EXECUTIVE SUMMARY

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT OF ROUGH STONE QUARRY

(As per EIA Notification, 2006 dated 14.09.2006 and its amendments)

Category: B1 (Cluster)

Extent	:	2.40.0 Ha
S. F. Nos.	:	665 (Part-2)
Village	:	Kamandoddi
Taluk	:	Hosur (Now Shoolagiri Taluk)
District	:	Krishnagiri

PROPONENT

M/s. Thriveni Earth Movers Private Limited

No.22/110, Greenways Road,

Fairlands, Salem District,

Tamil Nadu.

EIA CONSULTANT

AADHI BOOMI MINING & ENVIRO TECH (P) LTD

(QCI/NABET Accredited EIA Organization)

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Executive Summary

1. INTRODUCTION

The applicant, **M/s.Thriveni Earth Movers Private Limited** residing at No: 22/110, Greenways Road, Fairlands, Salem, Tamil Nadu has granted quarry lease vide Rc.No. 101/2016/Mines dated 29.02.2016 by District Collector, Krishnagiri for quarrying Rough Stone, Jelly and sized stones in a Government Land over an area of 2.40.0 hectares, located in S.F.No: 665 (Part-2), Kamandoddi Village, Hosur Taluk (Now Shoolagiri Taluk of Krishnagiri District, Tamil Nadu for the period of 10 years.

The lease was executed on 26.09.2016 for a period of 10 years i.e upto 25.09.2026. This proposal is towards obtaining environmental clearance for Rough stone, Jelly and Sized stones Quarry of M/s. Thriveni Earth Movers Pvt Ltd for the second 5 year of lease period. Scheme of mining plan has been prepared for the second 5 year of lease period and the same was approved vide Roc.No.128/2021/Mines dated 17.02.2021 for production capacity of 426513 m^3 of Rough stone

As per the Environmental Impact Assessment (EIA) Notification dated 14th September 2006, the project falls under 1(a) mining of minerals, Category – B1(cluster) in view of lease area>5 and<100 Ha(Cluster). In view of the above the proponent submitted the online application to SEIAA/SEAC on 17.08.2021. The proposal has been placed in 238th STATE APPRAISAL COMMITTEE MEETING on 13.10.2021 and granted Terms of Reference vide Lr. No. SEIAA-TN/F. No.8495/SEAC/TOR-1056/2022 dated 28.01.2022.

1.1 SCOPE OF THEPROJECT

The proposal for Environmental Clearance of Rough stone quarry of **M/s.Thriveni Earth Movers (P) Limited** requires Draft EIA report for conducting public hearing and Final EIA Report as per Lr. No. SEIAA-TN/F. No.8495/SEAC/TOR-1056/2022 dated 28.01.2022.

1.2 PROJECT DESCRIPTION

Table 1.1 Project Details

Project Details	
Proponent	**M/s. Thriveni Earth Movers (P) Limited**
Total Mine Lease Area	2.40 Hectares (Government Land)
Survey No.	665(Part-2)

Site Location	Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District
Geographical Co-ordinates	Latitude: 12°39'34.5960"N to 12°39'40.0824"N Longitude: 77°56'56.4740" E to 77°57'5.1770"E
Toposheet No.	57-H/14
Elevation	744 above MSL
Accessibility	
Nearest Habitation	240 m - S
Nearest Villages	1. Kamandoddi Village – 4.2km –NW 2. Subbagiri – 3.0km - NWest 3. Onalwadi -1.5km- West 4. Agaram Agraharam -0.5 km- Southeast
Nearest Town	Hosur – 15 km
Nearest Roadway	SH -17 Papparapatti – Somanakalli 4.50 km –SW, NH -7 Krishnagiri – Bangalore 2.80km- NW
Nearest Railway station	Hosur– 18km –NW
Nearest Airport	Bangalore –64km -NW
Environmental Sensitiveness	
Interstate Boundary	Tamil Nadu –Karnataka Interstate Boundary –20km (NW)
Coastal Zone	Bay of Bengal – 225 km – East Hence the area does not attract the C.R.Z. Notification, 1991.
Reserve Forest	1. Sanamavu Reserved Forest – 3.0km - W 2. Settipalli Reserved Forest 3.0km- N No forests are situated within 1.0km radius. The proposed activity does not attract Forest Conservation Act, 1980.
Wildlife sanctuary	Cauvery North Wildlife Sanctuary 15km-S No wildlife sanctuary is located within 10km radius. Hence the area does not attract the Wildlife Protection Act, 1972.
Water bodies	1. Kottur Eri – 610m-NE, 2. Ponnaiyar river-220m - South 3. Chinnar River – 7.0km-E 4. Varadhapuram Lake -5.0km-NE

<table>
<tr><td></td><td>5. Koneripalli Lake -2.4km-N
6. Tuppuganapalli -4.5km-S</td></tr>
<tr><td>Habitations</td><td>
<table>
<tr><th>Name of Village</th><th>Direction</th><th>Distance from Mines (Km)</th><th>Population (Approx.)</th></tr>
<tr><td>Kamandoddi</td><td>NW</td><td>4.2</td><td>6524</td></tr>
<tr><td>Subbagiri</td><td>NW</td><td>3.0</td><td>656</td></tr>
<tr><td>Onalwadi</td><td>W</td><td>1.5</td><td>6656</td></tr>
<tr><td>Agaram
Agraharam</td><td>SE</td><td>0.5</td><td>1219</td></tr>
<tr><td colspan="3">Total</td><td>15055</td></tr>
</table>
</td></tr>
<tr><td>defense Installations</td><td>Nil within 10km radius</td></tr>
<tr><td>Critically Polluted area</td><td>Nil within 10km radius</td></tr>
<tr><td>Quarries around 500m radius (AD Letter furnished)</td><td>Two expired quarries and Three existing quarries found within the 500m radius of existing project site. A.D Letter. No: Roc. No. 129 /2021/ (Mines) dated: 17.02.2021.
Total Cluster area with expired lease: 19.36 ha
Total Cluster area without expired lease: 9.92 Ha</td></tr>
<tr><td colspan="2">Mining Details</td></tr>
<tr><td>Method of Mining</td><td>Open Cast –Mechanized Mining Method</td></tr>
<tr><td>Geological resources</td><td>Rough stone – 881585 m^3, Top soil- 3600 m^3</td></tr>
<tr><td>Mineable reserves</td><td>Rough stone- 426513m^3</td></tr>
<tr><td>Production (100%)</td><td>Rough stone- 426513m^3 for five years or 85303 m^3/annum (Avg)</td></tr>
<tr><td>Top soil</td><td>3600 m^3</td></tr>
<tr><td>Ore: Waste ratio</td><td>1: 0.008</td></tr>
<tr><td>Depth of Mining</td><td>57m (15m above ground level and 42m below ground level)</td></tr>
<tr><td>Water Table</td><td>45- 50m below ground level</td></tr>
<tr><td>Road design</td><td>1:10 inside the pit and ramp
1:16 for transport</td></tr>
<tr><td>Overall Pit Slope</td><td>45°</td></tr>
<tr><td>Period of Lease</td><td>10 Years (26.09.2016 to 25.09.2026)</td></tr>
<tr><td>Existing pit dimension</td><td>
<table>
<tr><th>Length (Max) in(m)</th><th>Width (Avg) in (m)</th><th>Depth (Max) in (m)</th></tr>
</table>
</td></tr>
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	154	93	19
Project Cost	Rs. 293 Lakhs		
EMP Cost	Rs. 20 Lakhs		
CER Cost @ 2% of Project Cost	Rs.6.26 Lakhs		

1.3 Description of the environment

1.3.1 Base line environmental study

Collection of base line data is an integral part of the preparation of environmental impact assessment reports. The baseline monitoring study has been carried out during Oct 1st- Dec31st, 2021 to assess the existing environmental scenario in the area. For the purpose of EIA studies, mine lease area was considered as the core zone and area outside the mine lease boundary up to 10km radius from the lease boundary was considered as buffer zone.

Table No 1.2 Baseline Data

Particulars	Details	Standards
Meteorology (October 1st 2021–December 31st, 2021)		
Rainfall (Avg.)	207 mm (Post Monsoon Season)	--
Temperature (Avg.)	24°C (Post Monsoon Season)	--
Wind speed	2.93 m/s (Post Monsoon Season)	--
Wind Direction	From N, NE, E to S, SW, W	
Ambient Air Quality (NAAQS)		
PM_{10}	38-57 µg/m^3	100 µg/m^3
$PM_{2.5}$	18- 32 µg/m^3	60 µg/m^3
SO_2	4-14 µg/m^3	80 µg/m^3
NO_x	5-20 µg /m^3	80 µg/m^3
Noise Level (CPCB Standards)		
Day time (6:00 am - 10:00 pm)	Core zone – 42.3 – 44.4 dB (A) Buffer zone – 46.3- 48.1dB (A)	**Industrial Area** Day Time - 75 dB (A) **Residential Area** Day Time – 55 dB (A)

Night time (10:00 pm - 06:00 am)	Core zone – 39.5-42.1 dB (A) Buffer zone – 41.8-42.4 dB(A)	**Industrial Area** Night Time – 70 dB(A) **Residential Area** Night Time – 45 dB (A)
Water Quality IS 10500:2012 (Desirable limits)		
pH	6.80-7.53	6.5 to 8.5
TDS	480-864 mg/l	500 mg/l
Electrical conductivity at 25˚C	847-1496	-
Total Hardness as $CaCO_3$	265-561 mg/l	200 mg/l
Total suspended solids	4-6 mg/l	-
Chlorides Cl	178-317mg/l	250 mg/l
Total iron Fe	0.12-0.2mg/l	0.3mg/l
Sulfates SO_4	10-63mg/l	200 mg/l
Soil Quality		
pH	6.61-7.5	Neutral in nature
Bulk density	1.0212-1.0699 g/cc	Favorable physical condition for plant growth
Hydro Geology		
Depth of Mining	57 (15m above ground level and 42m below ground level).	
Water Table	45-50 bgl	

1.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

1.4.1 Air Environment

The air borne particulate matter is the main air pollutant by opencast mining. The mining operation will be carried out by jack hammer drilling, blasting, excavation, loading and transportation.

Total predicted 24-h maximum GLC of PM_{10} at project site for scenario 1 i.e. loading-unloading, transportation & open pit and scenario 2 i.e. Blasting was 62.8 µg/m^3 and 56.3 µg/m^3 respectively after superposition of base-line value 53 µg/m^3 over the incremental GLC 9.8 µg/$m^3$and 3.3 µg/m^3 respectively due to combined impact of loading, unloading, open pit and transportation over the haul road and due to blasting.

Total predicted 24-h maximum GLC of $PM_{2.5}$ at project site for scenario 1 and scenario 2 was 26.9µg/m^3 and 26.1µg/m^3 respectively after superposition of base-line value 25µg/m^3 over the incremental GLC 1.9 µg/$m^3$and 1.1 µg/m^3.

The predicted incremental GLC of SO_x and NO_x for scenario 3 i.e. due to the operation of excavator and movement of vehicle in the project site were found to be 1.6µg/m^3 and 2.5µg/m^3. Therefore the total predicted GLC of SO_x and NO_x will be 8.6µg/m^3 and 10.5µg/m^3 respectively.

Maximum Impact of PM_{10}, $PM_{2.5,}$ SO_x and NO_x was observed close to the source within the lease area due to moderate wind speeds.

1.4.2 Noise Environment

Noise pollution poses a major health risk to the mine workers. The sources of noise in the proposed open cast rough stone & Jelly quarry are such as Drilling, Blasting, and during movement of vehicles.

The noise generated by the mining activity is dissipated within the core zone. This is because of distance involved and other topographical features adding to the noise attenuation. From the results, it can be seen that the ambient noise levels (day time and night time) at all the locations will remain within permissible limits prescribed by CPCB and 90dB (A) norms of DGMS. At present there is no mining activity carried out. However, the expected noise levels are not likely to have any effect. Precaution will be made to keep down the noise exposure level of 85 dB (A) to the operating personnel for 8 hrs duration. It is found that that the PPV for the charge per blast of 75kg is well above 5mm /s. So EIA Consultant ABM Enviro Tech Pvt Ltd recommended M/S. THRIVENI EARTH MOVERS (P) LTD to use explosives less than 50kg/blast to keep the PPV within the 5mm/s. However, as per statutory requirement additional control measures needs to be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

1.4.3 Water Environment

Mining operations can affect groundwater quality in several ways. The most obvious occurs in the mining below the water table, either in underground workings or open pits. This provides a direct conduit to aquifers. Groundwater quality is also affected when waters (natural or process waters or wastewater) infiltrate through surface

materials (including overlying waste or other material) into ground water. But this rough stone & Jelly quarry is devoid of any such impacts.

The impact due to mining on the water quality is expected to be insignificant because of no use of chemicals or hazardous substances during mining process. The water sample from core zone and Addakurukki village has high TH, TDS and chlorides which are well beyond the acceptable limits. The surface water sample from Pathakotta village has high TH value also the values of other parameters are very near to acceptable limits. All water samples contain Total Coliform in the range of 23MPN/100ml, 30MPN/100ml and E.coli was found absent. Based on the Water Quality Index calculated, water quality in Core zone and Addakuruchi village is very poor which is not suitable for the drinking purpose. Then the water quality in Pathakottai village (Ponnayar River) is found poor and that is also not suitable for drinking purpose. The water in above three locations are suitable for drinking purposes only after the proper treatment such as reverse osmosis process. Boiling of water will remove the microorganisms effectively from all waters in the above said villages and core zone making the water aseptically fit for drinking purposes.

1.4.4 Soil Environment

There is no toxic element present in the mineral which may contaminate the soil. The maintenance work of all machineries and transporting vehicle will be takes place only in workshop. The quantity of top soil generation for the next five years is 3600 m^3 which will be utilized for greenbelt development.

1.4.5 Waste Dump

The proposed rate of production of Rough stone & Jelly for five years is about 426513 m3 at the rate of 100% recovery up to permissible depth. There is no rough stone rejects anticipated during this quarry operation, hence waste dump is not proposed in this lease applied area.

1.4.6 Biological Environment

There are no notified endangered species in the area, which may be affected due to the quarry activities; therefore the biological environment will not have significant impact due to quarrying activity. The impact on the biological environment due to amount of dust generation is minimized by well-developed green belt in and around quarry lease area.

1.4.7 Land Environment

The proposed mining activity will be take place in the existing quarry. The dimension of the existing pit is 154x93x19. The extent of pit and depth of pit will be increased in the proposed mining plan period. The impact on the topography in the form of changed landscape is unavoidable during mining activities like excavation, overburden dumping, soil extraction etc. Land requirement for the project has been assessed considering functional needs. So reclamation of mined out land will be given due importance as a step for sound land resource management. No release of toxic elements into the ground. No adverse impact is anticipated on land use of buffer zone associated due to the mining activity, as all the activities will be confined within the project site. The mining operations will impact the land usage and land aesthetics of mine lease area.

The land use analyses show that the area is of predominantly Agriculture followed by buffer zones of the study area, which clearly indicates that the development of agriculture land increases over a period of time. At the end of the project, the quarried pit will be act as water storage pond. The stored water will be used for developing agricultural activity around the mining lease area. It will improve the livelihood of village people. The evaporation rate of the water in the pit is given detail in the report.

1.4.8 Socio Economic Environment

The quarrying activity will definitely increase the employment opportunity (directly as well as indirectly) in the project area. Some of these impacts would be beneficial. The expectation of the people of area is concerned towards employment, education, road and health facilities. The literacy rate may be increased with the economic benefits which may arise from the quarrying activities.

Direct Employment – 37 person
Indirect Employment – 100 person

Indirect employment is that people will keep shops such as tea shops, hotels, spare parts store, mechanic shed, etc. around the quarry depending on the proposed projects. Population rate is increased day by day in India. It is necessary to create employment to all people for their livelihood and country's economic development.

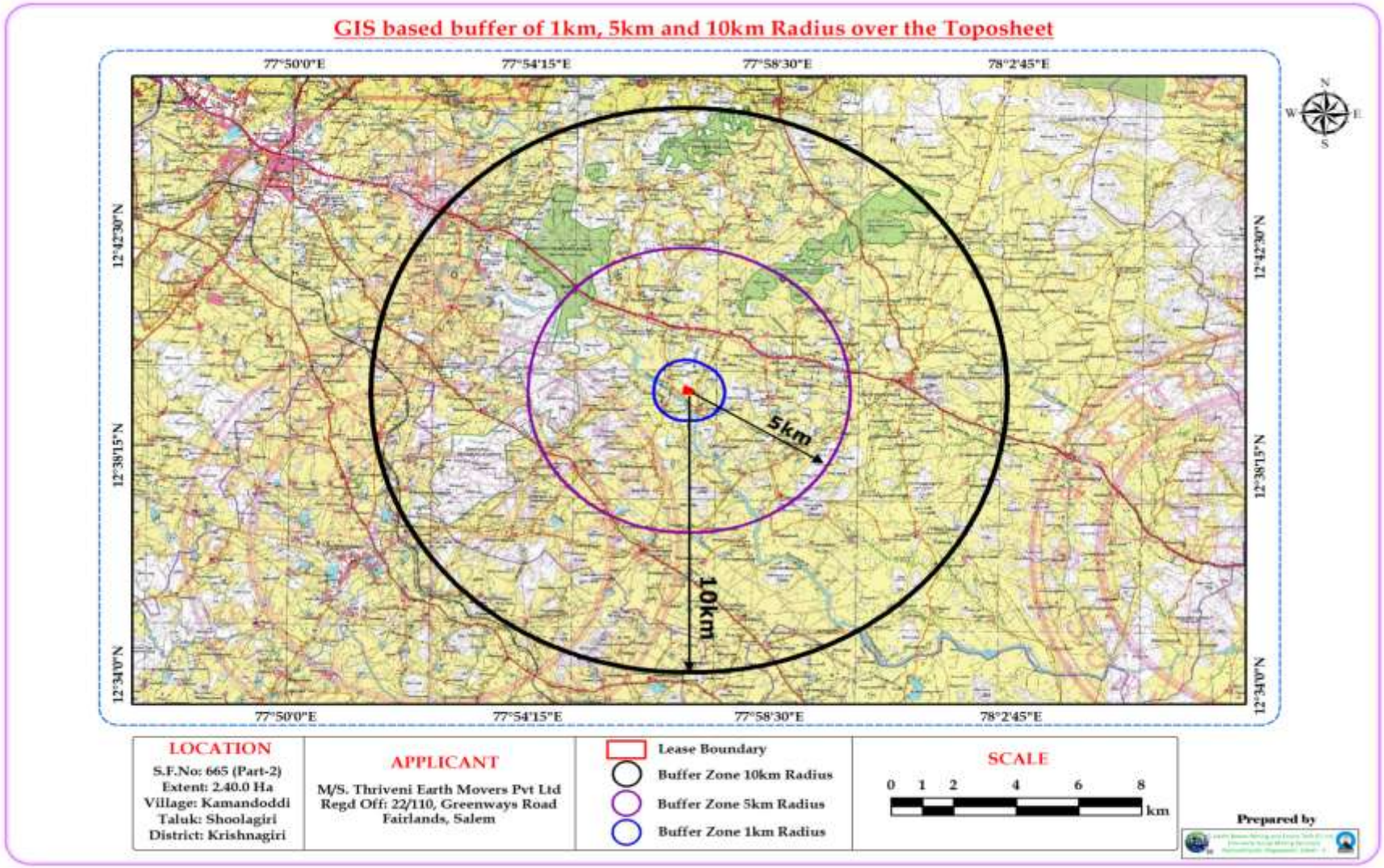

Fig No 1.1 Toposheet showing location of the lease area

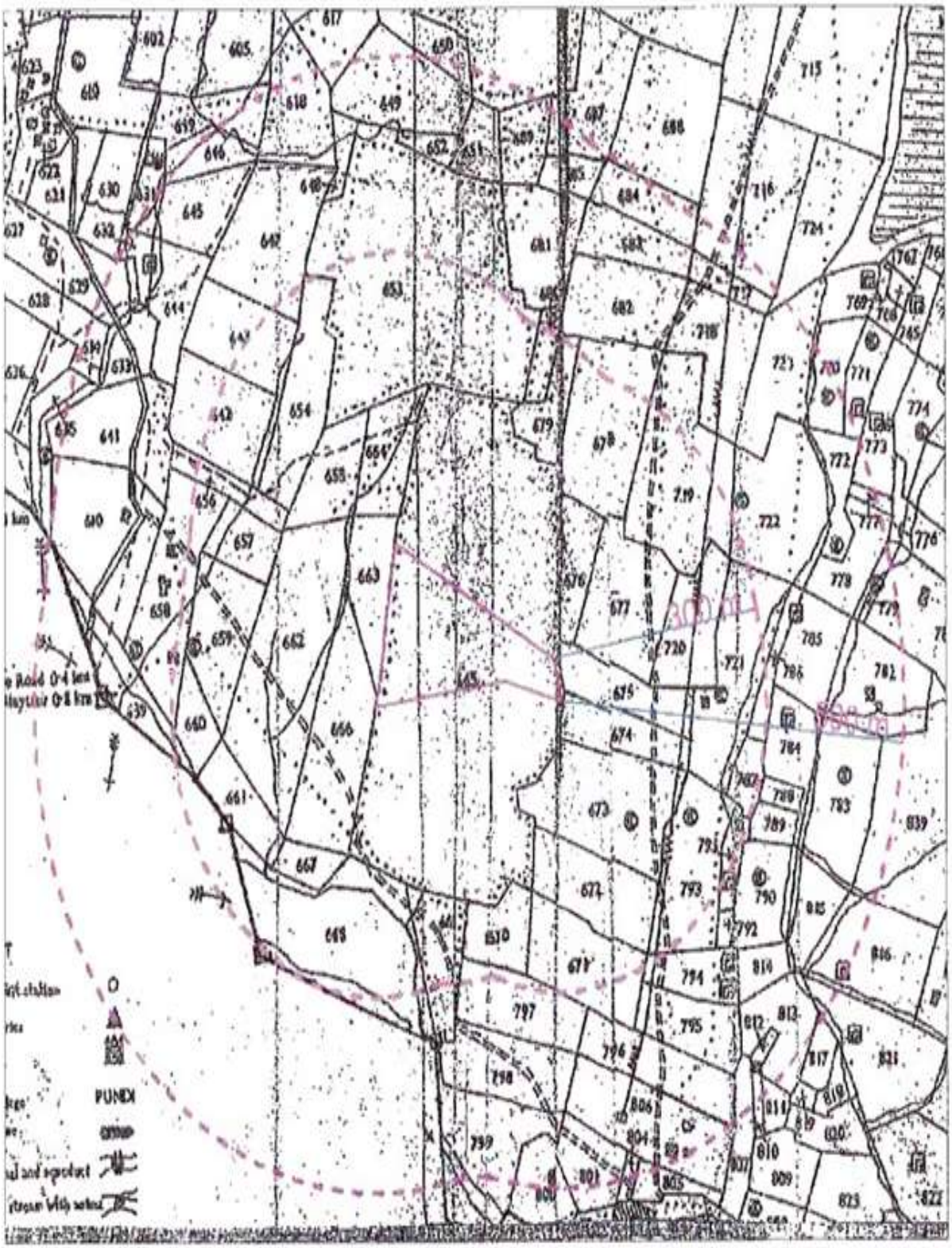

Fig No 1.2 Village Map

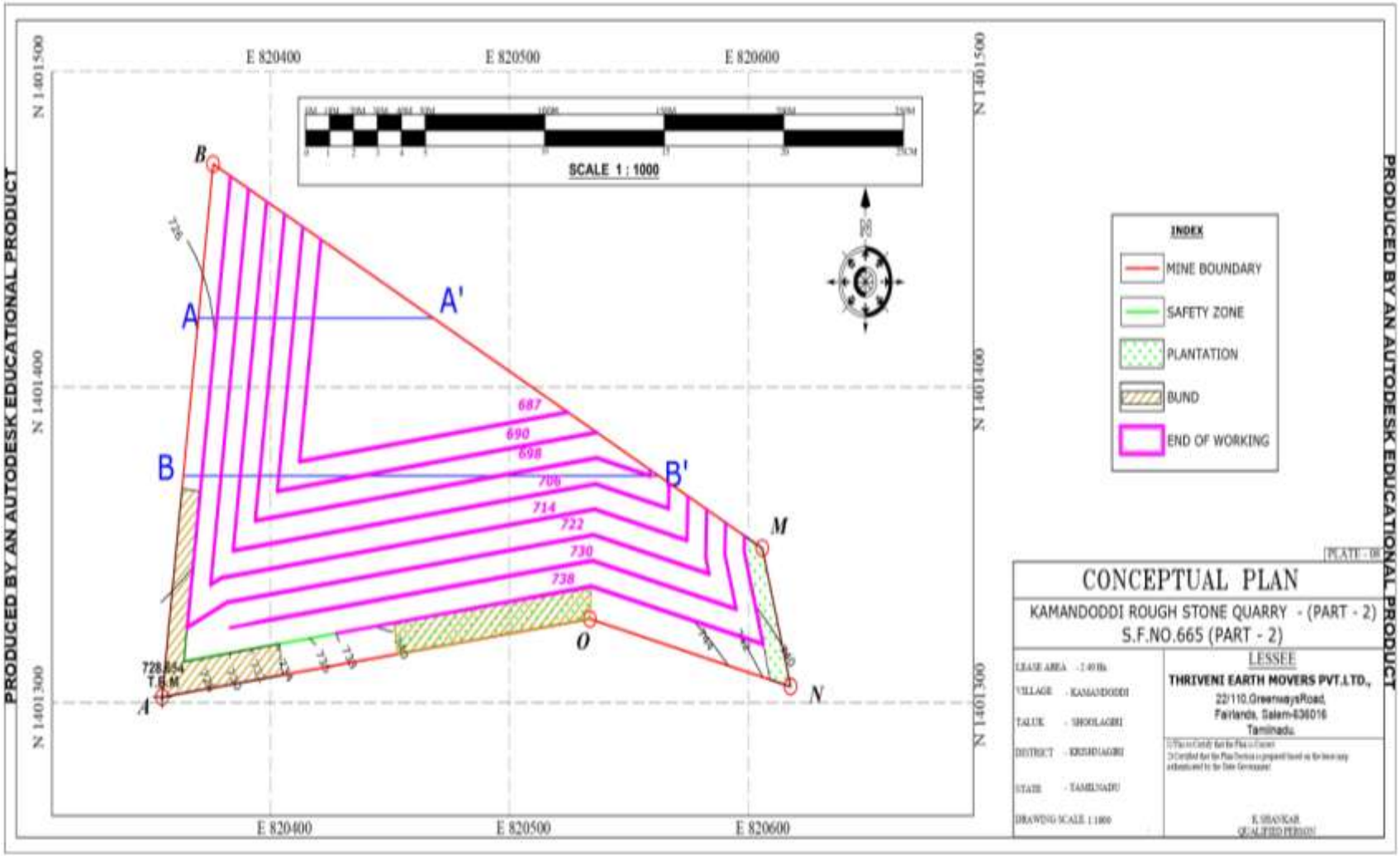

Fig No 1.3 Conceptual Mining Plan/ Final Mine Closure Plan of the proposed activity

Table 1.3 Environmental Management Plan

S.No	Parameters	Mining Activity	Mitigation measures
1	Air Environment	Drilling	✓ Dust extractor or wet drilling to be followed to control dust at source of emission ✓ Use of Sharp drill bits for drilling holes and charging the holes by using optimum charge and using time delay detonator
		Blasting	✓ Regular water sprinkling on blasted heaps at regular intervals will help in reducing considerable dust pollution
		Loading	✓ Water sprinkling be done before loading by making it moist
		Transportation	✓ Water sprinklers along the sides of haul road shall be fixed to control fly of dust while transporting minerals and waste ✓ Overloading will be prevented ✓ Trucks/Dumpers covered by tarpaulin covers
		DG Sets	✓ DG sets will be used only during power failure ✓ Adequate stack height for DG sets will be provided as per CPCB norms
		General measures	✓ Avenue trees along roads around ML boundary shall

			be planted as per the norms of MoEF to control fly of dust. ✓ Labours engaged in such dust prone areas should be provided with safety devices like ear muff, mask, and goggles as per the MMR, 1961 amendments and circulars of DGMS. ✓ Regular health check–up of workers and nearby villagers in the impacted area should be carried out and also regular occupational health assessment of employees should be carried out as per the Factories Act ✓ Ambient Air Quality Monitoring will be conducted on regular basis to assess the quality of ambient air.
2	Water Environment	Surface water	✓ Wastewater discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes.
		Ground water	✓ The mining activity will not intersect the ground water table ✓ Desilting will be carried out before and immediately after the monsoon season
		Storm water	✓ Pit will be used for Storage of rainwater ✓ Rain water will be collected in sump in the mining pit and will be allowed to store and pumped out to surface setting tank of 15 m x 10m x 3m to remove

			suspended solids if any. This collected water will be judiciously used for dust suppression onwards and such sites where dust likely to be generated and for developing greenbelt. ✓ The proponent will collect and judicially utilize the rain water as part of rain water harvesting
		General measures	✓ Regular monitoring and analyzing the quality of water
3	Noise Environment	Drilling	✓ Limiting time exposure of workers to excessive noise
		Blasting	✓ Carrying out blasting only during day time and not on cloudy days ✓ Noise levels will be controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes. ✓ Providing proper noise proof enclosure for the workers separated from the noise source and noise prone equipment
		Transportation	✓ Proper and regular maintenance of vehicles, machinery and other equipments. ✓ The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments. ✓ Speed of trucks entering or leaving the mine will be limited to moderate speed to prevent undue noise

			from empty vehicles. ✓ Adequate silencers will be provided in all the diesel engines of vehicles. ✓ Minimum use of horns and speed limit of 10 km/hr in the village area. ✓ It will be ensured that all transportation vehicles carry a valid PUC Certificates
		General measures	✓ Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas ✓ Provision of Quiet areas, where employees can get relief from workplace noise. ✓ The development of green belts around the periphery of the mine to attenuate noise. ✓ Regular medical check–up and proper training to personnel to create awareness about adverse noise level effects.
4	Vibration	Blasting	✓ No deep hole blasting envisaged. ✓ Small dia shot holes are used for breaking boulders. ✓ Specific charge pattern has to be designed by proper trial vibration studies with varying charge ratios as perstudies. ✓ If the vibration still exceeds the limit a long Trench to a depth of 6m may cut in the direction of wave's

			movement to break longitudinal waves which travel close to surface, preferably near mine buffer zone ✓ In spite of all measures periodical testing of vibration and noise using approved seismograph by DGMS has to be followed as a part of Environmental monitoring
5	Soil Environment	Topsoil	✓ Humus top soil shall be preserved for reuse in afforestation and agriculture ✓ Top soil should not be mixed with other waste or reject materials. It should be conserved by judicious utilization in the quarry premises ✓ Garland drains will be provided around the mine and dumps to arrest any soil from the quarry area being carried away by the rain water. This will also avoid the soil erosion and siltation in the mining pits and maintaining the stability of the benches
6	Waste Dump	No dumps for the next five years	✓ Nil
7	Plantation	Mine lease boundary and waste dump	✓ Provision of green belt all along the periphery of the lease area for control of dust and to attenuate noise ✓ Stabilization of Dump with plantation ✓ It is strongly recommended that the loss of plant in each year will be counted and again planted in subsequent plantation. ✓ The plant should be planted taken from nursery, where

			the survival rate is high.
8	Land Environment		✓ The restoration of the degraded land would cover backfilling and terracing with the overburden / wastes and surfacing the same with topsoil. ✓ Provision of Garland drainage around the dumps ✓ Fast growing trees and other native shrubs would be planted to stabilize the reclaimed land ✓ Appropriate measures will be taken for Green belt development. ✓ The rain water will be stored in the pit which will recharge the ground water as a part of rainwater harvesting scheme for irrigating the nearby agricultural lands.
9	Socio Economic		✓ Good maintenance practices will be adopted for machinery and equipment, which will help to avert potential noise problems. ✓ Green belt will be developed in and around the project site as per Central Pollution Control Board (CPCB) guidelines. ✓ Drilling, blasting etc at specified location will be followed with proper schedule. ✓ Appropriate air pollution control measure will be taken so as to minimize the environmental impact within the core zone.

			✓ An emergency preparedness plan will be prepared in advance, to deal with firefighting, evacuation and local communication. ✓ For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices has been provided which meet 'BIS' (Bureau of Indian Standards). ✓ As a part of CSR activities, community welfare activities will be undertaken by the proponent which leads to socioeconomic
10	Occupational Health		✓ First-aid facilities as per provisions under Rule (44) of Mines Rules1955 ✓ Initial and Periodical medical examination shall be conducted for the employees under Rule 29B & 45 (A). ✓ Insurance will be taken in the name of the labourers working in the quarry ✓ Workers involved in quarrying work shall be provided protective equipment's such as Thick Gloves, Goggles, ear plugs, safety boot wears, etc…

1.5 Analysis of Alternatives

The quarrying site is dependent on the geology and mineral deposition of the area. Hence, this project is, mineral and site specific and no alternative site considered for this project.

1.6 Environmental Monitoring Program

Environmental Monitoring program will be conducted for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by SEIAA & Consent to Operate issued by TNPCB.

Table No: 1.4 Post Project Environmental Monitoring Program

S. No.	Environment Attributes	Location	Monitoring		Remarks
			Duration	Frequency	
1	Meteorology and Air Quality	Continuous monitoring weather station in core zone/ nearest IMD station	24 hours	Monthly Once	Wind speed, direction, Temperature, Relative humidity and Rainfall.
2	Air Pollution Monitoring – $PM_{2.5}$, PM_{10}, SO_2 and NO_x	6 locations (One station in the core zone and at least one in nearby residential, area, one in the upwind, two station on the downwind direction and one in cross wind Direction).	8 hours	Six Month Once	Fine Dust Sampler and Respirable Dust Sampler
3	Water Pollution Monitoring	Mine effluents, Set of grab samples during pre and post monsoon for ground and surface water in the vicinity.	–	Six Month Once	Physico–chemical, microbiological characteristics

4	Hydrogeology	Water level in open wells in buffer zone around 1kmat specific wells	-	Once in 6 months	Water level monitoring devices may be used
5	Noise	Mine Boundary, High noise generating areas within the lease and at the nearest residential area	24 hours	Monthly Once	Sound level meter
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Digital Seismograph
7	Soil	Core Zone and Buffer zone (Grab samples)	–	Six Month Once	Physical and Chemical characteristics

1.7 Project Benefits

The proponent is very much conscious of their obligations to society at large. Under plantation program, it is suggested to develop green belt further all along the boundary of quarry lease area. Apart from the green belts and aesthetic plantation for eliminating fugitive emission and noise control, all other massive plantation efforts will be executed with the assistance of experts and cooperation of the local community. The quarrying activity will create rural employment. In addition there will be indirect employment to many more people in the form of contractual jobs like construction of infrastructural facilities, transportation of rough stone and Jelly to destinations, sanitation, supply of goods and services to the mine and other community services, etc…The local population will have preference to get an employment. Part of the royalty is given to local bodies by the State Govt. for the welfare and development of the village. The proponent help in socio economic development of the village by providing education facilities to children's, procuring sports equipments, welfare amenities like drinking water to school, road facilities to villages and employment opportunities to nearby villagers. CSR budget is allocated as 2.5% of the profit.

1.8 Environmental Management Plan

The Environmental Management Plan (EMP) must be integrated into the process of quarry planning so that the ecological balance of the area is well maintained and adverse effects are minimized. EMP includes all preventive as well as mitigation measures to minimize the impacts on the environment. The Quarry Plan is for the production of Rough Stone without deep hole drilling and blasting. Only controlled blasting is undertaken. Such limited quarrying activity is not likely to cause any impact adversely on the environment as far as pollution of air, water, land and noise is concerned.

1.9 Conclusion

As discussed, it is safe to say that the project is not likely to cause significant impact on the ecology and environment of the area, as adequate preventive measures will be adopted to contain the pollutants within permissible limits. The total operation shall be carried out with ease & minimum risk of the workers. The proposed Environmental Management Plan will keep the area in a safe environment with negligible impact on the environment. Plantation will substantiate the impact due to the quarrying activity. Mining activity will help in improving the socio–economic benefits in areas like employment, communication and infrastructure development etc.