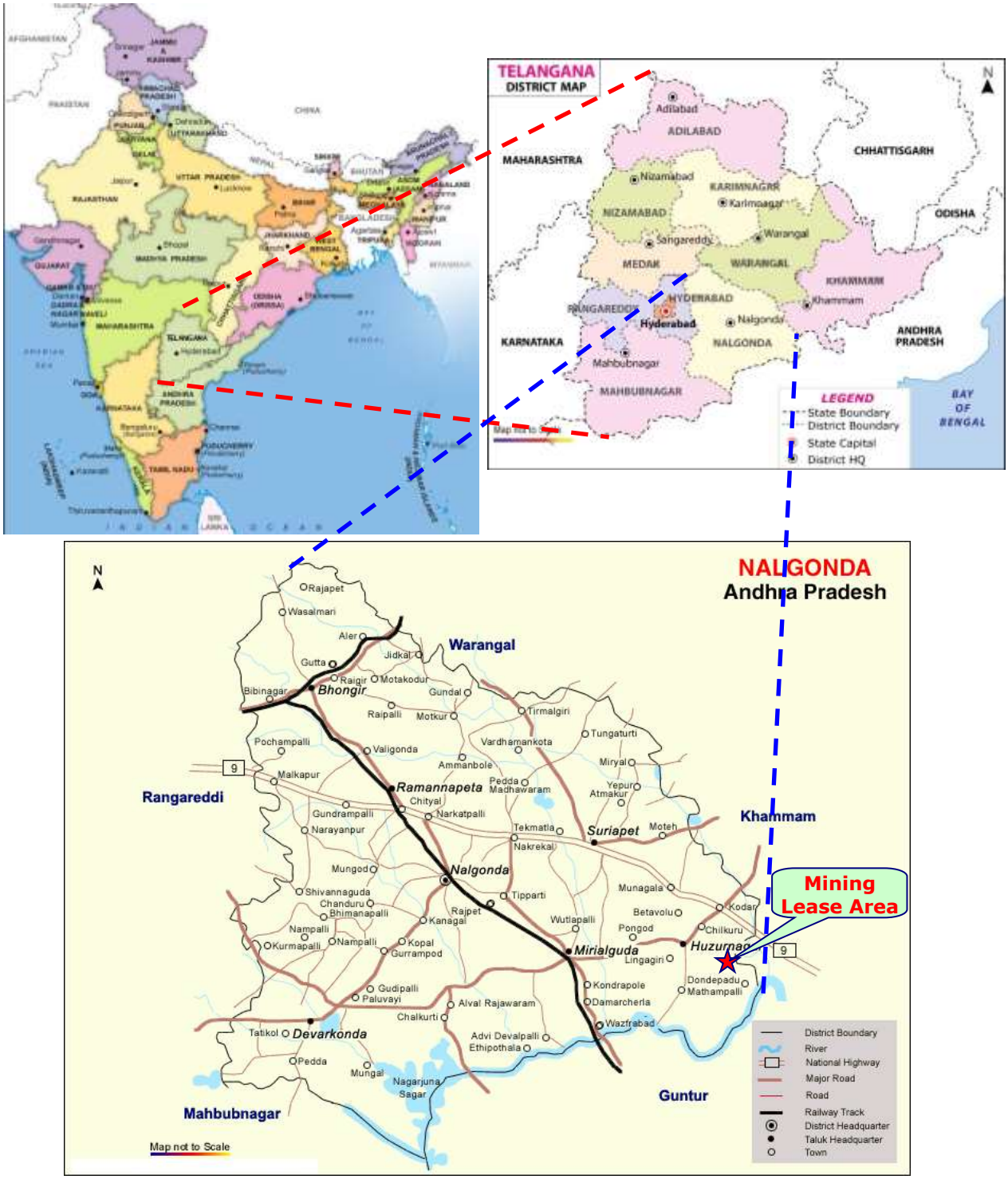
Date: 26.10.2017
Place: Ramapuram

Signature of the applicant
With name and full address
(Project Proponent / Authorised Signatory)

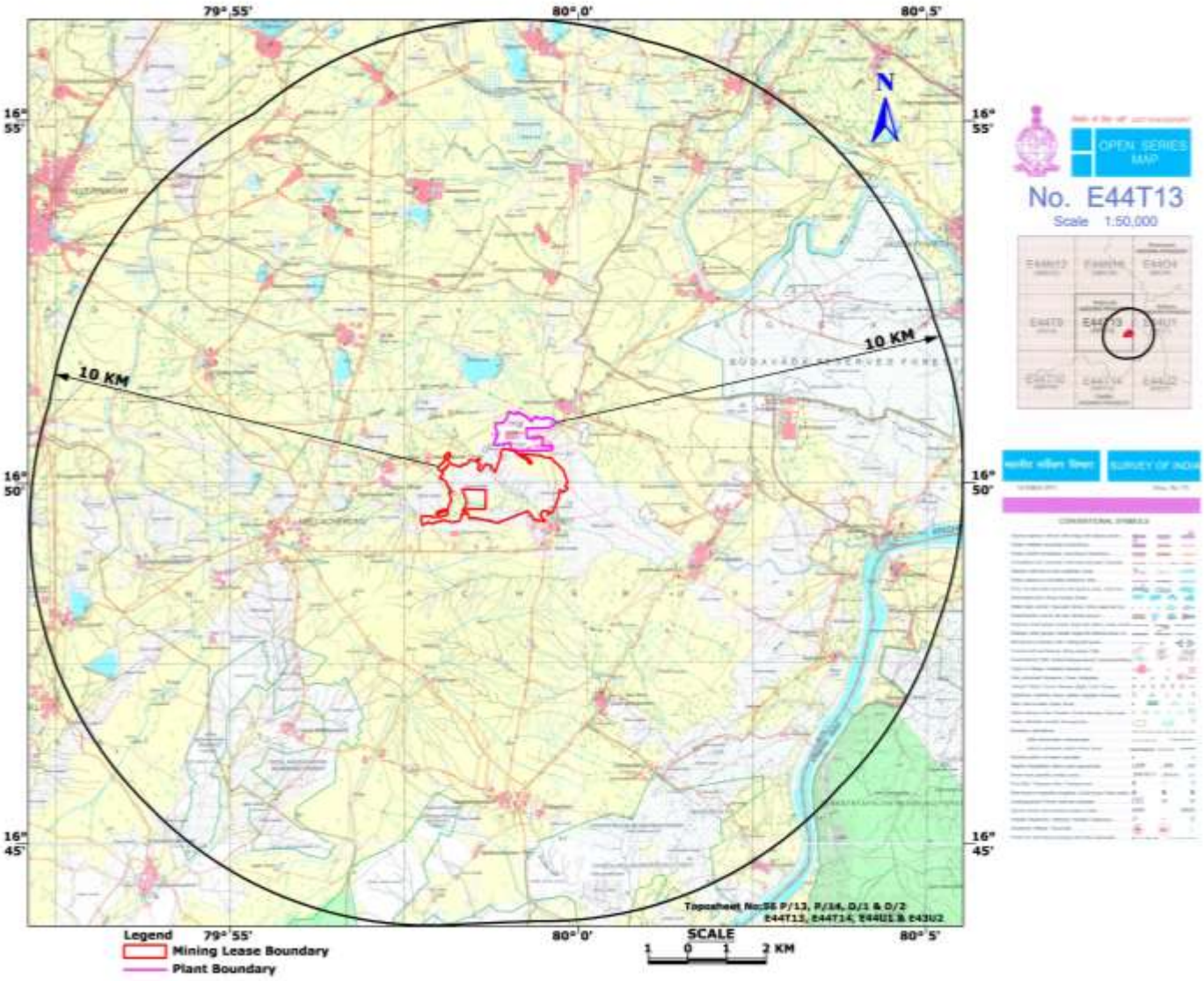
C. BALANAGAIAH
Sr. Gen. Manager (Works)

RAIN CEMENTS LIMITED * RAMAPURAM *

ANNEXURE-I
INDEX MAP



ANNEXURE-II
STUDY AREA MAP OF 10 KM RADIUS



ANNEXURE-III
IBM LETTER

REGISTERED POST

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
OFFICE OF THE CONTROLLER OF MINES (SOUTH ZONE)

FAX: (080) 23373287
Tel: (080) 23375365/ 23375366-67
E-mail: zo.bangalore@ibm.gov.in

29, Industrial Suburb, II Stage,
Tumkur Road, Goraguntapalaya,
Yeswanthpur,
Bangalore- 560 022

No. AP/NLG/MS/LST-247-SZ 751

Date:03.10.2012

To, M/s Rain Cements Limited,
34, Rain Centre, Srinagar Colony,
Hyderabad-500 073

Sub: Approval of Scheme of Mining including Progressive Mine Closure Plan in respect of Rain Limestone Mine over an extent of 417.95 Ha, in Ramapuram village, Mellacheruvu Mandal, Nalagonda District of Andhra Pradesh State, submitted under Rule 12 (3) of MCDR, 1988.

Ref: Your letter No. RIL: W: U1: MIN: 45:09/12 dated 17.09.2012 submitting five bound copies of Scheme of Mining (including Progressive Mine Closure Plan).

Sirs,

In exercise of the power conferred by sub rule (4) of Rule 12 of Mineral Conservation and Development Rules, 1988, I hereby **approve** the aforesaid Scheme of Mining (including Progressive Mine Closure Plan). This approval is subject to the following conditions:

(1) The Scheme of Mining (including Progressive Mine Closure Plan) is approved without prejudice to any other law applicable to the area from time to time whether made by the Central Government, State Government or any other authority.

(2) The Scheme of Mining (including Progressive Mine Closure Plan) is approved without prejudice to any order or direction from any court of competent jurisdiction.

(3) It is also clarified that the approval of your aforesaid Scheme of Mining (including Progressive Mine Closure Plan) does not in any way imply the approval of the Government in terms of any other provision of the Mines and Minerals (Development & Regulation) Act, 1957, or the rules framed there under and any other law.

(4) It is further clarified that the approval of the Scheme of Mining (including Progressive Mine Closure Plan) is subject to the provision of Forest (Conservation) Act, 1980, Forest Conservation Rules, 2003 and other relevant statutes, orders and guidelines as may be applicable to the lease area from time to time.

(5) Your attention is invited to the Hon'ble Supreme Court's Interim Order on WP(C) No.202 dated 12.12.1996 for compliance. The approval of the Scheme of Mining (including Progressive Mine Closure Plan) is therefore, issued without prejudice to and is subject to the said direction of the Hon'ble Supreme Court as applicable in your case.

(6) A copy of EIA/ EMP report, approved by MOEF, New Delhi, should be submitted to this office as well as to the Regional Controller of Mines, Indian Bureau of Mines, Hyderabad, within one month of approval along with a copy of their approval letter.

(7) Provisions of the Mines Act, 1952 and Rule & Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.

Contd....2

(8) The Environmental Monitoring Cell of the Company shall continue monitoring ambient air quality, dust fall rate, water quality, soil sample analysis and noise level measurements on various stations established for the purpose both in the core zone and buffer zone, as per Department of Environment guidelines and keeping in view IBM's Circular No. 3/92, season-wise every year or by engaging preferably the services of an Environmental laboratory approved by MOEF/ CPCB. The data so generated shall be maintained in a bound paged register kept for the purpose and the same shall be made available to the inspecting officer on demand.

(9) The execution of mining plan/ scheme of mining shall be subjected to vacation of prohibitory orders/ notices, if any.

(10) If anything is found to be concealed as required by the Mines Act in the contents in the approved Scheme of Mining and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect, further at any stage, if it is observed that the information furnished in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

(11) The validity period of the financial assurance should be renewed before the expiry of the same and should be submitted to the Regional Controller of Mines, Indian Bureau of Mines, Hyderabad, under intimation to this office

(12) A yearly report shall be submitted to the Regl. Controller of Mines, Indian Bureau of Mines, Hyderabad, before 1st July of every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan after starting of Mining Operations.

(13) In case the Mining lease falls within a radius of 10 kms of National Park/ sanctuary, recommendations of NBWL have to be obtained as per the Order of Hon'ble Supreme Court in I.A.No 460/2004.

(14) This department does not undertake any responsibility regarding fixing of boundary pillars on the ground & correctness of the boundaries of the applied lease area shown on the ground with reference to lease map & other plans furnished by the applicant/lessee.

(15) The contents of Circular No 2/2010 issued by the Chief Controller of Mines, Indian Bureau of Mines, Nagpur vide his letter No- 11013/3/MP/90-CCOM VOL-VII dated 06.04.2010 shall be complied with, within a period of Six months from the date of approval of this document failing which the approval shall be deemed to have been withdrawn.

(16) The Scheme of Mining (including Progressive Mine Closure Plan) is approved for proposals contained therein and as applicable from the date of approval of the document for the mining activities to be carried out within the mining leasehold.

Yours faithfully,

Encl: One copy of the approved Scheme of Mining
(including Progressive Mine Closure Plan)

3/10/12
(R.K.SINHA)
Controller of Mines (SZ)

Contd....3

ANNEXURE-IV
EC LETTER

F. No. J-11011/152/2008- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail: ms.industry-mef@nic.in
Tele/fax: 011 – 2436 3973
Dated: October 27th, 2010

To,

M/s Rain Industries Limited
Ramapuram Village, Mellacheruvu Mandal
District Nalgonda, Andhra Pradesh.

Ph: 0361- 2731183/ 85/87 Fax No.: 08683-234602
E-mail: indu28yahoo.co.in

Sub: Expansion of Integrated Cement Plant clinker (0.80 to 1.00 MTPA), cement (1.00 to 1.50 MTPA) and Limestone Mine (1.30 to 1.60 MTPA) at Village Ramapuram, Mandal Mellacheruvu District Nalgonda in Andhra Pradesh by M/s Rain Industries Limited

Sir,

This has reference to your letter no. nil dated nil along with a copy of EIA/EMP and public hearing reports seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the application for the above project. It is noted that M/s Rain Industries Limited have proposed for expansion of integrated cement plant clinker (from 0.8 to 1.0 MTPA), Cement (from1.0 to 1.5 MTPA) and Limestone (from1.3 to 1.6 MTPA) at Ramapuram Village, Mellacheruvu Mandal, Nalgonda District, Andhra Pradesh. Total project area of the cement plant is 126.3 ha and of limestone mine lease area is 417.95 ha. Out of 417.95 ha of M L area, 16.33 ha is already developed as green belt and will be further developed in 74.05 ha by the end of mine life. Drilling and blasting in mining operation will be carried out during day time only. Environment clearance for the existing cement plant was not obtained as the cost of the project was less than Rs. 100 crores. The plant is in operation prior to implementation of EIA Notification, 2006. Consent to Establish and Operate for the cement plant and Mine has been granted by the Andhra Pradesh Pollution Control Board. Budavada RF is at 4.0 km and Balusupad RF is at 6.3 km distance. Total cost of the proposed expansion is Rs. 25 Crores and Rs. 5.00 Crores are earmarked towards pollution control measures in the plant.

3. Following are the details of existing and proposed plant:

S.N.	PRODUCT	EXISTING CAPACITY (MMTPA)	Proposed capacity after expansion (MMTPA)
1	Clinker Production Capacity	0.8	1.0
2	Cement Production Capacity	1.0	1.5
3	Captive Limestone Mining	1.3	1.6

4. Total reserves of lime stone mine is 300.31 Million Tons and mineable reserves are 207.45 million tones. Total life of the mine is 129 years with the proposed production enhancement of 1.6 MTPA. No additional land will be required for mine. Limestone mine is adjacent to the cement plant. Open cast mechanized method will be adopted for mining.

Drilling will be carried out using DTH machines in conjunction with compressors, blasting of the holes by using explosives with sequential blasting machine or milli-second detonators. Blasted material will be loaded into the dumpers and transported to crusher site. There is no waste generation from the mine.

5. Due to up gradation, ESP of the kiln will be replaced with Bag house limiting outlet emission to < 50 mg/Nm^3. To control fugitive emissions, the sheds would be covered. For storage of raw materials, covered conveyors, asphalted roads, dust suppression systems like water sprinkling will be provided.

6. The water requirement for the existing plant and mine is 1,680 m^3/day and is being met from the bore wells and mine pit. The water requirement will decrease by 300 m^3/day due to installation of Bag House for the Kiln resulting in an overall requirement of 1,380 m^3/day. No wastewater generation is envisaged from the cement plant. The wastewater generated from domestic use is treated in septic tanks followed by soak pits. Sewage treatment plant will be constructed to handle the additional domestic wastewater generated from the cement plant and colony. Rooftop rain water will be harvested. The collected rain water from the mine will be routed into the mine pit.

7. No hazardous waste will be generated in the process. Dust collected from air pollution control equipment will be fully recycled in process. The power requirement of the cement plant will increase from 12 MW to 15 MW and will be met from Grid

8. All cement plants with capacity more than 1.0 MTPA and mines area more than 50 ha. are covered under Category 'A' as per para 3(b) and 1(a) respectively ofthe Schedule of the EIA notification 2006. Public hearing of the project was held on 6th August, 2009. The IBM has approved the modification in the Mining scheme on 10th November, 2010.

9. The proposal was considered by the Expert Appraisal Committee-1 (industry) in its 14th meeting held during 23rd - 25th September, 2010. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions.

10. Based on the information submitted by you, presentation made by you and consultant, M/s B S Envi-Tech (P) Ltd, Hyderabad , the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS :

i. Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Government shall be ensured and regular reports submitted to the Ministry and its Regional Office at Bangalore

ii. Continuous monitoring system to monitor gaseous emissions shall be provided and limit of particulate matter shall be controlled within 50 mg/Nm^3 by installing adequate air pollution control system and energy efficient technology.

iii. Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and submitted to the Ministry and its Regional Office at Bangalore within 3 months from the date of issue of the letter.

iv. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be followed.

v. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

vi. Asphalting/concreting of roads and water spray all around the critical areas prone to air pollution and having high levels of SPM and RPM should be ensured.

vii. Efforts should be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and should not be overloaded. Vehicular emissions shall be regularly monitored.

viii. Total water requirement for the proposed expansion shall not exceed 1,380 m^3/day. Rainwater harvesting measures should be adopted for the augmentation of ground water at cement plant, colony and mine site. The company must also collect rain water in the mined out pits of captive lime stone mine and use the same water for the various activities of the project to conserve fresh water and reduce the water requirement pressure from the river. An action plan shall be submitted to Ministry's Regional Office at Bangalore within 3 months from date of issue of this letter

ix. The project proponent shall ensure that no natural water course shall be obstructed due to any mining operations.

x. Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, inter burden and mineral dumps to arrest flow of silt and sediment. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon, and maintained properly.

xi. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and inter burden dumps and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals.

xii. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, Central Ground Water Board. The frequency of monitoring should be four times a year- pre-monsoon (April / May), monsoon (August), post-monsoon (November), and winter (January). Data thus collected shall be sent at regular intervals to Ministry of Environment and Forests and its Regional Office at Bangalore Central Ground Water Authority and State Ground Water Board.

xiii. Dimension of the retaining wall at the toe of inter burden dumps and inter burden benches within the mine to check run-off and siltation should be based on the rain fall data.

xiv. Suitable conservation measures to augment ground water resources in the area should be planned and implemented in consultation with Regional Director, Central Ground Water Board.

xv. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing.

xvi. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.

xvii. Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.

xviii. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.

xix. Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

xx. Wet drilling blasting method and provision for the control air emissions during blasting using dust collectors etc. shall be used.

xxi. Bench height, width and slope for individual bench should be properly assessed and implemented. Adequate measures should be adopted to stabilize the slope before abandonment. The fencing around the reservoir shall be provided to prevent accidents.

xxii. Action plan for the mining, management of over burden (removal, storage, disposal etc.), reclamation of the mined out area and mine closure shall be submitted to the Ministry and its Regional Office at Bangalore

xxiii. The inter burden and other waste generated shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The total height of the dumps should not exceed 30 m in three terraces of 10 m each and the overall slope of the dump should be maintained to 28^0. The inter burden dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office, Bangalore on six monthly basis.

xxiv. The project proponent shall modify the mine plan of the project at the time of seeking approval for the next mining scheme from the Indian Bureau of Mines so as to reduce the area for external over burden dump by suitably increasing the height of the dumps with proper terracing. It should be ensured that the overall slope of the dump does not exceed 28^0.

xxv. The void left unfilled in the mining area shall be converted into water body. The higher benches of excavated void/mining pit should be terraced and plantation done to stabilize the slopes. The slope of higher benches should be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.

xxvi. Top soil, if any, shall be stacked with proper slope at earmarked site(s) only with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

xxvii. As proposed, green belt shall be developed in at least 33 % in cement plant and all the mined out area except used for reservoir.

xxviii. All the safety norms stipulated by the Director General, Mine & Safety (DGMS) should be implemented.

xxix. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.

xxx. The company shall comply with the commitments made during public hearing held on 06th August, 2009 and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bangalore.

xxxi. At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.

xxxii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project

B. GENERAL CONDITIONS:

i. The project authority shall adhere to the stipulations made by Karnataka State Pollution Control Board (KSPCB) and State Government.

ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.

iii. At least four ambient air quality monitoring stations shall be established in the down wind direction as well as where maximum ground level concentration of PM10, SO_2 and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office and SPCB / CPCB once in six months.

iv. Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

v. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

vi. Proper housekeeping and adequate occupational health programmes shall be taken up. Occupational Health Surveillance programme shall be done on a regular

basis and records maintained properly for at least 30-40 years. The programme shall include lung function and sputum analysis tests once in six months. Sufficient preventive measures shall be adopted to avoid direct exposure to dust etc.

vii. The company shall undertake eco-development measures including community welfare measures in the project area.

viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP.

ix. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.

x. Adequate fund shall be allocated to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted. The funds so provided shall not be diverted for any other purpose.

xi. The Regional Office of this Ministry / CPCB / KSPCB shall monitor the stipulated conditions. The project authorities shall extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.

xii. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the KSPCB.

xiii. The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

xiv. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests. No change in the calendar plan including excavation, quantum of limestone and waste shall be made.

xv. Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM etc. shall be provided with ear pluggs/ muffs.

xvi. Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.

xvii. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

xviii. The project authorities shall inform to the Regional Office located regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

xix. A copy of clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom suggestion/representation, if any, was received while processing the proposal.

xx. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations if any, were received while processing the proposal. The clearance letter shall also put up on the website of the Company by the proponent.

xxi. The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the Karnataka State Pollution Control Board and also at web site of the Ministry of Environment and Forests at "http://envfor.nic.in and a copy of the same shall be forwarded to the Regional Office of this Ministry.

xxii. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the Company alongwith the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.

11. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

12. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

13. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

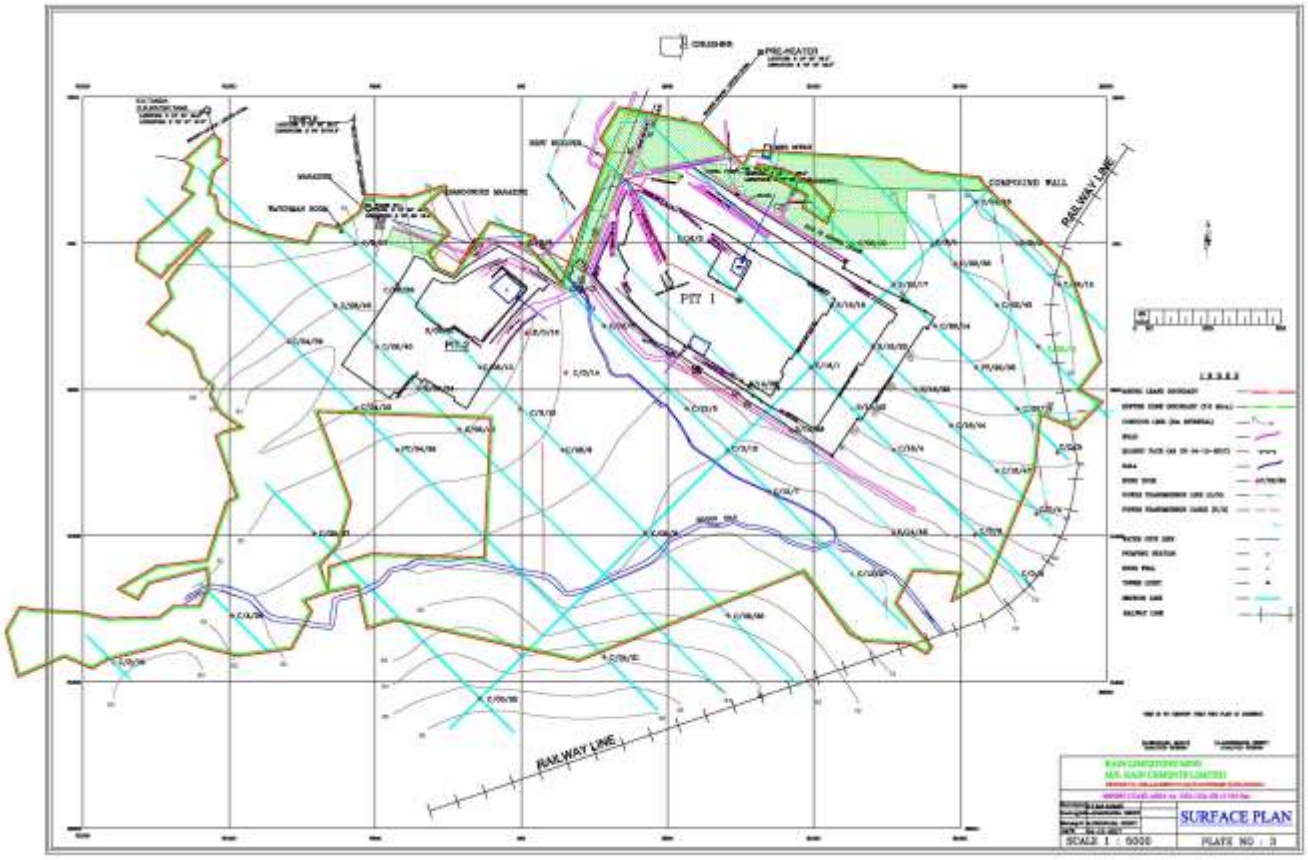
(Dr. P.L. Ahujarai)
Scientist 'F'

Copy to:

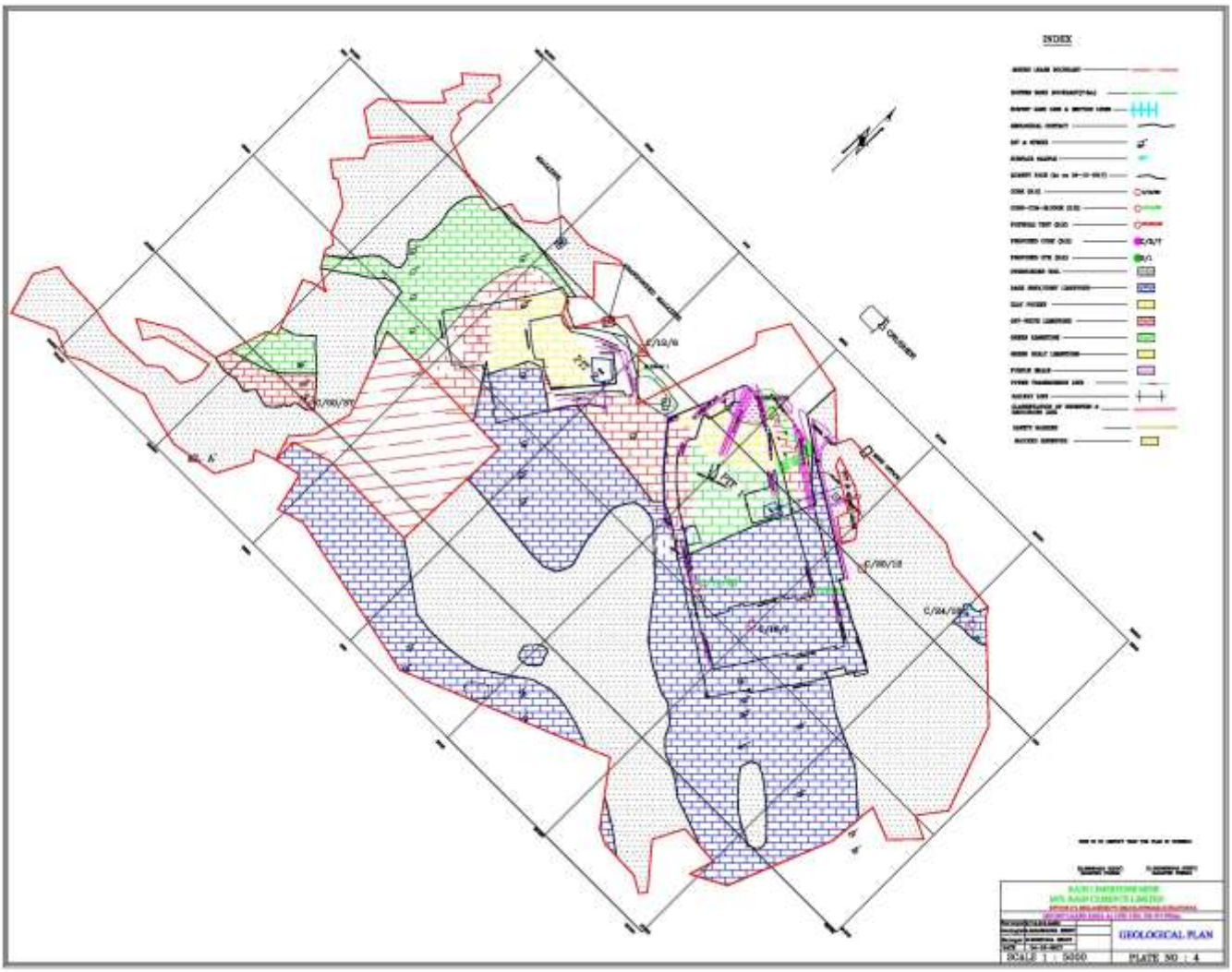
1. The Secretary, State Department of Environment, Government of Andhra Pradesh, Mantralaya, Hyderabad.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Andhra Pradesh State Pollution Control Board, 2nd Floor, HUDA Complex, Maitrivaram, S.R.Nagar, Hyderabad- 500 038.
4. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wing, 17th Main Road, Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi- 110003.
6. Guard file./ Record file/Monitoring file.

(Dr. P.L. Ahujarai)
Scientist 'F'

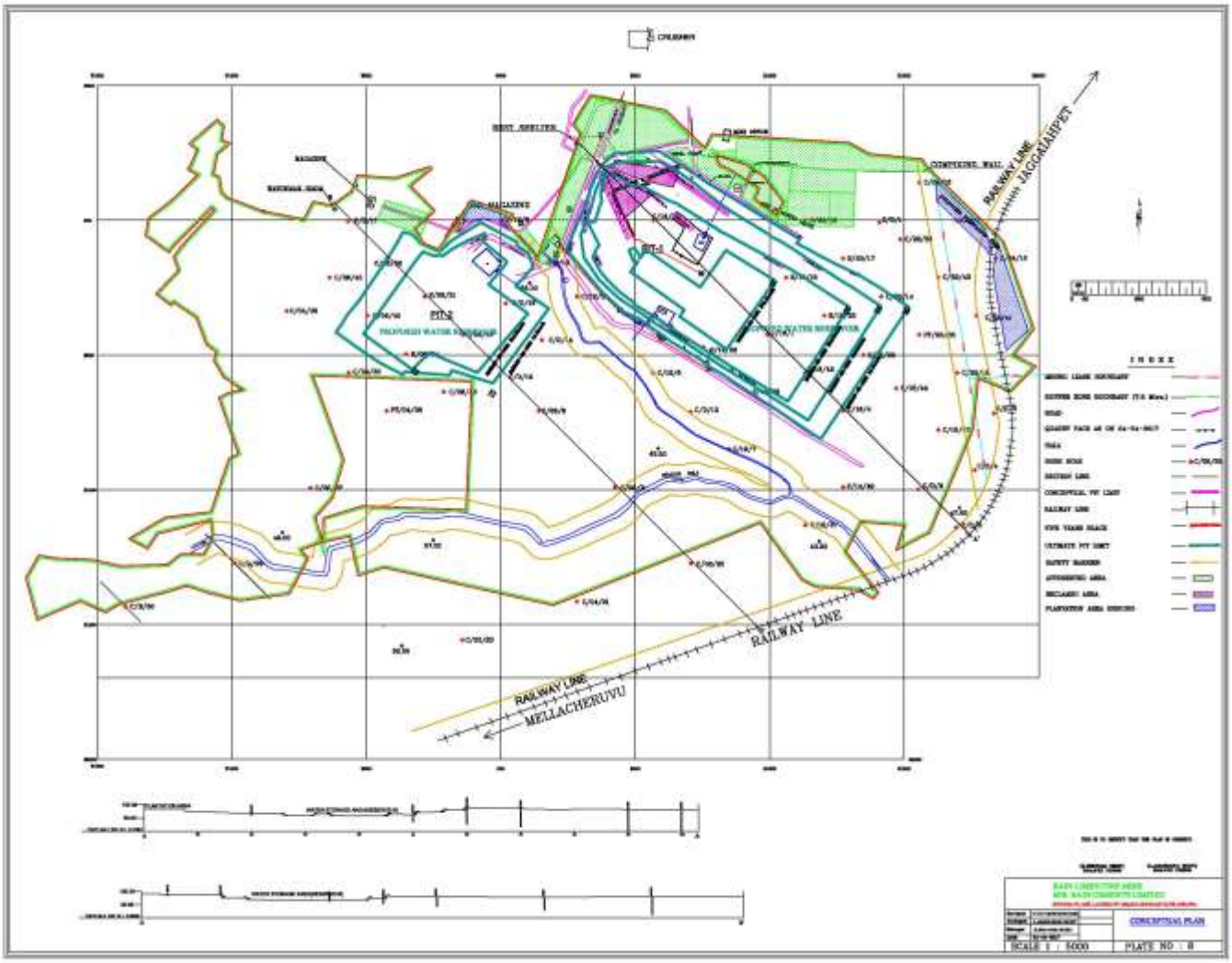
ANNEXURE-V
SURFACE PLAN OF ML AREA



ANNEXURE-VI
GEOLOGICAL PLAN OF ML AREA



ANNEXURE-VII
CONCEPTUAL PLAN OF ML AREA



ANNEXURE-VIII
PROPOSED TERMS OF REFERENCE

The EIA study includes determination of baseline conditions, assessment of the Impacts on the environment due to the operation of Rain Limestone Mine and making recommendations on the preventive measures to be taken, to minimize the impact on the environment to acceptable levels. A suitable post-study monitoring programme will also be outlined. Preparation of Environment Management Plan will also be done.

- **Data Generation**

Land Use

The existing land use pattern in the study area of 10 km radius around the limestone mine will be established through the literature review of published Census records and latest available satellite imagery. Based on this review, the land use pattern is categorized into the following five categories:

1. Forest;
2. Irrigated and agricultural land;
3. Un-irrigated agricultural land;
4. Culturable wasteland; and
5. Land not available for cultivation, which includes built-up areas.

Demography and Socio-Economic Aspects

The existing status of demography and socio-economic factors will be established for the zone covered in 10 km radial distance around the ML site based on the literature review and secondary sources such as the district census statistics. The demographic and socio-economic characteristics such as distribution and density of population, age-sex structure, sex ratio, social structure, literacy rates and occupational structure of people etc. will be established.

Soil Characteristics

The soil samples were collected in the project study area from a depth of 0-90 cm from the ground. The locations were selected to represent various land use conditions including mine lease area.

Water Quality

For assessing the water quality in the study area, water samples were collected once during the study period. The locations were selected based on the reconnaissance survey of the area.

Meteorology

Site specific meteorological data covering one non monsoon season was collected by installing automatic weather station. Meteorological data collected from the nearest observatory of India Meteorological Department (IMD) will be analyzed for probable wind directions, wind speeds, temperature, humidity, etc. Accordingly, the wind roses will be prepared.

Ambient Air Quality Monitoring (AAQ)

Ambient air quality monitoring was carried out within the study area to know the existing baseline status. The frequency of AAQ monitoring was monitored twice a week for 13 weeks during the study period from. Samples were collected for PM_{10}, $PM_{2.5}$, NO_x, and SO_2 for 24 hours. Carbon monoxide was monitored for every eight hours continuously for 24 hour AAQ monitoring.

Terrestrial and Aquatic Ecology

a) Terrestrial Ecology

Field surveys were conducted at appropriate locations covering important vegetative areas for which vegetation analysis will be carried out. The vegetation density, diversity, frequency, relative abundance, cover etc. was studied. In addition, wildlife including avifauna of the study area was also be determined. A checklist of flora, wild animals and avifauna will be prepared. Abundance of wild animals and birds was estimated.

b) Aquatic Ecology

Reconnaissance survey of the study area addresses identification of water bodies like rivers/nallas/ponds etc. The existing status of major water bodies was thoroughly investigated for the flora and fauna including phytoplankton, zooplankton, fish and macrophytes.

The water bodies were studied during field studies for phyto and zooplankton density and diversity. Based on the primary and secondary surveys, a list of flora and fauna was prepared.

Noise Levels

Noise level monitoring was conducted at locations covering various categories such as industrial, residential, commercial and sensitive mentioned in the Environment Protection Rules and as per the specifications of the SEIAA/CPCB. The survey will be carried out once during EIA study period. Readings will be taken over 24 hour period at each location depending on the level of activity. The equivalent continuous noise levels (Leq) was monitored using an integrating sound level meter manufactured by Hi-Tech Instruments Limited.

- ***Identification of Sources of Pollution***

This includes the following:

- Identifying the sources of pollution of air, water, land, noise and solid wastes;
- Quantifying the emissions from the pollution generating sources; and
- Quantification of solid wastes and likely disposal methods.

Sources of Pollution in the Project Area

- The likely sources of air and water pollution will be identified and quantified;
- The pollution control measures envisaged in project area for fugitive dust, noise pollution and other environmental effects of each project activities will be assessed for their adequacy;
- The changes in land use pattern will be identified; and
- Suitable Greenbelt Development Plan will be prepared.

Based on various project activities, the likely impact on the environment attributes in project area will be identified by:

- Estimating the air pollution levels for PM, SO_2 and NO_x in the study area during construction and operational activities;
- Estimating the source emissions for each project specific pollutants;
- Monitoring the source noise levels for all the noise generating sources;
- Predicting the impact of wastewater discharges;
- Determining the impact of construction activities (movement of construction material); and
- Studying the short-term and long-term effects on sensitive targets like endangered species, crops and historically/archaeologically important sites (if any).

- ***Environmental Impact Assessment***

The project may have some impacts on the environment. The parameters likely to be affected are air quality, water quality, soil quality, noise levels, etc. on account of gaseous emissions, liquid effluent discharges, resultant particulates, generation of solid wastes, etc.

The baseline data generated from the above mentioned studies will be analyzed and compared with applicable standards prescribed by the CPCB. By this means, the impact, whether positive or negative will be assessed and the environmental attributes requiring special attention for mitigating the negative impact, if any, will be identified. Also the areas, which fulfill the prescribed environmental norms and not requiring further improvements, will be specified. Both short-term and long term impacts particularly on sensitive targets such as habitat of endangered species of wildlife or crops, historically/culturally important sites/monuments, centers with concentrated population in the study area will be established.

The baseline data generated is analyzed and compared with applicable standards for each environmental attribute so that the critical environmental areas and also attributes of concern are identified.

A qualitative and quantitative assessment of pollution aspect of the project (air and dust, wastewater, noise pollution etc.) will be done to identify the adequacy of the proposed control measures as well as the likely impact on existing critical areas. Mitigation measures to reduce adverse impacts will be suggested.

- ***Environment Management Plan***

An EIA Report and Environment Management Plan based on three months field data generation will be prepared for the purpose of getting clearance from SEAC, MoEF&CC. EIA/EMP will be prepared based on one season data.

Greenbelt Development Plan

A greenbelt development plan for the project site will be included in the EIA report.

Disaster Management Plan and Occupational Safety

Risk assessment and action plan dealing with emergency situation arising due to fire, explosion, leakages of hazardous substances, etc. in the project will be done. The plans include storage, handling, transportation etc. for the hazardous materials to be used in the mine lease area.

Post Study Monitoring Plan

The Post Project Monitoring (PPM) plan will be prepared considering the following:

- The proposed pollution control measures for air, wastewater and solid waste (hazardous/non-hazardous) disposal;
- Waste minimization, wastewater management, waste reuse and resource recovery, waste segregation to make the treatment and disposal cost-effective;
- The monitoring requirements for ensuring that the statutory as well as process data is collected; and
- The organizational set-up required meeting the above.

1.0 EXECUTIVE SUMMARY

1.1 The Company

Rain Cements Limited was established in the year 1986 and the company is engaged in the production and marketing of Priya® Brand Cement.

Cement plant is located at Ramapuram Village, Mellacheruvu Mandal, Suryapet District (Unit-I), which has an installed capacity of 1.5 MTPA, and is one of the major plant in Telangana.

The manufacturing process is based on know-how from ONODA Engineering Consultants Co. Ltd., Japan. The company markets its products under the brand name "PRIYA" which is well established in all the southern states. The company has wide marketing network of more than 2000 stockiest 15 branches in the states of Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Pondicherry, Goa, Odisha, Kerala, and Maharashtra. Company is presently producing Ordinary Portland Cement (OPC) and Portland Pozzolana Cement (PPC).

1.2 Preamble

RCL proposes to increase production capacity of clinker from 1.0 MTPA to 2.50 MTPA and Cement from 1.5 MTPA to 3.80 MTPA at Ramapuram village, Mellachervu mandal, Suryapet district, Telangana of Rain Cements Limited.

In order to meet increased demand of limestone, RCL proposes to enhance the mines production from 1.60 MTPA to 3.94 MTPA within existing mine lease areas of 417.95 ha located at Revoor and Mellacheruvu Villages, Mellacheruvu Mandal, Suryapet District, Telangana State.

1.3 Project Proposal

Rain Cements Limited proposes enhancement of mines production capacity of Limestone 1.60 MTPA to 3.94 MTPA within existing mine lease areas of 417.95 ha located at Revoor and Mellacheruvu Villages, Mellacheruvu Mandal, Suryapet District, Telangana State.

Limestone from this lease area is for captive consumption of Rain Cement Plant (Line-I existing & Line-II proposed) which is about 3.94 MTPA. The geological reserve/ resources in the limestone mine is 330.72 million tonnes of which 151.77 million tonnes of mineral reserves and 178.95 million tonnes of remaining resources.

1.4 Location and Accessibility

The mining lease is spread over the parts of villages Revoor and Mellacheruvu, Mellacheruvu Mandal, Suryapet District, Telangana State. The mines are connected through R&B road from Kodad about 28 km and from new District HQ Suryapet 65 km (by road). The location details of Limestone mine is furnished in the Table-1 & 1A.

TABLE-1
LOCATION DETAILS OF LIMESTONE MINE

Area (ha)	Location		Survey of India Toposheet No.
	Latitude	Longitude	
417.95	16° 49' 23.7"N to 16° 50' 31.6" N	79° 57' 39.0" E to 79° 59' 43.7"E	E44T13

1.5 Geology of the Deposit

Topography

Physiographically, the ML area is considered as undulating topography with Revoor Nala flowing East, South east bifurcating the area. The land on either side of the nala gently slopes towards this drainage channel. Thus the higher elevations are recorded as 91.73 m above MSL at 567 M N 45^0W of ML 20 and Minimum Elevation of 72.59 m is recorded along Revoor Nala curve at 493 m S 45^0E of ML 12.

A seasonal drainage channel originating from the Northern Part of the area is flowing in between Pit No.1 and Pit No.2 towards southeast, and joins with Revoor Nala close to ML 12 near Southern boundary of the area. Dendritic drainage pattern is observed in the total M.L area. The main surface water sources are Krishna, Ramapuram Vagu and Revoor Vagu. The Ground Water table 40 m in the ML area. There is no forestland within ML area.

Drainage

There are no perennial streams existing within the ML area, nor any springs in the lease except one seasonal nala passing through the center of the ML from NE to South direction. There are no wells in the mining area however the bore holes existing in the neighbors lands. It is observed that the depth of the water table is varying from summer to rainy season. Rain water accumulated in the mine pits is used for dust suppression and plantation. Ingress of storm water is arrested by cutting garland channels to maintain ground water table.

Regional Geology

Sedimentary rocks are found in eastern part of Nalgonda district and adjoining to Krishna district belongs to Kurnool group within Palnad sub basin. In general the Palnad rocks are overlying the rocks belonging to Cuddapah's. The Cuddapah's are in turn deposited over the Archeans basement. These rocks are believed to be early Vindhyan rocks. The Palnad rocks comprise Limestone, Shale and Sandstone.

The Regional stratographic sequence of rocks is as follows:

TABLE-2

	Recent	: Soil and Alluvium
	Post-Kurnool	: Quartz/Calcite/Barites veins
	Kundair Formation	: Nandyal Shales : Koilkuntla Limestone
Kurnool	Panyam Formation	: Pinnacled Quartzites : Plateau Quartzites
Group	Jammalamadugu Formation	: Auk Shales : **Narji Limestone**

	Banaganapalli Formation	: Sandstone
---------- UNCONFORMITY ----------		
Archeans	Granites and granitic gneisses traversed by dolerite dykes and quartz veins	

The limestone deposit under consideration belongs to the Narji Limestone Formation and is seen to the extent from Nalgonda in NE up to Cuddapah in the SW. The limestone deposits are noticed in Dondapadu and Wadapalli in Nalgonda District, Dachepalli and Sitarampuram in Guntur District, Panyam, Koilkuntla and Banaganapalli in Kurnool District and Jammalamadugu and Kamalapuram in Cuddapah District.

Archaean granites and gneisses occupy the edge of the main Cuddapah Basin all the way from the southeast to the northeast in arcuate shape and present unconformable contact with the overlying sedimentary rocks.

Quartzites are hard and compact but gritty in nature. They are traceable all along the boundary of the basin overlying the Archaean rocks. Shales are purple coloured, and show horizontal to gently dipping beds. These Shales are sandwiched between the overlying limestone and underlying Quartzites.

Geology of ML Area

The limestone deposit in ML area belongs to the Narji limestone formation. Limestone outcrops are in the colour shades of Grey, Off-white and Green exhibit fine-grained texture, hard and compact in nature and have thin shale partings. The Limestone shows typical bedded nature with varying thickness.

The various rock types in the area are well exposed in elevated places. The beds are observed to be dipping 5° to 25° due SE. The strike of the beds swing N 25° E – S 25° W in the North western part of the area to N 55° E – S 55° W in the southern part of the area.

The sequence of rock formation in their order of superposition is as follows:

01. Overburden soil
02. Dark grey / grey limestone
03. Off-white limestone
04. Green limestone
05. Green shaley limestone
06. Pink shale

Structure

The Limestone beds are observed to be dipping 5° to 25° due SE. The strike of the beds swing N 25° E – S 25° W in the North western part of the area to N 55° E - S-55° W in the southern part of the area. The deposit belongs to stratiform deposits of regular habit as per field guideline of UNFC.

Ore Reserves

Area explored under different level of exploration has been marked on the Geological Plan and UNFC code for area considered for different categories of reserves/resources estimation has also been marked on Geological Cross Section. UNFC level wise resources in different levels of Geological exploration following reserves/resources have been estimated for the lease area details are given in **Table-3.**

Usable Grade Limestone: Grade acceptable at Cement Plant: Limestone with weighted average CaO around 44.10% (Cut off 35%).

TABLE-3

TOTAL MINERAL RESERVES & RESOURCES IN THE MINING LEASE

Sl. No.	Classification	Code	Quantity (Million Tons)	Grade (as per NMI grades as indicated in the mining plan)
Total Mineral Resources (A+B)			**330.72**	
A	**Mineral Reserve**			
1	Proved Mineral Reserve	111	95.41	Cement Grade Deposit Avg. grade of Limestone: SiO_2 % : 11.54% Cao%: 42.39%
2	Probable Mineral Reserve	121 & 122	56.36	
B	**Remaining Resources**			
1	Feasibility Mineral Resources	211	14.09	Blocked for Nala safety barrier, Railway Line safety barrier and Public Power Line safety barrier.
2	Prefeasibility Mineral Resources	221 & 222	42.57	Blocked for Nala safety barrier,
3	Measured Mineral Resources	331	NIL	
4	Indicated Mineral Resources	332	NIL	
5	Inferred Mineral Resources	333	122.29	
6	Reconnaissance Mineral Resources	334	NIL	

Mining

Mining is being carried out in scientific manner by deploying required manpower, machinery and equipment. The proposed mining method is open cast fully mechanized method of mining by forming benches and the height may vary between 5 m to 9 m. Drilling is being carried out by using wagon drill. Blasting is being done by using slurry explosives with nonel detonators. Hydraulic excavator are being used to load the blasted limestone into 35 ton dumpers and the same is transported to the crushing plant located at a distance of about 1.5 to 2.0 km.

The mechanized method will consist of the following operations.

- Cleaning the top surface by dozers;
- Drilling and blasting;
- Excavation and loading by excavator; and
- Haulage by dumpers up to crusher.

Bench Geometry: Bench heights may vary between 5m to 9m. A working bench slope of 80˚ and an ultimate slope of 55˚ will be maintained. A bench width of 25m to 110m is maintained for easy maneuverability of operations. Ramps and haul roads will be modified as the mine progresses. A gradient 1 in 20 will be maintained.

Year-wise tentative excavation: The year-wise tentative excavation is given in **Table-4.**

TABLE-4

YEAR WISE TENTATIVE EXCAVATION

Year	Pit No	Total Tentative Excavation (m^3)	Top Soil (m^3)	OB/SB/ IB (m^3)	ROM (m^3)		Mineral Reject	ROM/ Waste Ratio
					*Ore (m^3)	Mineral Reject (m^3)		
1	2	3	4	5	6	7	8	9
2017-18	1	432350	5548	0	432350	0	Nil	1:0
	2	181256	0	0	181256	0	Nil	1:0
Total		613606	**5548**		613606			
2018-19	1	432350	5405	0	432350	0	Nil	1:0
	2	182056	0	0	182056	0	Nil	1:0
Total		614406	**5405**		614406			
2019-20	1	431150	5232	0	431150	0	Nil	1:0
	2	184590	0	0	184590	0	Nil	1:0
Total		615740	**5232**		615740			
2020-21	1	921795	9567	0	921795	0	Nil	1:0
	2	653285	0	0	653285	0	Nil	1:0
Total		1575080	**9567**		1575080			
2021- 27.09.2021	1	460620	4620	0	460620	0	Nil	1:0
	2	143220	0	0	143220	0	Nil	1:0
Total		603840	**4620**		603840			

***Tentative tonnage of the mineral may be carried out by computing approximate bulk density and recovery factor as these data are variable and may be established on time series.*

Salient features of method of working indicating Category of Mine

The mine is categorized as "A-Category fully mechanised mine" due to deep hole drilling and blasting. The mine is being worked with a maximum bench height upto a maximum of 9 m

height, at least 25 m in width and slope at 10º to the vertical. HEME in conjunction with deep hole wet drilling and blasting is deployed for the purpose. Hydraulically operated dozers have been deployed for preparation of roads and other services required in the mines. The haul road and ramps are straight and wide with a gradient of 1 in 20 and with a regular arrangement of water spray, plantation shall be done all along the road. Diesel operated crawler mounted hydraulic excavators with 2.6 m^3 & 2.8 m^3 bucket capacity are being utilized to load limestone into 35T capacity dumpers.

2.0 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of Project and Project Proponent

Rain Cements Limited proposes enhancement of production capacity of Limestone Mines from 1.60 MTPA to 3.94 MTPA within the existing mine lease areas of 417.95 ha located at Revoor & Mellacheruvu Villages, Mellacheruvu Mandal, Suryapet District, Telangana.

2.2 Need of the Project and its Importance to the Country and Region

Limestone from this lease is to meet the increased captive limestone requirement of Rain Cement Plant (Line-I & Line-II).

2.3 Employment Generation (Direct and Indirect) due to the Project

The mining establishment presents vast opportunities of employment to the numerous people under various cadres (Highly skilled, skilled, semiskilled & unskilled). The qualifications of various technical personnel will be in accordance with the various statutory stipulations applicable to the mines. The details of personnel deployed and proposed to be deployed due to enhance production capacity of the mine are given in **Table-5.**

TABLE-5
DETAILS OF PERSONNEL DEPLOYED AND PROPOSED

Sr. No.	Status	Existing Manpower (Nos.)	Additional Manpower (Nos.)
1	Highly Skilled Staff	13	03
2	Skilled Staff	20	11
3	Semiskilled Staff	0	0
4	Unskilled Staff	07	04
	Total	**40**	**18**

3.0 PROJECT DESCRIPTION

3.1 Project Description with Process Details

The mining would be carried out by adopting combination of hydraulic excavator and dumpers with a carrying capacity of 35 T. The mechanized method will consist of the following operations.

- Cleaning the top surface;
- Drilling and blasting;
- Excavation and loading by excavator; and
- Haulage by dumpers up to crusher.

3.2 Material Transport

The limestone loaded by excavators is being transported to crusher or stack yard through well maintained haul roads. 04 Nos. of 35 T dumpers are deployed for the purpose. Normally one hydraulic excavator with 3 dumpers combination is being deployed. One dumper has been kept as standby. However, with the increase in limestone production, additional higher capacity one excavator and 3 dumpers will be included in the fleet.

3.3 Resource Optimization/Recycling and Reuse

No optimization/recycling and reuse envisaged in the project.

3.4 Availability of Water its Source, Power Requirement and Source

- **Water**

The present requirement of water in the mine is about 100 KLD. Required water for drinking purpose is being provided from the tube wells already installed in the mining area. For dust suppression water is sourced from the accumulated rain water from the pits.

In view of the enhanced production, the requirement of water in the mine will be about 250 KLD (total) is given in **Table-6.**

TABLE-6

REQUIREMENT OF WATER IN THE MINE

Activities	**Present Water Consumption (KLD)**	**Additional Water Requirement after expansion (KLD)**	**Total**
Haul Roads & Muck pile wetting	70.0	125	195
Vehicle Washing	0.2	0.3	0.5
Wet Drilling	0.2	0.3	0.5
Gardening	25.6	21.4	47.0
Domestic	4.0	3.0	7.0
Total	**100**	**150**	**250**

- **Power**

Power consumption of the existing mine operations is 135 KW. Additional power requirement will be 150 KW after expansion and will be met from the grid.

3.5 Quantity of Wastes Generated and Scheme for their Management

No waste generation involved in the limestone mining.

4.0 SITE ANALYSIS

4.1 Connectivity

The ML area is situated at a distance of about 203 km (by road) due ESE of Hyderabad city (Capital of Telangana). Approach to the area is through a diversion road, to the south, from Nallabandagudem village situated at about 185 Km from Hyderabad on the National Highway-65 leading to Vijayawada. The nearby major town is kodad, situated at 28-km km from ML area.

4.2 Land Form, Land Ownership and Land Use

Existing land use pattern indicating the area already degraded due to mining, roads, processing plant, workshop, township etc. is given in **Table-7.**

TABLE-7

EXISTING LAND USE PATTERN

Degradation type	Forest land (Ha)	Agricultural land (Ha)	Grass land (Ha)	Waste land (Ha)	Other (Ha)
Quarry	Nil	Nil	Nil	80.78	Nil
Waste Dumps	Nil	Nil	Nil	Nil	Nil
Infrastructure inclusive of plant, office, workshop	Nil	Nil	Nil	2.02	Nil
Area occupied by roads (footpath)	Nil	Nil	Nil	7.58	Nil
Water bodies like tank/river/nala	Nil	Nil	Nil	Nil	Nil
Processing plant	Nil	Nil	Nil	Nil	Nil
Township	Nil	Nil	Nil	Nil	Nil
Others (Green belt)	Nil	Nil	Nil	26.26	Nil
Others (non-degraded)	Nil	Nil	Nil	299.31	Nil
Total	Nil	Nil	Nil	417.95	Nil

4.3 Environmental Sensitivity

The environmental setting of the location is given in **Table-8.**

TABLE-8

ENVIRONMENTAL SETTING

Item	Description	Distance
Nearest Highway	NH-65	13.6km, NE
Nearest Railway station	Ramapuram Khammam	2.0 km, NE 48.3 km, NNE
Nearest Air port	Gannavaram (Vijayawada),	91 km, ESE
Nearest village	Ramapuram	2.0 km, NE
Nearest town	Kodad	17.8 km, N
Nearest city	Vijayawada	75 km, SE
Nearest River	Krishna River Palleru River	8.1 km, ESE 5.8 km, NE
Reserve Forests	Balusupasdu R.F Buduvada R.F Kuntimaddi R.F Venkatayapalem R.F Chintalapalem R.F Yepalmadhavaram R.F	6.3 km, NE 4.3 km, ENE 9.0 km, ESE 9.2 km, SE 6.8 km, SSE 4.1 km, SW
Ecological Sensitive Zones within 15 Km from M.L. Boundary		Nil
National Parks/ Wild life Sanctuaries within 15 Km from M.L. Boundary		Nil
CRZ		Nil
Historical Places within 15 Km from M.L. Boundary		Nil
Any other Industrial Establishments		Nil

4.4 Existing Infrastructure

All necessary and basic infrastructure required for mining operations viz. mines office, rest shelter, first aid station, drinking water and toilet facilities etc. are available.

5.0 PLANNING BRIEF

5.1 Planning Concept Town and Country Planning/Development Authority Classification

There has been an increase in the overall basic facilities such as roads, school, health center etc. A better quality of life for the locals has been created and which is further expected to improve over a period of time. The existing mining operations (cement plant & mining) have

provided many direct/indirect job opportunities to skilled & unskilled workers. Owing to implementation of the mining project in the area there will be positive impact in socio-economic aspects.

5.2 Population Projection

The manpower will be very minimal in the proposed expansion project. Therefore the population influx is not envisaged.

5.3 Land Use Planning

Detail land use at present, at the end of this proposal period and at the conceptual stage is given in **Table-9.**

TABLE-9

THE LAND USE PATTERN AT THE END OF PLAN PERIOD

Sr. No.	Heads (Ha)	At the beginning of this proposal period	At the end of this proposal period (5 years)	At the end of conceptual period
1	Total area excavated (broken)	80.78	17.97	98.75
2	Area fully mined out (out of 1)	2.41	Nil	2.41
3	Area fully reclaimed (backfilled) (out of 2)	2.41	Nil	2.41
4	Area rehabilitated out of 3 by afforestation, agriculture use, hutment etc.	2.41	Nil	2.41
5	Area rehabilitated by water harvesting (out of 2)	Nil	Nil	Nil
6	Area fully rehabilitated by bench / slope afforestation (out of 2)	Nil	Nil	Nil
7	Total area under dumps (Waste + MR)	Nil	Nil	Nil
8	Area under active dumps	Nil	Nil	Nil
9	Dump area fully rehabilitated (out of 8)	Nil	Nil	Nil
10	Area under dead dumps	Nil	Nil	Nil
11	Dump area fully rehabilitated (out of 10)	Nil	Nil	Nil
12	Area under mineral stack	Nil	Nil	Nil

13	Area under road (outside pit)	7.58	Nil	7.58
14	Area under green belt (i.e. plantation on area other than dump and backfilled area)	26.26	8.00	34.26
15	Area under infrastructure	2.02	Nil	2.02
16	Area under Tailing dumps	Nil	Nil	Nil
17	Area under any other use	Nil	Nil	Nil
18	Undisturbed area	303.72	277.75	277.75

5.4 Assessment of Infrastructure Demand

The area is very well developed due to the existing operations of Rain Cement Plant. The required infrastructure is available in the vicinity of the mining block.

5.5 Amenities/Facilities

After commissioning of plant by RCL, there has been an increase in the overall basic facilities such as roads, school, health center etc. A better quality of life for the locals has been created and which is further expected to improve over a period of time. The existing operations (cement plant & mining) have provided many indirect/direct job opportunities to unskilled and skilled workers. Owing to implementation of the mining project in the area there is a positive impact in socio-economic aspects.

6.0 PROPOSED INFRASTRUCTURE

No additional infrastructure envisaged as mine office, work shop, crusher etc which are already existing.

6.1 Industrial Area

Mine Facilities

For maintenance and repair of equipment deployed in the project, workshop facility already exists. Facility planning is required to meet maintenance requirement of additional equipment and storage of spares, sub-assemblies and consumables. Facility planning is based on following scope of services:

HEMM Workshop

- Preventive Maintenance

  a) Daily maintenance, routine lubrication and weekly washing of equipment

  b) Inspection.

  c) Incidental minor repairs of assemblies and sub-assemblies of mining and mechanical equipment, i.e. dumper, dozer, excavator, compressor, drill etc.

  - Scheduled Maintenance

  - Medium repair and replacement of assemblies and sub-assemblies.

- Mobile repair and maintenance facilities with maintenance crew for field equipment at site.

E&M Workshop

- Minor repair, medium repair and replacement of components, assemblies and sub-assemblies of LHP equipment, pumps and other electrical and mechanical equipment.
- Daily washing of LMVs and washing of equipment assemblies and sub-assemblies as and when required.
- Periodical lubrication.
- Repairs and replacement of components / assemblies for LMV.
- Minor and medium repair of switch gears, motors, self-starters and other electrical equipment.
- Battery charging facilities and re-conditioning of batteries.

A combined complex is existing for HEMM, E&M workshop and stores.

The lighting system is envisaged to cover:

- Mine Area;
- Mine Haul Road;
- HEMM Workshop;
- Auxiliary buildings and electrical rooms;
- Buildings perimeter; and
- Administration building and offices and colony

Communication & Management Information System

For effective management of different production & service units and for ensuring safety, the following communication facilities are being maintained:

- Surface Mine Communication System
- Mine Management Information System
- Internet
- LAN

6.2 Residential Area

All necessary and basic infrastructure required for mining operations viz. mines office, rest shelter, first aid station, drinking water and toilet facilities etc. available.

6.3 Green Belt

As on 01-07-2016 afforestation in 26.26 Hectares within the ML has been done. In the next five years period about 10,000 saplings will be planted covering an area of 8.00 hectares inside ML area.

TABLE-10

REQUIREMENT OF SAPLINGS FOR PLANTATION

Year	Location	No. of saplings	Area in Hect.	Remarks
2017-18	North side of pit 2	2000	1.78	-
2018-19	Public Electrical and Railway line Safety zone	2000	1.56	-
2019-20		2000	1.56	-
2020-21		2000	1.55	-
2021- Upto 27.09.2021		2000	1.55	-

The following precautions are taken in enhancing the survival rate of planted saplings.

1) Care is taken to protect the plants from insects by periodical spraying of pesticides.
2) Water sprinklers are provided all along the haul road from which water is provided to the plants.
3) The entire planted area is fully fenced so that no cattle will enter, so that the growth of every plant is fully protected. In addition the plants which are not covered under fencing are provided with guards.
4) As the survival and growth of the plants is effective in monsoon. Hence large no. of plantation is being done in the Monsoon Season.
5) To meet Plantation target the company has set up its own Nursery.
6) Every Year an amount of Rs. 5 Lakhs is spent towards afforestation programme, cumulatively about Rs.25 Lakhs for five years.

6.4 Social Infrastructure

The mine area does not cover any habitation. Hence the mining activities does not involve any displacement of human settlement. No public buildings, places, monuments exist in the lease area or in the vicinity. The mining operations do not disturb/relocate any village or need any resettlement.

6.5 Drinking Water Management

Required water for drinking purpose is being provided from RCL owned RO Plant installed in the mine area.

6.6 Sewerage System

Mining operation in this lease area will not generate any waste water. Water is not used for processing or crushing of limestone. The wastewater is only generated in domestic usage. It is also routed to STP existing in the colony.

6.7 Solid Waste Management

At places, about 0.5 m to 1.0 m thick top soil at the NE corner of the ML area. This top soil are separately excavated and entirely used up for plantation site.

Progressive Soil Management during proposal period is given in **Table-11.**

TABLE-11

PROGRESSIVE SOIL MANAGEMENT DURING PROPOSAL PERIOD (NEXT 5 YEARS)

A	B	C	D	E	F	G	H
Year	**Quantity in stack available in the beginning of year (m^3)**	**Generated during the year (m^3)**	**Total Quantity Available (B+C) (m^3)**	**Quantity used during year (m^3)**	**Balance quantity stored (m^3)**	**Area of use for plantation on BF area, Dump, green belt etc.**	**Remarks on protection measures on stored soil stacks**
2017-18	Nil	5548	5548	5548	Nil	Green Belt	No stack
2018-19	Nil	5405	5405	5405	Nil	Green Belt	No stack
2019-20	Nil	5232	5232	5232	Nil	Green Belt	No stack
2020-21	Nil	9567	9567	9567	Nil	Green Belt	No stack
2021-upto 27.09.2021	Nil	4620	4620	4620	Nil	Green Belt	No stack

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

The mine area does not cover any habitation. Hence the mining activities do not involve any displacement of human settlement. No public buildings, places, monuments exist in the lease area or in the vicinity. The mining operations do not disturb / relocate any village or need any resettlement.

Since no waste will be generated during the ensuing five year period as well as till the entire life of the mine and hence reclamation of mined out area by back filling will not be possible. At the Conceptual Stage about 96.34 hectares shall be degraded. However, the void created by the mining activity will be used as a water reservoir for storing rain water. This pit will therefore act as a good ground water recharge pit. The water can be utilized for afforestation as well as to meet the irrigation needs of the local population. The pit will be properly fenced and trees will be planted all along the periphery. The worked out pits may also be used for fish culture, which will be beneficial to the local people.

Afforestation shall be carried out in the lease area with a view to provide Green belt and to give an aesthetic look and for reducing the impact of fugitive emissions and controlling impact of noise etc. Plantation shall be decided and executed species wise locally. Progressive afforestation during proposal period is given in **Table-10** above**.**

8.0 PROJECT SCHEDULE & COST ESTIMATES

The life of the project is 40 years for the targeted production of 1.60 to 3.94 MTPA. The mine closure activities will commence five years before the scheduled closure of Mine operations. The manpower requirement for carrying out the mine closure activities will be suitably drawn in a phased manner from the existing manpower.

The estimated project cost is around Rs.15.50 crores

9.0 ANALYSIS OF PROPOSAL

The proposed expansion of opencast Limestone 1.60 MTPA to 3.94 MTPA in Rain Cements Limited will supply limestone as a raw material to Rain Cement Plant (Line-I existing & Line-II proposed). This will boost the industrial production of this region and improve the economy of the nation.