

TERMS OF REFERENCE (ToR) COMPLIANCE

ToR File No.11424

ToR Identification No. TO25B0108TN5385770N, dated. 17/06/2025,

Thiru. Thiru.Madhu Srinivasan, Rough Stone Quarry,

1. Seiaa Specific Conditions

S. No	Terms of Reference		Remarks
1.1	1	The Authority noted that the subject was placed in the 564th meeting of SEAC-I held on 13.05.2025. After detailed discussions, the Authority accepts the recommendation of SEAC-I and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 1,07,087m ³ of Rough Stone up to the depth of 55 m (15m AGL + 40m BGL) as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC-I & normal conditions & the conditions mentioned below	

2. Seiaa Standard Conditions:

S.No	Terms of Reference	Remarks
Cluster Management Committee		
1	Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	A cluster management committee including all the proponents of the rough stone quarrying projects within the cluster of 500 m radius will be constituted for the effective implementation of green belt development plan, water sprinkling, blasting, etc.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.	The members of the cluster management committee will be instructed to carry out EMP in coordination.

3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	The list of members of the committee formed will be submitted to AD/Mines before the execution of mining lease.
4	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	All the information has been discussed in Section 2.6 under Chapter II in the EIA report page 19-25.
5	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	It will be informed to the committee.
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	It will be advised to the cluster management committee to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised will be given in detail.
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	A proper action plan regarding the restoration will be followed by the committee.
8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity.	The information on the health of the workers and the local people will be updated periodically.
Agriculture & Agro-Biodiversity		

9	Impact on surrounding agricultural fields around the proposed mining Area.	There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly, as shown in Section 4.6 under Chapter IV in the EIA report page 118-123.
10	Impact on soil flora & vegetation around the project site.	The details on flora have been provided in Section 3.6 under Chapter III in the EIA report page 73-92. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
11	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Details of vegetation in the lease area have been provided in Section 3.6 under Chapter III in the EIA report page 73-92. Details about transplantation of plants have been provided in Section 4.6 under Chapter IV in the EIA report page 118-123.
12	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks	The ecological details have been provided in Section 3.6 under Chapter III in the EIA report page

	and suggest measures to maintain the natural Ecosystem.	73-92 and measures have been provided in Section 4.6 under Chapter IV in the EIA report page 118-123.
13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	All the essential environmental protective measures will be followed by the proponent to manage the surrounding environment and restore the ecosystem, as discussed in Chapter IV in the EIA report page 107-126.
14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	The impact of project on the land environment has been discussed in Section 4.1 under Chapter IV in the EIA report page 107.
Forests		
15	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	The project proponent shall do barbed wire fencing work and develop a green belt around the lease area to prevent wildlife from entering the site.
16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The impacts of the project on ecology and biodiversity have been discussed in Section 4.6 under Chapter IV in the EIA report page 118-123.
17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	The impacts of the project on standing trees and the existing trees have been discussed in Section 4.6 under Chapter IV in the EIA report page 118-123.
18	The Environmental Impact Assessment should study impact on protected areas, Reserve	The protected areas, National Parks, Corridors and Wildlife

	Forests, National Parks, Corridors and Wildlife pathways, near project site.	pathways near project site within 10 km radius has been provided in Table 3.44 under Chapter III in the EIA report page 104.
19	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	The detailed hydro-geological study report will be submitted in final EIA report.
20	Erosion Control measures.	Garland drainage structures will be constructed around the lease area to control the erosion, as discussed in Section 4.3 under Chapter IV in the EIA report page 108-109.
21	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.	The matter has been discussed under Chapter IV in the EIA report page 107-126.
22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	An analysis for food chain in aquatic ecosystem has been discussed in Section 3.6 under Chapter 3 in the EIA report page 73-92.
23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	The impacts of the proposed project on the surrounding environment have discussed in

		Chapter IV in the EIA report page 107-126.
24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	The impact of the proposed project on aquatic plants and animals in water bodies has been discussed in Section 4.6 under Chapter IV in the EIA report page 118-123.
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	The impact of mining on soil environment has been discussed in Section 4.2 under Chapter IV in the EIA report page 108.
26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	The impacts on water bodies, streams, lakes have been discussed in Section 4.3 under Chapter IV in the EIA report page 108-109.
27	The EIA shall include the impact of mining activity on the following:	
	a. Hydrothermal / Geothermal effect due to destruction in the Environment	a. The average geothermal gradient of earth is 25 ⁰ C/km. As the proposed depth of mining is 36m below the local ground level, the temperature will increase by 0.9 ⁰ C at the depth of mining.
	b. Bio-geochemical processes and its foot prints including environmental stress.	b. No, Bio-geochemical processes and its foot prints including environmental stress are anticipated and at the end of life of mine the proposed quarry shall be left as an artificial reservoir structure and allowed to collect rain water and shall enrich the ecosystem.

	c. Sediment geochemistry in the surface streams	c. The details of sediment geochemistry are discussed in the Table 3.4 under Chapter III in the EIA report page 40.
Energy		
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	The measures taken to control noise, air, water, and dust have been given under Chapter IV in the EIA report page 107-126.
29	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	The carbon emission and the measures to mitigate carbon emission have been discussed in Section 4.6 under Chapter IV in the EIA report page 118-123.
30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features.	The matter has been discussed in Chapter IV in the EIA report page 107-126.
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	There is no emission impact to local livelihood from this quarry project. All the vehicles used for transportation of the quarry materials will be maintained regularly to keep the GHGs emissions within statutory limits.
32	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	A progressive mine closure plan has been attached with the approved mining plan report in Annexure III. The budget details for the progressive mine closure

		plan are shown in Table 2.9 under Chapter II in the EIA report page 22.
EMP		
33	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	A detailed Environment Management plan has been given under Chapter X in the EIA report page 148-154.
34	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	A detailed Environment Management plan has been given in Tables 10.1 & 10.2 under Chapter X in the EIA report page 148-154.
Risk Assessment		
35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	The risk assessment and management plan for this project has been provided in Section 7.2 under Chapter VII in the EIA report page 132-134.
Disaster Management Plan		
36	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/unfavorable accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII in the EIA report page 135-136.
Others		

37	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.	The VAO certificate is attached in the Annexure IV.
38	As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	The concerns raised during the public consultation will be submitted in final EIA report.
39	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	The plastic waste management has been given in Section 7.5 under Chapter VII in the EIA report page 142-143.

SEAC Specific Conditions

S.No	Terms of Reference	Remarks
1	As committed by the PP, a detailed plan for formation of proper, scientific re-alignment of benches should be submitted along with the EIA Report	The revised mining plan is attached in Annexure III.
2	The PP should submit a valid Certified Compliance Report (CCR) from the RO, MoEF&CC for the EC obtained earlier	The certified compliance report will be submitted in final EIA report.
3	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of required statutory personnel, appropriate environmental	

	management, system of maintaining the haul roads and village/panchayat roads, authorized blasting operation, Monitoring system of the environmental & other statutory compliances & its reporting methodology, etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal:		
	(i)	Copy of the agreement forming CMC.	The Cluster Management Committee (CMC) regarding following these conditions and same documents will be submitted during the EIA appraisal meeting
	(ii)	The Organisation chart of the Committee with defining the role of the members	
	(iii)	The ‘Standard Operating Procedures’ (SoP) executing the planned activities	
4	The Geo referenced Boundary pillars to be erected on the field as per the mine rules and the evidence should be submitted along with the EIA report		The boundary pillars evidence will be submitted in final EIA report along with CCR.
5	The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan		The photocopy of greenbelt, garland drainage, fencing, safety distance between the adjacent quarries & water bodies will be submitted in final EIA report.
6	The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed and existing quarry wall		The Conceptual working plan is discussed in section 2.6 under chapter II in the EIA report page 19-25.
7	The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report		The photographic / videographic evidence of CCTV installation will be submitted in final EIA report.

SEAC Standard Conditions:

S.No	Terms of Reference	Remarks
1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:	The Existing pit letter will be submitted in final EIA report.
	(i) Original pit dimension	
	(ii) Quantity achieved vs EC Approved Quantity	
	(iii) Balance Quantity as per Mineable Reserve calculated.	
	(iv) Mined out Depth as on date Vs EC Permitted depth	
	(v) Details of illegal/illicit mining	
	(vi) Violation in the quarry during the past working.	
	(vii) Quantity of material mined out outside the mine lease area	
	(viii) Condition of Safety zone/benches	
	(ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	
2	Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.	The VAO certificate is attached in Annexure IV.
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as	The map showing the details of structures within the radius of 500m is shown in the Figure 4.3 under Chapter IV in the EIA report page 108-109.

	dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc	
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.	Detailed hydrological study will be submitted in the final EIA report.
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	The details of Bio diversity from the reputed institution will be submitted in the final EIA report.
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc, up to a radius of 25 km from the proposed site.	The DFO letter will be submitted in the final EIA report.
7	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research /	The Slope Stability report will be submitted in final EIA report.

	Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.	
8	However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.	The Slope Stability report will be submitted in final EIA report.
9	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	The affidavit for blasting will be submitted in the final EIA report.
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	A conceptual design of blasting has been given in Section 2.6.6 under Chapter II in the EIA report page 22.
11	The EIA Coordinators shall obtain and furnish the details of quarry/quarries	The details and the photographic evidence showing the project

	operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	proponents of past mining activities will be submitted in the final EIA report.
12	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,	
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	The Existing pit letter will be submitted in final EIA report.
14	Quantity of minerals mined out.	
	Highest production achieved in any one year.	
	Detail of approved depth of mining.	
	Actual depth of the mining achieved earlier.	
	Name of the person already mined in that leases area.	
	If EC and CTO already obtained, the copy of the same shall be submitted.	
	Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Toposheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	All corner coordinates of the mine lease area have been superimposed on a high-resolution Google Earth Image, as shown in Figure 2.3 under Chapter II in the EIA report page 12.

16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.	The drone video will be submitted during final presentation.
17	The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	Photographs of adequate fencing, green belt along the periphery of the project area and the photographs showing nearby water bodies will be included in final EIA report.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	The Resources and Reserves of Rough Stone were calculated based on cross-section method by plotting sections to cover the maximum lease area for the proposed project. The details reserve estimation has been shown in Table 2.3 under Chapter II in the EIA report page 16.
19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Details of manpower required for this project have been given in Table 2.14 under Chapter II in the EIA report page 26.
20	The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such	The hydrogeological study is discussed in the Section 3.3.3 under Chapter III in the EIA report page 48-57.

	as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.	
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.	The baseline data were collected for the environmental components including land, soil, water, air, noise, biology, socio-economy, and traffic and the results have been discussed under Chapter III in the EIA report page 29-106.
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Results of cumulative impact study due to mining operations are given in Section 7.4 under Chapter VII in the EIA report page 136-142.
23	Rain water harvesting management with recharging details along with water	As part of rainwater harvesting measures, the rain water from garland drainage system will be diverted to

	balance (both monsoon & non-monsoon) be submitted.	nearby check dams after treating the water in settling tanks. The detailed rain water harvesting report will be submitted in the final EIA report.
24	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.1 under Chapter III in the EIA report page 29-36. The details of surrounding sensitive ecological features have been provided in Table 3.34 under Chapter III in the EIA report page 104. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 2.8 under Chapter II in the EIA report page 22.
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	This condition is not applicable to this project because no dumps have been proposed outside the lease area.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.

	the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	As part of rainwater harvesting measures, the rain water from garland drainage system will be diverted to nearby check dams after treating the water in settling tanks.
28	Impact on local transport infrastructure due to the Project should be indicated.	Details regarding the impact of the project on traffic are given in Section 3.8 under Chapter III in the EIA report page 102-103.
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	A detailed tree survey was carried out within 300 m radius and the results have been discussed in Section 3.6 under Chapter III in the EIA report page 73-92.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	A progressive mine closure plan has been attached with the approved mining plan report in Annexure III. The budget details for the progressive mine closure plan are shown in Table 2.9 under Chapter II in the EIA report page 22.
31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	The EIA coordinator and the FAE for ecology and biodiversity visited the study area and educated the local students about the importance of protecting the biological environment.

32	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	A detailed greenbelt development plan has been provided in Section 4.6 under Chapter IV in the EIA report page 118-123.
33	Taller/one year old Saplings raised in appropriate size of bags; preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	The FAE of ecology and biodiversity has advised the project proponent that saplings of one year old raised in the eco-friendly bags should be purchased and planted with the spacing of 3 m between each plant around the proposed project area as per the advice of local forest authorities/botanist.
34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan for the project has been provided in Section 7.3 under Chapter VII in the EIA report page 135-136.
35	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of	A risk assessment plan for the project has been provided in Section 7.2 under Chapter VII in the EIA report page 132-134.

	the proposed quarry (or) till the end of the lease period.	
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been discussed in detail in Section 4.8 under Chapter IV in the EIA report 123-125.
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII in the EIA report page 145-146.
38	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 16 people directly as discussed in Section 8.1 under Chapter VIII in the EIA report page 144.
39	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation is pending in any court against this project.

40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	The benefits of the project are discussed in the Chapter VIII in the EIA report page 144-146.
41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	The Certified Compliance Report will be submitted in final EIA report.
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	A detailed environment management plan has been prepared following the suggestion made by SEAC, as shown in Chapter X in the EIA report page 148-154. The sworn affidavit stating to abide the EMP for the entire life of mine will be submitted in final EIA report. The EIA report has been prepared keeping in mind the fact that concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may lead to withdrawal of this terms of reference besides attracting penal provisions in the Environment (Protection) Act, 1986.

A. Standard Terms of Reference

S.No	Terms of Reference	Remarks
1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994	Not applicable. This is not a violation category project. This proposal falls under B1 category.
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	The proposed site for quarrying is a Government Poramboke land.
3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee	All the documents are in the name of the lessee.
4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)	All corner coordinates of the mine lease area have been superimposed on a high- resolution Google Earth Image, as shown in Figure 2.3 under Chapter II, p.12.
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the	Toposheets of Survey of India have been used for showing sampling locations of air, soil, water, and noise, as shown in Chapter III.

	area, important water bodies, streams and rivers and soil characteristics	
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority	The lease area was inspected by the officers of Department of Geology along with revenue officials and found that the land is fit for quarrying under the policy of State Government.
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report	The proponent has framed Environmental Policy and the same has been discussed in Section 10.1 under Chapter X, pp.148-154.
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided	It is an opencast quarrying operation proposed to operate in Manual method. The Rough Stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with

		90 ⁰ bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate. Necessary permissions will be obtained from DGMS after obtaining Environmental Clearance.
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period	The study area considered for this study is of 5 km radius for air, soil, water, and noise level sample collections, while the study area is 10 km radius for ecology and biodiversity studies and all data contained in the EIA report such as waste generation etc., is for the life of the mine / Lease period.
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.1 under Chapter III, pp.29-36. The details of surrounding sensitive ecological features have been provided in Table 3.44 under Chapter III, p.104. Land use plan of the project area showing pre- operational, operational and post-operational phases are discussed in Table 2.8 under Chapter II, p.22.

11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given	It is not applicable as no dumps have been proposed outside the lease area.
12	Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees	It is not applicable as there is no forest land involved within the proposed project area. The details have been discussed in Table 3.44 under Chapter III, p.104.
13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished	It is not applicable as the proposed project area does not involve any forest land.
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006 as there are neither forests nor forest dwellers / forest dependent communities in the mine lease area.

		There shall be no forest impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	No Reserve Forest is found within the study area. The details of reserve forest within 10km have been discussed Table 3.44 under Chapter III, p.104. Flora and Fauna vegetation details are given in section 3.6.1 and 3.6.2 under chapter III, p.73-92.
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted	There is no any wildlife/protected area from the periphery of the project area. Information regarding wildlife /protected area within 10km has been given in Table 3.44 under Chapter III, p.104. Flora and Fauna vegetation details are given in section 3.6.1 and 3.6.2 under chapter III, p.73-92.
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/ (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished	The details of National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km radius from the periphery of the project area has been given in Table 3.44 under Chapter III, p.104.

18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	A detailed biological study was carried out in both core and buffer zones and the results have been discussed in Section 3.6 under Chapter III, pp.73-92.
19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects	Not Applicable The project doesn't attract the C.R.Z. Notification, 2018.

	falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)	
21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report	Not Applicable. There are no approved habitations of SCs/STs and other weaker sections in the lease area. Therefore, R&R Plan / Compensation Plan for the Project
22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site- specific meteorological data should also be	Baseline data were collected for the period of October 2023 - December 2023 as per CPCB notification and MoEF & CC Guidelines. Primary baseline data and the results have been included in Sections 3.1-3.8 under Chapter III, pp. 29-103.

	collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given	
23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map	Air quality modelling for prediction of incremental GLCs of pollutants was carried out using AERMOD view 11.2.0. The model results have been given in Section 4.4 under the Chapter IV, pp.109-113.
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	The water requirement for the project, its availability and source have been provided in Table 2.11 under Chapter II, p.25.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided	Not Applicable. Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated

		rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided	Part of the working pit will be allowed to collect rain water during the spell of rain. The water thus collected will be used for greenbelt development and dust suppression. The mine closure plan has been prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided	Impact studies and mitigation measures of water environment including surface water and ground water have been discussed in Section 4.3 under Chapter IV, pp. 108-109.
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from State Ground Water Authority for working below	Not Applicable. The ground water table is found at the depth of 80 m below ground level. The ultimate depth of quarry is 55 m BGL. Therefore, the mining activity will not intersect the ground water table. Data regarding the occurrence of groundwater table have been provided in Section 3.3 under Chapter III, pp.41-57.

	ground water and for pumping of ground water should also be obtained and copy furnished	
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out	Not Applicable. There are no streams, seasonal or other water bodies passing within the project area. Therefore, no modification or diversion of water bodies is anticipated.
30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	The highest elevation of the project area is 762 m AMSL. Ultimate depth of the mine is 55m BGL. Depth to the water level in the area is 80 m BGL
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution	Greenbelt development plan has been given in Section 4.6 under Chapter IV, pp.118-123.

32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines	Traffic density survey was carried out to analyze the impact of transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details have been provided in Section 3.8 under Chapter III, p.102-103.
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Infrastructure & other facilities will be provided to the mine workers after the grant of quarry lease and the same has been discussed in Section 2.6.7 under Chapter II, p.22-25.
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report	Progressive mine closure plan has been prepared for this project and is given in Table 2.9 under Section 2.6.5 under Chapter II, p.22.
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation	Occupational health impacts of the project and preventive measures have been explained in detail in Section 4.8 under Chapter IV, pp.123-125.

	measures with required facilities proposed in the mining area may be detailed	
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	No public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII, pp.145-146.
37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 16 people directly as discussed in Section 8.1 under Chapter VIII, p.144.
38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project	A detailed Environment Management Plan has been prepared and provided in Tables 10.1 & 10.2 under Chapter X, pp.148-154.
39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project	The outcome of public hearing will be submitted during the final EIA report.
40	Details of litigation pending against the project, if any, with direction /order passed	No litigation is pending in any court against this project.

	by any Court of Law against the Project should be given	
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out	Project Cost is Rs.1,54,60,000/- CER Cost is Rs. 5,00,000/- In order to implement the environmental protection measures, an amount of Rs. 2585783 as capital cost and recurring cost as Rs. 1387824 as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be Rs.10297564 as shown in Table 10.2 under Chapter X, pp.148-154.
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII, pp.135-136.
43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project details have been given under Chapter VIII, pp.144-146.
1.44	Besides the above, the below mentioned general points are also to be followed	
a)	Executive Summary of the EIA/EMP Report	Executive Summary is attached in separate booklet.
b)	All documents to be properly referenced with index and continuous page numbering	All the documents have been properly referenced with index and continuous page numbering
c)	Where data are presented in the Report especially in Tables, the period in which the	List of tables and source of the data collected have been mentioned.

	data were collected and the sources should be indicated	
d)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.	Original Baseline monitoring report will be submitted in final EIA report.
e)	Where the documents provided are in a language other than English, an English translation should be provided.	All the documents provided here are in English language.
f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The questionnaire will be submitted in final EIA report.
g)	While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.	Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) dated 4 th August, 2009 have been followed while preparing the EIA report.
h)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H.	No changes are made in the basic scope and the project parameters.

	process) will entail conducting the PH again with the revised documentation.	
i)	As per the circular no. J 11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.	The Existing pit letter will be submitted in final EIA report.
j)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	All the plans including surface & geological plans, and progressive closure plan have been included in Annexure III.

MoEF & CC -Standard Terms of Reference for (Mining of minerals)

1.1	A copy of the document in support of the fact that the proponent is the rightful lessee of the mine should be given.	It is a government Poramboke land.
1.2	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	It's a Government Poramboke land.
1.3	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet,	All corner coordinates of the mine lease area have been superimposed on a high-resolution Google Earth Image, as shown

	topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	in Figure 2.3 under Chapter II in the EIA report page 12.
1.4	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Toposheets of Survey of India have been used for showing sampling locations of air, soil, water, and noise, as shown in Chapter III in the EIA report page 27-106.
1.5	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The lease area was inspected by the officers of Department of Geology along with revenue officials and found that the land is fit for quarrying under the policy of State Government.
1.6	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the. prescribed operating process/ procedures to bring into focus any infringement/ deviation/ violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the	The Environmental Policy is discussed in the Section 10.1 under Chapter X in the EIA report page 148-154.

	environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report	
1.7	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided	It is an opencast quarrying operation proposed to operate in Manual method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90° bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate. Necessary permissions will be obtained from DGMS after obtaining Environmental Clearance.
1.8	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc., should be for the life of the mine / lease period.	The study area considered for this study is of 5 km radius for air, soil, water, and noise level sample collections, while the study area is 10 km radius for ecology and biodiversity studies and all data contained in the EIA report such as waste generation etc., is for the life of the mine / lease period.
1.9	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.1 under

	plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Chapter III in the EIA report page 29-36. The details of surrounding sensitive ecological features have been provided in Table 3.44 under Chapter III in the EIA report page 104. Land use plan of the project area showing pre- operational, operational and post- operational phases are discussed in Table 2.8 under Chapter II in the EIA report page 22.
1.10	Details of the land for any over burden dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.	It is not applicable as no dumps have been proposed outside the lease area. The entire quarried out rough stone will be transported to the needy customers.
1.11	Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	It is not applicable as there is no forest land involved within the proposed project area. The details have been discussed in Table 3.44 under Chapter III in the EIA report page 104.

1.12	Status of forestry clearance for the broken- up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	It is not applicable as the proposed project area does not involve any forest land.
1.13	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006 as there are neither forests nor forest dwellers / forest dependent communities in the mine lease area. There shall be no forest impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.
1.14	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	There is no any Reserve Forest area in the study area. The details of reserve forest within 5km radius is discussed in the Table 3.44 under Chapter III in the EIA report page 104.
1.15	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	There is no any wildlife/protected area within 10 km radius from the periphery of the project area. Information regarding the same has been given in Table 3.44 under Chapter III in the EIA report page 104.

1.16	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/ (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/ Elephant Reserves within 10 km radius from the periphery of the project area. Information regarding the same has been given in Table 3.44 under Chapter III in the EIA report page 104.
1.17	A detailed biological study of the study area [core zone and buffer zone (10 KM radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds	A detailed biological study was carried out in both core and buffer zones and the results have been discussed in Section 3.6 under Chapter III in the EIA report page 73-92.

	for implementing the same should be made as part of the project cost.	
1.18	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared. in 'Critically Polluted' Area and does not come under 'Aravalli Range.
1.19	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not Applicable The project doesn't attract the C.R.Z. Notification, 2018.
1.20	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be	Not Applicable. There are no approved habitations of SCs/STs and other weaker sections in the lease area. Therefore, R&R Plan / Compensation Plan for the Project Affected People (PAP) are not provided.

	undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspect should be discussed in the Report	
1.21	One season (non-monsoon) [i.e., March- May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10,	Baseline data were collected for the period of December 2024 through February 2025 as per CPCB notification and MoEF & CC Guidelines. Primary baseline data and the results have been included in Sections 3.1-3.8 under Chapter III in the EIA report page 29-103.

	particularly for free silica, should be given.	
1.22	Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map	Air quality modelling for prediction of incremental GLCs of pollutants was carried out using AERMOD view 11.2.0. The model results have been given in Section 4.4 under the Chapter IV in the EIA report page 109-113.
1.23	The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should be indicated.	The water requirement for the project, its availability and source have been provided in Table 2.11 under Chapter II in the EIA report page 25.
1.24	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Part of the working pit will be allowed to collect rain water during the spell of rain. The water thus collected will be used for greenbelt development and dust suppression. The mine closure plan has been prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season. The detailed

		rain water harvesting report will be submitted in final EIA report.
1.25	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Impact studies and mitigation measures of water environment including surface water and ground water have been discussed in Section 4.3 under Chapter IV in the EIA report page 108-109.
1.26	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	The ground water table is found at the depth of 80m below ground level. The ultimate depth of quarry is 55m (15m AGL + 40m BGL). Therefore, the mining activity will not intersect the ground water table. Data regarding the occurrence of groundwater table have been provided in Section 3.3 under Chapter III in the EIA report page 41-57.
1.27	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out	Not Applicable. There are no streams, seasonal or other water bodies passing within the project area. Therefore, no modification or diversion of water bodies is anticipated
1.28	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A	The highest elevation of the project area is 762m AMSL. Ultimate depth of the mine is 55m (15m AGL +40m BGL). Depth to the water level in the area is 80m BGL.

	schematic diagram may also be provided for the same.	
1.29	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up. Front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution	Greenbelt development plan has been given in Section 4.6 under Chapter IV in the EIA report page 118-123.
1.30	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government)	Traffic density survey was carried out to analyses the impact of transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details have been provided in Section 3.7 under Chapter III in the EIA report page 102-103.

	should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	
1.31	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Infrastructure & other facilities will be provided to the mine workers after the grant of quarry lease and the same has been discussed in Section 2.6.7 under Chapter II in the EIA report page 22-25.
1.32	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Progressive mine closure plan has been prepared for this project and is given in Section 2.6.4 under Chapter II in the EIA report page 21-22.
1.33	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been explained in detail in Section 4.8 under Chapter IV in the EIA report page 123-125.
1.34	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII in the EIA report page 145-146.

1.35	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 16 people directly as discussed in Section 8.1 under Chapter VIII 144.
1.36	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	A detailed Environment Management Plan has been prepared and provided in Tables 10.1 & 10.2 under Chapter X in the EIA report page 148-154.
1.37	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	The outcome of public hearing will be submitted in final EIA report.
1.38	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	No litigation is pending in any court against this project.
1.39	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Project Cost is Rs.1,54,60,000/- CER Cost is Rs.5,00,000/- In order to implement the environmental protection measures, an amount of Rs. 2585783 as capital cost and recurring cost as Rs. 1387824 as recurring cost/annum is proposed considering present market price

		considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be Rs.10297564 as shown in Table 10.1 and table 10.2 under Chapter X in the EIA report page 148-154.
1.40	A disaster management plan shall be prepared and included in the EIA/EMP Report.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII in the EIA report page 135-136.
1.41	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project details have been given under Chapter VIII in the EIA report page 144-146.
1.42	Besides the above, the below mentioned general points are also to be followed:	
a)	All documents to be properly referenced with index and continuous page numbering.	All the documents have been properly referenced with index and continuous page numbering.
b)	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	List of tables and source of the data collected have been mentioned.
c)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.	Original Baseline monitoring reports will be submitted in final EIA report.
d)	Where the documents provided are in a language other than English, an English translation should be provided.	All the documents provided here are in English language.

e)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The questionnaire will be submitted in final EIA report.
f)	While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA. II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.	Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) dated 4 th August, 2009 have been followed while preparing the EIA report
g)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	No changes are made in the basic scope and the project parameters.
h)	As per the circular no. J-11011/618/2010- IA. II(I) Dated: 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of	As it is a new lease area, the condition is not applicable.

	Environment, Forest and Climate Change, as may be applicable.	
i)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	All the plans including surface & geological plans, and progressive closure plan have been included in Annexure III.

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CHAPTER I

INTRODUCTION

1.0 PREAMBLE

Environmental Impact Assessment (EIA) study is a process used to identify the environmental, social and economic impacts of a project prior to decision-making. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are considered during the project designing. According to the Ministry of Environment and Forests, Govt. of India, EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 3977 (E) of 14th August 2018, all the mining projects are broadly classified into two categories, i.e., category A and category B, based on the spatial extent of the projects. The category B projects are further divided in to B1 and B2 on the basis of the guidelines issued of the Ministry of Environment and Forests. All mining projects included in category B1 require an EIA report for obtaining environmental clearance from the State Environment Impact Assessment Authority (SEIAA). As the proposed project falls within the cluster of quarries of overall extent of greater than 5ha and less than 50ha in the case of non-coal mine lease, the proposed project falls under the category- B1 and the project requires preparation and submission of an EIA report after public consultation to SEIAA for obtaining environmental clearance as per the order dated 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018.

In compliance with ToR Identification No: **TO25B0108TN5385770N**, **dated: 17.06.2025**, **File No.11424** this EIA report has been prepared for the project proponent, **Thiru.S.Madhu**, applied for rough stone quarry lease in the Govt land falling in S.F.No's.1151,1155,1212 to 1219,1222,1225 & 1226/A (P- 5) over an extent of 1.27.0 ha in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. Special publication in Krishnagiri District Gazette Notification No Rc.No.206/2018/Mines, dated 06.12.2019 for eligible Govt Poramboke Land quarry lease has issued notice inviting tender under Krishnagiri District Gazette (Extra- Ordinary) No. 01, dated 19.01.2018 and received applications through online from the interested bidders for conducting e-tender cum auction. E-tender cum auction held on 07.02.2018, since, Mr.S.Madhu has quoted highest bid amount of Rs.1,00,00,000/-. This EIA report takes into account the rough stone quarries within the cluster of 500m radius from the periphery of the proposed project site. The cluster contains four proposed projects known as P1, P2, P3, P4 and six existing projects E1, E2, E3, E4, E5 and E6. All the projects

mentioned above have been taken for cluster extent calculation as per MoEF & CC Notification S.O. 2269 (E) Dated 1st July 2016. The total extent of all the quarries is 29.01.5ha, also known as the cluster extent. The quarries involved in the calculation of cluster extent are shown in Figure 1.1.

Table 1.1 Details of Quarries within the cluster area of 500m radius

Proposed Quarries					
Code	Name of the Owner	S.F. No	Village	Extent (ha)	Status
P1	Thiru.S. Madhu	1151,1155,1212, 1219,1222,1225 & 1226/A(P-5)	Kamandoddi	1.27.0	Proposed Area
P2	Thiru.V. Venkatesulu	754 & 760 (P-6)		4.00.0	Proposed Area
P3	Thiru.Mallikarjun	754 & 760 (P-4)		3.50.0	Instant Proposal
P4	Thiru.S.R. Sampangi	1151,1155,1212 To 1219,1222,1225& 1226/A (P-4)		2.23.0	Instant Proposal
Existing Quarry					
E1	Thiru.G.Ashoka	754 & 760(P-3)	Kamandoddi	3.66.0	17.02.2022 To 16.02.2032
E2	Thiru.V.Karunanithi	754, 760(Part-5)		4.30.0	24.06.2022 To 23.06.2032
E3	M/s. Royal blue Metals	1151, 1155, 1212, 1219, 1222, 1225 &1226/A (P-1)		2.70.0	04.07.2024 To 03.07.2034
E4	M/s. Royal blue Metals	1151, 1155, 1212, 1219, 1222, 1225 &1226/A (P-2)		2.87.0	24.06.2022 To 23.06.2032
E5	Thiru.K.Murugesh	1151,1155,1212,1219,1222,1225 &1226/A 9P-3)		2.82.0	30.03.2023 To 29.06.2032
E6	Thiru.C.Surendiran	1269/2A		1.66.5	13.10.2017 To 12.10.2027
Expired Quarries					
Total Cluster Extent				29.01.50	---

Source: DD Letter - Rc.No.206/Mines/2018, Dated:17.10.2024.

Note: Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016.

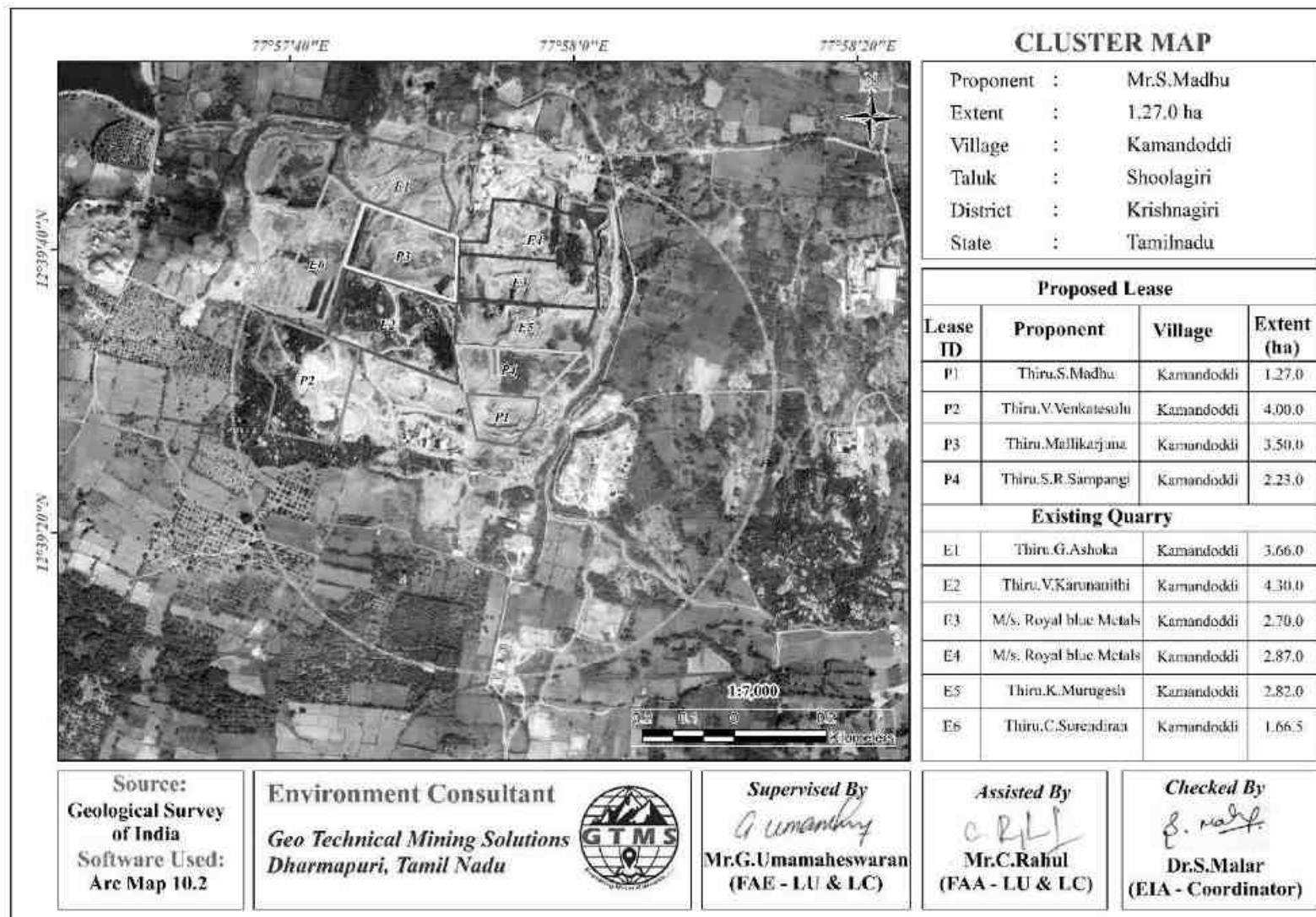


Figure 1.1 Location of the proposed and existing rough stone quarries in the cluster of 500m radius

1.1 PURPOSE OF THE REPORT

The purpose of the EIA report is to study baseline environmental conditions in and around the proposed project area as per the Terms of Reference (ToR).

The baseline study Air, Water, Soil, & Noise was already conducted in the month of Oct to Dec, 2023, named Rajappa rough stone quarry falls in the same cluster according to the provisions of MoEF & CC Office Memorandum dated 29.08.2017 and MoEF & CC Notification, S.O. 996 (E) dated 10.04.2015, to analyse impacts and provide mitigation measures.

1.2 ENVIRONMENTAL CLEARANCE

The Environmental Clearance process for the project will comprise of four stages. These stages are screening, scoping, public consultation & appraisal.

Screening

Screening is the first stage of the EIA process. In this stage, the State level Expert Appraisal Committee (SEAC) examined the application of EC made by the proponent in Form 1 through online (Proposal No. SIA/TN/ MIN/ 537428/2025, dated 13.05.2025) and decided that the project requires detailed environmental studies for the preparation of EIA report. Therefore, the proponent submitted application for Terms of Reference (ToR) on 05.11.2024.

Scoping

The proposal was placed in the 564th meeting of SEAC on 13.05.2025. Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) and the recommendation for ToR is subjected to the outcome of the Honourable NGT, Principal Bench, New Delhi (O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).

Public Consultation

In this stage, an application along with the draft of EIA and EMP report will be made to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing ensuring public participation at the project site or in its close proximity in the district. During public hearing, an opportunity will be given to the people living nearby the project site to express their opinions about the impact of the proposed project on the

environment. The outcome of the public hearing meeting will be submitted in the final EIA report.

Appraisal

In this stage, an application along with final EIA report including the outcome of the public consultations will be made to the SEIAA. The application thus made will be scrutinized by the SEAC. Then, the SEAC will make recommendations to grant EC or reject the application to the SEIAA.

1.3 TERMS OF REFERENCE (ToR)

The SEAC framed a comprehensive Terms of Reference (ToR) based on the information provided in the Form 1 and information collected from the proposed project site visit and issued ToR to the proponent vide ToR Identification No. TO25B0108TN55385770N Dated:17.06.2025 File No : 11424 for the preparation of an EIA report.

1.4 POST ENVIRONMENT CLEARANCE MONITORING

For category B projects, irrespective of its clearance by MoEF & CC/SEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environmental clearance and the details of MoEF&CC website where it is displayed.

After obtaining EC, the project proponent will submit a half-yearly compliance report of stipulated environmental clearance terms and conditions to MoEF & CC Regional Office & SEIAA on 1st June and 1st December of every year.

1.5 TRANSFERABILITY OF ENVIRONMENTAL CLEARANCE

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor or the transferee with a written “no objection” by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period (EIA Guidance Manual for Mining of Minerals, 2010).

1.6 IDENTIFICATION OF THE PROJECT PROPONENT

The profile of the project proponent who has involved in this quarrying project has been given in Table 1.2.

Table 1.2 Details of Project Proponent

Name of the Project Proponent	Thiru. S. Madhu,
Address	S/o. Srinivasan, No.12, Eden Garden, Thally Road, Hosur Taluk, Krishnagiri District- 635109.
Status	Proprietor

1.7 BRIEF DESCRIPTION OF THE PROJECT

The proposed project deals with excavation of rough stone which is primarily used in construction projects. The method adopted for rough stone excavation is Open Cast Semi Mechanized mining method involving formation of benches with 5m height and 5 m width. The proposed project site is located in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. Some of the important features of the proposed project have been provided in Table 1.3.

Table 1.3 Salient Features of the Proposed Project

Name of the Quarry	Thiru. S. Madhu	
Type of Land	Government Poramboke Land	
Extent	1.27.0 Ha	
S.F.No	1151,1155,1212 to 1219,1222,1225 & 1226/A (P- 5)	
Toposheet No	57-H/14	
Location of Project Site	12°39'26.21"N to 12°39'29.82"N 77°57'52.44"E to 77°57'57.57"E	
Highest Elevation	762m AMSL	
Ultimate depth of Mining	55 m (15AGL+40BGL)	
Geological Resources	Rough Stone in Tons	
	3,90,672	
Mineable Reserves	Rough Stone in m ³ &Tons	
	1, 07,087m ³ & 2,94,489Tons	
Proposed reserves for five years	Rough Stone in m ³ &Tons	
	1, 07,087m ³ & 2,94,489Tons	
Method of Mining	Open-Cast Mechanized mining	
Topography	Elevated Topography	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Tipper	4
	Excavator	1
Proposed Manpower Deployment	16 Nos	
Project Cost	Rs.1,54,60,000/-	
Proposed Water Requirement	3.5 KLD	

1.8 SCOPE OF THE STUDY

The main scope of the EIA study is to quantify the cumulative impact of the quarries in the cluster on the study area and formulate the effective mitigation measures for the Cluster. A detailed account of the emission sources, emissions control equipment, background air quality levels, meteorological measurements, dispersion model and all other aspects of pollution like effluent discharge, and dust generation has been provided in this report. The baseline monitoring study has been carried out during the period of **October to December 2023** for various environmental components such as land, soil, air, water, noise & vibration, ecology and Socio economics to assess the anticipated impacts of the cluster quarry projects on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project. The sampling methodologies for the various environmental parameters required for the study, frequency of sampling, method of sample analysis, etc., are given in Table 3.1 in chapter III.

1.9 Legislation Applicable to Mining of Mineral Sector

A few important legislations are given below:

- ❖ The Mines Act, 1952.
- ❖ The Mines and Mineral (Development and Regulation) Act, 1957.
- ❖ Mines Rules, 1955.
- ❖ Mineral Concession Rules, 1960
- ❖ Mineral Conservation and Development Rules, 1988.
- ❖ Tamil Nadu Minor Minerals concession rules, 1959.
- ❖ The Water (Prevention and Control of pollution) Act, 1974.
- ❖ The Air (Prevention and Control of pollution) Act, 1981.
- ❖ The Environment (Protection) Act, 1986.
- ❖ The Forest (Conservation) Act, 1988.
- ❖ The Wildlife (Protection) Act, 1972.

CHAPTER II

PROJECT DESCRIPTION

2.0 GENERAL INTRODUCTION

The open cast mining method, also known as open-pit mining has been proposed to extract the mineral deposit. It is the most commonly used surface mining method all over the world and is generally suitable for mining low-grade mineral deposits that are found close to the surface of the earth and distributed uniformly over a large area. Open pits are also termed quarries when the pits are used for the extraction of building materials and dimension stones.

Opencast mining starts with the development of benches, the widths of which will be determined in such a way to accommodate the use of heavy machinery. The walls of open pits will be dug at an angle that will be decided based on well-established industry standards to provide safety. In some cases where the walls are composed of weak material such as soil and highly weathered rocks, dewatering holes will be drilled horizontally to relieve the water pressure to avoid wall collapse inside the mine site.

The required mine-related infrastructures will be established close to the open pit. The mining infrastructures may include an administration building, a maintenance garage, and a warehouse. The materials mined from open pits will be brought to the surface using trucks. The waste rocks will be piled up in a suitable location, usually close to the open pit. The structure produced by the waste rock pile is known as a waste dump. The dimension of the waste dump will be determined based on industrial safety standards to prevent the rocks from falling into the surrounding area.

2.1 DESCRIPTION OF THE PROJECT

The proponent, **Mr.S.Madhu** is involved in the undertaking of establishment, construction, development, and closure of opencast mines. He, through the exploration phase, identified the proposed project site as the one that has a great potential of producing an economically viable quantity of rough stone. Therefore, the proponent had applied through online from the interested bidders for conducting e-Tender cum auction. E-tender cum auction held on 07.02.2018 to extract rough stone. The precise area communication letter was issued by Department of Geology and Mining, Krishnagiri vide Roc.No.206/2018/Mines, Dated: 09.03.2018. Based on the precise area communication letter, mining plan was prepared. The mining plan thus prepared was approved by Deputy Director Department of Geology and Mining, Krishnagiri Roc.No.206/2018/Mines, Dated: 17.10.2024. The overall view of the project site is shown in Figure 2.1.



Figure 2.1 Overall View of Proposed Project Site

2.2 LOCATION AND ACCESSIBILITY

The proposed quarry project is located in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu as shown in Figure 2.2 & 2.3 The area lies between Latitudes from $12^{\circ}39'26.21''\text{N}$ to $12^{\circ}39'29.82''\text{N}$ and Longitudes from $77^{\circ}57'52.44''\text{E}$ to $77^{\circ}57'57.57''\text{E}$. The proposed lease area is Elevated topography. The maximum elevation (762m) was observed northwest side of the site, while the minimum elevation (747m) was observed east side. Accessibility details to the proposed project site have been given in Table 2.1.

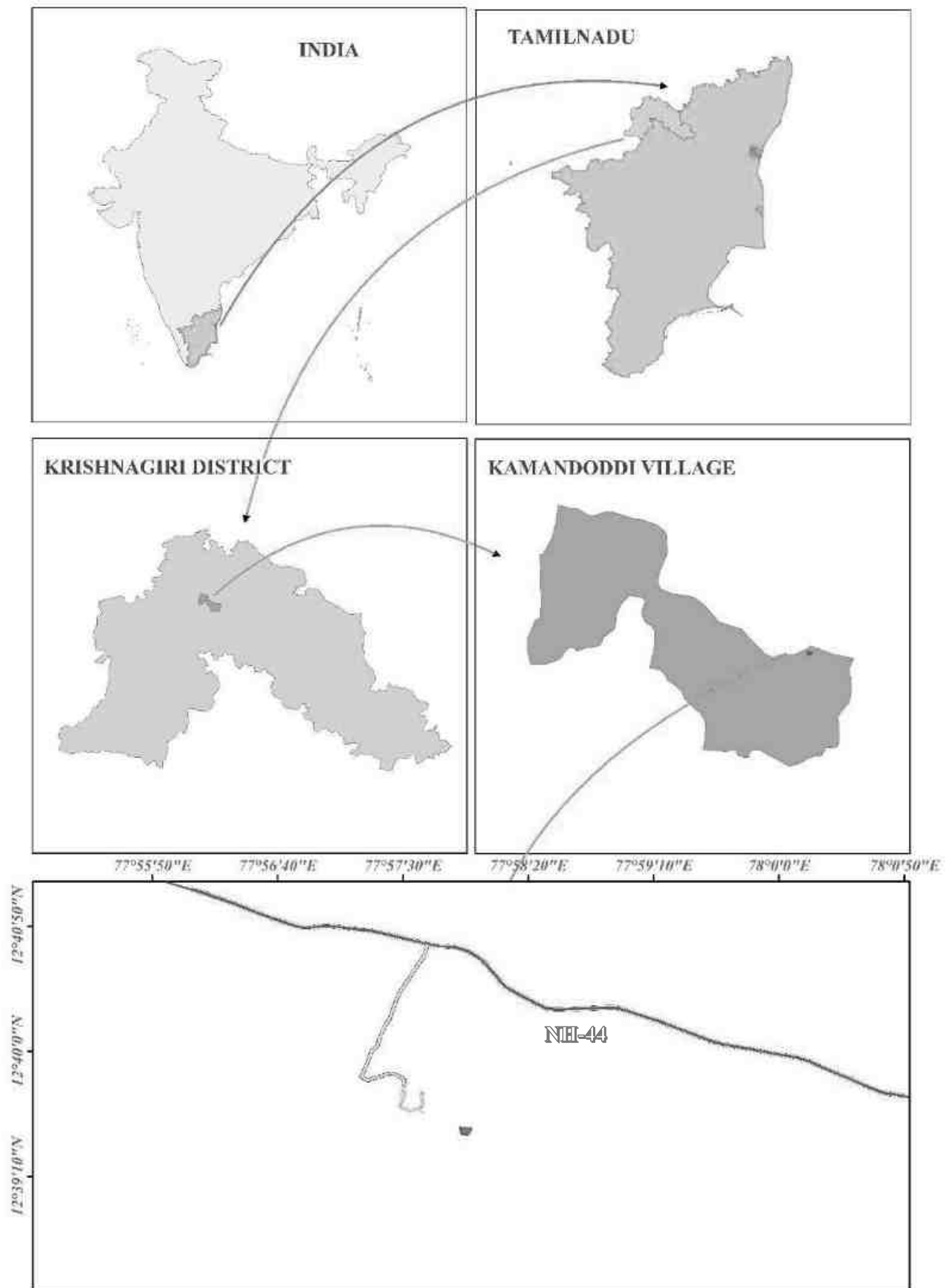


Figure 2.2 Key Map Showing Location of the Project Site

Table 2.1 Site Connectivity to the Project Area

Nearest Roadways	Village Road	0.7 km- W
	NH-44 - Krishnagiri - Hosur	1.82 km- N
Nearest Town	Shoolagiri	4.8 km- NE
Nearest Railway Station	Kelamangalam	11.6 km- SW
Nearest Airport	Bengaluru	45.6km- NW
Nearest Seaport	Chennai	257km- NE
Nearest Villages	Koneripalli	1.4km- N
	Sappadi	0.84km- E
	Keeranapalli	1.35km- S
	Tirumalaigovunikotta	1.23km- W

2.3 LEASEHOLD AREA

- ❖ The extent of the proposed project site is 1.27.0ha Which fall in Government Poramboke land.
- ❖ The proposed project is site specific.
- ❖ There is no mineral beneficiation or processing proposed inside the project area.
- ❖ There is no forest land involved in the proposed area and is devoid of major vegetation and trees.

2.3.1 Corner Coordinates

The boundary corner geographic coordinates are given in Table 2.2 and the proposed project site with boundary coordinates has been shown in Figure 2.3.

Table 2.2 Corner Coordinates of Proposed Project

Pillar ID	Latitude	Longitude
1	12°39'39.52"N	77°57'57.57"E
2	12°39'28.02"N	77°57'57.21"E
3	12°39'26.21"N	77°57'55.86"E
4	12°39'26.53"N	77°57'53.23"E
5	12°39'29.82"N	77°57'52.44"E

2.4 GEOLOGY

The lease area geologically occurs Grey Hornblende– Biotite Gneiss. It is commercially called as Roughstone occurs within the migmatite rock. Also, the lease area geomorphologically occurs pediment pediplain complex.

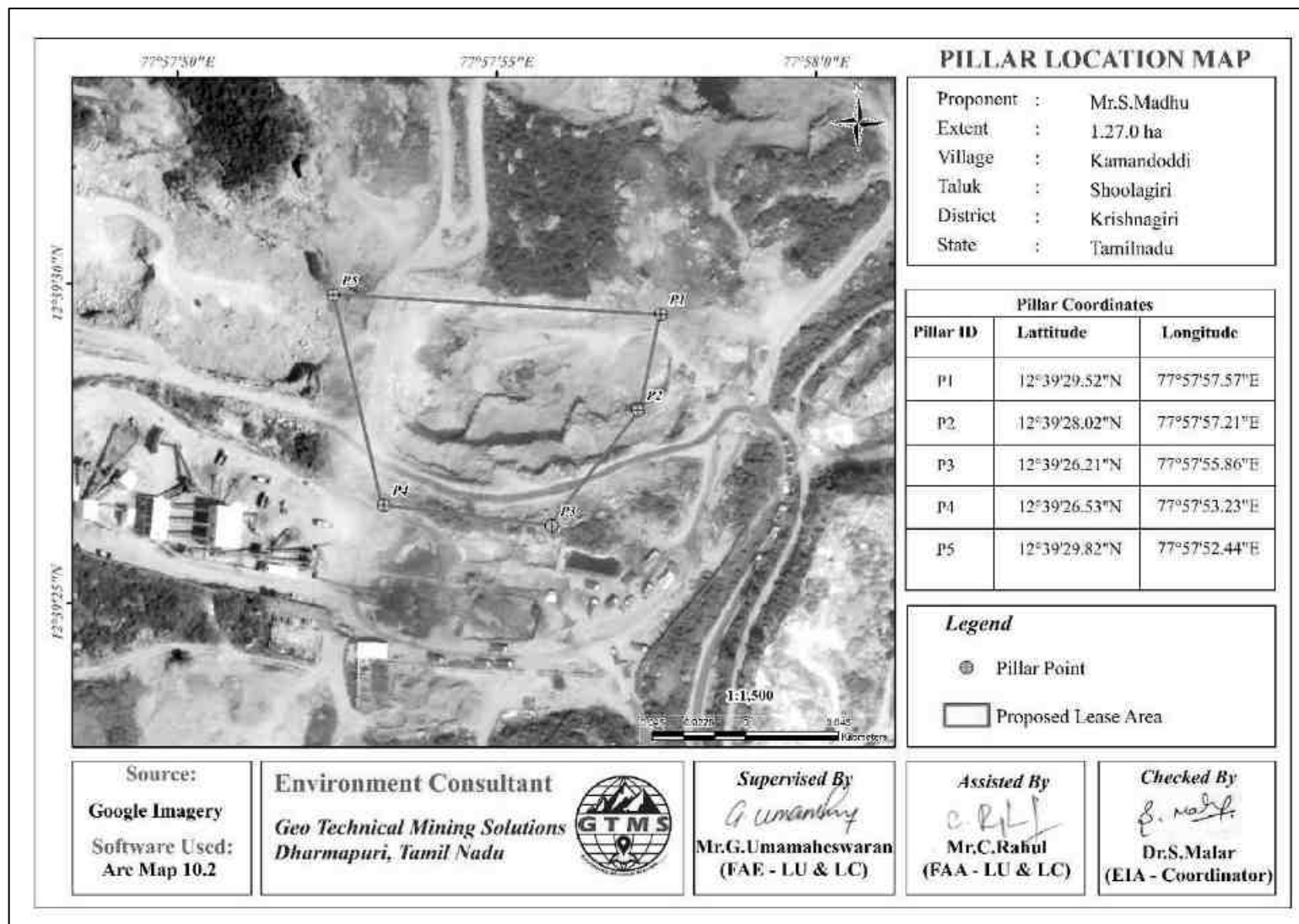


Figure 2.3 Google Earth Image Showing Lease Area with Pillars

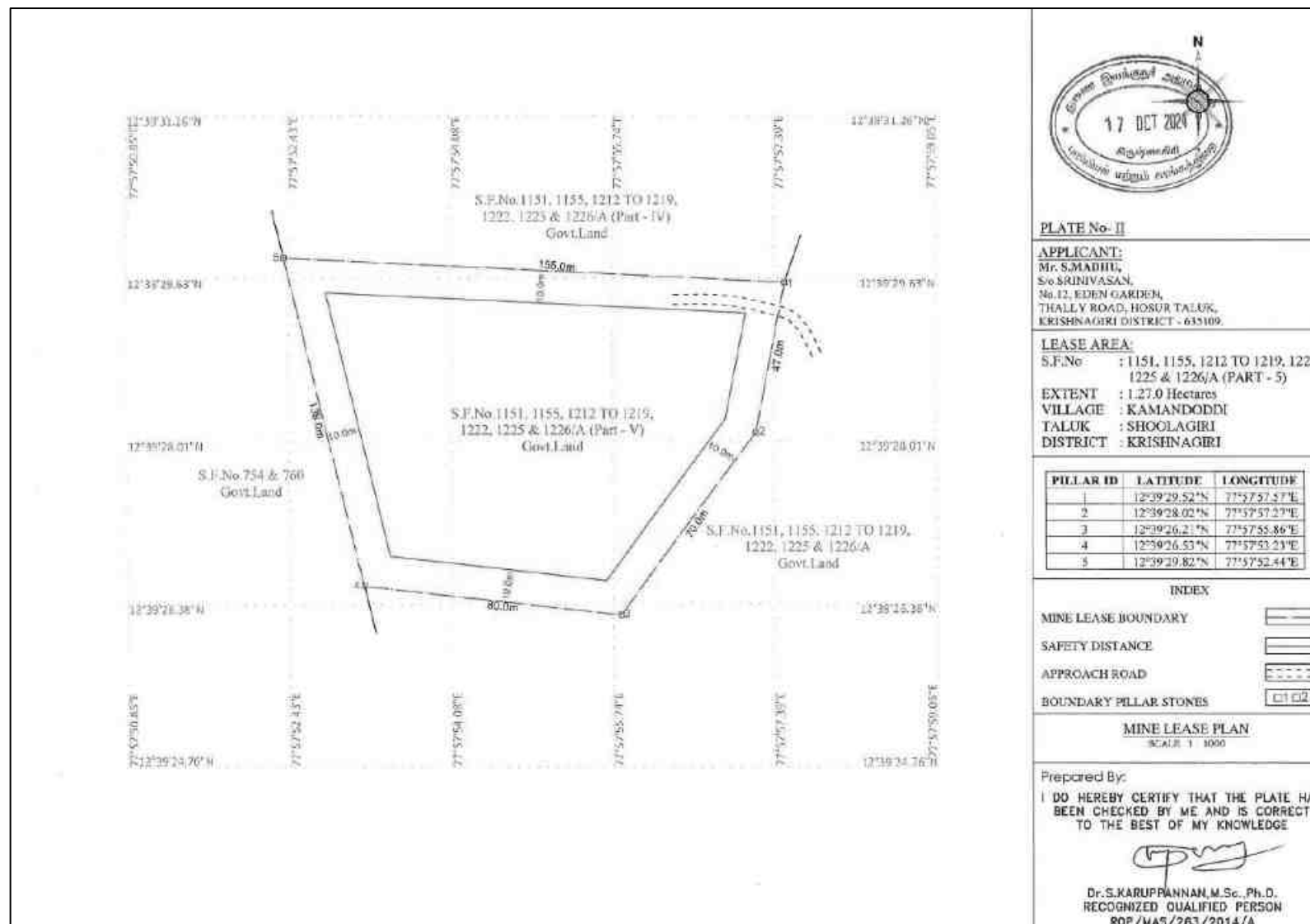
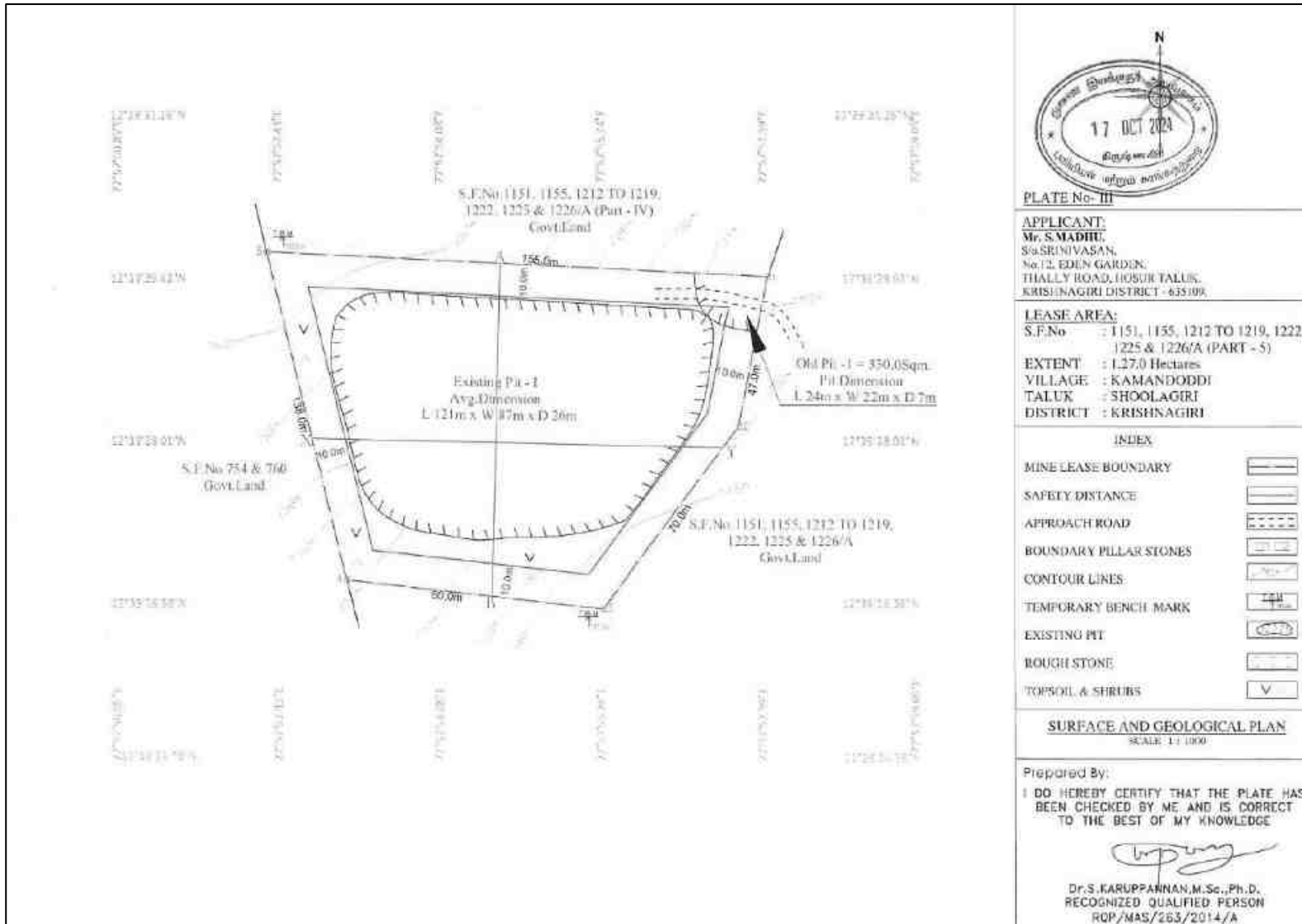


Figure.2.4 Mine Lease Plan



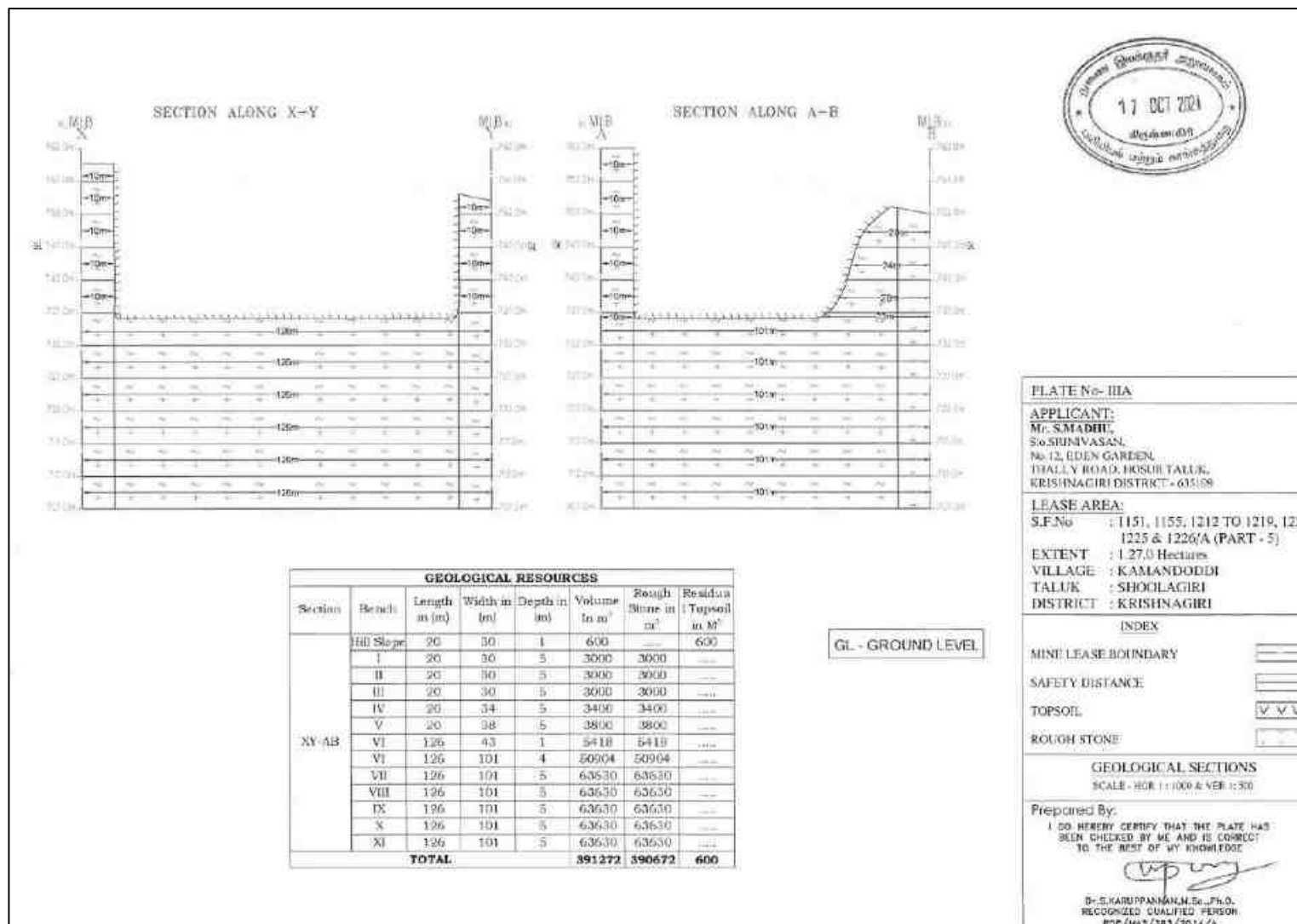


Figure 2.5 Surface & Geological Plan and Sections

2.5 QUANTITY OF RESERVE

The Resources and Reserve of Rough Stone were calculated based on cross-section method by plotting sections to cover the maximum lease area for the proposed project. Based on the availability of geological resources, the mineable reserves are calculated by considering excavation system of bench formation and leaving essential safety distance of 7.5 m and 10 m safety distance as per precise area communication letter and deducting the locked-up reserves during bench formation (also called as Bench Loss). The mineable reserves are calculated up to the depth of 55 m BGL considering there is no waste / overburden / side burden (100% Recovery anticipated) for the proposed project. The plate used for reserve estimation has been shown in Figure 2.6 and 2.6a results of Mine Lease Plan, Surface & geological resources and reserves have been shown in Table 2.3.

Table 2.3 Estimated Resources and Reserves of the Project

Resource Type	Rough Stone in Tons	Top Soil in Tons
Geological Resource in Tons	3,90,672	--
Mineable Reserves in Tons	2,94,489	--
Proposed production for 5 years Tons	2,94,489	--

Based on the year wise development and production plan and sections, the year wise production results have been given in Table 2.4 & Figure 2.6 & 2.6a.

Table 2.4 Year-Wise Production Details

Year	Rough Stone in Tons	Top Soil in Tons / 1 year
VI	57,098	--
VII	60,236	--
VIII	57,750	--
IX	61,133	--
X	58,273	--
Total	2,94,489	--

Source: Approved Mining Plan & ToR

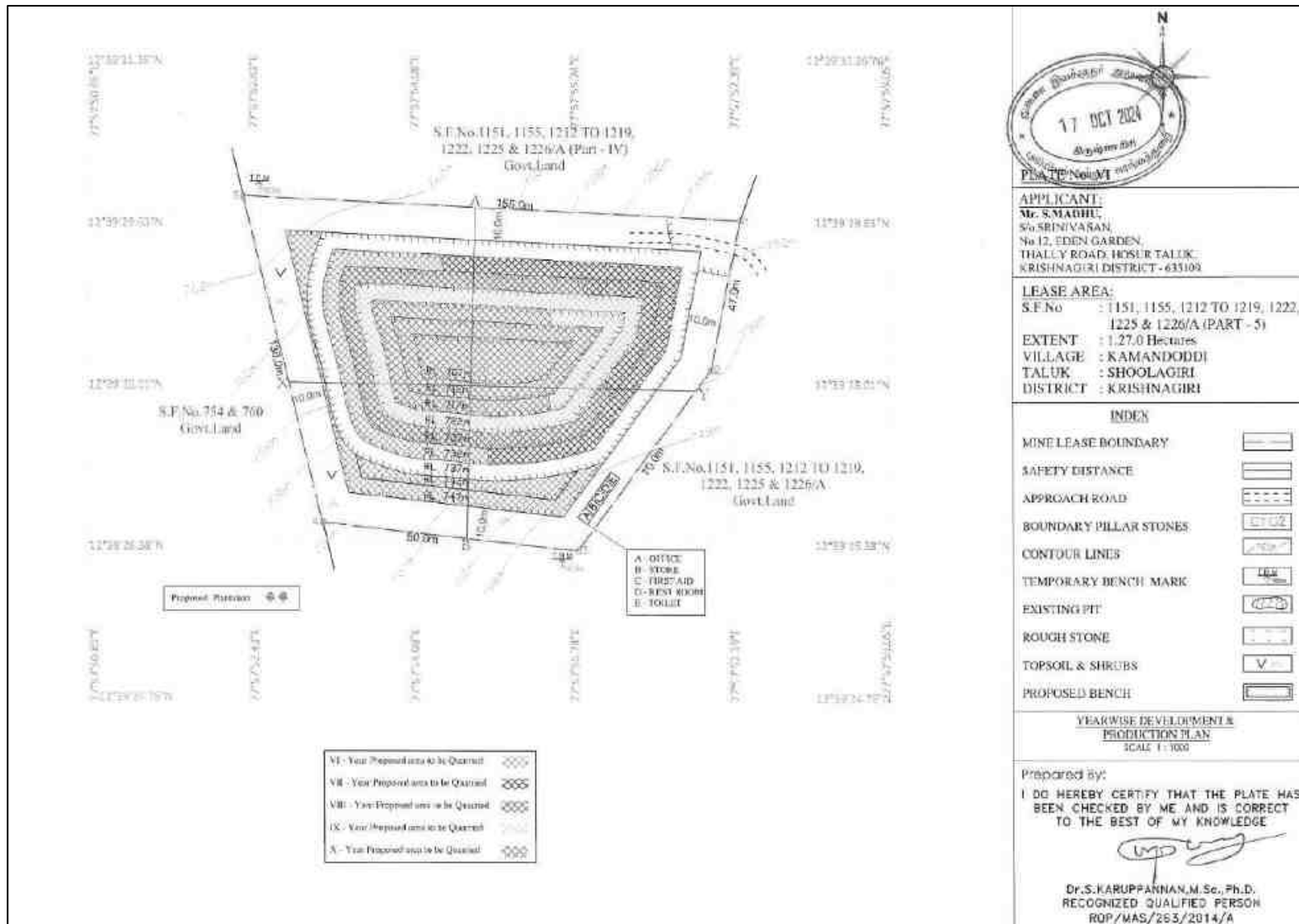


Figure.2.6 Year wise Development and Production Plan

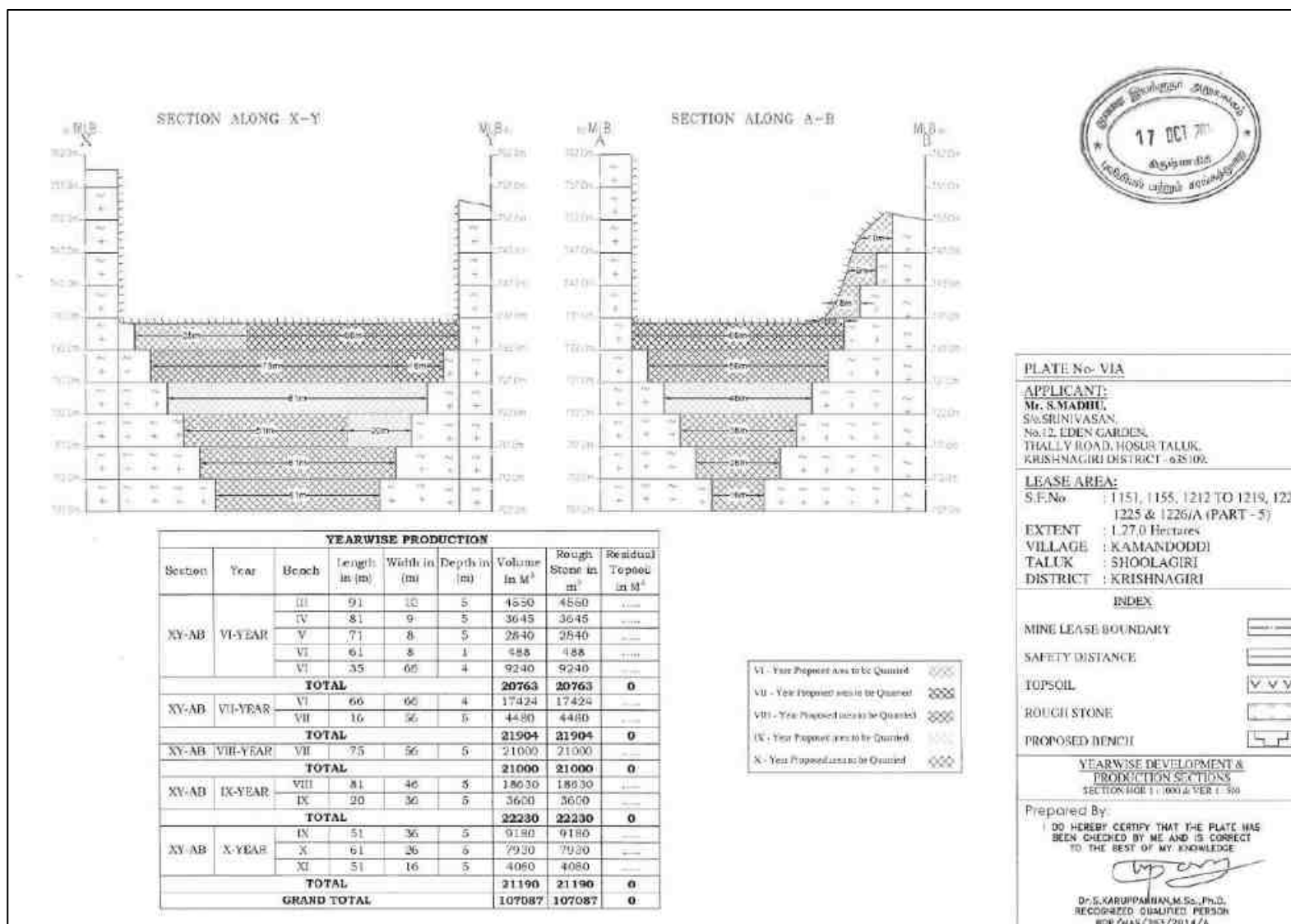


Figure. 2.6a Year wise Production Plan & Sections

2.6 MINING METHOD

The Quarrying operation is proposed to be carried out by open cast semi-mechanized mining method with the bench height and width of 5m each. The open cast semi-mechanized method involving drilling and blasting is proposed to extract rough stone and gravel. The extracted rough stone will be loaded manually to the trucks for dispatch to the customers. In this project, NONEL blasting will be adopted to extract rough stone.

2.6.1 Conceptual Blasting Design

In this project, NONEL blasting will be employed to win rough stone. This method will involve closed spaced perimeter holes to reduce the overbreak/backbreak on a blast. The objective of the blasting design is to prevent fly rocks from damaging the nearby structures.

Rules of Thumb for Blast Design

Based on practical experience and technical information, a set of rules for blasting have been provided as below ([Chapter8 \(nps.gov\)](#)). These rules will be applied to blast rocks in the proposed project.

Rule 1: The detonation velocity (VOD) of the explosive should be close to the same value of the sonic velocity (VSO) of the rock to be blasted.

The sonic velocity of a rock is considered to be a reliable indicator of its structural integrity and resistance to fragmentation. As the VOD of the explosive approaches close to the VSO of the rock, the blasting would result in relatively smaller size of fragmentation with uniformity. There is no value in using an explosive that has a VOD greatly in excess of the VSO of the rock, since there is little or no improvement in fragmentation above the VSO. When selecting an explosive to match up the VSO of a rock mass, variance of <10% in the velocities is acceptable.

Rule 2: Generally, select the densest explosive possible.

When the density of explosives is higher, the potential energy of the explosives can be greater and the more of it can be placed within a borehole of a given size.

Rule 3: Select explosives according to the characteristics of the rock formation to be blasted.

When planes of separation in the rock are smaller than the degree of fragmentation required, the rock can often be blasted by using lower density and lower detonation velocity explosives.

Rule 4: When using slurry or water gel explosives, always determine the critical temperature below which the explosive will fail to reliably detonate.

Almost all slurry explosives have a critical temperature below which they may not detonate, or may not sustain detonation in elongated columns. The explosives should not be used when the temperature of the explosive at time of loading is below that critical temperature.

Rule 5: The distance between holes (spacing) should not be greater than one-half the depth of the borehole.

When the distance between holes in a row is greater than one-half the depth of the hole, the angles of breakage intersect above the bottom of the holes. This causes both a great deal of vertical throw and a very uneven bottom.

Rule 6: Stemming should be equal to the burden.

Stemming is useful to confine and maximize efficient use of the explosive's energy. It also reduces noise as much as possible. If the stemming is greater than the burden, the rock at the top of the borehole will have less cracking from reflection and refraction of compressive and tensile waves. Therefore, stemming should be equal to burden. Drill fines can be used for loading the borehole.

Rule 7: Subdrill (if necessary) should be between 0.3 and 0.5 of spacing/burden.

Subdrill should be equal to 0.3 of burden. It will work when there is row-for-row delay. In blasts where the delay system is both row-for-row and hole-for-hole, the subdrill should be determined by the largest dimension, which can be the spacing or the burden. An average subdrill of 0.4 of spacing is best to use for planning purposes. Based on the above-mentioned rules, blasting design has been conceptualized and has been provided in Table 2.5.

Table 2.5 Conceptual Blasting Design

Blasthole Diameter (D) in mm	32
Burden (B) in m	1.2
Spacing (S) in m	1.38
Subdrill in m	0.5
Charge length (C) in m	0.70
Stemming	0.5
Hole Length (L) in m	1.2
Bench Height (BH) in m	2.5
Mass of explosive/hole in g	437.5
Stemming material size in mm	3.2

Burden stiffness ratio	2.08
Blast volume/hole in m ³	4.14
Production of rough stone/day in Tons	209
Number of blastholes/day	18
Number of blast round/day	1
Blasthole pattern	Staggered
Mass of explosive /day in kg	8.08
Powder factor in kg/m ³	0.11
Loading density	0.63
Type of explosives	Slurry
Diameter of packaging in mm	25
Initiation system	NONEL

2.6.2 Magnitude of Operation

Based on the results of estimated production for the 10 years, details about the size of operation have been provided in Table 2.6.

Table 2.6 Operational Details for Proposed Project

	Rough Stone in Tons 5 years
Proposed production for 5 years	2,94,489
Number of Working Days /Annum	270
Production of /Day (Ts)	218
No. of Lorry Loads/day	13

2.6.3 Extent of Mechanization

List of machineries proposed for the quarrying operation is given in Table 2.7.

Table 2.7 Machinery Details

S. No.	Type	No of Unit	Size /Capacity	Make	Motive Power
1	Jack Hammers	2	Hand held	--	Diesel
2	Compressor	1	Air	--	Diesel
3	Hydraulic Excavator	1	2.9-4.5 MT	--	Diesel
4	Tipper	4	--	--	Diesel

2.6.4 Progressive Quarry Closure Plan

The progressive quarry closure plan of the proposed project shows past, present, and future land use statistics. According to the land use results, at Present, about 0.11.03 ha of land is designated as unutilized area. Whereas, at the end of the mine life, about 1.05.27 ha of land would have been quarried; about 0.03.0 ha of land would have been used for road development; about 0.07.70 ha of land would have been used for green belt development.

Table 2.8 Land use data at present, during scheme of mining, and at the end of mine life

Description	Present Area (ha)	Area at the end of life of quarry (ha)
Area under Mining	1.05.27	0.85.63
Infrastructure	Nil	0.02.0
Roads	0.03.00	0.05.00
Unutilized Area	0.11.03	0.15.62
Green Belt & Dump	0.07.70	0.18.75
Total	1.27.00	1.27.00

2.6.5 Progressive Quarry Closure Budget

As the proposed project has the enormous potential for continuous operations even after the expiry of lease period, mine closure plan is not proposed for now. Based on the progressive mine closure plan for the scheme period, the mine closure cost is given in Table 2.9.

Table 2.9 Mine Closure Budget

Activity	Capital Cost
800 plants inside the lease area	1,60,000
1200 plants outside the lease area	3,60,000
Wire Fencing	8,00,000
Renovation of Garland Drain	40,000
Total	13,60,000

Source: Environment Management Plan

2.6.6 Conceptual Mining Plan

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc. Details of ultimate pit dimensions have been derived from given in Table 2.10 and Figure 2.7.

Table 2.10 Ultimate Pit Dimension

Pit	Length (m)	Width (m) (Max)	Depth (m)
I	101	66	55

Source: Approved Mining Plan & ToR

2.6.7 Infrastructures

Infrastructures like mines office, temporary rest shelters for workers, latrine and urinal facilities have been proposed as per the mine rule and will be established after the grant of quarry lease. There is no proposal for the mineral processing or ore beneficiation plants in this project.

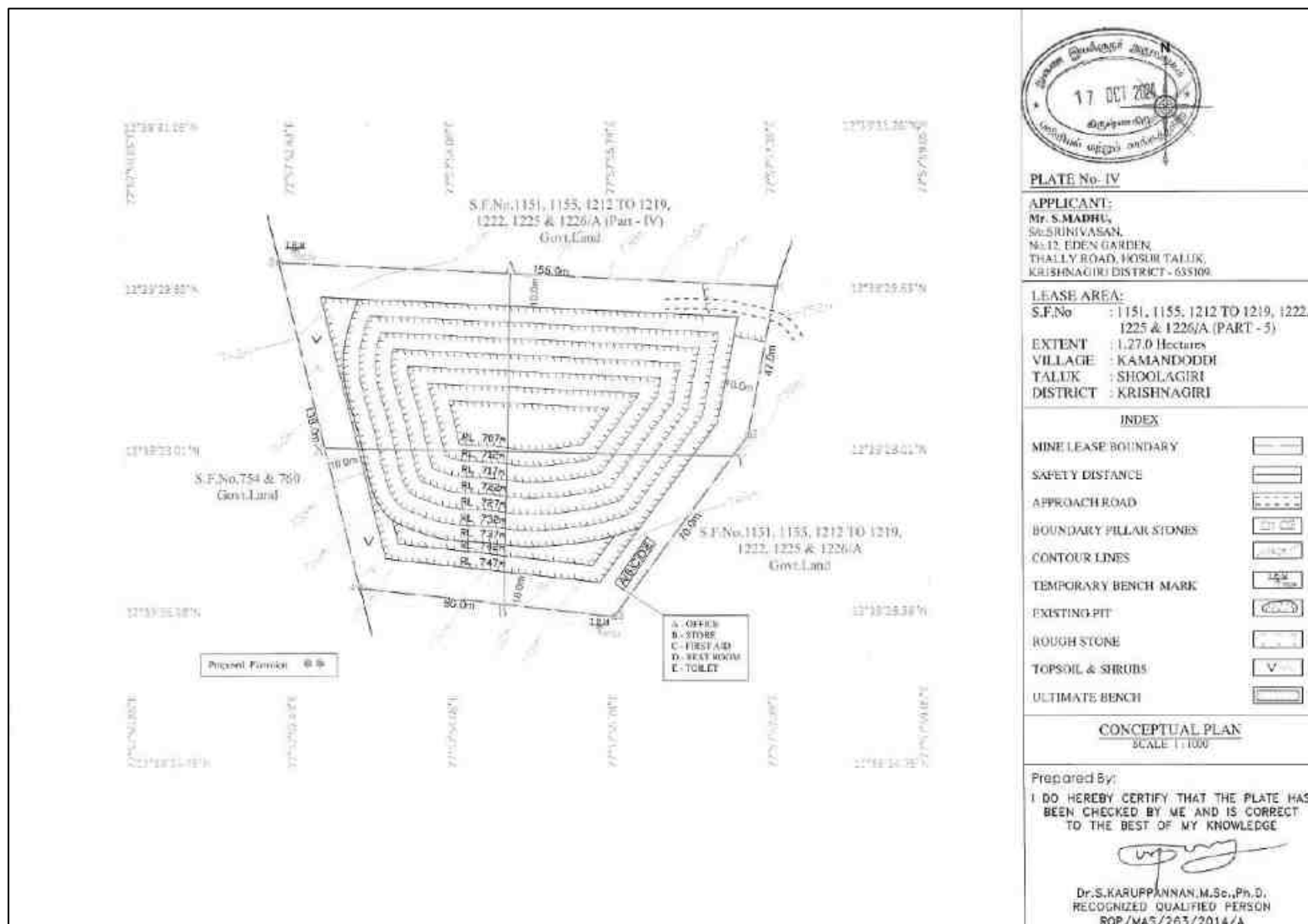


Figure. 2.7. Conceptual Plan

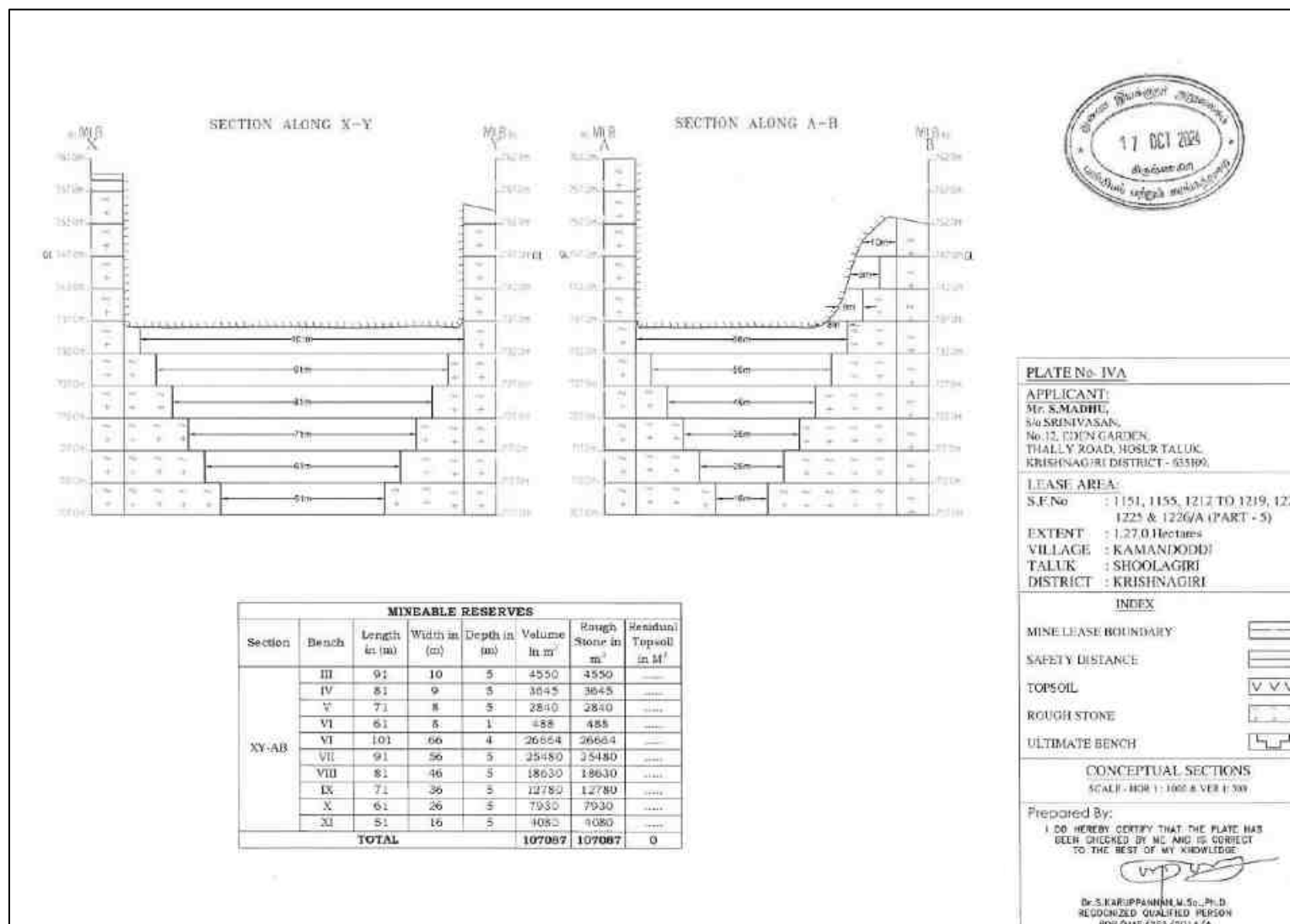


Figure. 2.8 Conceptual Plan & Sections

2.6.7.1 Other Infrastructure Requirement

No workshops are proposed inside the project area. Hence, there will not be any process effluent generation from the proposed lease area. Domestic effluent from the mine office will be discharged to septic tank and soak pit. As there is no toxic effluent expected to generate in the form of solid, liquid or gaseous form, there is no requirement of waste treatment plant.

2.6.8 Water Requirement

Detail of water requirement in 3.5 KLD given in Table 2.11.

Table 2.11 Water Requirement for the Project

Purpose	Quantity	Source
Dust Suppression	1.2 KLD	Existing bore wells nearby the lease area
Green Belt development	1.3 KLD	Existing bore wells nearby the lease area
Drinking & Domestic	1.0 KLD	Existing bore wells and approved water vendors
Total	3.5 KLD	

Source: Prefeasibility Report

2.6.9 Energy Requirement

Electricity for Mines office and Lights only at nights (working is restricted on day time only between 7Am to 6Pm). Diesel will be brought from nearby diesel pumps. No power is required for the project. Lightings on the Night will be taken from nearby electric poles after obtaining permission from concerned authorities.

For Rough Stone:

Per hour Excavator will consume	:	16 litres /hour
Per hour Excavator will excavate	:	55 tons of rough stone
For 294489 tons	:	294489/55
	:	5354 hours
Diesel consume 7029 working hours	:	5354 hours x 16 Litres
Total diesel consumption	:	85664 Litres of HSD will be utilized for Rough Stone

2.6.10 Capital Requirement

The project proponent will invest **Rs. 1,54,60,000/-** to the Project. The breakup summary of the investments has been given in Table 2.13.

Table 2.13 Capital Requirement Details

S. No.	Description	Cost (Rs.)
1	Fixed Asset Cost	1,08,75,000
2	Machinery cost	20,00,000
3	EMP Cost	25,85,000
Total Project Cost		1,54,60,000

Source: Approved Mining Plan

2.7 MANPOWER REQUIREMENT

The skilled, competent qualified statutory persons will be engaged for quarrying operation, preference will be given to the local community. Number of employees required for this project have been provided in Table 2.14.

Table 2.14 Employment Potential for the proposed project

S. No.	Category	Role	Nos.
1.	Highly Skilled	Mine manager	1
		Mine Engineer	1
		Mine Geologist	1
		Blaster	1
2.	Unskilled	Musdoor/ Labours	12
Total			16

Source: Prefeasibility Report

2.8 PROJECT IMPLEMENTATION SCHEDULE

The commercial operation will commence after the grant of Environmental Clearance. CTO and CTE will be obtained from the Tamil Nadu State Pollution Control Board. The conditions imposed during the environmental clearance will be compiled before the start of mining operation. Expected time schedule for the quarrying operation is given Table 2.15.

Table 2.15 Expected Time Schedule

S. No.	Particulars	Time Schedule (in Months)					Remarks if any
		1 st	2 nd	3 rd	4 th	5 th	
1	Environmental Clearance						
2	Consent to Establish						Project Establishment Period
3	Consent to operate						Production starting period.
Time line may vary; subjected to rules and regulations /& other unforeseen circumstances							

CHAPTER III

DESCRIPTION OF THE ENVIRONMENT

3.0 GENERAL

This chapter presents a regional background to the baseline data at the very onset, which will help in better appreciation of micro-level field data, generated on several environmental and ecological attributes of the study area. The baseline status of the project environment is described section wise for better understanding of the broad-spectrum conditions. The baseline environment quality represents the background environmental scenario of various environmental components such as land, water, air, noise, biological and socio-economic status of the study area. The environmental consultant for both the clusters are the same. The monitoring of ambient air quality, noise levels, water quality and soil analysis for the nearby cluster were done in winter from **October through December 2023 with CPCB** through the third party NABL accredited **Ekdant Enviro Services (P) Limited**.

The baseline monitoring done for 5km radius (TERMS OF REFERENCE [TOR] FOR EIA REPORT FOR ACTIVITIES/ PROJECTS REQUIRING ENVIRONMENTAL CLEARANCE) Prepared by Administrative Staff College of India, Bellavista, Khairatabad, AUGUST 2009, Page No.86) not varied as much. Therefore, we utilize the baseline data for this cluster which is collected for the adjacent cluster in the year between **October through December 2023** as per the Office Memorandum F. No. IA3-22/10/2022-IA.III [E 177258] issued by Government of India Ministry of Environment, Forest and Climate Change (IA Division) dated 8th June 2022. We also collected the baseline data in maximum locations i.e, in the core and buffer zone for the present cluster in the **29.05.2025 (One Day)**, for cross verification. Field monitoring studies to evaluate the base line status of the project site were carried out with CPCB guidelines. Environmental baseline data were collected by an NABL accredited and MoEF notified **Greenlink Analytical and Research Laboratory (India) Private Ltd** for the environmental attributes including soil, water, air, and noise and by FAEs for ecology and biodiversity, traffic, and socio-economy.

Study Area

The study area has been divided into two zones: core zone and buffer zone. Core zone is considered as lease area and buffer zone as 5km radius from the periphery of the cluster, except for ecological study, which considers 10km as buffer zone. Both core and buffer zones are taken as the study area. The data was collected from the study area to understand the existing environment conditions of the above-mentioned environmental components. Sampling methodologies for the various environmental parameters, including frequency of sampling, method of sample analysis, etc., are briefly given in Table 3.1.

Table 3.1 Monitoring Attributes and Frequency of Monitoring

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land Use/ Land Cover	Land-use Pattern within 5 km radius of the study area	Once during the study period	Study Area	Satellite Imagery & Primary Survey
*Soil	Physico- Chemical characteristics	Once during the study period	8 (2 in nearby core & 6 in buffer zone)	IS 2720 Agriculture Handbook - Indian Council of Agriculture Research, New Delhi
*Water Quality	Physical, Chemical and Bacteriological Parameters	Once during the study period	10 (4 surface water & 6 ground water)	IS 10500& CPCB Standards
Meteorology	Wind speed Wind direction Temperature Cloud cover Dry bulb temperature Rainfall	1 hourly continuous mechanical/automatic weather station	1	Site specific primary data & secondary data from IMD Station
*Ambient Air Quality	PM ₁₀ PM _{2.5} SO ₂ NO _x	24 hours, twice a week	9 (2 core & 7 buffer zone)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient noise	Hourly observation for 24 hours per location	8 (2 core & 6 Buffer zone)	IS 9989 As per CPCB Guidelines
Ecology	Existing flora and fauna	Through field visit during the study period	Study Area Core and Buffer zones (10km radius) of periphery of mine lease area.	Primary Survey by Quadrat & Transect Study Secondary Data – Forest Working Plan
Socio Economic Aspects	Socio- economic characteristics, Population statistics and existing infrastructure in the study area	Site visit & Census Handbook, 2011	Study area (5km radius)	Primary Survey, census handbook & need based assessments.

**All monitoring and testing have been carried out as per the Guidelines of CPCB and MoEF & CC.*

3.1 LAND ENVIRONMENT

3.1.1 Geology and Geomorphology

The proposed quarry lease area is falling under grey hornblend biotite gneiss as shown in Figure 3.1 and 3.2. It is a metamorphic rock characterized by its banding, foliation, and the presence of hornblende and biotite minerals. It's a medium-to coarse-grained rock with a grey to pale grey color. The rock exhibits a distinct foliation due to the parallel arrangement of biotite and hornblende minerals. It also shows a well-developed gneissosity, which is a banded structure formed by alternating layers of quartz-feldspar rich and hornblende-biotite rich materials. The presence of grey hornblend biotite gneiss mineral is a key indicator of this high-grade rough stone process.

Geomorphology:

The geomorphic unit's pediment and pediplain complex dominate the study area as shown in Figure 3.3 and 3.4. Pediments are gently sloping bedrock surfaces typically found at the base of mountains that are formed by lateral erosion and sheet flooding. Pediplains are broad, flat plains formed by the joining of multiple pediments resulting in a vast featureless landscape. This process known as pediplanation occurs primarily in arid and semi-arid regions.

3.1.2 Land Use/ Land Cover

Land Use and Land Cover (LULC) map, as shown in Figure 3.5 was prepared using Sentinel II image for the study area of 5 km radius to provide a baseline status of the study area covering 5 km radius around the proposed mine site. Totally, 7 LULCs were mapped. The areal extent of each LULC is provided in Table 3.2. The total mining area covers only 119.24ha accounting for 1.38 %, of which lease area of 1.27.0Hectares contributes only about 0.015 %. This small percentage of mining activities shall not have any significant impact on the land environment.

Table 3.2 LULC Statistics of the Study Area

S. No.	LU/LC Type	Extend (ha)	Percentage
1	Water	30.47	0.35
2	Trees	65.29	0.75
3	Crops	4450.39	51.39
4	Built area	2423.44	27.98
5	Mining/Industrial area	119.24	1.38
6	Bare Land	31.07	0.36
7	Range land	1540.02	17.78
Total		8659.92	100.0

Source: Sentinel II Satellite Imagery

3.1.3 Topography

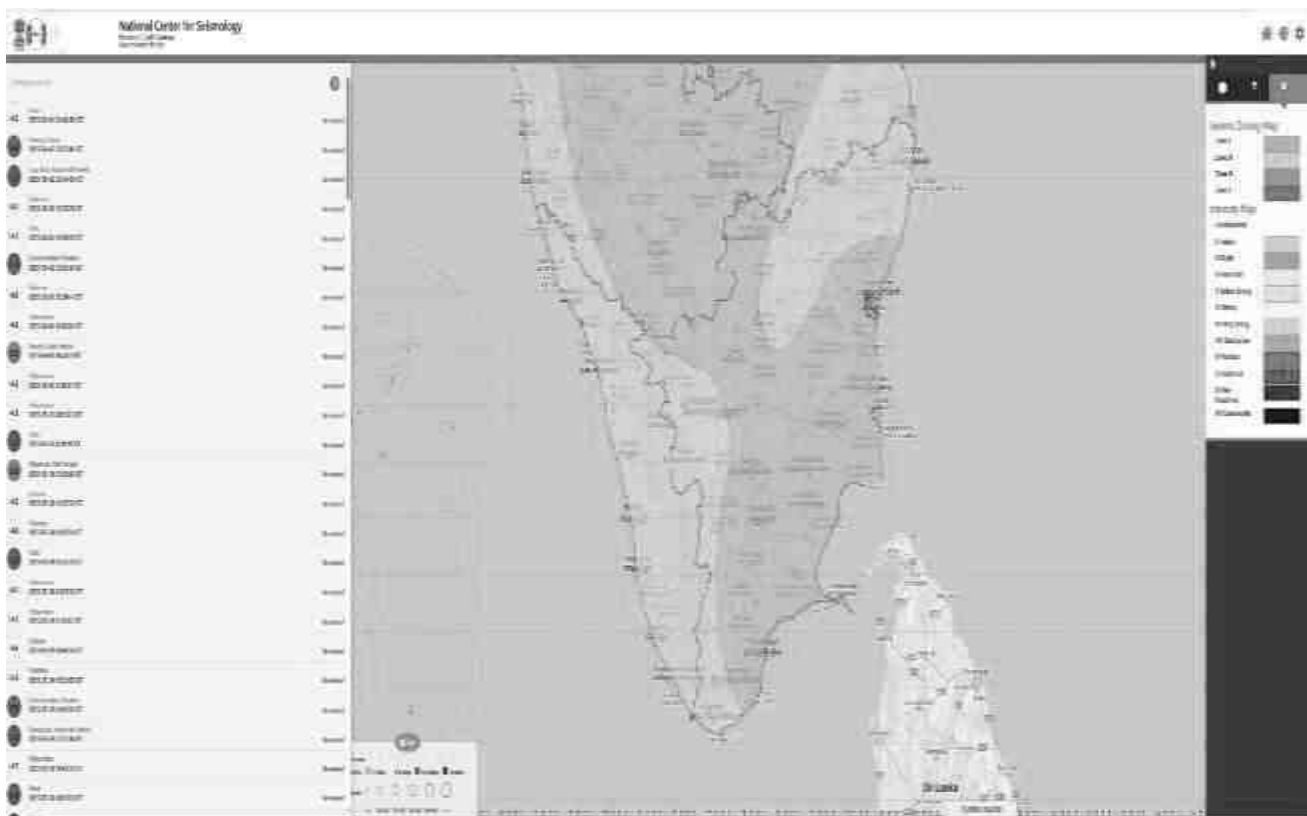
The proposed lease area is located in an elevated terrain with an altitude range of 747-762m AMSL, Showing relief 15m.

3.1.4 Drainage Pattern

Drainage pattern is the pattern formed by the streams, rivers, and lakes in a particular drainage basin over time that reveals characteristics of the kind of rocks and geological structures in a landscape. The proposed area shows dendritic drainage pattern indicating uniform lithology beneath the surface, as shown in Figure 3.6.

3.1.5 Seismic Sensitivity

The proposed lease area is situated in a Seismic Zone II, as defined by National Centre for Seismology ([Official Website of National Centre of Seismology](#)). The Zone II is defined as the region where only minor damage is expected from seismic events. In this respect, the proposed lease area is located in a low earthquake hazard area.



Seismic Zone map

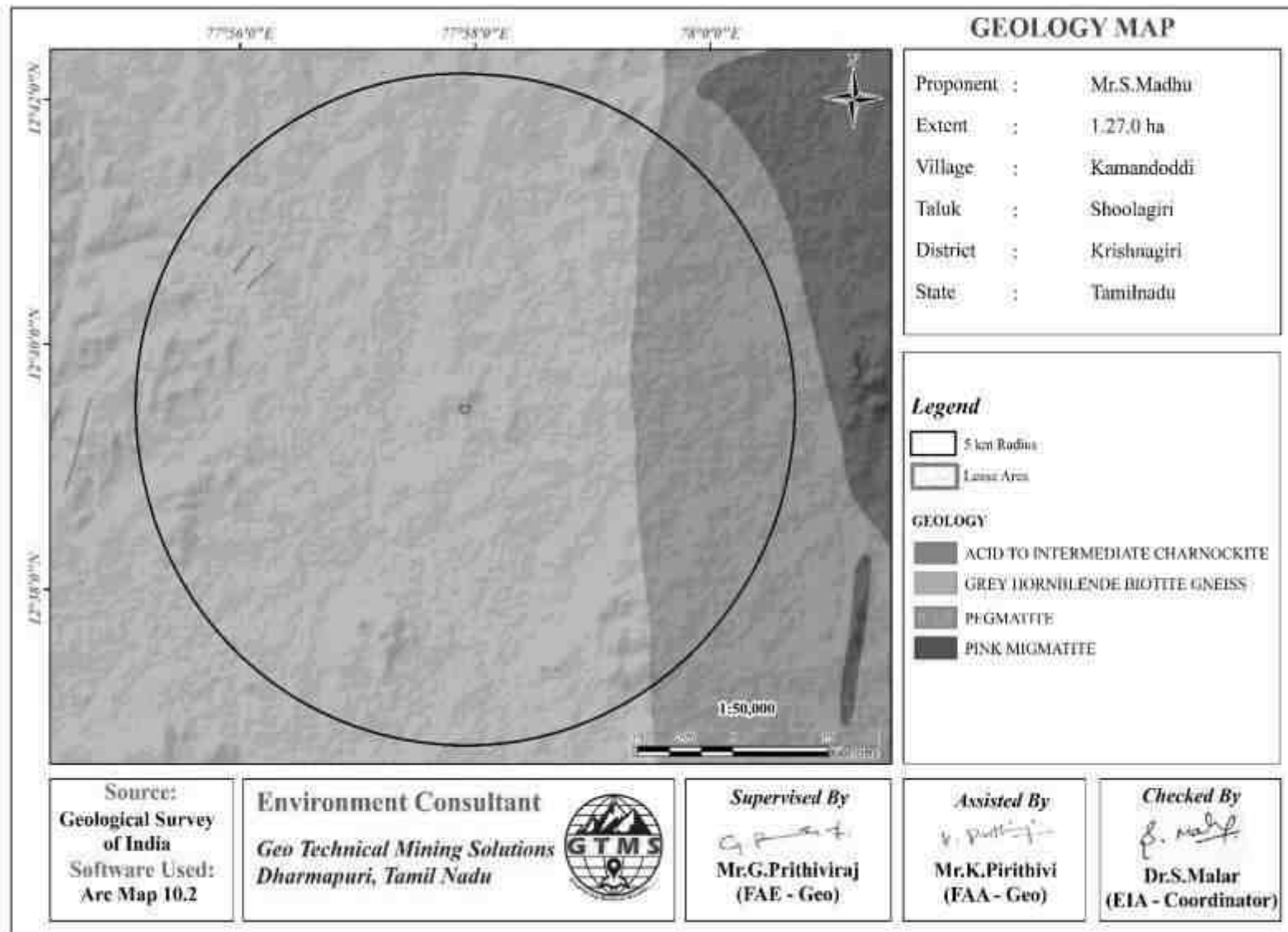


Figure 3.1 Geology Map of 5 km Radius from Proposed Project Site

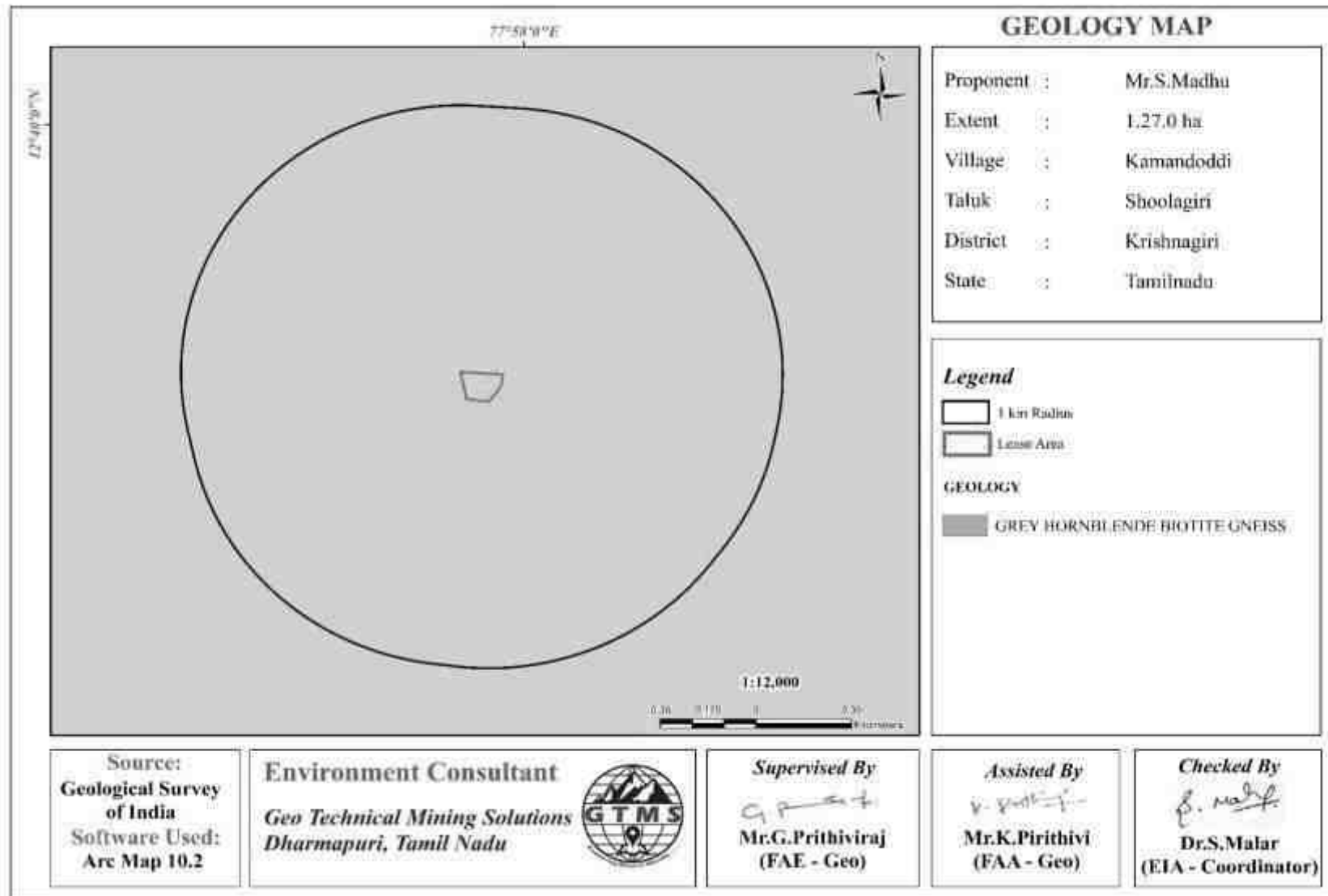


Figure 3.2 Geology Map of 1km Radius from Proposed Project Site

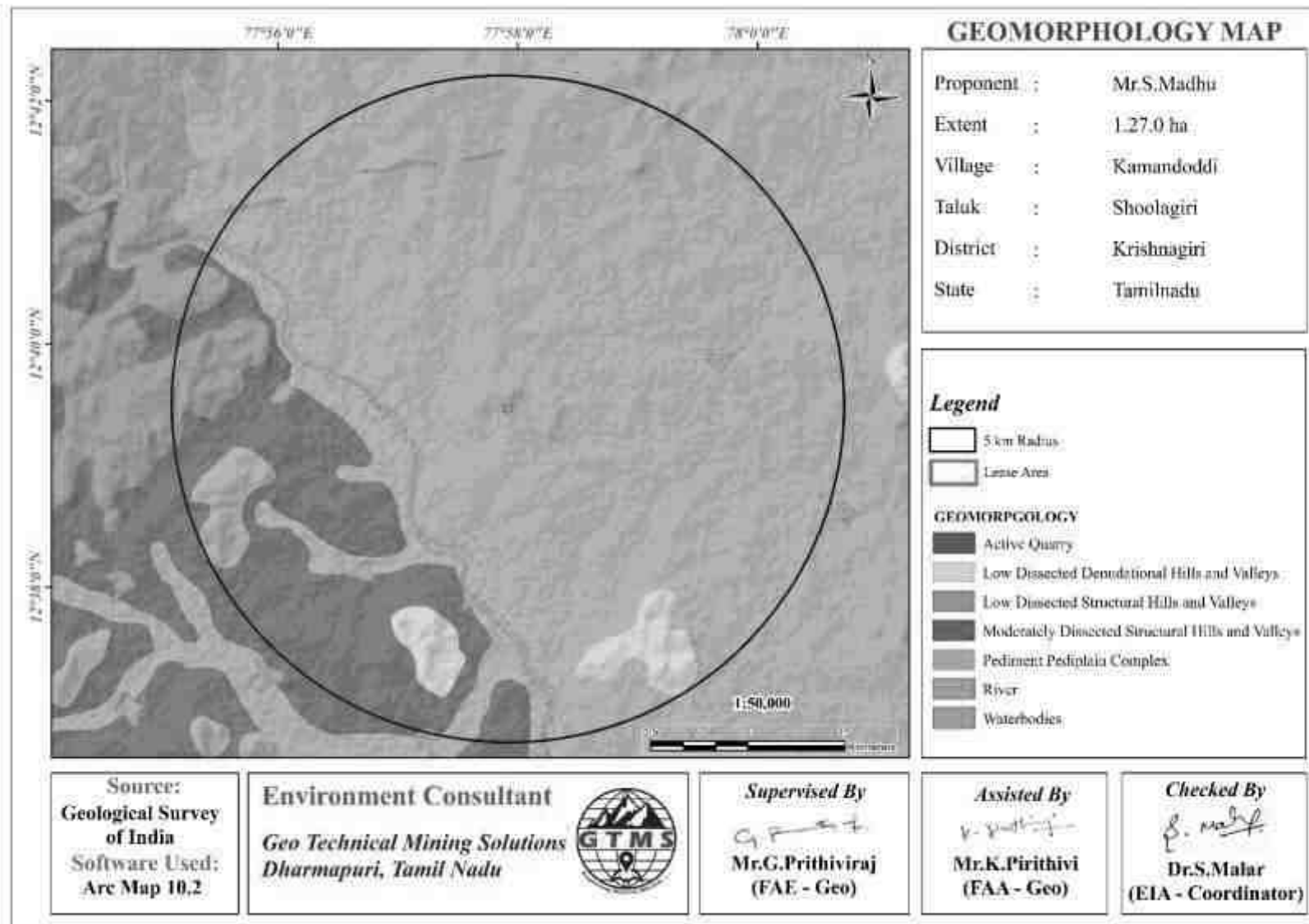


Figure 3.3 Geomorphology Map of 5 km Radius from Proposed Project Site

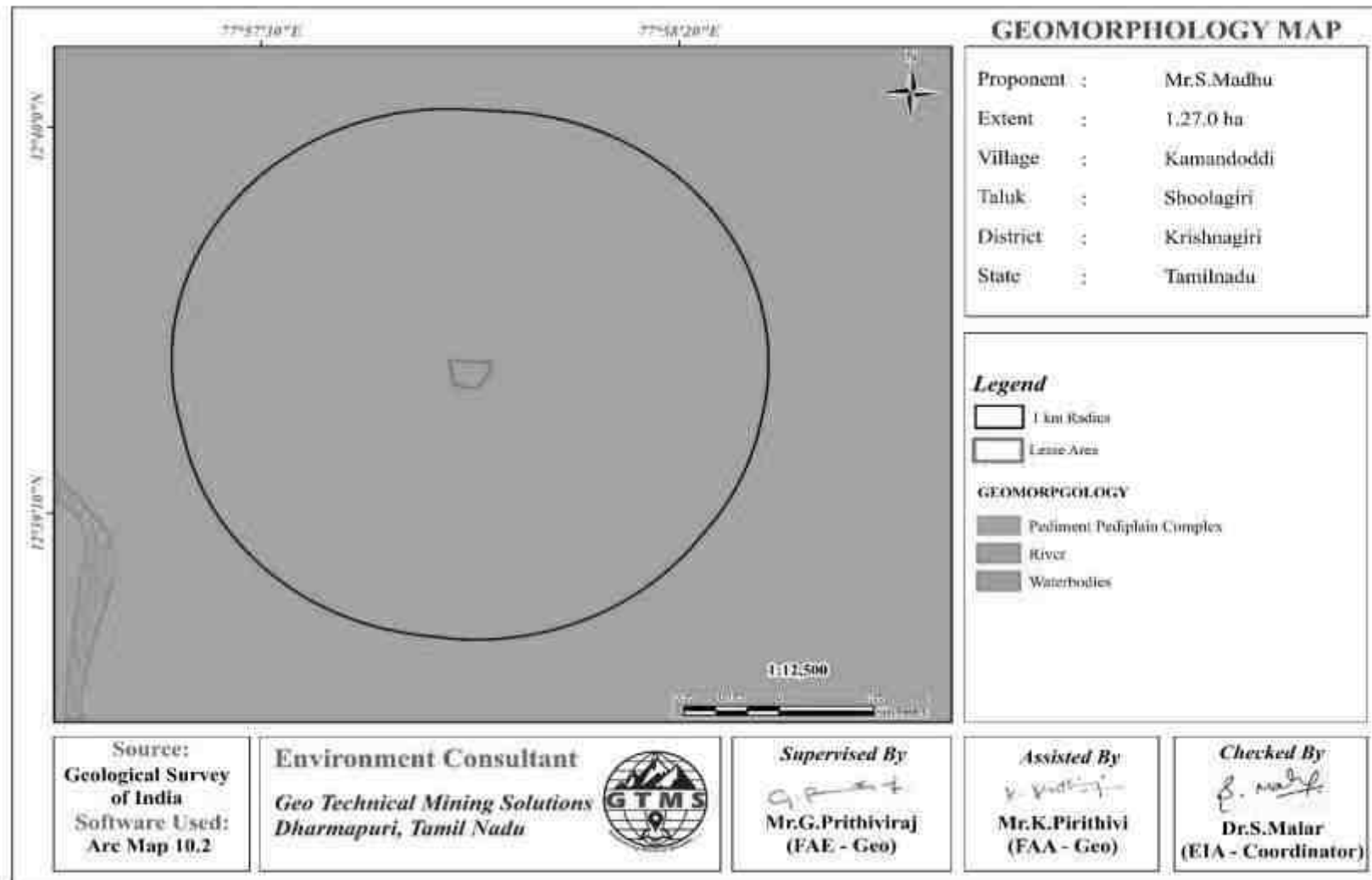


Figure 3.4 Geomorphology Map of 1km Radius from Proposed Project Site

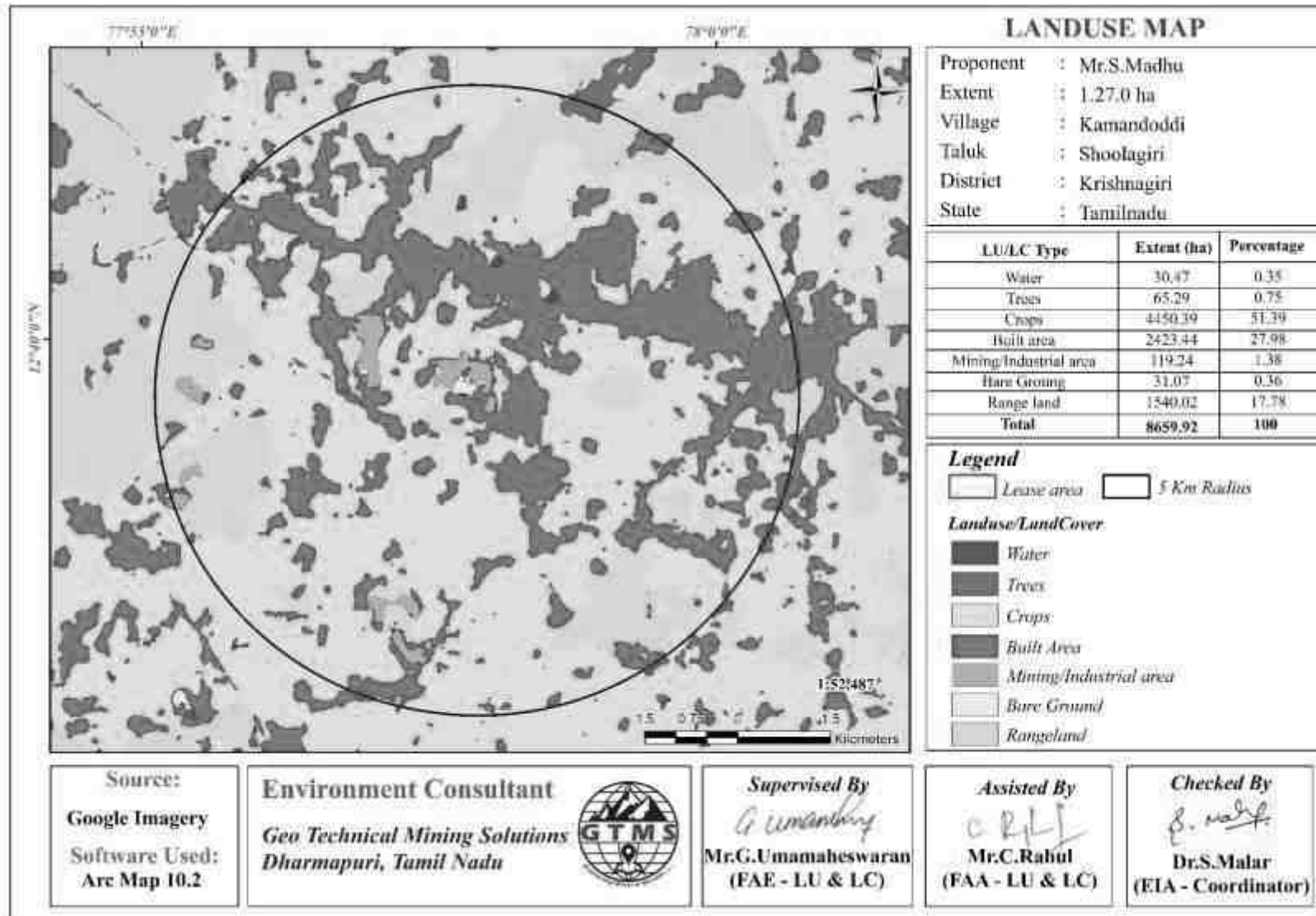


Figure 3.5 LULC Map of 5 km Radius from Proposed Project Site

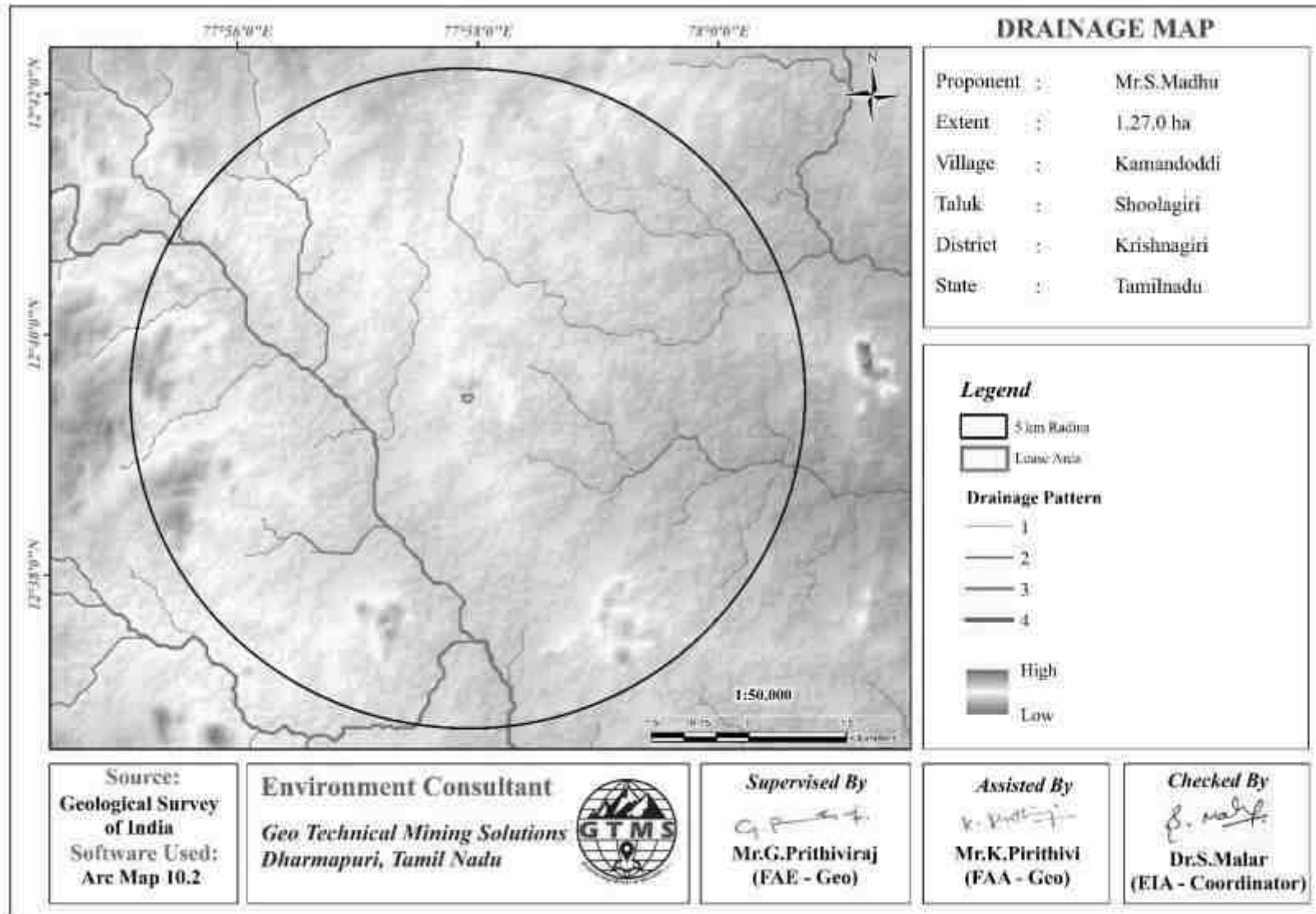


Figure 3.6 Drainage Map of 5 km Radius from Proposed Project Site

3.2 SOIL ENVIRONMENT

The soil samples were collected from 8 locations of the study area to determine the baseline soil characteristics of the soil. The locations were selected for soil sampling based on soil types, Remove the surface litter at the sampling spot. Drive the auger to a plough depth of 90cm and draw the soil sample filled collect the sample in a clean cloth or polythene bag. Label the bag with information like name of the farmer, location of the farm, survey number, previous crop grown, present crop, crop to be grown in the next season, date of collection, name of the sampler etc. The locations of the sampling sites are shown in Table 3.3 and Figure 3.5. The samples thus collected were analysed for physical and chemical characteristics. The physical and chemical characteristic results of soil samples are provided in Table 3.3.

Table 3.3 Soil Sampling Locations

Sampling ID	Location	Distance (km)	Direction	Coordinates
S01	Nearby core	0.68	NW	12°39'44.83"N 77°57'35.81"E
S02	Thirumalaigowni kotta	1.10	SW	12°39'12.59"N 77°57'19.61"E
S03	Chinnabatakanapalli	3.70	SW	12°38'1.13"N 77°56'26.57"E
S04	Shoolagiri	3.22	SE	12°38'55.18"N 77°59'37.91"E
S05	Koneripalli	3.64	NE	12°41'15.21"N 77°58'52.75"E
S06	Gunduguriki	1.88	NW	12°40'26.59"N 77°57'29.30"E
S07	Kamanthoddi	4.30	NW	12°40'39.35"N 77°55'48.61"E
Green link analytical & Research LAB				
S08	Nearby core	0.68	NW	12°39'33.51"N 77°57'30.44"E

Source: On-site monitoring/sampling by Ekdant Enviro Services (P) Limited, and Green link analytical & Research LAB in association with GTMS.

3.2.1 Soil Characteristics

A. Physical Characteristics of soil

Physical characteristics of soils were determined through specific parameters viz. particle size distribution, bulk density, porosity, water holding capacity, texture are presented in Table 3.4.

- **Texture:** In lease area the soil is red calcareous. They are mostly sandy to loamy and characterised by the hard and compact layer of lime. In other places the soil found is brown in colour.
- **Structure:** The grain size is greater than 2mm in the lease area and in other places where the samples collected ranges from 0.002mm to 2mm.
- **Porosity:** The porosity of the soils is significantly impacted by the degree of weathering and fracture development in the underlying bedrock. The 500m radius cluster consists of Charnockite formations affect the porosity found in this study.

- **Density:** The soil samples collected within 5km radius are generally characterized by higher bulk densities typically ranging from 1.25 to 1.66g/cm³. This is due to the presence of red sandy and in some areas with red loamy soil. The dominant soil types include red calcareous and red non-calcareous. Sandy soils have larger pore spaces between them compared to finer-grained soils like silt and clay.
- **Consistence:** Coarse (sandy) soils may require slightly higher moisture content while fine (clay) soils may require slightly lower. A soil moisture content between 12.5% to 18.4% is generally considered optimal for plant growth in medium-textured soils (like loams). This range falls within the 50-75% available water zone where plants are at risk of stress if a water deficit is prolonged.

B. Chemical Characteristics of Soil

- Chemical characteristics of soils through selected parameters viz. pH, soluble cations and anions, exchangeable cations, organic content and fertility status in the form of NPK values and organic matter are presented in Table 3.5. pH is an important parameter indicative of alkaline or acidic nature of soil. It greatly affects the microbial population as well as solubility of metal ions and regulates nutrient availability. Variation in the pH of the soil in the study area is presented in Table 3.5 and it is found to be from slightly acidic to neutral (6.8 – 7.6) in reaction. Electrical conductivity a measure of soluble salts in the soil is in the range of 165 – 298μS/cm as shown in Table 3.5.
- The important water-soluble cations in the soil are nitrogen, phosphorus, potassium, calcium and magnesium whose concentration levels ranged from N- 13.67mg kg⁻¹ to 26.86mg kg⁻¹, P- 1.37mg kg⁻¹ to 3.42mg kg⁻¹, K- 39.91mg kg⁻¹ to 52.3mg kg⁻¹, C- 1127mg/Kg- 18564mg/Kg & M- 16737mg kg⁻¹ - 22937mg kg⁻¹ respectively.
- The soil samples in the study area show loamy textures varying between Silt Loam and sandy loam. pH of the soil varies from 6.8 – 7.6 indicating slightly acidic to slightly alkaline nature. Electrical conductivity of the soil varies from 165 – 298μS/cm. The physical and chemical properties of soil is shown in the Table 3.4.

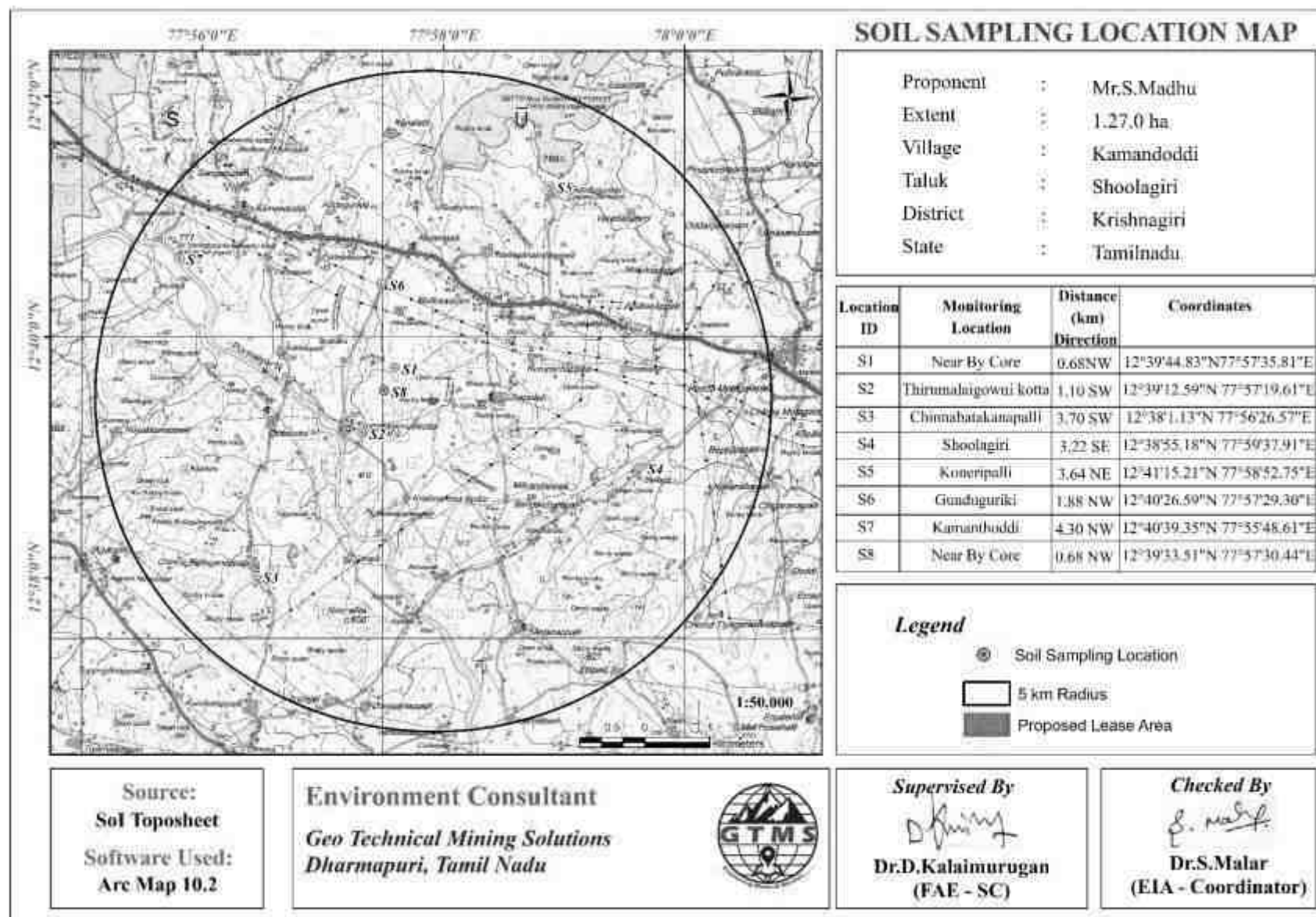


Figure 3.7 Showing Soil Sampling Locations within 5 km Radius around Proposed Project Site

Table 3.4 Soil Quality of the Study Area

S. No	Parameters	Unit	S1	S8	Minimum	Maximum	Average
Physical Parameters							
1	pH @ 10% solution	-	7.3	7.41	6.8	7.6	7.1
2	EC @ 10% solution	μs/cm	165	212	175	298	232.0
3	Moisture	%	14.5	12.48	12.5	18.4	15.3
4	Texture	-	Clay Loam	Clay Loam	Sandy Clay Loam, sandy loam, silty loam, clay loam, clay loam.		
5	Sand	%	43.60	25.48	33.2	72.3	49.2
6	Slit	%	32.50	22.88	11.3	36.4	23.4
7	Clay	%	23.90	30.16	14.3	53.1	27.4
8	Water Holding Capacity	%	18.6	-	13.51	18.9	16.5
9	Bulk Density	g cm ⁻³	1.63	960.0Kg/cm ³	1.25	1.66	1.4
Chemical Parameters							
10	Nitrogen (N)	mg kg ⁻¹	23.4	148.0Kg/ha	13.67	26.86	21.3
11	Phosphorus (P)	mg kg ⁻¹	2.65	6.10	1.37	3.42	2.6
12	Potassium (K)	mg kg ⁻¹	46.8	710.0 Kg/ha	39.91	52.3	45.9
13	Calcium (Ca)	mg kg ⁻¹	1250	630.0	1127	1856	1504.7
14	Magnesium (Mg)	mg kg ⁻¹	202	280.0	167	229	192.8
15	Sodium (Na)	mg kg ⁻¹	212	-	157	263	195.2
16	Sulphur (S)	mg kg ⁻¹	74	-	48	72	59.3
17	Copper (Cu)	mg kg ⁻¹	0.38	20.12ppm	0.26	0.43	0.4
18	Iron (Fe)	mg kg ⁻¹	3.23	2680.0ppm	2.22	3.45	3.0
19	Manganese (Mn)	mg kg ⁻¹	2.18	280.0	1.69	2.91	2.0
20	Zinc (Zn)	mg kg ⁻¹	1.46	15.68ppm	1.16	1.72	1.4
21	Boron (B)	mg kg ⁻¹	1.36	-	0.89	1.88	1.4
22	Organic carbon	%	0.98	0.70	0.63	0.9	0.8
23	Organic matter	%	1.65	1.55	1.2	1.62	1.4
24	CEC	meq/100g	1.63	-	1.42	2.62	2.1

Source: Sampling Results by **Ekdant Enviro Services (P) Limited & Green link analytical & Research LAB** in Association with GTMS FAEs.

Table 3.4a Assigning Scores to Soil Quality Indicators

Soil Quality Score							The Soil Requires Major and Immediate Treatment
S. No.	OM	BD	pH	CEC	EC	Total Score	
S01	30	12	12	6	10	60	
S02	30	2	12	2	10	72	
S03	30	2	18	6	10	66	
S04	30	2	18	6	10	72	
S05	30	2	12	6	10	66	
S06	30	6	18	6	10	72	
S07	30	2	18	2	10	66	
S08	30	12	12	6	10	60	

OM (Organic Matter) BD (Bulk Density) pH (Potential of Hydrogen) EC (Electrical Conductivity) Source: PSS-2262_Soil_Quality_Monitoring.pdf (okstate.edu)

The soil sample result was compared to previous report on the month **Oct- 2023 to Dec- 2023** in N, P, K and EC, Density was slightly increased in soil sample for **29 May 2025**, study period because of does change based on rain season, soil test results can vary significantly between seasons. Factors like rainfall, temperature, and plant uptake influence nutrient levels and pH, making it crucial to consider seasonal variations when interpreting soil tests.

3.3 WATER ENVIRONMENT

The water resources, both surface and groundwater play a significant role in the development of the area. The purpose of this study is to assess the baseline quality of surface and ground water.

Table 3.5 Water Sampling Locations

Sampling ID	Location	Distance (km)	Direction	Coordinates
SW 1	Addakurukki Lake	0.90	NW	12°39'49.52"N,77°57'30.40"E
SW 2	Thenpennai River Thirumalaigownikotta	1.51	SW	12°39'14.16"N, 77°57'4.70"E
SW 3	Kamandoddi Lake	3.20	NW	12°40'52.34"N,77°56'48.04"E
BW 1	Chappadi	0.92	E	12°39'34.41"N, 77°58'32.27"E
BW 2	Addraganapalli	3.77	NE	12°40'17.40"N,77°59'52.27"E
BW 3	Kamandoddi	4.14	NW	12°41'5.77"N, 77°56'16.43"E
OW 1	Thuppuganapalli	3.55	SW	12°37'54.20"N,77°56'42.45"E
Green link analytical & Research LAB				
SW4	Addakurukki Lake	0.95	NW	12°39'50.47"N,77°57'28.92"E
OW2	Nearby Core	0.84	W	12°39'33.21"N,77°57'24.98"E
BW4	Nearby Core	0.88	SW	12°39'15.94"N,77°57'26.03"E

Source: Sampling Results by Ekdant Enviro Services (P) Limited, and Green link analytical & Research LAB in Association with GTMS.

3.3.1 Ground Water Quality Result

3.3.1.1 Physical Parameter of ground water:

The basic physical parameters of water include

Colour:

- Value observed in Project Site (True/Apparent Color): 1 Hazen unit.
- Acceptable and permissible limits: 5 Hazen units and 15 Hazen units respectively. The value in the project site is as same as the acceptable limits prescribed by IS 10500: 2012 (referred as “*Standards*” from herein).

Odour & Taste:

- The water is odour less. The taste of the water is slightly salty which is due to the presence of hardness in water which is attributed to the presence of calcium and magnesium in the water. As per the standards the odour and taste should be agreeable.

pH:

- Value observed in the Project Site: Min.-6.9 & Max. 7.3 mg/L.
- Acceptable and permissible limits: 6.5-8.5. The pH value is the measure of acid – base equilibrium. The value of pH in the project site clearly indicates that water is neutral in nature.

Turbidity:

- Value observed in the Project Site: less than 1.
- Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplankton and other sediments.

Total Dissolved Solids:

- Value observed in the Project Site: Min.-592 & Max. 807 mg/L.
- Acceptable and permissible limits: 500 mg/L and 2000 mg/L respectively.
- TDS is the presence of inorganic salts and small amounts of organic matter present in the water.

3.3.1.2 Chemical parameters of water:

The chemical parameters of the drinking water include,

Calcium:

- Value observed in Min.- 51 & Max.94 mg/L.
- Acceptable and permissible limits: 75mg/L and 200 mg/L respectively.
- Calcium is an essential macronutrient. The value of the calcium is within the prescribed permissible standards. The higher level of calcium may cause hardening in domestic equipment and will also reduce the detergent efficiency. Higher levels of calcium will lead to constipation, gas, and bloating. Apart from that, extra calcium may also increase the risk of kidney stones. If the calcium deposit in blood is high, it may lead to hypercalcemia.

Magnesium:

- Value observed in Min.- 17 & Max. 49 mg/L.
- Acceptable and permissible limits: 30 mg/L and 100 mg/L respectively.
- The value of Magnesium in the project site is below in acceptable limit and less than the permissible limit. The increase in the level of magnesium will cause diarrhea and vomiting in children.

Chloride

- Value observed in Min.- 174 & Max. 310 mg/L.
- Acceptable and permissible limits: 250 mg/L and 1000 mg/L respectively.
- The chloride level in the project site is within the acceptable and permissible limit. If the level of chloride is more, it may cause galvanic and pitting corrosion, increases level of metals. It imparts bitter taste to the water.

Total Alkalinity as CaCO₃:

- Value observed in 196 mg/L.
- Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.
- Total Alkalinity is the measure of the concentration of all alkaline substances dissolved in the water which includes carbonates, bicarbonates and hydroxides, which will impart soda taste to the water. The value of the total alkalinity is within acceptable and permissible limits in the project site.

Hardness:

- Value observed in Min.- 610 & Max. 824 mg/L.
- Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.
- The value of Hardness in the project site is higher than acceptable and permissible limit. The increase in the level of hardness may cause corrosion and scaling problems, increased soap consumption and it also contributes to the salty taste of water.

3.3.2 Surface Water

Inference: The surface water quality is compared with the CPCB Water Quality Criteria against A, B, C, D & E class of water. From the test result, it is found that both the water does not fit Class A (Drinking Water Source without conventional treatment but after disinfection). But they can be used for outdoor bathing as it meets the requirements shown for class B water.

Surface and ground water quality result are more or less same as compared to previous report. TDS, EC and hardness were slightly increased in ground water for 29 May 2025, study period because of water quality does change based on season, primarily due to fluctuations in temperature, precipitation and sunlight. These changes can affect factors like dissolved oxygen, pH, and nutrient levels. The warmer temperatures in summer can lead to increased TDS, EC and Total Hardness (TH). Conversely, increased rainfall in certain seasons can dilute hard water minerals.

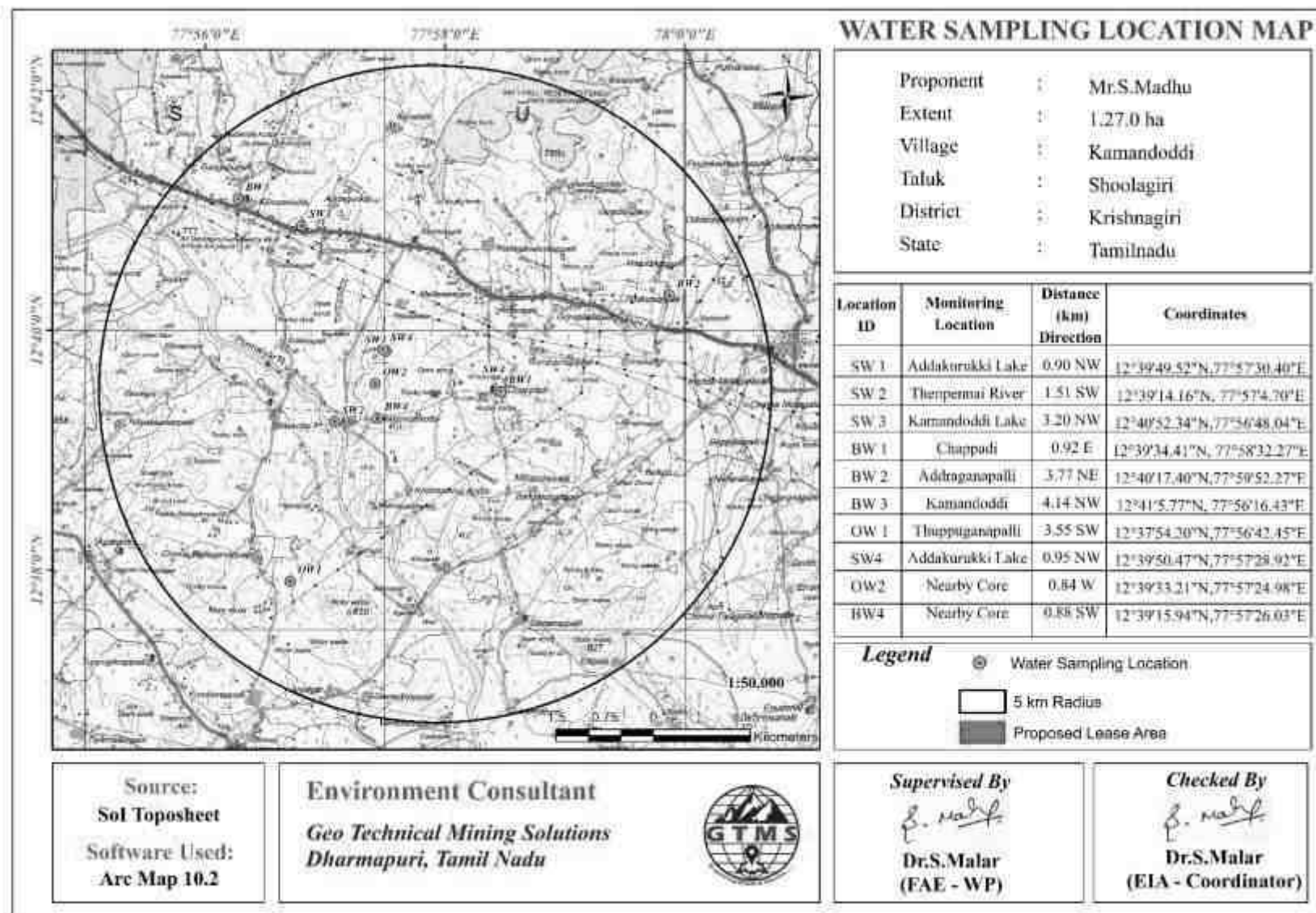


Figure 3.8 Map Showing Water Sampling Locations within 5 km Radius around Proposed Project Site

Table 3.6 Ground Water Quality Result

S. No	Parameters	Units	Ground Water Samples			10500:2012 (Acceptable)	10500:2012 (Permissible)
			Mini	Max	Avg		
1	Colour	CU	1	1	1	5	15
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	≤1	≤1	≤1	5	15
4	EC @ 25°C	μS/Cm	986	1349	1176.8	-	-
5	TDS	mg/l	592	807	702.8	500	2000
6	pH value @ 25°C	--	6.9	7.3	7.0	6.5-8.5	6.5-8.5
7	TH (CaCO ₃)	mg/l	610	824	722.6	200	600
8	Calcium (Ca)	mg /l	51	94	67.3	75	200
9	Magnesium (Mg)	mg/l	17	49	32.1	30	100
10	Sodium (Na)	mg/l	13	32	23.3	50	200
11	Potassium (K)	mg/l	2	7	4.5	12	12
12	Biocarbonate (HCO ₃)	mg/l	49	82	65.1	50	400
13	Sulphates (SO ₄)	mg/l	178	267	219.3	200	400
14	Chloride (Cl)	mg /l	174	310	256.1	250	1000
15	Nitrate (NO ₃)	mg /l	11	19	15	45	45
16	Fluoride (F)	mg /l	1.1	1.4	1.2	1	1.5
17	<i>Coliforms Bacteria</i>	MPN/100ml	Present	Present	Present	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
18	<i>E.Coli</i>	MPN/100ml	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

Source: Sampling Results by Ekdant Enviro Services (P) Limited, in association with GTMS.

Table 3.6a Surface Water Quality Results

Table 3.1a Surface Water Quality Results						
S. No.	Parameters	Units	RESULTS			CPCB designated best use
			Min	Max	Avg	
I	Physical Parameters					
1.	Color	Hazen	1	2	1.6	300
2.	Odor	-	Agreeable	Agreeable	Agreeable	Not specified
3.	pH@ 25°C	-	6.9	7.3	7.1	6.5-8.5
4.	Turbidity	NTU	2	3	2.6	10
5.	Electrical conductivity @ 25°C	µS/Cm	956	1083	1015.2	Not specified
II	Chemical Parameters					
6.	TDS	mg /l	583	668	622.6	1500
7.	Total Hardness	mg/l	176	294	234.8	Not specified
8.	Calcium (Ca)	mg/l	65	84	73.8	Not specified
9.	Magnesium (Mg)	mg/l	29	39	34.2	Not specified
10.	Sodium (Na)	mg/l	59	71	64	200(WHO)
11.	Potassium (K)	mg/l	3	5	4	3
12.	Bicarbonate (HCO ₃)	mg/l	59	67	62.6	400(WHO)
13.	Sulphate (SO ₄)	mg/l	122	142	132	400
14.	Chloride (Cl)	mg/l	196	234	218.8	600
15.	Nitrates (NO ₃)	mg/l	21	29	24.8	50
16.	Fluoride (F)	mg /l	0	0	0	1.5
17.	BOD3days@ 27°C	mg O ₂ /l	1	3	2	5
18.	COD	mg O ₂ /l	2	6	4	20
III	Biological Parameters					
19	<i>Total Coliform</i>	MPN/100ml	Present	Present	Present	5000
20	<i>Escherichia Coli</i>	MPN/100ml	Present	Present	Present	Not specified

Source: Sampling Results by Ekdant Enviro Services (P) Limited, in association with GTMS.

Table 3.7 Water Quality Results

S. No.	Parameters	Units	Results		
			SW1	OW1	BW1
1	pH value @ 25°C	No.	7.62	7.58	7.88
2	TDS	mg/l	96.0	1020.0	1350.0
3	EC @ 25°C	µS/cm	150.0	1410.0	1660.0
4	Turbidity	NTU	<0.1	<0.1	<0.1
5	Colour	Hazen	<1.0	<1.0	<1.0
6	Calcium (Ca)	mg /l	8.81	100.2	120.2
7	Magnesium (Mg)	mg/l	4.37	65.66	68.09
8	Chlorides (Cl)	mg /l	15.6	168.0	175.0
9	Sulphates (SO ₄)	mg/l	4.80	70.0	74.0
10	Silica (as SiO ₂)	mg/l	3.60	18.5	20.1
11	Total Residual Chlorine	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)
12	Sodium (Na)	mg/l	2.95	50.4	54.1
13	Total Hardness (CaCO ₃)	mg/l	40.0	520.0	580.0
14	Total Alkalinity (CaCO ₃)	mg/l	56.0	180.0	196.0
15	Fluoride (F)	mg/l	BDL(DL-0.1)	0.75	0.84
16	Odour	-	Agreeable	Agreeable	Agreeable
17	Taste	-	Agreeable	Disagreeable	Disagreeable
18	Total Solids	mg/l	104.0	1048.0	1396.0
19	Dissolved Oxygen	mg/l	5.80	5.2	5.5
20	Phosphorous	mg/l	0.54	2.32	2.18
21	Potassium	mg/l	BDL(DL-0.1)	11.6	10.5
22	Nitrite (NO ₂)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)
23	Phenolphthalein Alkalinity	mg/l	Nil	20.2	24.1
24	Total Coliform	CFU/ml	Present	Absent	Absent
25	Escherichia Coli	CFU/ml	Present	Absent	Absent

CFU: Colony Forming Uni, BDL: Below Detectable level, DL: Detectable level

Source: Sampling Results by **Greenlink Analytical and Research Laboratory (India) Private Ltd**, in association with GTMS

3.3.3 Hydrogeology

Krishnagiri district is underlined by Archaean crystalline formations with Recent alluvial deposits of limited areal extent and thickness along the courses of major rivers (Plate-II). The occurrence and movement of ground water are controlled by various factors such as physiography, climate, geology and structural features. Weathered, and fractured crystalline rocks constitute the important aquifer systems in the district.

Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones at deeper levels. The thickness of weathered zones in the district ranges from less than a meter to more than 15m. The yield of large diameter dug wells in the district, tapping the weathered mantle of crystalline rocks ranges from 100 to 500 lpm. These wells normally sustain pumping for 2 to 6 hours per day, depending upon the local topography and characteristics of the weathered mantle.

The depth to water level (DTW) during pre-monsoon (May 2006) ranged between 0.5 and 9.9 m bgl (Plate-III) in the district. In major part of the district the DTW is more than 5 m bgl. Whereas it ranged between 2 and 9.9 m bgl (Plate-IV) during post monsoon, in the district and the DTW is in the range of 5 – 10 m bgl in the entire district except a few isolated pockets.

The yield of successful exploratory wells drilled in the district ranged from 0.78 lps to 26 lps. As per the studies the wells drilled in granitic gneiss have higher yields than the wells drilled in charnockites. The specific capacity of the wells ranged from 1.2 to 118.0 lpm/m/dd. The piezometric head of fracture zones varied between 0.50 and 18.45 m bgl.

3.3.3.1 Rainfall

Rainfall data for the study area were collected for the period of 1981-2021([POWER | Data Access Viewer \(nasa.gov\)](#)). Long term monthly average rainfall was estimated from the data of 1981-2021 and compared with the monthly rainfall for the year 2022, shown in Figure 3.8. The Figure 3.9 shows that rainfall is generally high in the months of September through November in every year. Particularly, rainfall in April through August and October of 2022 is higher than the previous years.

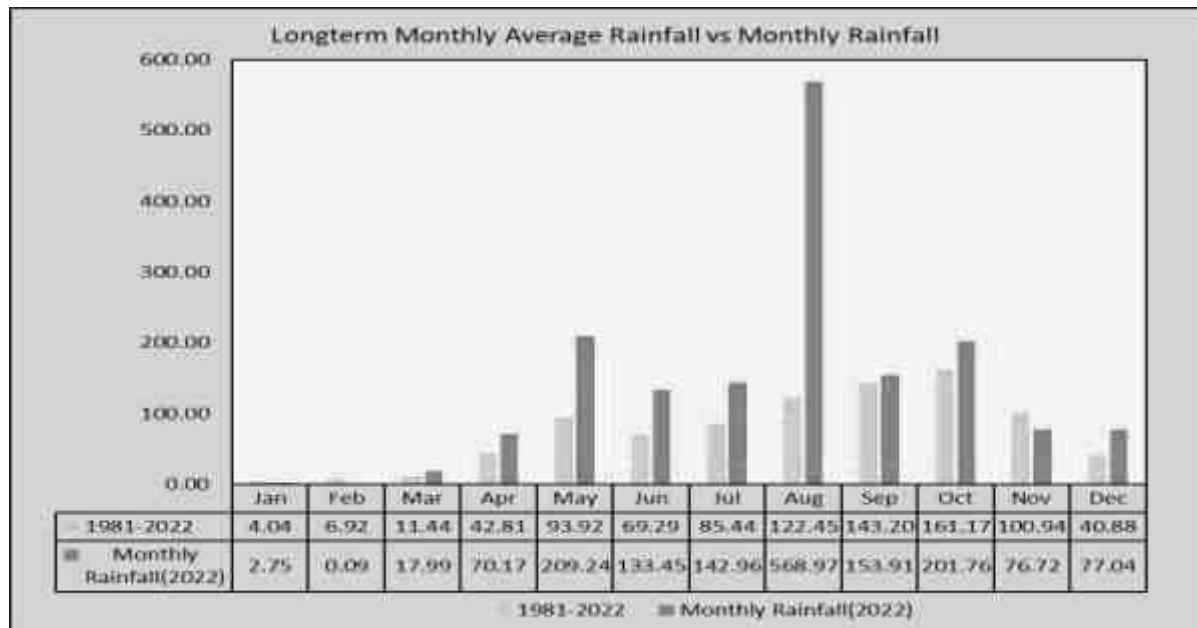


Figure 3.9 Long-Term Monthly Average Rainfall Vs Monthly Rainfall

3.3.3.2 Groundwater Levels and Flow Direction

Data regarding depth to groundwater levels are essential to infer the direction of groundwater movement within the study area. Knowledge of groundwater flow direction is must in choosing location for background groundwater quality monitoring well and in locating recharge and discharge areas. Therefore, data regarding groundwater elevations were collected from 9 open wells and 8 bore wells at various locations within 2 km radius around the proposed project sites for the period from March through May 2023 (Pre-Monsoon Season) and from October through December 2023, (Post Monsoon Season).

The open well water level data thus collected onsite are provided in Tables 3.8 and 3.9. According to the data, average depths to the static water table in open wells range from 18.96 to 21.00 m BGL in pre monsoon and 14.33 to 16.00 m BGL in post monsoon. The bore well data thus collected onsite are provided in Tables 3.9 and 3.10. The average depths to static potentiometric surface in bore wells for the period of October through December (Post-Monsoon Season) vary from 62.3 to 65.8 m and from 72.7 to 75.5 m for the period of March

through May, (Pre- Monsoon Season). Data on the depths to static water table and potentiometric surface were used to draw contour lines connecting groundwater elevation (also known as equipotential hydraulic head) to determine the groundwater flow direction perpendicular to the contour lines.

From the maps of open well groundwater flow direction shown in Figures 3.11, it is understood that most of the open well groundwater for the post- and pre-monsoon seasons flows towards the open well number 5 located in northwestern direction of the proposed project site. The groundwater flow maps in Figures 3.10-3.12&3.13 show that most of the bore well groundwater for the post- and pre-monsoon seasons flow towards the bore well number 5 and 7. It is located in northwestern and northern direction of the proposed project site. On the basis of the groundwater flow information, both open wells and bore wells mentioned above can be chosen for water quality monitoring purpose as the wells may get easily affected by the contaminants resulting from the mining activities of the sites in future.

Table 3.8 Pre-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Water Table BGL (m)				Latitude	Longitude
	Mar-2023	Apr-2023	May-2023	Average		
DW01	20.5	21.2	23.1	21.60	12°40'0.87"N	77°57'30.30"E
DW02	20.9	21.9	22.9	21.90	12°39'33.86"N	77°57'13.16"E
DW03	20.6	21.1	22.8	21.50	12°39'7.81"N	77°58'6.75"E
DW04	20.9	21.8	22.1	21.60	12°40'26.24"N	77°56'54.48"E
DW05	20.1	21.6	22.8	21.50	12°40'29.04"N	77°58'16.29"E
DW06	20.8	21.5	22.9	21.73	12°39'49.31"N	77°58'17.34"E
DW07	20.2	25.8	26.8	24.27	12°39'17.57"N	77°57'23.30"E
DW08	20.5	24.9	27.1	24.17	12°39'46.96"N	77°56'52.12"E
DW09	20.90	24.5	26.7	24.03	12°39'0.05"N	77°56'50.38"E

Source: Onsite monitoring data

Table 3.9 Post-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Water Table BGL(m)				Latitude	Longitude
	Oct2023	Nov2023	Dec2023	Average		
DW01	19.2	17.5	16.2	17.63	12°40'0.87"N	77°57'30.30"E
DW02	19.3	17.1	16.5	17.63	12°39'33.86"N	77°57'13.16"E
DW03	19.7	18.9	16.8	18.47	12°39'7.81"N	77°58'6.75"E
DW04	19.6	18.2	16.4	18.07	12°40'26.24"N	77°56'54.48"E

DW05	19.8	19.1	16.9	18.60	12°40'29.04"N	77°58'16.29"E
DW06	19.8	18.9	16.2	18.30	12°39'49.31"N	77°58'17.34"E
DW07	19.2	19.3	16.5	18.33	12°39'17.57"N	77°57'23.30"E
DW08	20.1	19.1	16.1	18.43	12°39'46.96"N	77°56'52.12"E
DW09	20.90	18.5	16.9	18.77	12°39'0.05"N	77°56'50.38"E

Source: Onsite monitoring data

Table 3.10 Pre-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Potentiometric Surface BGL(m)				Latitude	Longitude
	Mar-2023	Apr-2023	May-2023	Average		
BW01	76.5	78.9	81.28	78.89	12°39'19.01"N	77°57'10.95"E
BW02	76.1	79.1	82.1	78.89	12°39'55.46"N	77°56'39.13"E
BW03	75.9	78.3	82.5	78.90	12°40'8.01"N	77°58'34.34"E
BW04	75.2	78.5	83.2	78.97	12°39'48.40"N	77°58'44.93"E
BW05	75.6	78.9	83.1	79.20	12°39'29.29"N	77°58'28.02"E
BW06	75.4	78.5	82.4	78.77	12°38'46.68"N	77°57'39.25"E
BW07	76.1	78.6	83.4	79.37	12°40'15.79"N	77°57'43.22"E
BW08	76.5	79.2	82.1	79.27	12°39'55.99"N	77°57'16.26"E
BW09	75.1	78.5	81.8	78.47	12°40'43.52"N	77°57'29.48"E

Source: Onsite monitoring data

Table 3.11 Post-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Potentiometric Surface BGL(m)				Latitude	Longitude
	Oct-2023	Nov-2023	Dec-2023	Average		
BW01	85	82	79.2	82.07	12°39'19.01"N	77°57'10.95"E
BW02	86.1	83.1	79.1	82.77	12°39'55.46"N	77°56'39.13"E
BW03	85.2	82.1	78.1	81.80	12°40'8.01"N	77°58'34.34"E
BW04	84.9	81.9	78.5	81.77	12°39'48.40"N	77°58'44.93"E
BW05	85	82.5	78.6	82.03	12°39'29.29"N	77°58'28.02"E
BW06	85.6	82.6	78.5	82.23	12°38'46.68"N	77°57'39.25"E
BW07	84.2	82.2	78.9	81.77	12°40'15.79"N	77°57'43.22"E
BW08	85.6	82.1	79.1	82.27	12°39'55.99"N	77°57'16.26"E
BW09	85.2	79.8	78.5	81.17	12°40'43.52"N	77°57'29.48"E

Source: Onsite monitoring data

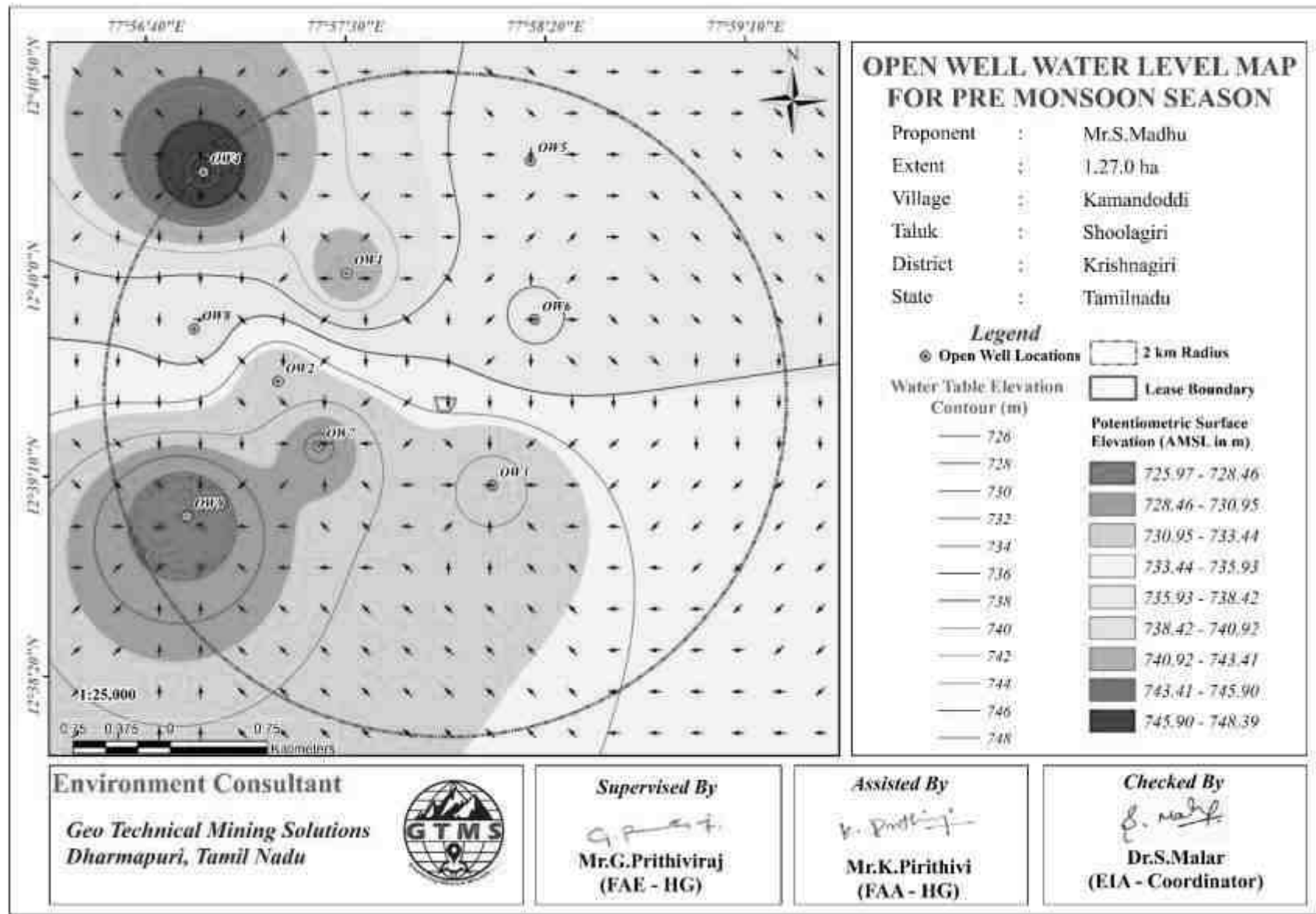


Figure 3.10 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre- Monsoon Season

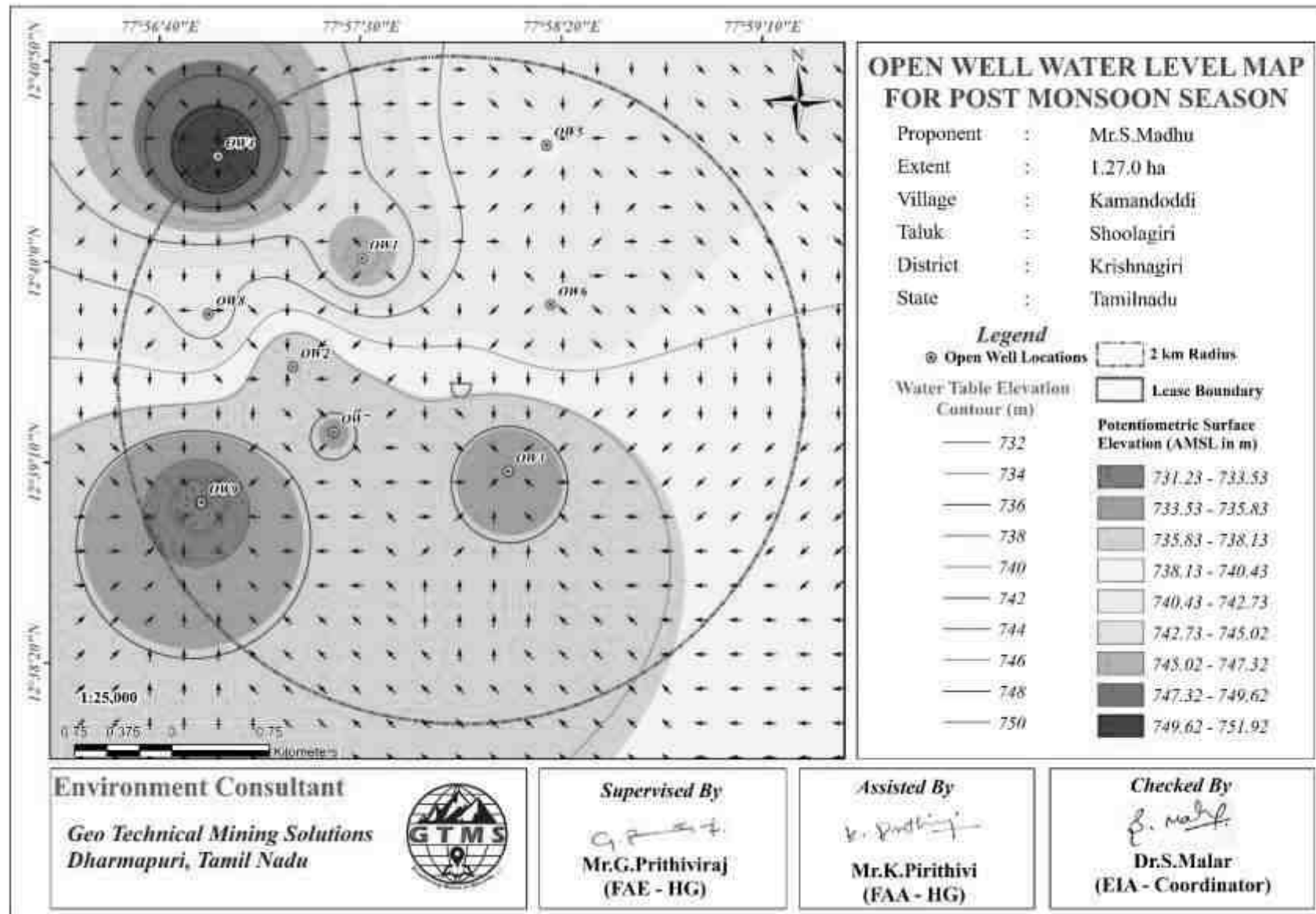


Figure 3.11 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

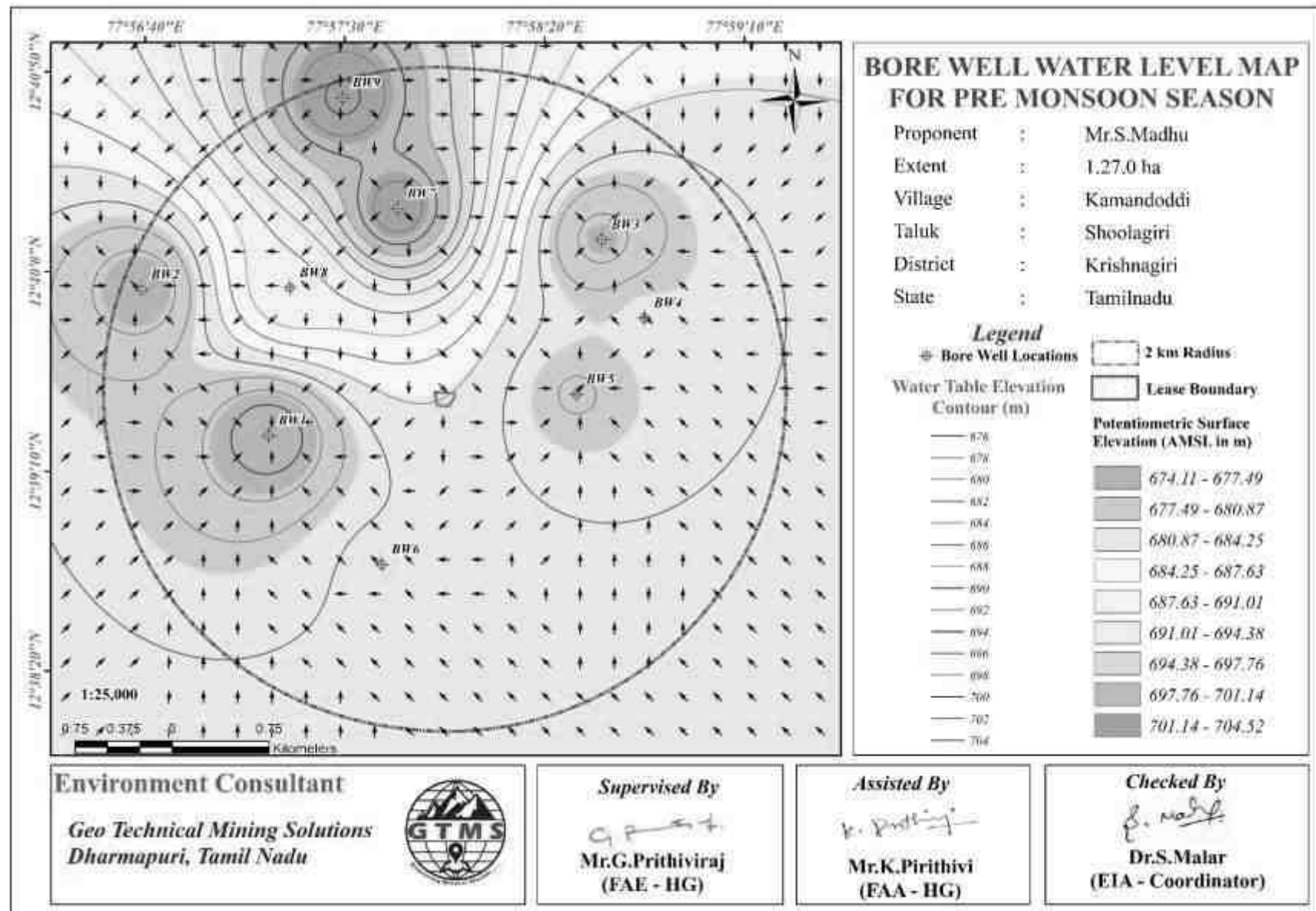


Figure 3.12 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre-Monsoon Season

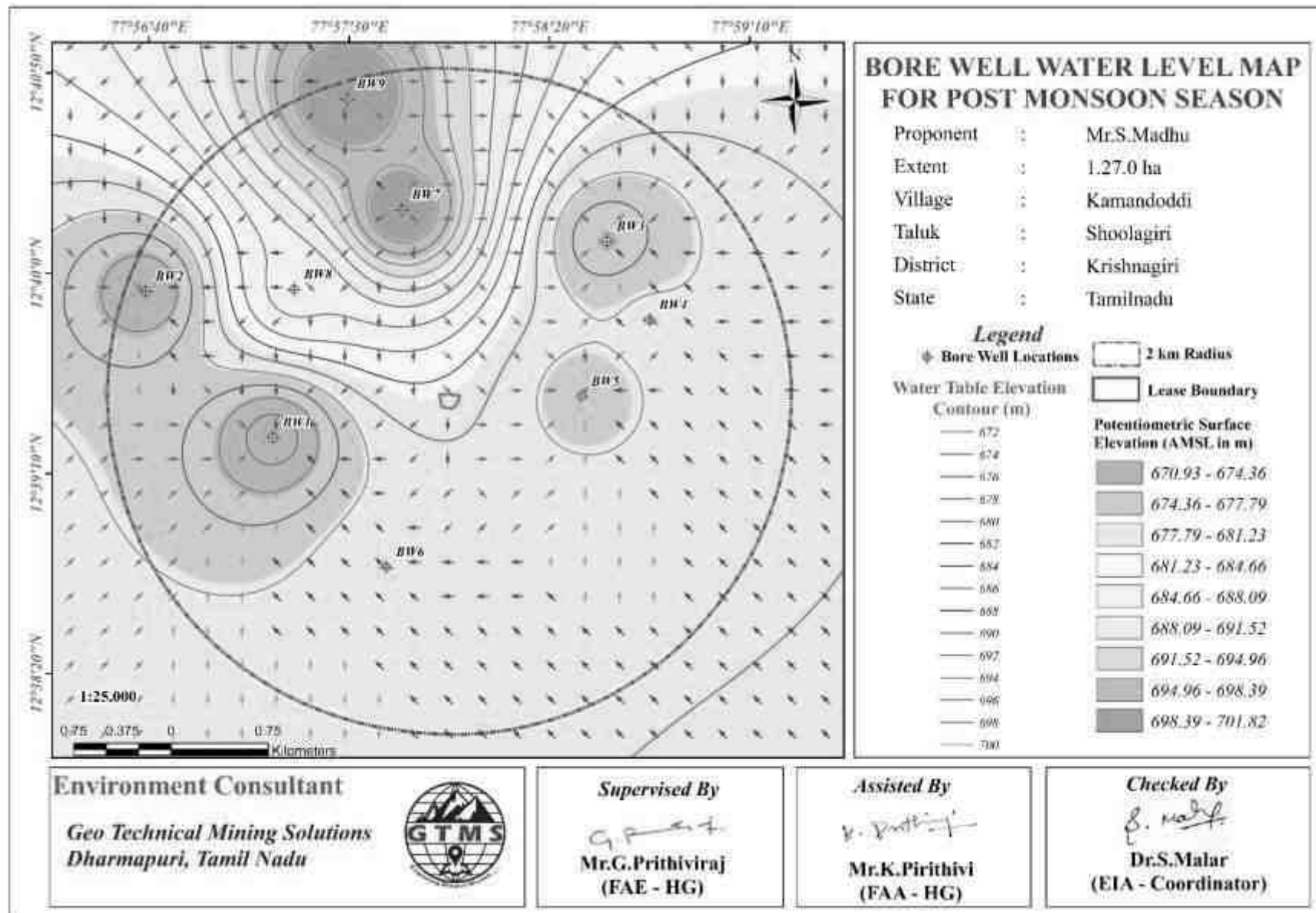


Figure 3.13 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

3.3.3.3 Electrical Resistivity Investigation

Electrical resistivity investigation is especially useful in the areas where there are no adequate exploratory well data about the aquifer conditions. The present study makes use of vertical electric sounding (VES) to delineate earth's subsurface layers. The electrical resistivity investigation uses four electrodes set up where current is sent through outer electrodes into the ground and the inner electrodes measure the potential difference.

Soil Resistivity

In a geophysical survey report, soil resistance, also known as earth resistivity, refers to the ability of the soil to resist the flow of an electric current. This property is influenced by factors like soil composition, water content, and the arrangement of voids. Resistivity surveys use electrical current to map subsurface variations, helping to identify features like buried structures, geological formations, and water table depths.

In this study area the soil resistance is very high, so in rainy season the water will be not seepage in the shallow depth and not through intrusion to water table. Identified the aquifer for proposed mining area through the geophysical investigation the water table thickness is 80m below ground level, the proposed ultimate mining depth is 55m below ground level. So, this mining activity is not disturbing to the ground water table through entire mining periods.

Result

The Geophysical VES data obtained from the project site have been shown in Table 3.12. The field data obtained from a detailed geophysical investigation were plotted using excel spreadsheet for interpretation. The plot for the purpose of interpretation has been shown in Figure 3.14.

Table 3.12 Vertical Electrical Sounding Data

Location Coordinates - 12°39'33.53"N 77°57'42.74"E					
S. No.	AB/2 (m)	MN/2 (m)	Geometrical Factor (G)	Resistance in Ω	Apparent Resistivity in Ωm
1	2	2	11.78	12.44	146.5
2	4	2	49.46	7.42	367.04
3	6	5	112.26	4.98	559.28
4	8	5	200.18	2.86	572.71
5	10	5	75.36	8.49	640.03
6	15	10	173.49	4.53	786.42
7	20	10	310.86	3.18	987.56

8	25	10	487.49	2.29	1118.76
9	30	10	274.75	5.28	1451.78
10	35	10	376.8	4.22	1590.54
11	40	10	494.55	3.33	1649.12
12	45	10	628	2.75	1729.18
13	50	10	777.15	2.39	1857.16
14	65	20	453.6	4.50	2041.05
15	70	20	989.1	2.17	2149.5
16	80	20	1256	1.25	1567.45
17	90	20	1554.3	1.69	2630.93
18	100	20	1653.6	1.62	2680.44

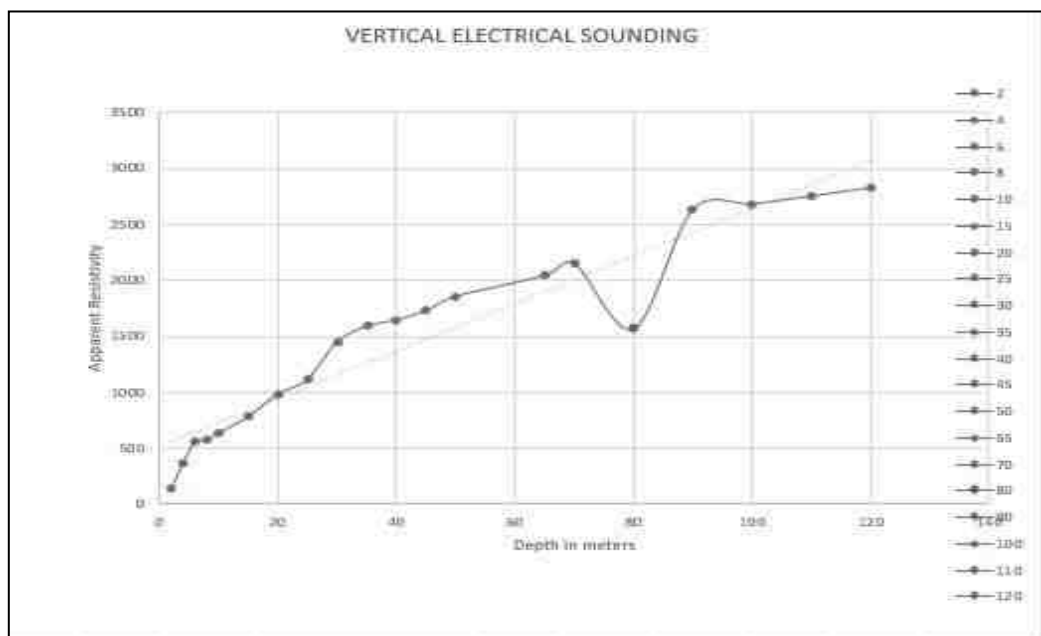


Figure 3.14 Graph Showing Occurrence of Water Bearing Fracture Zones at the Depth of 80m Below Ground Level in Proposed Project

The rock formation of low resistivity values indicates occurrence of water at the depth of about 80m below ground level. The maximum depth proposed for the proposed project is 55m (15 AGL+40 BGL). Therefore, the mining operation will not affect the aquifer throughout the entire mine life period.

3.4 AIR ENVIRONMENT

The baseline studies on air environment include identification of specific air pollutants and their existing levels in ambient air. The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities.

3.4.1 Meteorology

Meteorological data was collected near the mine lease area for the period of October to December 2023 to assess site-specific climatic conditions. Additionally, secondary data for the same period over the past four years was sourced from the NASA Power Data Access Viewer. This meteorological analysis provides vital information on prevailing weather patterns, particularly the predominant downwind direction, which is essential for forecasting the potential increase in pollution levels resulting from project-related activities.

3.4.2 Secondary Data

Secondary data from NASA Power Data Access Viewer has been collected for wind, wind speed, wind direction, humidity and temperature. The Monthly maximum, minimum and average values are collected for all the parameters. Significant parameters are summarized in table 3.13.

Table 3.13 Onsite Meteorological Data-2023

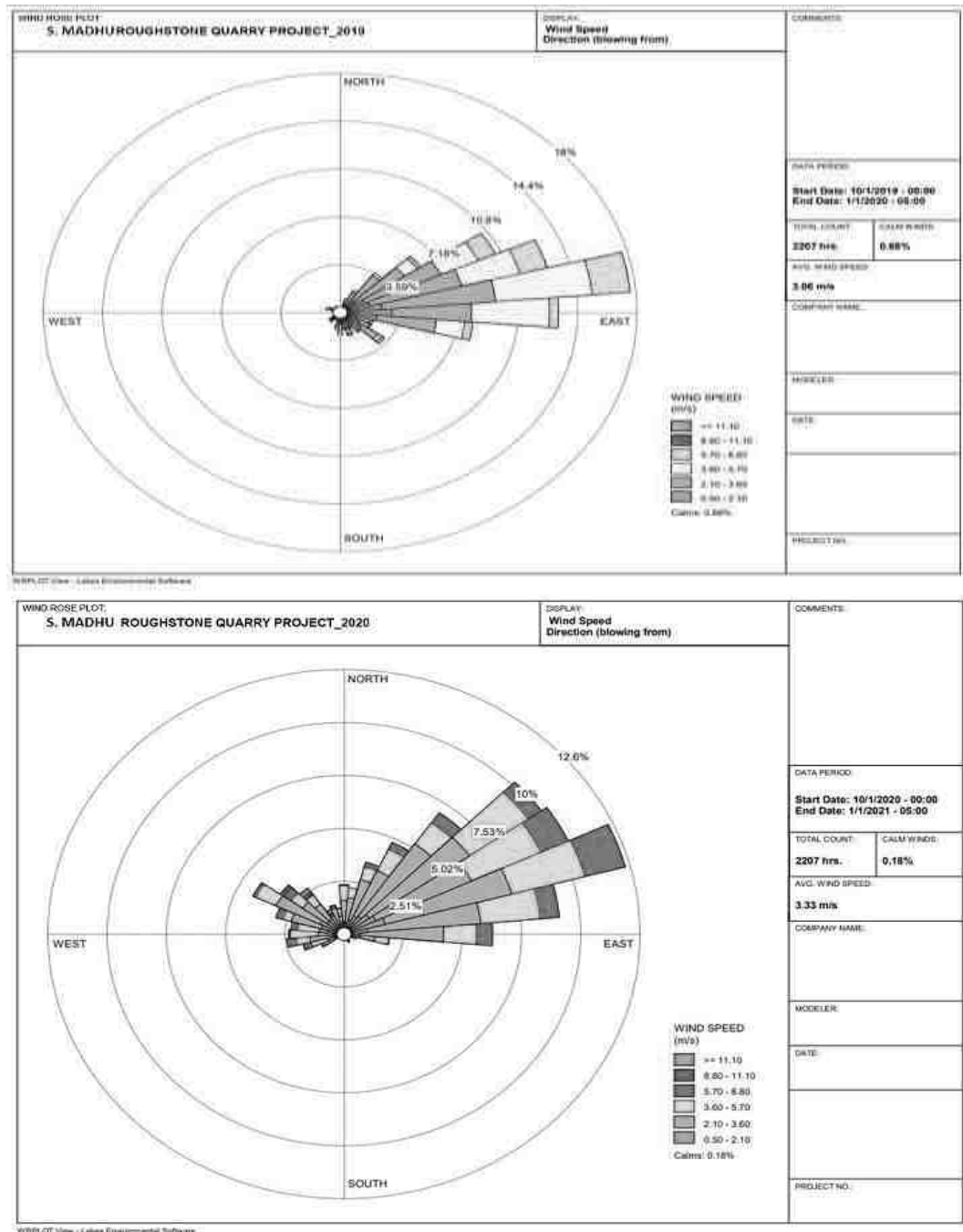
S. No.	Parameters		OCT,2023	NOV,2023	DEC,2023
1	Temperature (°C)	Min	21.01	20.08	17.73
		Max	37.13	32.82	32.26
		Avg	27.98	26.06	24.67
2	Relative Humidity (%)	Min	26.06	46.12	40.19
		Max	99.62	100.00	100.00
		Avg	70.38	82.75	80.15
3	Wind Speed (m/s)	Min	0.04	0.50	0.80
		Max	9.41	6.92	7.37
		Avg	2.31	2.63	3.18
4	Wind Direction (degree)	Min	0.00	0.00	0.12
		Max	359.75	359.23	359.22
		Avg	158.80	81.51	111.69
5	Surface Pressure(kPa)	Min	98.03	98.24	97.98
		Max	98.98	99.07	99.42
		Avg	98.59	98.66	98.64

Source: On-site monitoring/sampling by Ekdant Enviro Services (P) Limited in association with GTMS

3.4.3 Secondary Data Wind Pattern

Wind pattern will largely influence the dispersion pattern of air pollutants and noise from the proposed project site. Analysis of wind pattern requires hourly site-specific data of wind speed and direction. The wind rose were generated: historical seasonal wind rose for the period of October to December of the years from 2019 to 2023. The wind rose diagrams thus produced are shown in Figures 3.15 and 3.15a.

- ❖ Predominant wind was dominant in the directions ranging from Northeast to Southeast.



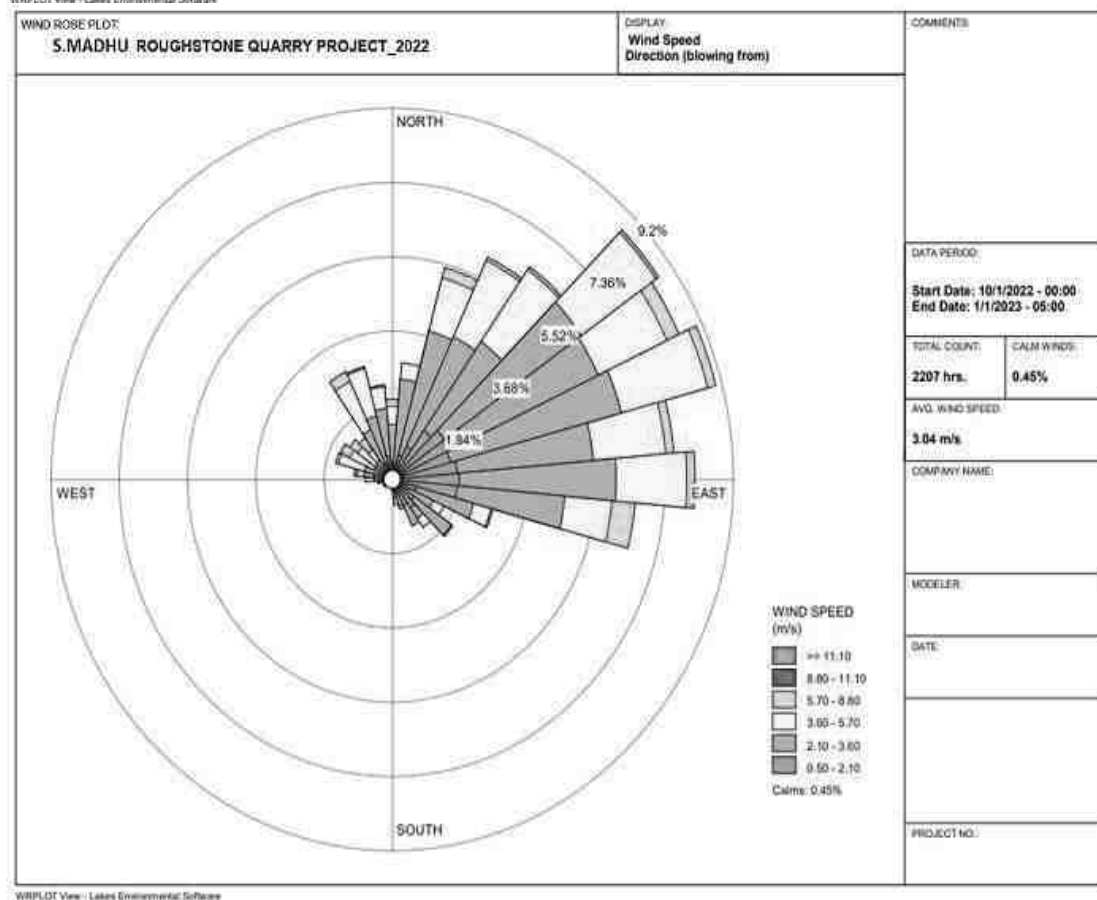
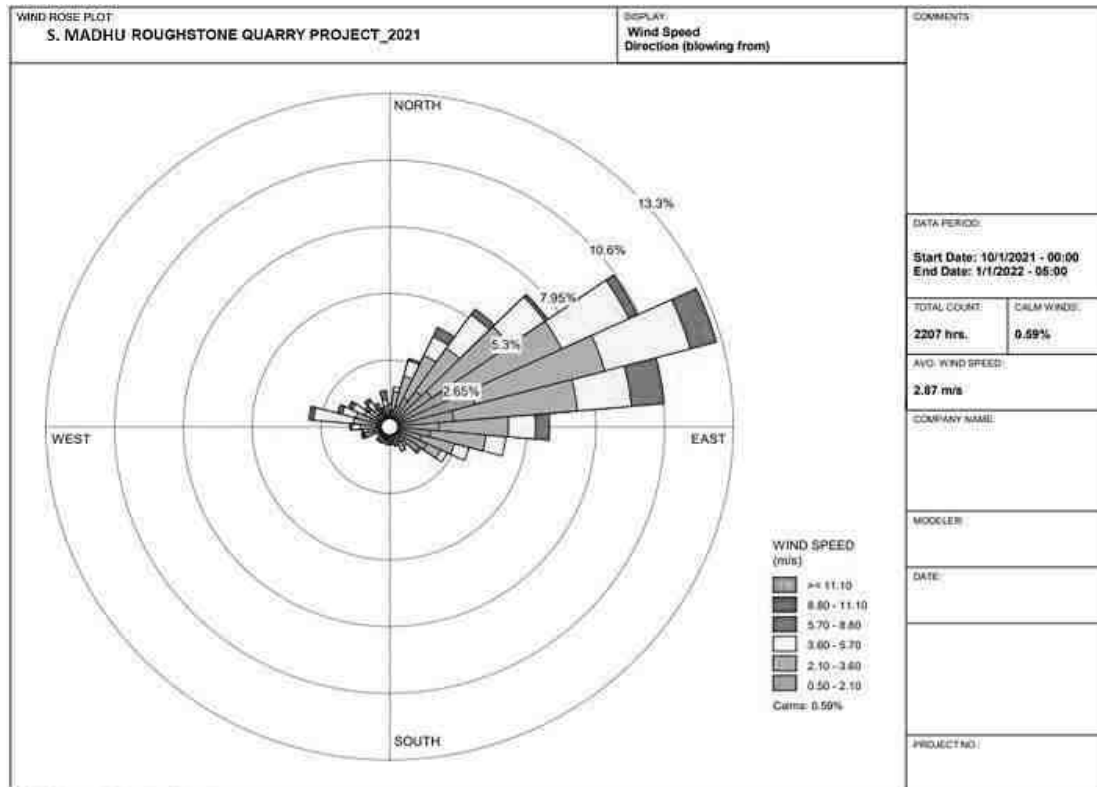


Figure 3.15a Windrose Diagram for 2021 and 2022 (October to December)

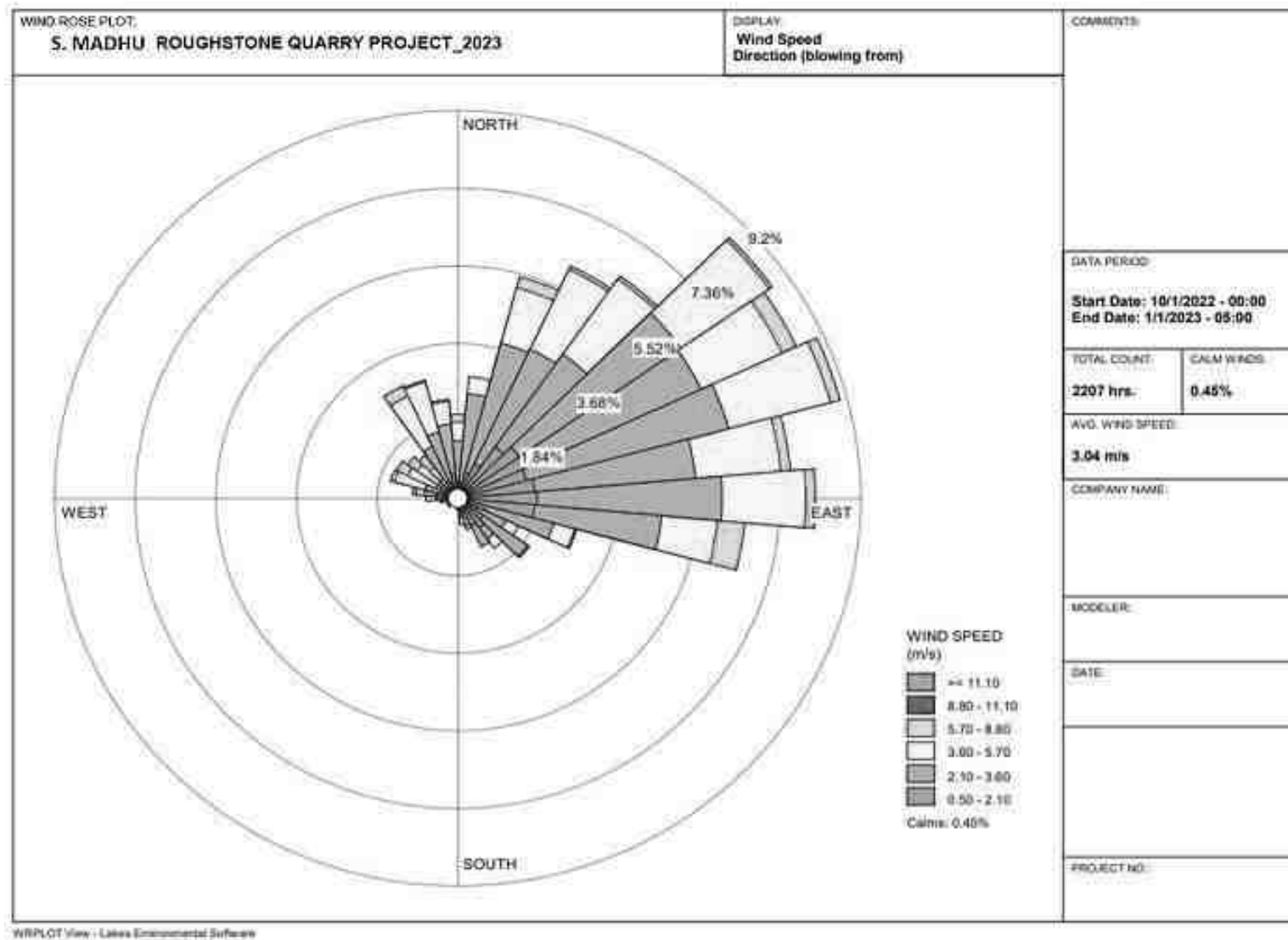


Figure 3.16 Onsite Rose Diagram (2023)

3.4.4 Site Specific Meteorological Data - 2025

Site specific meteorological data was collected by installing weather station near to project site. The meteorological data was obtained for anemometer fixed in the lease area on March 2025- May 5 2025 to cross check the secondary data. Brief summary of site-specific data has been presented in the table below– Meteorological data obtained from the onsite monitoring station are provided in Table 3.14.

Table 3.14 Onsite Meteorological Data-2025

S. No.	Parameters		March 2025	April 2025	May 2025
1	Temperature (°C)	Min	16.87	18.91	20.81
		Max	38.4	39.27	36.99
		Avg	27.60	28.99	26.98
2	Relative Humidity (%)	Min	5.45	15.76	28.16
		Max	100.00	95.52	97.29
		Avg	50.22	53.60	70.44
3	Wind Speed (m/s)	Min	0.03	0.22	0.11
		Max	6.07	4.55	7.76
		Avg	2.47	1.95	2.41
4	Wind Direction (degree)	Min	26.1	1	1.2
		Max	344.7	358.7	357.7
		Avg	116.80	141.54	221.25
5	Surface Pressure(kPa)	Min	93.42	93.39	93.12
		Max	94.6	94.35	94.08
		Avg	94.03	93.85	93.61

Source: On-site monitoring/sampling by **Greenlink Analytical and Research Laboratory (India) Private Ltd** in association with GTMS

Site Specific Meteorological Data Wind Pattern

Wind pattern will largely influence the dispersion pattern of air pollutants and noise from the proposed project site. The seasonal Windrose for the study period of March 2025 through May 2025. The wind rose diagrams thus produced are shown in Figure 3.17 reveals that:

- ❖ The measured average wind velocity during the study period is 2.27m/s.
- ❖ Predominant wind was dominant in the directions ranging from Southeast to Southwest.

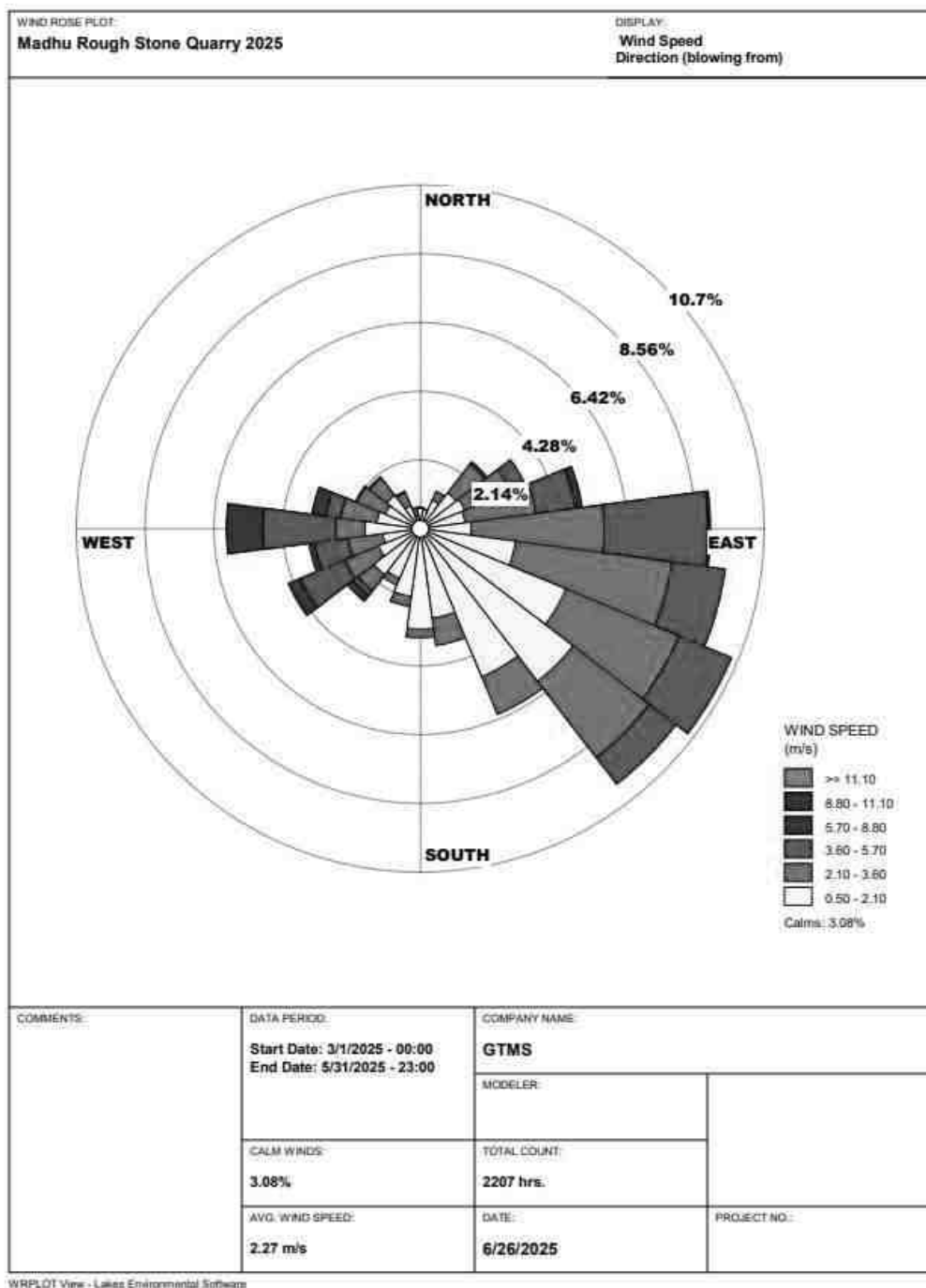


Figure 3.17 Onsite Rose Diagram (2025)

3.4.5 Ambient Air Quality Study

The baseline ambient air quality is studied through a scientifically designed ambient air quality monitoring network considering the followings

- ❖ Meteorological condition on synoptic scale
- ❖ Topography of the study area
- ❖ Representatives of regional background air quality for obtaining baseline status
- ❖ Location of residential areas representing different activities

- ❖ Accessibility and power availability

Table 3.15 Methodology and Instrument Used for AAQ Analysis

Parameter	Method	Instrument
PM _{2.5}	Gravimetric method Beta attenuation method	Fine Particulate Sampler
PM ₁₀	Gravimetric method Beta attenuation method	Respirable Dust Sampler
SO ₂	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
NO _x	IS-5182 Part II (Jacob & Hoch heiser modified method)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

Source: Sampling Methodology based *Ekdant Laboratory* & CPCB Notification

Table 3.16 National Ambient Air Quality Standards

S. No.	Pollutant	Time Weighted Average	Concentration in ambient air	
			Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
1	SO ₂ (µg/m ³)	Annual Avg.* 24 hours**	50.0 80.0	20.0 80.0
2	NO _x (µg/m ³)	Annual Avg. 24 hours	40.0 80.0	30.0 80.0
3	PM ₁₀ (µg/m ³)	Annual Avg. 24 hours	60.0 100.0	60.0 100.0
4	PM _{2.5} (µg/m ³)	Annual Avg. 24 hours	40.0 60.0	40.0 60.0

Source: NAAQS CPCB Notification No. B-29016/20/90/PCI-I Dated: 18th Nov 2009

Methodology

Ambient air quality monitoring was carried out with a frequency of two samples per week at nine (07 locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period October to December, 2023 as per the CPCB, MoEF guidelines and notifications.

It was ensured that the equipment was placed preferably at a height of at least 3 ± 0.5 m above the ground level at each monitoring station for negating the effects of wind-blown ground dust. The equipment was placed at space free from trees and vegetation which otherwise act as a sink of pollutants resulting in lower levels in monitoring results. The baseline data of ambient air were generated for PM_{2.5}, PM₁₀, sulphur dioxide (SO₂) and nitrogen dioxide (NO_x). The sampling locations are shown in Figure 3.18 and average concentrations of air pollutants are summarized in Tables 3.18 and are shown in Figures 3.19-3.23.

Table 3.17 Ambient Air Quality (AAQ) Monitoring Locations

S. No.	Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
					Latitude	Longitude
1	AAQ1	Near Venkatesulu Core	0.68	NW	12°39'44.57"N	77°57'35.60"E
2	AAQ2	Pillaiythur	0.68	NW	12°40'13.04"N	77°57'37.11"E
3	AAQ3	Pathakotta	1.40	NNW	12°39'19.80"N	77°56'35.88"E
4	AAQ4	Nayakanapalli	2.34	WSW	12°39'12.85"N	77°55'16.28"E
5	AAQ5	Keeranapalli	4.75	WSW	12°38'1.33"N	77°57'56.68"E
6	AAQ6	Shoolagiri	2.61	S	12°39'56.50"N	78° 0'28.44"E
7	AAQ7	Kanalatti	4.63	ENE	12°41'40.17"N	77°57'32.75"E
Green link analytical & Reserch LAB						
8	AAQ8	Sun Granites	0.78	NE	12°39'38.40"N	77°58'21.92"E
9	AAQ9	Near Core	0.81	NW	12°39'35.22"N	77°57'26.22"E

Source: On-site monitoring/sampling by Ekdant Enviro Services (P) Limited and Green link analytical & Research LAB in association with GTMS

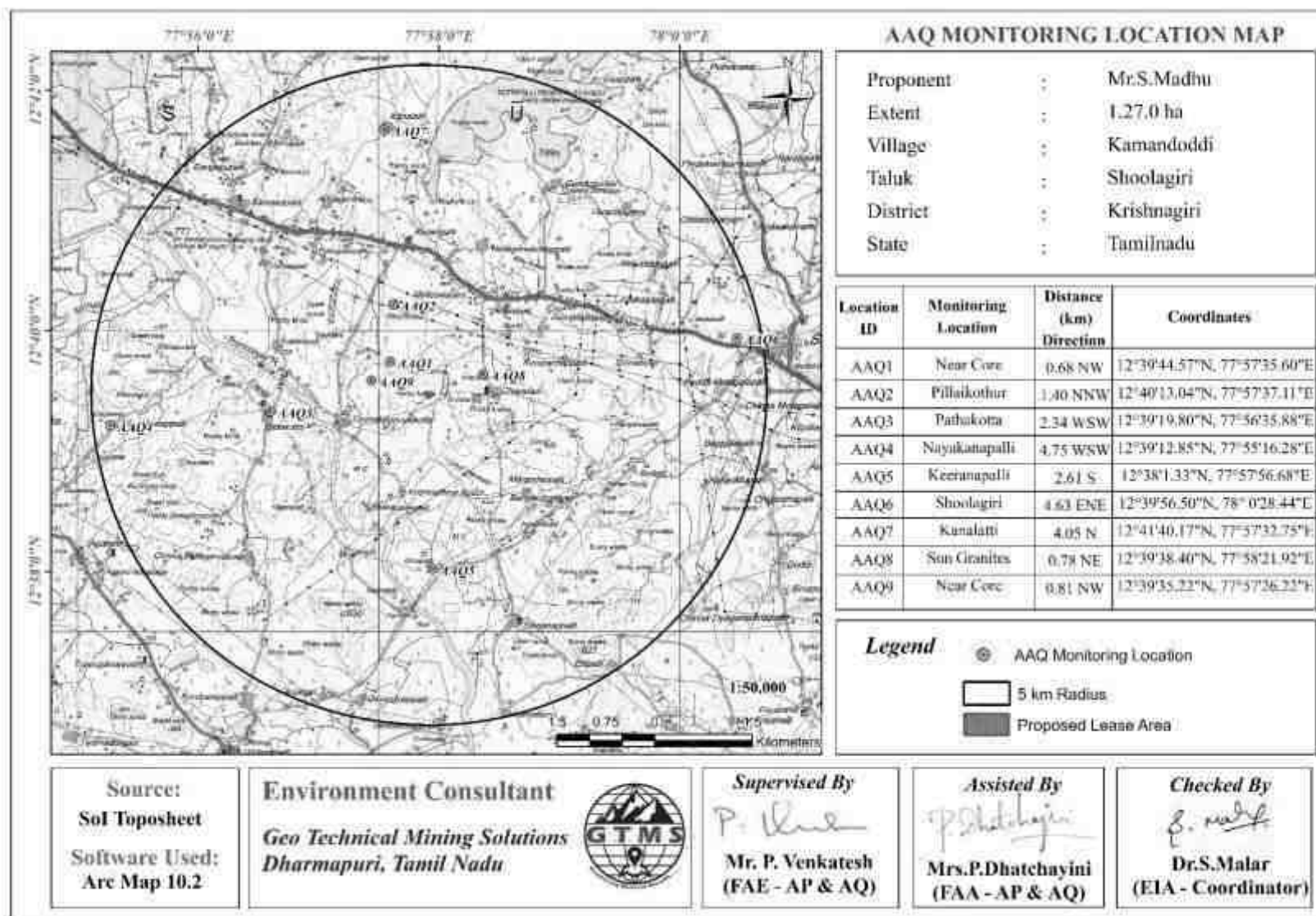


Figure 3.18 Map Showing Ambient Air Quality Monitoring Station Locations Around 5 km Radius from Proposed Project Site

Table 3.18 Summary of AAQ Result

PM _{2.5}					PM ₁₀			
Station ID	Max	Min	Mean	98 th Percentile	Max	Min	Mean	98 th Percentile
AAQ1	17.6	15.5	16.7	17.6	44.0	38.8	41.8	44.0
AAQ2	15.6	13.0	14.5	15.6	38.9	32.4	36.2	38.9
AAQ3	16.2	15.1	15.6	16.0	40.6	37.8	39.1	40.4
AAQ4	15.1	13.5	14.3	15.0	37.8	33.8	35.7	37.6
AAQ5	14.9	13.4	14.0	14.9	37.3	33.5	35.0	37.2
AAQ6	17.7	15.5	16.4	17.5	44.3	38.7	40.9	43.8
AAQ7	16.2	14.6	15.5	16.2	40.6	36.5	38.8	40.6
AAQ8	31.2	29.4	30.7	31.1	55.4	51.1	52.2	55.4
AAQ9	34.9	31.3	32.4	34.9	56.1	52.3	53.7	56.1
SO ₂					NO _x			
AAQ1	5.1	3.8	4.4	5.0	15.8	11.8	13.6	15.5
AAQ2	4.9	3.2	4.2	4.9	15.4	10.1	13.1	15.4
AAQ3	4.9	2.9	3.9	4.2	15.2	9.0	12.0	15.0
AAQ4	4.0	2.1	2.6	3.8	12.4	6.5	8.2	11.8
AAQ5	3.2	1.3	1.8	3.0	9.9	4.0	5.7	9.3
AAQ6	5.5	4.1	4.7	5.4	17.1	12.7	14.5	16.8
AAQ7	2.9	2.1	2.5	2.9	9.1	5.3	6.4	7.0
AAQ8	9.75	7.4	8.3	9.7	17.3	15.2	16.1	17.3
AAQ9	8.25	6.1	7.5	8.2	16.7	13.5	15.2	16.6

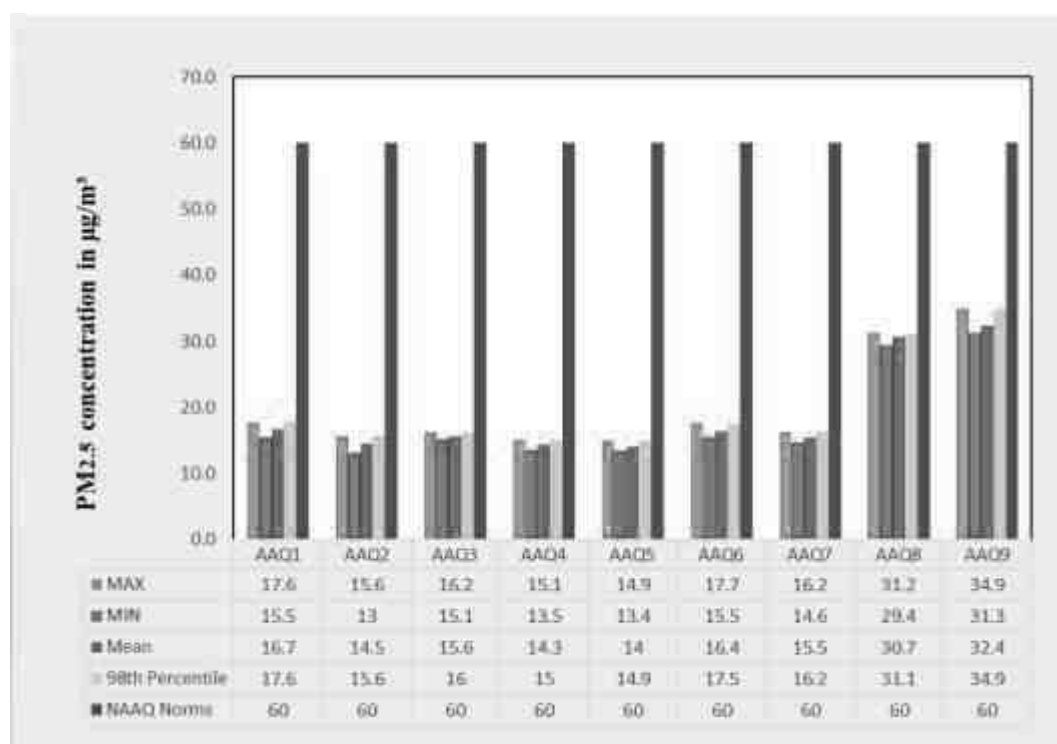


Figure 3.19 Bar Chart Showing Maximum, Minimum, and Average Concentrations of PM_{2.5} Measured from 9 Air Quality Monitoring Stations within 5 km Radius

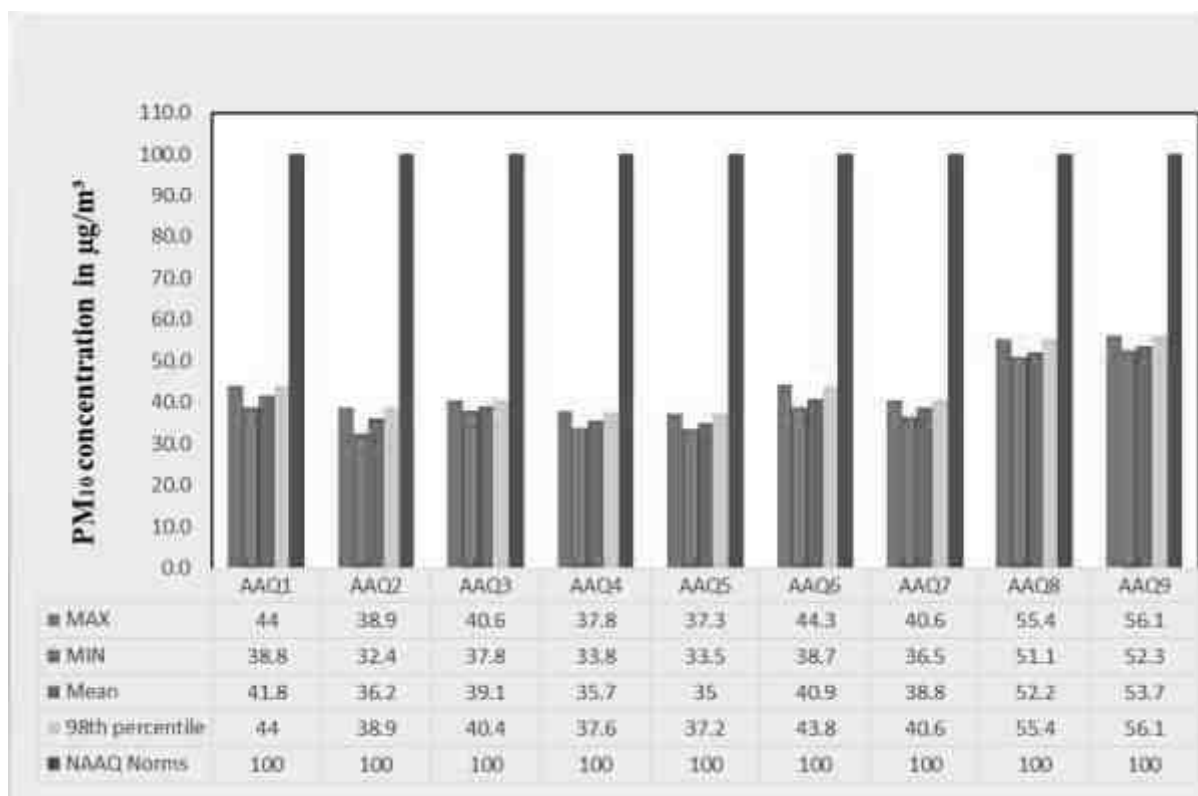


Figure 3.20 Bar Chart Showing Maximum, Minimum, and Average Concentrations of PM10 Measured from 9 Air Quality Monitoring Stations within 5 km Radius

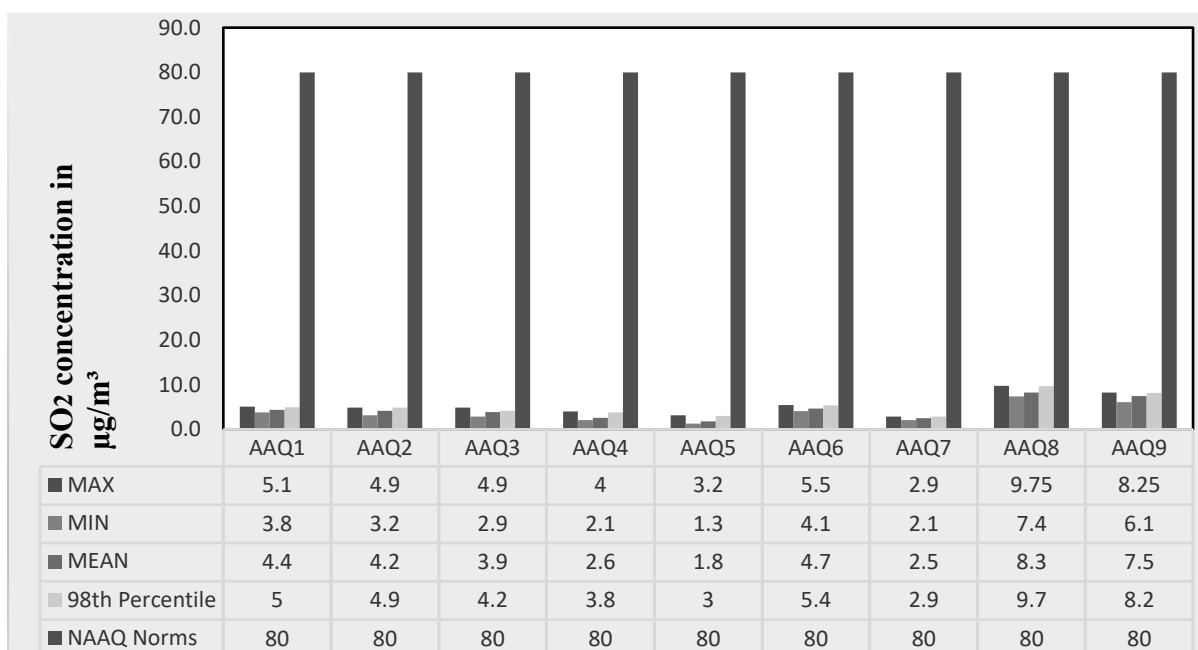


Figure 3.21 Bar Chart Showing Maximum, Minimum, and Average Concentrations of SO2 Measured from 9 Air Quality Monitoring Stations within 5 km Radius.

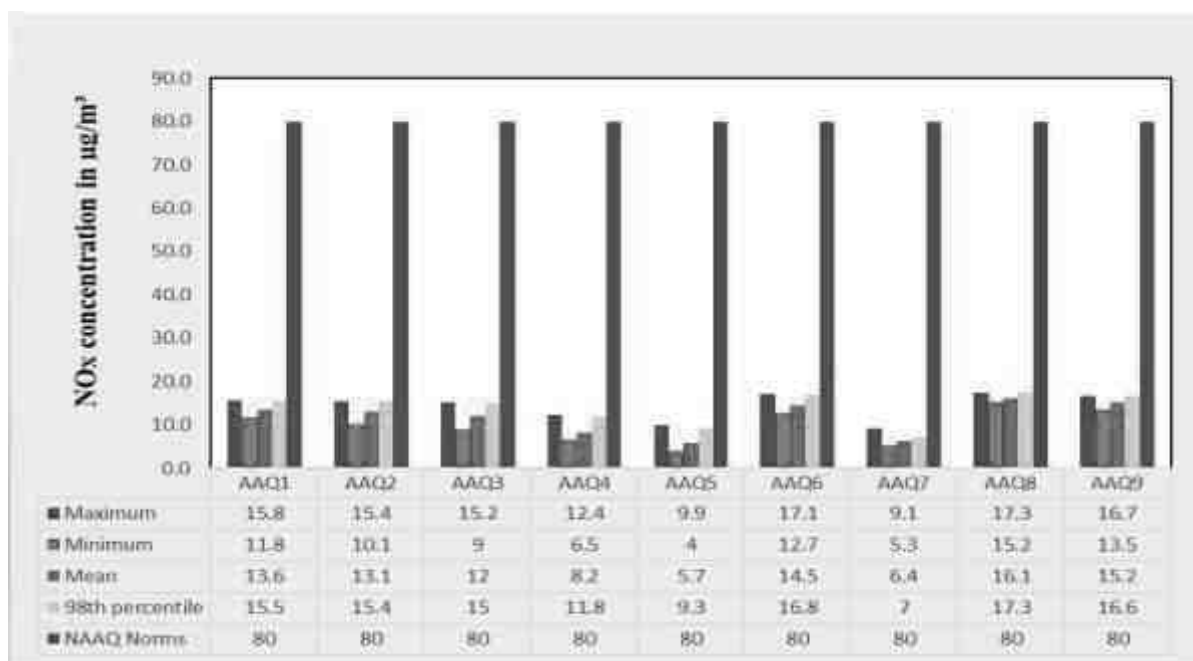


Figure 3.22 Bar Chart Showing Maximum, Minimum, and Average Concentrations of Nox Measured from 9 Air Quality Monitoring Stations within 5 km Radius

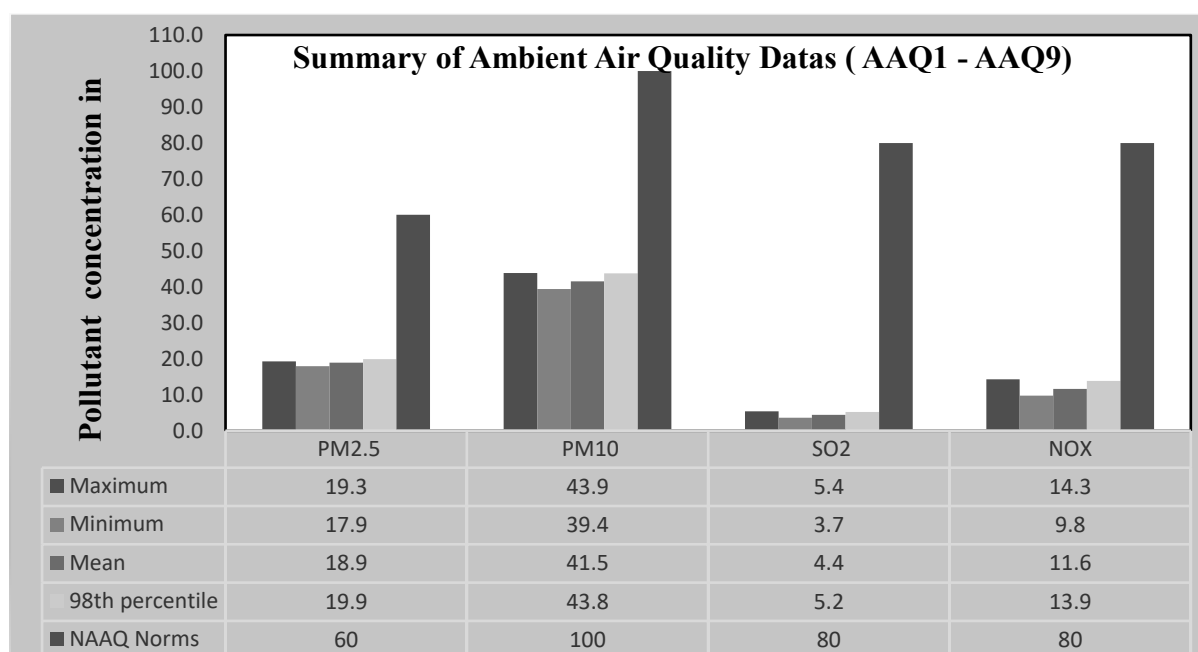


Figure 3.23 Bar Chart Showing Maximum, Minimum, And Average Concentrations of Pollutants in Atmosphere within 5 km Radius

Results

As per the monitoring data, PM_{2.5} ranges from 13.0 µg/m³ to 31.3 µg/m³, PM₁₀ from 37.3 µg/m³ to 56.1µg/m³, SO₂ from 1.3 µg/m³ to 9.75µg/m³, NO_x from 4µg/m³ to 17.3g/m³. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index

The AQI shows that the air quality of the study area falls within good category 38 causing minimal impact to human health.

3.5 NOISE ENVIRONMENT

The vehicular movement on road and mining activities is the major sources of noise in the study area. The main objective of noise monitoring in the study area is to establish the baseline noise level, which will in turn be used to assess the impact of the total noise expected to be generated during the project operations around the project site. In order to assess the ambient noise levels within the study area, noise monitoring was carried out at eight (08) locations covering commercial, residential, rural areas within the radius of 5 km. Details of noise monitoring locations are provided in Table 3.17 and spatial occurrence of the locations are shown in Figure 3.24.

Table 3.19 Noise Monitoring Locations

S. No.	Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
					Latitude	Longitude
1	N1	Near Core	0.74	NW	12°39'48.99"N	77°57'37.41"E
2	N2	Pillaikothur	1.42	N	12°40'14.00"N	77°57'38.17"E
3	N3	Pathakotta	2.36	W	12°39'18.94"N	77°56'35.49"E
4	N4	Nayakanapalli	4.72	W	12°39'13.21"N	77°55'17.43"E
5	N5	Keeranapalli	2.57	S	12°38'1.95"N	77°57'58.19"E
6	N6	Shoolagiri	4.43 E	ENE	12°39'53.64"N	78° 0'22.85"E
7	N7	Kanalatti	4.10	N	12°41'42.08"N	77°57'34.81"E
Green link analytical & Research LAB						
8	N8	Near Core	0.56	N	12°39'47.90"N	77°57'54.91"E

Source: On-site monitoring/sampling by Ekdant Enviro Services (P) Limited and Green link analytical & Research LAB in association with GTMS

Table 3.20 Ambient Noise Quality Result

Station ID	Location	Environmental setting	Average day time noise level (dB(A))	Average night time noise level (dB(A))	Day time (6.00 AM – 10.00 PM)	Night time (10.00 PM – 6.00 AM)
					Standard (L _{eq} in dB (A))	
N1	Near Core	Industrial Area	47.2	35.4	75	70
N2	Pillaikothur		43.8	36.9	55	45
N3	Pathakotta	Residential Area	44.8	36.4		
N4	Nayakanapalli		41.2	34.4		
N5	Keeranapalli		39.8	30.6		
N6	Shoolagiri		52.4	40.2		
N7	Kanalatti		42.2	34.2		
Green link analytical & Reserch LAB						
N8	Near Core	Industrial Area	43.5	41.1	75	70

Source: On-site monitoring/sampling by Ekdant Enviro Services (P) Limited and Green link analytical & Research LAB in association with GTMS

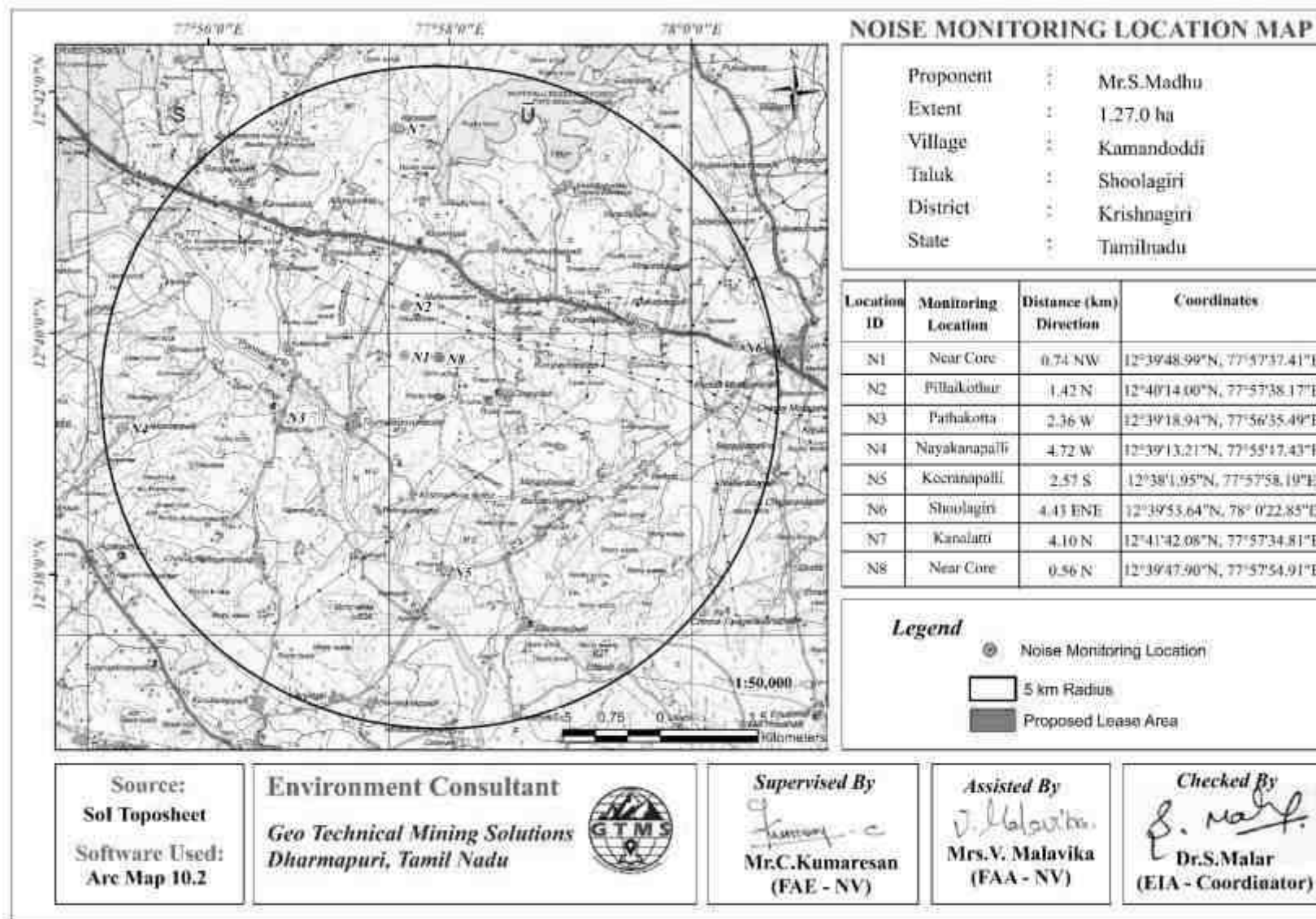


Figure 3.24 Map Showing Noise Level Monitoring Station Locations around 5 km Radius from Proposed Project Site

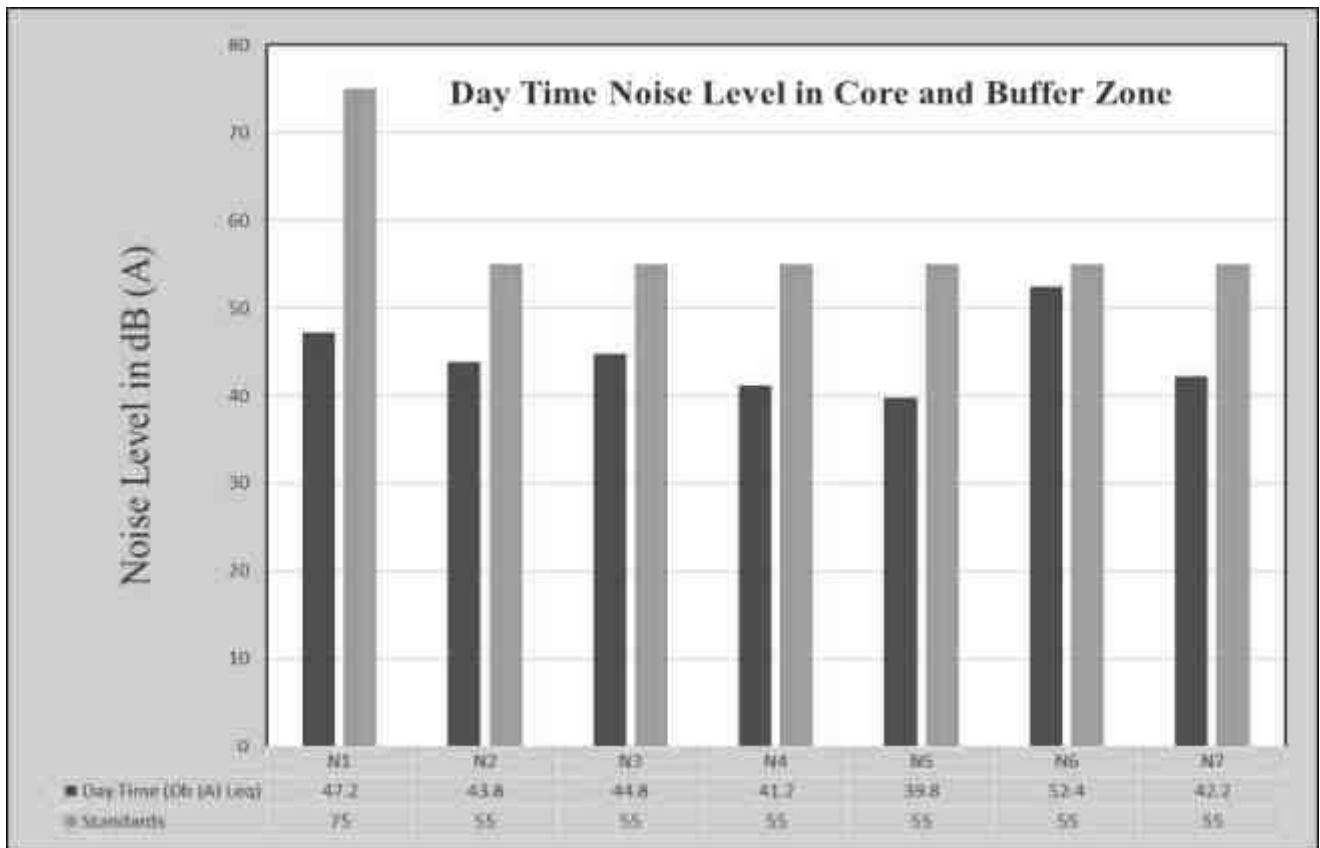


Figure 3.25 Bar Chart Showing Day Time Noise Levels Measured in Core and Buffer Zones

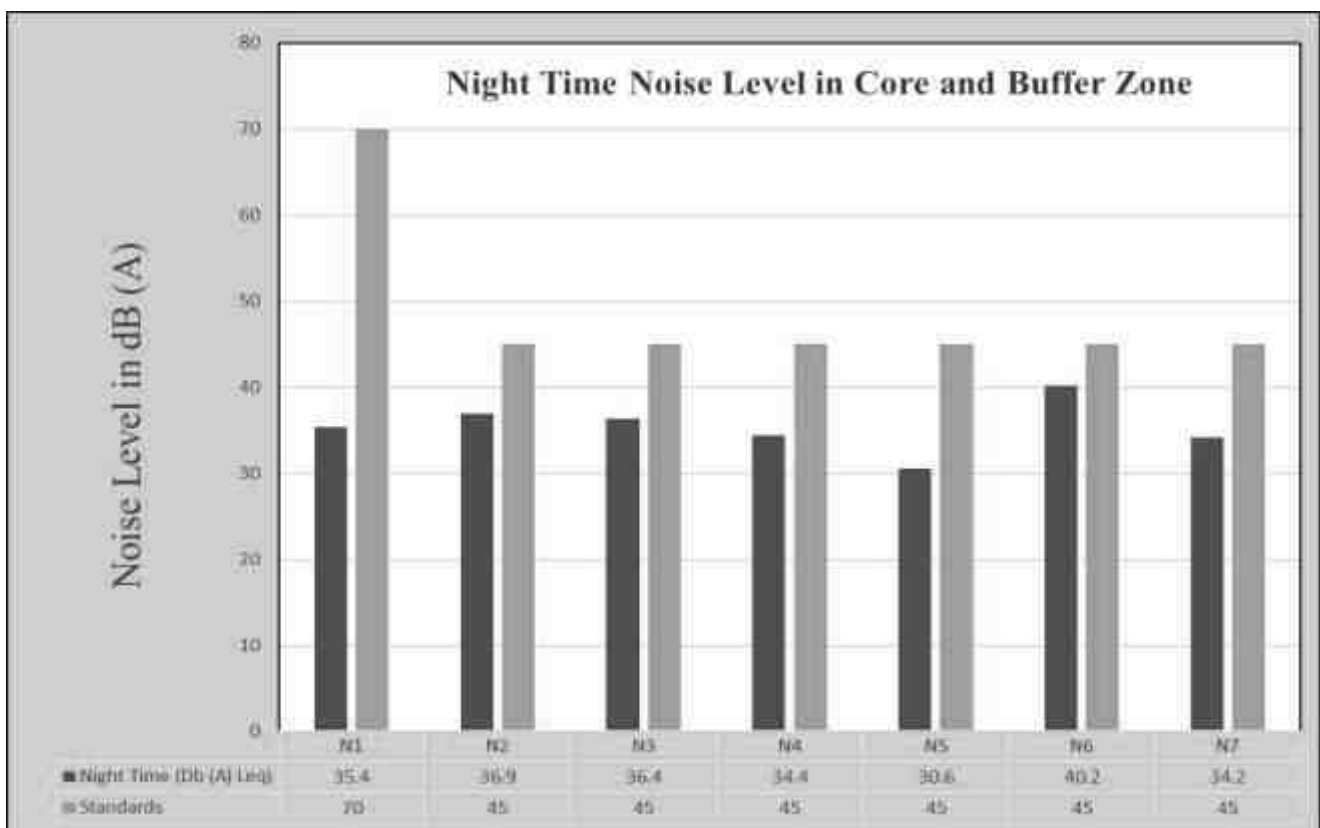


Figure 3.26 Bar Chart Showing Night Time Noise Levels Measured in Core and Buffer Zones

Results

The Table 3.18 shows that noise level in core zone was 47.2 dB (A) Leq during day time and 35.4 dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 38.6 to 52.4dB (A) Leq and during night time from 30.6 to 42.2dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB. The results are also depicted below in Figures 3.25 and 3.26

3.6 BIOLOGICAL ENVIRONMENT

Collection of comprehensive baseline information on flora and fauna is a prerequisite for assessment of impacts of any extractive industries/ activities. Biological environment is an important component of the environment of any area. It covers flora & fauna in the region, details of forests and wildlife sanctuaries in the region, with list of endangered species. Over the years ecological and along with it the loss of biological diversity has become a national and a global concern. Ecological assessment therefore is very critical for decision making and for the setting of a developmental project or an industry. An ecological study of the ecosystem is essential to understand the impact of industrialization and urbanization on existing flora and fauna of the area. Studies on various aspects of ecosystem play an important role in identifying sensitive issues for undertaking appropriate action to mitigate the impact, if any.

The objective of this Section is to characterize and understand the present status of the ecosystems in the study area to assess the bio-diversity and to identify the critical areas. The present study was undertaken as a part of EIA report to understand the present status of ecosystem prevailing in the study area, to compare it with the past condition with the help of available data, to predict changes as a result of present activities and to suggest measures for maintaining the conditions.

3.6.1 Flora

3.6.1.1 Objectives of the Study

The ecological study of the area was conducted in order to understand the existing status of the flora and fauna to generate baseline information and evaluate the possible impacts on biological environment. The present study highlights the various issues pertaining to floristic diversity and faunal wealth in the surrounding area up to 10km radius from the proposed expansion project.

3.6.1.2 Study Approach & Methodology

The baseline study for existing ecological environment was carried out during study period. A participatory and consultative approach was followed. Field visits were under taken for survey of the aquatic and terrestrial vegetation and animals in the study area.

Nested quadrat sampling method was used for the study of community structure of the vegetation. The sampling consisted of randomly placed quadrats of $10\text{m} \times 10\text{m}$ were laid down to assess trees, and sub quadrats of $5\text{m} \times 5\text{m}$ were laid down for shrubs, $1\text{m} \times 1\text{m}$ were laid down for herbs. The size and number of quadrats needed were determined using the species-area curve (Misra, 1968). The data on vegetation were quantitatively analysed for abundance, density, frequency as per Curtis & McIntosh (1950). The Important Value Index (IVI) for trees was determined as the sum of relative density, relative frequency and relative dominance (Curtis, 1959).



Figure 3.27 Quadrates Sampling Methods of Flora

3.6.1.3 Survey Methodology

The baseline study for existing biological environmental was carried out in Nov 2024. Study of flora and fauna carried out as per prescribed method addressed in SOP. Field visits were under taken for survey of the vegetation and animals in the study area. The study area is divided into three parts as project site area along with 500m from all direction surrounding site is being considered as core area and rest of 10km study area is buffer part of the study area.

3.6.1.4 Important Value Index (IVI)

The concept of 'Important Value Index (IVI)' has been developed for expressing the dominance and ecological success of any species, with a single value (Mishra, 1968, Sharma, 2005). This index utilizes three characteristics, they are (i) Relative frequency and (ii) Relative density. The three characteristics computed using frequency, density and abundance for all the species falling in all the quadrat by using the following formula. The relative frequency, relative density and relative abundance has been calculated to calculate the IVI value

$$IVI = \text{Relative frequency} + \text{Relative abundance} + \text{Relative density} [RF + RA + RD]$$

Relative Value Index (RVI) = Relative Density + Relative Frequency [RD + RF].

Relative Value Index used for Expressing dominance and Ecological success of Shrub and herb Species in a particular area.

Shannon – Wiener Index, Evenness and Richness

Biodiversity index is a quantitative measure that reflects how many different types of species, there are in a dataset, and simultaneously takes into account how evenly the basic entities (such as individuals) are distributed among those types of species. The value of biodiversity index increases both when the number of types increases and when evenness increases. For a given number of type of species, the value of a biodiversity index is maximized when all type of species is equally abundant.

The **Shannon Diversity Index** (sometimes called the Shannon-Wiener Index) is a way to measure the diversity of species in a community.

The species diversity index (H) for floral and faunal diversity is calculated by the use of Shannon Wiener Index (Shannon Wiener, 1963) as:

$$H = - \sum (n_i/n) \times \ln (n_i/n)$$

- Where, n_i is individual density of a species and n is total density of all the species
- The Evenness Index (E) is calculated by using Shannon's Evenness formula (Magurran, 2004).
- The higher the value of H , the higher the diversity of species in a particular community

The lower the value of H , the lower the diversity. A value of $H = 0$ indicates a community that only has one species

$$\text{Evenness Index (E)} = H / \ln(S)$$

Where, H is Shannon Wiener Diversity index; S is number of species

The Shannon evenness Index is a way to measure the evenness of species in a community. The term “evenness” simply refers to how similar the abundances of different species are in the community.

3.6.1.5 Floral diversity Analysis

Flora study was conducted using the above said methodology to inventory the existing terrestrial plants in both core and buffer zones. Details of plants have been described in the succeeding sections.

Flora in core zone

There are no trees in the quarry lease area, only shrubs, herbs and grasses. Taxonomically total of 23 species belonging to 18 families were recorded. Among them are herbs (19) and shrubs (4). Majority of the species belongs to the family of Fabaceae and Poaceae. The species richness (Margalef index) and plant details are given in Table 3.26-3.29. There are no endangered or threatened plant species in the quarry lease area.

Flora in 300m radius

The vegetation habit analysis indicates that the flora of the 300m radius of the study area consists of 60 species belonging to 31 families. Among the 60 species, 22 herbs, 24 shrubs and 14 trees. the highest number of species were from the Poaceae family (7), followed by Fabaceae (6), Malvaceae (4), and Mimosaceae (4). Three species were recorded from the Amaranthaceae, Apocynaceae, and Asteraceae families, while six species each were recorded from the Arecaceae, Boraginaceae, Convolvulaceae, Cucurbitaceae, Euphorbiaceae, and Lamiaceae families. The endangered or threatened and Species Richness (margalef Index) in the study area it mentioned in Table 3.27- 3.29. The Settupalli Reserve Forest is located 2.64km for Northeast of the quarry lease area. The reserve forest is predominantly populated with *Albizia amara*, *Azadirachta indica*, *Vachellia leucophloea*, *Chloroxylon swietenia*, and *Ziziphus mauritiana*. The classification of plants in the reserve forest is given in Table 3.26-3.29.

Flora in 10km radius zone

The 10km radius A total of 102 species of invasive alien species belonging to 82 general and 39 families were recorded in 10km radius (Table 3.30). Herbs (73.83%) formed the predominant life form followed by shrubs (10.28%), climbers (8.42%), trees (4.67%) and grasses (2.80%).

Table 3.21 Flora in mine lease area

S. No	Local Name	Scientific name	Family name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IVI	UCN Conservation Status
SHRUBS													
1	Avaram chedi	<i>Senna auriculata</i>	Fabaceae	10	4	5	2.0	80	2.5	19.61	19.05	38.66	LC
2	Earuku	<i>Calotropis gigantea</i>	Apocynaceae	8	3	5	1.6	60	2.7	15.69	14.29	29.97	NL
3	communist pacha	<i>Chromolaena odorata</i>	Asteraceae	13	5	5	2.6	100	2.6	25.49	23.81	49.30	NL
4	Unni sedei	<i>Lantana camara</i>	Verbenaceae	6	4	4	1.8	80	2.6	25.49	25.81	47.45	NL
HERBS & CLIMBERS													
1.	Kolunji chedi	<i>Tephrosia purpurea</i>	Fabaceae	23	5	5	4.6	100	4.6	7.64	5.05	12.69	NL
2.	Nayuruvi	<i>Achyranthes aspera</i>	Amaranthaceae	18	5	5	3.6	100	3.6	5.98	5.05	11.03	NL
3.	Nearunji mull	<u><i>Tribulus zeyheri</i></u>	Zygophyllaceae	13	5	5	2.6	100	2.6	4.32	5.05	9.37	NL
4.	American mint	<i>Hyptis suaveolens</i>	Lamiaceae	11	5	5	2.2	100	2.2	3.65	5.05	8.70	NL
5.	Mukkirattai	<i>Boerhaavia diffusa</i>	Nyctaginaceae	12	4	5	2.4	80	3.0	3.99	4.04	8.03	NL

6.	Kuppaimeni	<i>Acalypha indica</i>	Euphorbiaceae	9	5	5	1.8	100	1.8	2.99	5.05	8.04	NL
7.	Arivalmanaipondu	<i>Sida acuta</i>	Malvaceae	13	5	5	2.6	100	2.6	4.32	5.05	9.37	NL
8.	Nilatutti	<i>Sida cordifolia</i>	Malvaceae	25	5	5	5	100	5.0	8.31	5.05	13.36	NL
9.	Korai grass	<i>Cyperus sesquiflorus</i>	Poaceae	28	5	5	5.6	100	5.6	9.30	5.05	14.35	LC
10.	Amman pacharisi	<i>Euphorbia hirta</i>	Euphorbiaceae	16	4	5	3.2	80	4.0	5.32	4.04	9.36	NL
11.	Karaikai	<i>Canthium coromandelicum</i>	Rubiaceae	2	2	5	0.4	40	1.0	0.66	2.02	2.68	NL
12.	Keelanelli	<i>Phyllanthus amarus</i>	Phyllanthaceae	15	4	5	3	80	3.8	4.98	4.04	9.02	NL
13.	Chevvarakupul	<i>Chloris barbata</i>	Poaceae	11	4	5	2.2	80	2.8	3.65	4.04	7.69	NL
14.	Mullukkeerai	<i>Amaranthus spinosus</i>	Amaranthaceae	9	5	5	1.8	100	1.8	2.99	5.05	8.04	NL
15.	Vishnukarandi	<i>Evolvulus alsinoides</i>	Convolvulaceae	12	4	5	2.4	80	3.0	3.99	4.04	8.03	NL
16.	Thulasi	<i>Ocimum sanctum</i>	Lamiaceae	8	3	5	1.6	60	2.7	2.66	3.03	5.69	NL
17.	Natthai choori	<i>Spermacoce hispida L</i>	Rubiaceae	13	5	5	2.6	100	2.6	4.32	5.05	9.37	NL
18.	Thuthi	<i>Abutilon indicum</i>	Malvaceae	9	4	5	1.8	80	2.3	2.99	4.04	7.03	NL
19.	Pill	<i>Cenchrus ciliaris</i>	Poaceae	7	5	5	2.4	80	2.4	3.94	3.06	7.15	NL

The Flora in lease area and 300m radius (buffer zone)

Taxonomically 36 species belonging to 23 families have been recorded from the 300 m radius buffer zone. Based on habitat classification of the enumerated plants the majority of species were seven Tree 7 followed by Herbs & Climbers & Grass 21, Shrubs 8. Details of flora with the scientific name and species richness index were mentioned in Table. 3.27- 3.29.

Flora in 10km radius buffer zone

Similar type of environment also in buffer area but with more flora diversity compare than core zone area, because of nearby agriculture land was found to be dominate in all the directions. Majority of the flat landscape around project unit is occupied by agriculture fields. It contains a total of 57 species belonging to 34 families have been recorded from the buffer zone. The floral (89) varieties among them Trees 30 Shrubs 37 and Herbs & Climbers & Creeper & Cactus 22. Details of flora with the scientific name were mentioned in Table.3.27.

Table 3.22 Flora in 300 m Radius

S. No	Local Name	Scientific name	Family name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IVI	IUCN Conservation Status
Trees													
1	Velikathanmaram	<i>Prosopis juliflora</i>	Fabaceae	5	3	5	1.0	60	1.67	18.52	16.67	35.19	Not Listed
2	Pongam oiltree	<i>Pongamia pin nata</i>	Fabaceae	3	2	5	0.6	40	1.50	11.11	11.11	22.22	
3	Panai maram	<i>Borassus flabellifer</i>	Arecaceae	2	1	5	0.4	20	2.00	7.41	5.56	12.97	
4	Nochi	<i>Vitex negundo</i>	Lamiaceae	4	3	5	0.8	60	1.33	14.81	16.67	31.48	
5	Karuvelam maram	<i>Vachellia nilotica</i>	Fabaceae	3	2	5	0.6	40	1.50	11.11	11.11	22.22	
6	Nuna maram	<i>Morinda citrifolia</i>	Rubiaceae	5	3	5	1.0	60	1.67	18.52	16.67	35.19	
7	Vembu	<i>Azadirachta indica</i>	Meliaceae	5	4	5	1.0	80	1.25	18.52	22.22	40.74	
Shrubs													
1	Icham	<i>Calotropis gigantea</i>	Apocynaceae	8	7	10	0.8	70.0	1.1	21.6	21.9	43.5	Not Listed
2	Unichedi	<i>Datura metel</i>	Solanaceae	6	5	10	0.6	50.0	1.2	16.2	15.6	31.8	
3	Sundaika	<i>Abutilon indicum</i>	Meliaceae	7	6	10	0.7	60.0	1.2	18.9	18.8	37.7	
4	Erukku	<i>Senna auriculata</i>	Fabaceae	9	8	10	0.9	80.0	1.1	24.3	25.0	49.3	
5	Avarai	<i>Lantana camara</i>	Verbenaceae	7	6	10	0.7	60.0	1.2	18.9	18.8	37.7	
6	Sappathikalli	<i>Cereus pterogonus</i>	Cactaceae	5	4	10	1.25	40	1.25	8.62	8.16	16.78	
7	Kattamanaku	<i>Jatropha gossypiiifolia L</i>	Euphorbiaceae	7	6	10	1.17	60	1.17	12.07	12.24	24.31	
8	Karunochi	<i>Vitex negundo</i>	Lamiaceae	9	8	10	1.13	80	1.13	15.52	16.33	31.85	
Herbs													
1	Thumbai	<i>Leucas aspera</i>	Lamiaceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	Not Listed
2	Kantang kathrikai	<i>Solanum virginianum</i>	Solanaceae	3	2	15	0.20	13.33	1.50	2.61	2.15	4.76	
3	Arugampul	<i>Cynodon dactylon</i>	Poaceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	

4	Poolai poondu	<i>Aerva lanata</i>	Amaranthaceae	5	4	15	0.33	26.67	1.25	4.35	4.30	8.65	
5	Korai	<i>Cyperus rotundus</i>	Cyperaceae	4	3	15	0.27	20.00	1.33	3.48	3.23	6.71	
6	Nerunji	<i>Tribulus terrestris</i>	Zygophyllales	2	1	15	0.13	6.67	2.00	1.74	1.08	2.82	
7	Nayuruv	<i>Achyranthes aspera</i>	Amaranthaceae	7	6	15	0.47	40.00	1.17	6.09	6.45	12.54	
8	Thottalchinungi	<i>Mimosa pudica</i>	Mimosaceae	8	7	15	0.53	46.67	1.14	6.96	7.53	14.49	
9	Mulli	<i>Solanum violaceum</i> <i>Ortega</i>	Solanaceae	5	4	15	0.33	26.67	1.25	4.35	4.30	8.65	
10	Kombumul	<i>Acanthospermum</i> <i>hispidum</i>	Asteraceae	5	3	15	0.33	20.00	1.67	4.35	3.23	7.58	
11	Ponnangani	<i>Alternanthera pungens</i>	Amaranthaceae	8	7	15	0.53	46.67	1.14	6.96	7.53	14.49	
12	wild thulasi	<i>Hyptis suaveolens</i> (L.)	Lamiaceae	7	6	15	0.47	40.00	1.17	6.09	6.45	12.54	
13	Gopuram Tangi	<i>Andrographis echiodes</i>	Acanthaceae	4	3	15	0.27	20.00	1.33	3.48	3.23	6.71	
14	Amman Paccharisi	<i>Euphorbia hirta</i>	Euphorbiaceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	
15	Paca poondu	<i>Pavonia gallaensis</i>	Malvaceae	5	4	15	0.33	26.67	1.25	4.35	4.30	8.65	
16	Perandai	<i>Cissus quadrangularis</i>	Vitaceae	3	2	15	0.20	13.33	1.50	2.61	2.15	4.76	
17	Vishnukrandi	<i>Evolvulus alsinoides</i>	Convolvulaceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	
18	Musumusukkai	<i>Mukia maderaspatana</i>	Cucurbitaceae	8	7	15	0.53	46.67	1.14	6.96	7.53	14.49	
19	Sirupunaikkali	<i>Passiflora foetida</i>	Passifloraceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	
20	Nagathali	<i>Opuntia dillenii</i>	Cactaceae	5	4	15	0.33	26.67	1.25	4.35	4.30	8.65	
21	Agave	<i>Agave weberi</i>	Asparagaceae	6	5	15	0.40	33.33	1.20	5.22	5.38	10.6	

Table 3.23 Calculation of Species Diversity in 300m Radius

S. No.	Common name	Scientific name	No. of Species	Pi	In (Pi)	Pi x in (Pi)
Trees						
1	Velikathan maram	<i>Prosopis juliflora</i>	5	0.19	-1.69	-0.31
2	Pongam oiltree	<i>Pongamia pin nata</i>	3	0.11	-2.20	-0.24
3	Panai maram	<i>Borassus flabellifer</i>	2	0.07	-2.60	-0.19
4	Nochi	<i>Vitex negundo</i>	4	0.15	-1.91	-0.28
5	Karuvelam maram	<i>Vachellia nilotica</i>	3	0.11	-2.20	-0.24
6	Nuna maram	<i>Morinda citrifolia</i>	5	0.19	-1.69	-0.31
7	Vembu	<i>Azadirachta indica</i>	5	0.19	-1.69	-0.31
H (Shannon Diversity Index) = 1.90						
Shrubs						
1	Icham	<i>Phoenix pusilla</i>	2	0.03	-3.37	-0.12
2	Unichedi	<i>Lantana camara</i>	7	0.12	-2.11	-0.26
3	Sundaika	<i>Solanum torvum</i>	8	0.14	-1.98	-0.27
4	Erukku	<i>Calotropis gigantea</i>	6	0.10	-2.27	-0.23
5	Avarai	<i>Senna auriculata</i>	9	0.16	-1.86	-0.29
6	Sappathikalli	<i>Cereus pterogonus</i>	5	0.09	-2.45	-0.21
7	Kattamanaku	<i>Jatropha gossypifolia L</i>	7	0.12	-2.11	-0.26
8	Karunochi	<i>Vitex negundo</i>	9	0.16	-1.86	-0.29
H (Shannon Diversity Index) = 2.14						
Herbs						
1	Nayuruv	<i>Achyranthes aspera</i>	6	0.05	-2.95	-0.15
2	Nearunji mull	<i>Tribulus zeyheri Sond</i>	3	0.03	-3.65	-0.10
3	Pill	<i>Cenchrus ciliaris</i>	6	0.05	-2.95	-0.15
4	pulapoo	<i>Aerva lanata</i>	5	0.04	-3.14	-0.14
5	kapok bush	<i>Aerva javani</i>	4	0.03	-3.36	-0.12
6	Rail poondu	<i>Croton bonplandianus</i>	2	0.02	-4.05	-0.07
7	Mookuthi poondu	<i>pedalium murex</i>	7	0.06	-2.80	-0.17
8	Perandai	<i>Cissus quadrangularis</i>	8	0.07	-2.67	-0.19
9	Thumbai chadi	<i>Leucas aspera</i>	5	0.04	-3.14	-0.14

10	Umathai	<i>Datura metel</i>	5	0.04	-3.14	-0.14
11	Sethamutti	<i>Sida cordata</i>	8	0.07	-2.67	-0.19
12	Kolunji	<i>Tephrosia purpurea</i>	7	0.06	-2.80	-0.17
13	Ishappukol Vitai	<i>Plantago coronopus</i>	4	0.03	-3.36	-0.12
14	Vealiparuthi	<i>Pergularia daemia</i>	6	0.05	-2.95	-0.15
15	Seppu neringi	<i>Indigofera linnaei</i> Ali	5	0.04	-3.14	-0.14
16	Sapathikalli	<i>Opuntia ficus-indica</i>	3	0.03	-3.65	-0.10
17	Pal kodi	<i>Cynanchum viminale</i>	6	0.05	-2.95	-0.15
18	Ilia perandai	<i>Cissus rotundifolia</i>	8	0.07	-2.67	-0.19
19	Katralai	<i>Aloe vera</i>	6	0.05	-2.95	-0.15
20	Seammulli	<i>Barleria prionitis</i>	5	0.04	-3.14	-0.14
21	Agave	<i>Agave weberi</i>	6	0.05	-2.95	-0.15
H (Shannon Diversity Index) = 3.00						

Table 3.24 Species Richness (Index) in 300m radius

	H	H max	Evenness	Species Richness
Trees	1.90	1.95	0.98	1.82
Shrubs	2.14	2.20	0.97	1.97
Herbs	3.00	3.04	0.99	4.22

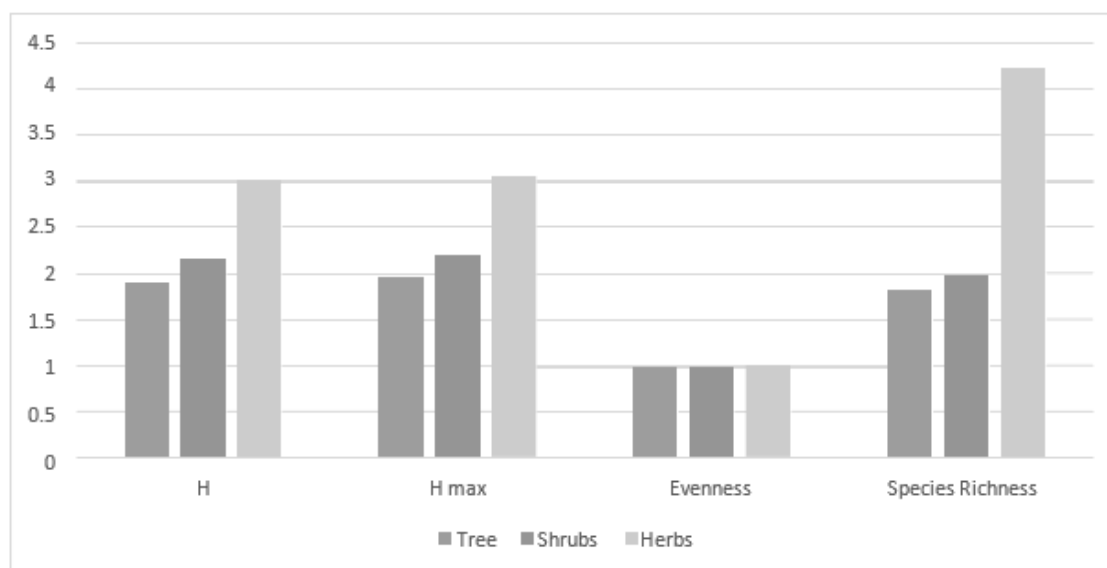


Figure 3.28 Species Richness pattern in 300m Radius

Table 3.25 Flora in 10km radius

S.No.	Species Name	Family	Habitat	Uses
20.	<i>Acacia auriculiformis L.</i>	Mimosaceae	Tree	Fuel wood, Timber
21.	<i>Acanthospermum hispidum DC</i>	Asteraceae	Herb	Medicinal
22.	<i>Aerva javanica (Burm. f.)</i>	Amaranthaceae	Herb	Medicina
23.	<i>Ageratina adenophora (Spreng.</i>	Asteraceae	Herb	Fodder
24.	<i>Ageratum conyzoides L</i>	Asteraceae	Herb	Medicinal
25.	<i>Alternanthera pungens Humb</i>	Amaranthaceae	Herb	Fodder
26.	<i>Alternanthera tenella Colla.</i>	Amaranthaceae	Herb	Fodder, Vegetable
27.	<i>Amaranthus spinosus L.</i>	Amaranthaceae	Herb	Vegetable, Medicinal
28.	<i>Antigonon leptopus</i>	Polygonaceae	Climber	Ornamental
29.	<i>Bidens pilosa L.</i>	Asteraceae	Herb	Fodder
30.	<i>Blainvillea acmella (L.) Philipson</i>	Asteraceae	Herb	None
31.	<i>Borassus flabellifer L.</i>	Arecaceae	Tree	Fruit edible, Timber
32.	<i>Calotropis gigantea (L.) R. Br.</i>	Asclepiadaceae	Shrub	Medicinal, Ornamental
33.	<i>Cassia alata L.</i>	Caesalpiniaceae	Shrub	Medicinal
34.	<i>Cassia tora L.</i>	Caesalpiniaceae	Herb	Medicinal
35.	<i>Cassia uniflora Miller</i>	Caesalpiniaceae	Herb	Medicinal
36.	<i>Catharanthus pusillus</i>	Apocynaceae	Herb	Fodder
37.	<i>Chenopodium ambrosioides L.</i>	Chenopodiaceae	Herb	Fodder
38.	<i>Chrozophora rottleri (Geis.) Spreng</i>	Euphorbiaceae	Herb	Fodder
39.	<i>Cleome gynandra L.</i>	Cleomaceae	Herb	Medicinal
40.	<i>Cleome monophylla L.</i>	Cleomaceae	Herb	Vegetable
41.	<i>Cleome rutidosperma DC.</i>	Cleomaceae	Herb	Fodder
42.	<i>Corchorus tridens L.</i>	Tiliaceae	Herb	Fodder, Fibre
43.	<i>Crotalaria pallida Dryand</i>	Fabaceae	Herb	Fodder
44.	<i>Crotalaria retusa L.</i>	Fabaceae	Herb	Ornamental
45.	<i>Croton bonplandianum Baill.</i>	Euphorbiaceae	Herb	Fodder, Medicinal
46.	<i>Cuscuta reflexa Roxb.</i>	Cuscutaceae	Climber	None
47.	<i>Cyperus difformis L.</i>	Cyperaceae	Herb	Fodder
48.	<i>Datura metel L.</i>	Solanaceae	Shrub	Medicinal
49.	<i>Digera muricata (L.) Mart</i>	Amaranthaceae	Herb	Medicinal, Vegetable
50.	<i>Echinochloa colona (L.) Link.</i>	Poaceae	Grass	Fodder
51.	<i>Eclipta prostrata (L.) Mant.</i>	Asteraceae	Herb	Medicinal
52.	<i>Eichornia crassipes (C. Martius)</i>	Pontederiaceae	Herb	Medicinal
53.	<i>Euphorbia cyathophora Murray</i>	Euphorbiaceae	Herb	Ornamental
54.	<i>Euphorbia hirta L</i>	Euphorbiaceae	Herb	Medicinal
55.	<i>Gnaphalium polycaulon Pers.</i>	Asteraceae	Herb	Fodder
56.	<i>Gomphrena serrata L.</i>	Amaranthaceae	Herb	Fodder
57.	<i>Hyptis suaveolens (L.) Poit.</i>	Lamiaceae	Herb	Medicinal
58.	<i>Imperata cylindrica (L.) Raeusch</i>	Poaceae	Grass	Fodder

59.	<i>Indigofera linifolia (L.f.) Retz.</i>	Fabaceae	Herb	Fodder
60.	<i>Indigofera linnaei Ali</i>	Fabaceae	Herb	Fodder
61.	<i>Indigofera trita L.</i>	Fabaceae	Shrub	Fodder
62.	<i>Ipomoea carnea Jacq</i>	Convolvulaceae	Shrub	Manure
63.	<i>Ipomoea obscura (L.) Ker. - Gawal.</i>	Convolvulaceae	Climber	Fodder
64.	<i>Ipomoea pes-tigridis L</i>	Convolvulaceae	Climber	Medicinal
65.	<i>Ipomoea quamoclit L.</i>	Convolvulaceae	Climber	Ornamental
66.	<i>Martynia annua L.</i>	Pedaliaceae	Herb	Medicinal
67.	<i>Mikania micrantha Kunth</i>	Asteraceae	Climber	None
68.	<i>Mimosa pudica L.</i>	Mimosaceae	Herb	Medicinal
69.	<i>Mirabilis jalapa L.</i>	Nyctaginaceae	Herb	Ornamental
70.	<i>Monochoria vaginalis Burm. f.</i>	Pontederiaceae	Herb	None
71.	<i>Ocimum americanum L.</i>	Lamiaceae	Herb	Medicinal
72.	<i>Opuntia stricta Haw.</i>	Cactaceae	Shrub	Fruit edible
73.	<i>Oxalis corniculata L.</i>	Oxalidaceae	Herb	Vegetable
74.	<i>Parthenium hysterophorus L.</i>	Asteraceae	Herb	Fodder
75.	<i>Passiflora foetida L.</i>	Passifloraceae	Climber	Medicinal
76.	<i>Cactaceae</i>	Pedaliaceae	Herb	Medicinal
77.	<i>Oxalidaceae</i>	Piperaceae	Herb	None
78.	<i>Asteraceae</i>	Acanthaceae	Herb	Fodder
79.	<i>Physalis minima L.</i>	Solanaceae	Herb	Medicinal
80.	<i>Pilea microphylla (L.) Liebm.</i>	Urticaceae	Herb	Medicinal
81.	<i>Pistia stratiotes L.</i>	Araceae	Herb	Medicinal
82.	<i>Portulaca oleracea L</i>	Portulacaceae	Herb	Vegetable
83.	<i>Prosopis juliflora (Sw.) DC.</i>	Mimosaceae	Herb	Fuel wood
84.	<i>Ruellia tuberosa L.</i>	Acanthaceae	Herb	Ornamental
85.	<i>Scoparia dulcis L.</i>	Scrophulariaceae	Herb	Medicinal
86.	<i>Sesbania bispinosa (Jacq.) Wight.</i>	Fabaceae	Shrub	Fibre
87.	<i>Sida acuta Burm. f.</i>	Malvaceae	Herb	Medicinal
88.	<i>Solanum nigrum L.</i>	Solanaceae	Herb	Vegetable
89.	<i>Solanum torvum Sw.</i>	Solanaceae	Shrub	Vegetable
90.	<i>Spermacoce hispida L.</i>	Rubiaceae	Herb	Medicinal
91.	<i>Spilanthes acmella (L.) Murr.</i>	Asteraceae	Herb	Fodder
92.	<i>Stachytarpheta jamaicensis (L.) Vahl</i>	Verbenaceae	Herb	Ornamental
93.	<i>Stylosanthes hamata L.</i>	Fabaceae	Herb	Fodder
94.	<i>Sy adenium grantii Hook. f.</i>	Euphorbiaceae	Shrub	Ornamental
95.	<i>Synedrella nodiflora (L.) Gaertn.</i>	Asteraceae	Herb	Ornamental
96.	<i>Tamarindus indica L.</i>	Caesalpiniaceae	Tree	Vegetable
97.	<i>Tribulus terrestris L.</i>	Zygophyllaceae	Herb	Medicinal
98.	<i>Tridax procumbens L.</i>	Asteraceae	Herb	Medicina
99.	<i>Triumfetta rhomboidea Jacq.</i>	Tiliaceae	Herb	Medicinal
100.	<i>Typha angustata Bory & Chaup.</i>	Typhaceae	Herb	Ornamental
101.	<i>Waltheria indica L.</i>	Sterculiaceae	Herb	Medicinal
102.	<i>Xanthium indicum Koeing</i>	Asteraceae	Herb	Medicinal

3.6.2 Fauna

The fauna study was both direct & indirect observation methods were used to survey the fauna, the study area was restricted up to 10km radius from the lease area. The study area is divided into two parts as core zone and buffer zone. The data was generated with reference to topography, land use, vegetation pattern, animals etc. Core zone has been considered within the cluster area and buffer zone has been considered outside the cluster area up to 10 km from Project boundary. The faunal like was carried out for Mammals, Birds, Reptiles, Amphibians and Butterflies. There are no rare, endangered, threatened (RET) and endemic species present in core area. indirect evidence such as calls, nests, burrows, droppings, scats, tracks etc. All available types of habitats at the site were evaluated and marked.

Table 3.26 Methodology applied during survey of fauna

S. No.	Taxa	Method of Sampling	References
1	Insects	Random walk, Opportunistic observations	Pollard (1977); Kunte (2000)
2	Reptiles	Visual encounter survey (Direct Search)	Daniel J.C (2002)
3	Amphibians	Visual encounter survey (Direct Search)	
4	Mammals	Tracks and Signs	Menon V (2014)
5	Avian	Random walk, Opportunistic observations.	Grimmett R (2011); Ali S (1941)

3.6.2.1 Methodology

Field observations of fauna were carried out. The commonly available mammals, amphibians, reptiles, butterflies, with 10km surroundings were enumerated. The method followed for avifauna survey has been outlined in respective section. To prepare a detailed report on the status of faunal diversity within study area, field studies were conducted. Both direct (sighting) and indirect (evidences) observations methods were used to survey the faunal species around the study area. Further, information towards faunal diversity from secondary sources was collected on interaction with the local people and Forest Dept. officials.

Fauna Composition in the Core Zone

The faunal species observed in the study area are listed in Table 3.22. A total of 25 species were recorded in core zone of the project area. The core zone exhibited fewer species, with only a small number of insects, mammals, and reptiles, whereas the buffer zone showed greater species diversity. Among the 25 species recorded, the distribution was as follows: (08) 32% insects, (03) 12% reptiles, (05) 20% mammals & 9 (36%) Avian. These species were cross-checked against the IUCN Red List Database version 3.1 to identify any threatened species. Data analysis revealed that 8 species are categorized as Least Concern on the Red List, while 17 species were not listed. The analysis indicates that there are no REET species in the core zone of the proposed quarry site.

Fauna Composition in the buffer Zone

The faunal species observed in the study area are listed in Table 3.32. Taxonomically a total of 50 species belonging to 35 families have been recorded from the buffer zone area. Based on habitat classification the majority of species were Birds 15 (30%), followed by Insects 14 (28%), Reptiles 13 (26%), Mammals 5 (10%) and amphibians 3 (6%). There are 4 schedule II species and 24 schedule IV species according to Indian wild life Act 1972. Totally, 19 species of bird were sighted in the study area.

Table 3.27 Fauna in Core Zone

S. No	Common name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
INSECTS					
1	Plain Tiger	Nymphalidae	<i>Danauus chrysippus</i>	NL	NE
2	Tawny coster	Nymphalidae	<i>Danaus chrysippus</i>	Schedule IV	LC
3	Red-veined darter	Libellulidae	<i>Sympetrum fonscolombii</i>	NE	LC
4	Grasshopper	Acrididae	<i>Hieroglyphus sp</i>	NL	LC
5	Termite	Blattodea	<i>Hamitermes silvestri</i>	NE	LC
6	Blue tiger	Nymphalidae	<i>Tirumala limniace</i>	Schedule IV	LC
7	Striped tiger	Nymphalidae	<i>Danaus plexippus</i>	Schedule IV	LC
8	Ant	Formicidae	<i>Camponotus Vicinus</i>	NL	NL
REPTILES					
1	Garden lizard	Agamidae	<i>Calotes versicolor</i>	NE	NE
2	Common house gecko	Gekkonidae	<i>Hemidactylus frenatus</i>	NE	NE
3	Rat snake	Colubridae	<i>Ptyas mucosa</i>	Sch II (Part II)	LC
4	Common krait	Elapid snakes	<i>Bungarus caeruleus</i>	Schedule IV	LC
5	Fan-Throated Lizard	Agamidae	<i>Sitanaponticeriana</i>	NL	LC
MAMMALS					
1	Indian Field Mouse	Muridae	<i>Mus booduga</i>	Schedule IV	LC
2	Asian Small Mongoose	Herpestidae	<i>Herpestes javanicus</i>	Schedule II	LC
3	Rat	Murids	<i>Rattusrattus</i>	Schedule IV	LC
4	Rat snake	Colubridae	<i>Ptyas mucosa</i>	Sch II (Part II)	LC
AVES					
1	Common myna	Sturnidae	<i>Acridotheres tristis</i>	NE	LC
2	Black drongo	Dicruridae	<i>Dicrurus macrocercus</i>	NE	LC
3	Koel	Cucalidae	<i>Eudynamys scolopaceus</i>	Schedule IV	LC
4	Common cuckoo	Cucalidae	<i>Cuculus canorus</i>	NE	LC
5	House crow	Corvidae	<i>Corvus splendens</i>	NE	LC
6	Crow Pheasant	Cucalidae	<i>Centropus sinensis</i>	Schedule IV	LC

7	Rose-ringed parakeet	Psittaculidae	<i>Psittacula krameri</i>	Schedule IV	LC
8	Asian green bee-eater	Meropidae	<i>Meropsorientalis</i>	NL	LC
9	Cattle egret	Ardeidae	<i>Bubulcus ibis</i>	NE	LC

*NE- Not Evaluated; LC- Least Concern, NT –Near Threatened, T-Threatened

Table 3.28 Fauna in Buffer Zone

S. No.	Common Name/English Name	Family Name	Scientific Name	Schedule List Wildlife Protection Act 1972	IUCN Red List Data
INSECTS					
1	Indian honey bee	Apidae	<i>Apis cerana</i>	Schedule IV	LC
2	Blue tiger	Nymphalidae	<i>Tirumala limniace</i>	Schedule IV	LC
3	Common Indian crow	Nymphalidae	<i>Euploea core</i>	Schedule IV	LC
4	Tawny coster	Nymphalidae	<i>Danaus chrysippus</i>	Schedule IV	LC
5	Grasshopper	Acrididae	<i>Hieroglyphus sp</i>	NL	LC
6	Jewel beetle	Buprestidae	<i>Eurythyrea austriaca</i>	Schedule IV	NA
7	Red-veined darter	Libellulidae	<i>Sympetrum fonscolombii</i>	NL	LC
8	Ant	Formicidae	<i>Camponotus Vicinus</i>	NL	NL
9	Indian honey bee	Mantidae	<i>mantis religiosa</i>	NL	NL
10	Dragonfly	Gomphidae	<i>Ceratogomphus pictus</i>	Schedule IV	LC
11	Milkweed butterfly	Nymphalidae	<i>Danainae</i>	NL	LC
12	Striped tiger	Nymphalidae	<i>Danaus plexippus</i>	Schedule IV	LC
13	Lesser grass blue	Lycaenidae	<i>Zizina Otis indica</i>	Schedule IV	LC
14	Common Tiger	Nymphalidae	<i>Danaus genutia</i>	Schedule IV	LC
REPTILES					
1	Garden lizard	Agamidae	<i>Calotes versicolor</i>	NL	LC
2	Chameleon	Chamaeleonidae	<i>Chameleon zeylanicus</i>	Schedule II	LC
3	Fan-Throated Lizard	Agamidae	<i>Sitanaponticeriana</i>	NL	LC
4	Common house gecko	Gekkonidae	<i>Hemidactylus frenatus</i>	NL	LC
5	Rat snake	Colubridae	<i>Ptyas mucosa</i>	Sch II (Part II)	LC
6	Olive keel back water snake	Natricidae	<i>Atretium schistosum</i>	Sch II (Part II)	LC
7	Whip Snake	Elapidae	<i>Dryphis nasutus</i>	Sch II (Part II)	LC
8	Common krait	Elapid snakes	<i>Bungarus caeruleus</i>	Schedule IV	NL

9	Indian wall lizard	Gekkonidae	<i>Hemidactylus flaviviridis</i>	Schedule IV	LC
10	Saw scaled viper	Elapidae	<i>Echis carinatus</i>	Sch II (Part II)	LC
11	Brahminy skink	Scincidae	<i>Eutropis carinata</i>	NL	LC
12	Russell's viper	Viperidae	<i>Vipera russeli</i>	Sch II (Part II)	LC
13	Common skink	Scincidae	<i>Mabuya carinatus</i>	NL	LC
MAMMALS					
1	Indian palm squirrel	Sciuridae	<i>Funambulus palmarum</i>	Schedule IV	LC
2	Indian Field Mouse	Muridae	<i>Mus booduga</i>	Schedule IV	LC
3	Indian hare	Leporidae	<i>Lepus nigricollis</i>	Schedule IV	LC
4	Asian Small Mongoose	Herpestidae	<i>Herpestes javanicus</i>	Schedule (Part II)	LC
5	Brown rat	Muridae	<i>Rattus norwegicus</i>	Schedule IV	LC
AVES					
1	Koel	Cuculidae	<i>Eudynamis</i>	Schedule IV	LC
2	Cattle egret	Ardeidae	<i>Bubulcus ibis</i>	NL	LC
3	Common myna	Sturnidae	<i>Acridotheres tristis</i>	NL	LC
4	House crow	Corvidae	<i>Corvus splendens</i>	NL	LC
5	Asian green bee-eater	Meropidae	<i>Merops orientalis</i>	NL	LC
6	Red-vented Bulbul	Pycnonotidae	<i>Pycnonotus cafer</i>	Schedule IV	LC
7	Rose-ringed parakeet	Psittaculidae	<i>Psittacula krameri</i>	Schedule IV	LC
8	Shikra	Accipitridae	<i>Accipiter badius</i>	NL	LC
9	Common quail	Phasianidae	<i>Coturnix coturnix</i>	Schedule IV	LC
10	Black drongo	Dicruridae	<i>Dicrurus macrocercus</i>	Schedule IV	LC
11	Two-tailed Sparrow	Dicruridae	<i>Passer domesticus</i>	Schedule IV	LC
12	Grey Francolin	Phasianidae	<i>Francolinus pondicerianus</i>	Schedule IV	LC
13	Common Quail	Phasianidae	<i>Coturnix coturnix</i>	Schedule IV	LC
14	White-breasted waterhen	Rallidae	<i>Amaurornis phoenicurus</i>	NL	LC
15	Rose-ringed parakeet	Rallidae	<i>Fulica atra</i>	Schedule IV	LC
AMPHIBIANS					
1	Indian Burrowing frog	Dicroglossidae	<i>Sphaerotheca breviceps</i>	Schedule IV	LC
2	Green Pond Frog	Ranidae	<i>Rana hexadactyla</i>	Schedule IV	LC
3	Tiger Frog	Chordata	<i>Hoplobatrachus tigerinus</i> (<i>Rana tigerina</i>)	Schedule IV	LC

Aquatic Vegetation

The Field Survey for Assessing the Aquatic Vegetation Was Also Undertaken During the Study Period. The List of Aquatic Plants Observed in The Study Area Is Given in Table 3.34.

Table 3.29 Aquatic Fauna and Flora

Sl. No	Common Name	Scientific name	Family Name	IUCN Red List of Threatened Species
Flora				
1	Water hyacinth	<i>Eichornia crassipes</i>	Pontederiaceae	NA
2	Blue waterlily	<i>Nymphaea nouchali</i>	Nymphaeaceae	LC
3	Cross Grass	<i>Carex cruciata</i>	Cyperaceae	NA
Fauna				
5	Thilopia	<i>Oreochromis niloticus</i>	Cichlidae	LC
6	Catla	<i>Catla catla</i>	Cyprinidae	LC
7	Koravi meen	<i>Channa striata</i>	Channidae	LC
8	Roghu	<i>Labeo rohita</i>	Cyprinidae	LC

*LC- Least Concern, NA-Not yet assessed

Food chain

The food chain in aquatic ecosystems often begins with the algae or phytoplankton producers, and then the zooplankton that feed on them. This type of food chain is found in nearby lakes and rivers with phytoplankton, zooplankton, fish *Artiola gray* and humans.

Ex: Phytoplankton→Zooplankton→small fish→large fish → Human.

Endangered and endemic species as per the IUCN Red List

There are no rare, endangered and endemic species found in the study area. There are no biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), ecologically sensitive zone in 10km radius.

Agriculture & Horticulture in Krishnagiri district:

Krishnagiri district is one of the potential districts for cultivation of horticultural crops. Total area under cultivation is 1,82,888ha. In that, Horticultural crops have been cultivated in about 80499 ha and the prominent crops under cultivation are Mango, Banana, Tomato, Beans, Cabbage, Cauliflower, Brinjal, Coriander, Potato, Carrot, Beetroot, Knol Khol, Turmeric, Rose, Gerbera, Carnation, Jasmine and Chrysanthemum. Mango is the major crop grown in this district. The average rainfall for the district is 842mm per annum.

To increase the production, productivity and income of farmers, various schemes are being implemented through Department of Horticulture and Plantation crops. Hi-tech production techniques among farmers are being introduced by various schemes like poly-green house construction, shade net house, mulching, distribution of Vegetable portray seedlings of

high yielding varieties and Grafted / Seedlings of fruit crops of high yielding varieties are being Implemented.

Major Agricultural Crops

Major horticulture crops cultivated in this district are vegetables crops like tomato, brinjal, chillies, onion and turmeric. Details of major field crops and horticulture in 1km radius is given in Table. 3.35.

Table 3.30 Major Crops in 1km radius

S. No	Crop	Scientific Name	Family
1.	Paddy	<i>Oryza sativa</i>	Poaceae
2.	Cholam	<i>Sorghum</i>	Poaceae
3.	Bajra	<i>Pennisetum glaucum</i>	Poaceae
4.	Ragi	<i>Eleusine coracana</i>	Poaceae
5.	Redgram	<i>Cajanus cajan</i>	Fabaceae
6.	Bengalgram	<i>Cicer arietinum</i>	Fabaceae
7.	Greengram	<i>Vigna radiata</i>	Fabaceae
8.	Blackgram	<i>Vigna mungo</i>	Fabaceae
9.	Horsegram	<i>Macrotyloma uniflorum</i>	Fabaceae
10.	Ground Nut	<i>Arachis hypogaea</i>	Fabaceae
11.	Cotton	<i>Gossypium</i>	Malvaceae
12.	Sugar cane	<i>Saccharum officinarum</i>	Poaceae

Major Horticulture Crops 1km radius

Horticulture includes cultivation of fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds and non-food crops such as grass and ornamental trees and plants. It also includes plant conservation, landscape restoration, landscape and garden design.

Horticulture 1km radius

Major horticulture crops cultivated in Krishnagiri district are fruit crops like mango, banana, Sapota and guava, vegetables like tomato, brinjal, Ladies finger, chillies, onion and tapioca, spices like turmeric. Details of major field crops and horticulture cultivation in 1km radius is given in Table 3.36.

Table 3.31 Major Field Crops & Horticulture cultivation in 1km radius.

S. No	Common Name	Scientific Name	Family
Major Horticultural Crops			
1.	Mango	<i>Mangifera indica</i>	Anacardiaceae
2.	Banana	<i>Musa paradisiaca Linn</i>	Musaceae
3.	Tomato	<i>Solanum lycopersicum</i>	Solanaceae
4.	Beans	<i>Phaseolus</i>	Fabaceae
5.	Cabbage	<i>Brassica oleracea var</i>	Brassicaceae
6.	Cauliflower	<i>Brassica oleracea</i>	Brassicaceae
7.	Brinjal	<i>Solanum melongena</i>	Solanaceae
8.	Onion	<i>Allium cepa</i>	Amaryllidaceae

9.	Tapioca	<i>Manihot esculenta</i>	Euphorbiaceae
10.	Coriander	<i>Coriandrum sativum</i>	Apiaceae
11.	Potato	<i>Solanum tuberosum</i>	Solanaceae
12.	Carrot	<i>Daucus carota subsp</i>	Apiaceae
13.	Beetroot	<i>Beta vulgaris</i>	Chenopodiaceae
14.	Turmeric	<i>Curcuma longa</i>	Zingiberaceae
15.	Rose	<i>Rosa rubiginosa</i>	Rosaceae
16.	Carnation	<i>Dianthus caryophyllus</i>	Caryophyllaceae

Results

The biodiversity assessment of the proposed project site has identified no ecologically sensitive areas within the core or buffer zones. The flora and fauna observed in the study area are commonly occurring species, with no IUCN-listed rare, endangered, endemic, or threatened (REET) species present, except for some species classified as of least concern. Additionally, the site is not located on any migratory routes for fauna. Operations at the stone and gravel quarry may generate dust particles. Implementing a green belt composed of native trees could help mitigate the dust effect on nearby flora and fauna. Key recommendations from the assessment include adopting green mining strategies to minimize environmental impact and developing a green belt with native trees to reduce dust movement from mining activities. This small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

3.7 SOCIO ECONOMIC ENVIRONMENT

The major developmental activities in the mining and industrial sector are crucial for economic development and the creation of direct and indirect employment opportunities. These activities also fulfill society's basic and modern needs, ultimately improving the quality of life through advancements in social, economic, health, education, and nutritional status within the project region, state, and country. In this manner all developmental projects have direct as well as indirect relationships with socioeconomic aspects, which also include public acceptability for new developmental projects. Thus, the study of socio-economic environment component incorporating various facets related to prevailing social and cultural conditions and economic status of the mining (rough stone and granite quarry) project region is an important part of EIA study. The study of these parameters helps in identification, prediction and evaluation of the likely impacts on the socio-economics and parameters of human interest due to the project.

3.7.1 Objectives of the Study

The objectives of the socio-economic impact assessment are as follows:

- To study the demographic and socio-economic status of the people living in the study areas of the project.
- To identify the basic amenities of the nearby villages within the study area.

- c) To assess the impact on socio-economic environment due to the project.
- d) To provide the employment and improved living standards.
- e) To analysis of impact of socio economic and Environmental Infrastructure facilities and road accessibility.

3.7.2 Methodology

The study employed cluster sampling to outline two zones around the proposed project site: Zone 1 (Core Zone, 0-1 km radius) and Zone 2 (Low Impact Zone, 1–5 km radius). The primary data collection was conducted through structured interviews, field observation, and focus group discussions with the local people of in Kamandoddi Village, Shoolagiri Taluk of Krishnagiri District, Tamil Nadu. The secondary data were collected from the Census report 2011 and official records, covering demographics and basic services including information on population, number of households, literacy rates, sex ratios, worker details and the availability of basic services. This study covers the positive and negative impacts of the project's establishment, and provides recommendations for analysing and mitigating adverse effects. The study areas are illustrated in Figure 3.34.

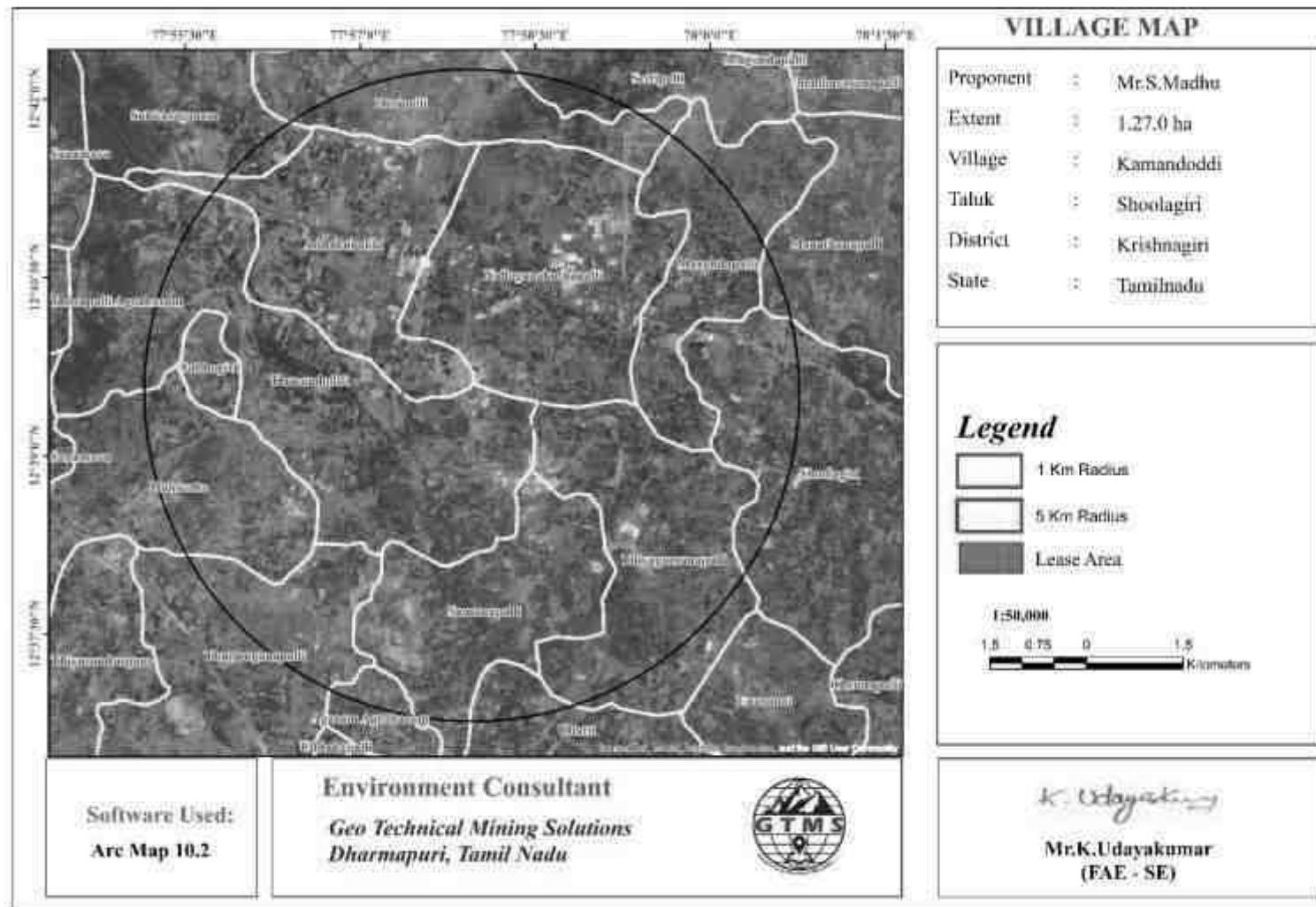


Figure 3.29 5km Radius Socio Economic Study area

3.7.3 Demographic Profile of Krishnagiri District

Krishnagiri district is bounded by Vellore and Thiruvannamalai districts in the East, Karnataka state in the west, State of Andhra Pradesh in the North Dharmapuri District in the south. Its area is 5143 Sq. Kms. The average rainfall is 830 mm per annum. Three languages namely Tamil, Telugu and Kannada are predominantly spoken in this district.

In 2011, Krishnagiri had population of 1,879,809 of which male and female were 960,232 and 919,577 respectively. In 2001 census, Krishnagiri had a population of 1,561,118 of which males were 803,077 and remaining 758,041 were females. The literacy rate is 71.46% overall, with 78.72% for males and 63.91% for females. For 2001 census, same figures stood at 72.50 and 51.62 in Krishnagiri District. Total literate in Krishnagiri District was 1,187,958 of which male and female were 667,062 and 520,896 respectively. In 2001, Krishnagiri District had 838,547 in its district. Hinduism is the dominant religion, accounting for 91.70% of the population, followed by Islam at 6.13%. Scheduled Castes and Scheduled Tribes make up 14.22% and 1.19% of the population, respectively.

With regards to Sex Ratio in Krishnagiri, it stood at 958 per 1000 male compared to 2001 census figure of 944. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate. In 2011 census, child sex ratio is 926 girls per 1000 boys compared to figure of 869 girls per 1000 boys of 2001 census data. In census enumeration, data regarding child under 0-6 age were also collected for all districts including Krishnagiri. There was total 217,323 children under age of 0-6 against 214,954 of 2001 census. Of total 217,323 male and female were 112,832 and 104,491 respectively. Child Sex Ratio as per census 2011 was 926 compared to 869 of census 2001. In 2011, Children under 0-6 formed 11.56 percent of Krishnagiri District compared to 13.77 percent of 2001. There was net change of -2.21 percent in this compared to previous census of India.

3.7.4 Profile of Study Area - Kamandoddi Village

The profile of Kamandoddi village covers demographics details including the number of families, population statistics, literacy level, children (0-6), caste and workers details of the villages shows in Table 3.37. Kamandoddi village is located in Shoolagiri Taluk of Krishnagiri District, Tamil Nadu, with total 1450 families residing. There are approximately 1450 households in Kamandoddi. The average household size in the village is about 4 persons per house. The Kamandoddi village has population of 6524 of which 3394 are males while 3130 are females as per Population Census report 2011. In Kamandoddi village population of

children with age 0-6 is 797 which makes up 12.22 % of total population of village. Average Sex Ratio of Kamandoddi village is 922 which is lower than Tamil Nadu state average of 996. Child Sex Ratio for the Kamandoddi as per census is 920, lower than Tamil Nadu average of 943. Kamandoddi village has lower literacy rate compared to Tamil Nadu. In 2011, literacy rate of Kamandoddi village was 62.88 % compared to 80.09 % of Tamil Nadu. In Kamandoddi Male literacy stands at 70.26 % while female literacy rate was 54.88 % respectively. The Village of Kamandoddi appears to be a relatively well-populated and literate village with a stable workforce, though gender gaps in literacy and employment remain areas for improvement.

Table. 3.32 Kamandoddi Village Population Facts

Particulars	Total	Male	Female
Total No. of Houses	1,450	-	-
Population	6,524	3,394	3,130
Child (0-6)	797	415	382
Schedule Caste	878	460	418
Schedule Tribe	130	76	54
Literacy %	62.88 %	70.26 %	54.88 %
Total Workers	3,003	1,982	1,021
Main Worker	2,221	-	-
Marginal Worker	782	446	336

Source: <https://www.census2011.co.in/data/village/643813-kamandoddi-tamil-nadu.html>

3.7.5 Working Population- Kamandoddi Village, Shoolagiri Taluk

In Kamandoddi village out of total population, 3003 were engaged in work activities. 73.96 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 26.04 % were involved in Marginal activity providing livelihood for less than 6 months. Of 3003 workers engaged in Main Work, 863 were cultivators (owner or co-owner) while 403 were Agricultural labourer.

Benefits:

The local people have been provided with either direct employments or indirect employment such as business, contract works and development work like roads, etc. and other welfare amenities such as medical facilities, conveyance, free education, drinking water supply etc. The number of villages and settlements within a radius of 5 km from the project site along with population, literacy status, basic facilities surrounding villages etc. are given in the table 3.38 & 3.39.

Table 3.33 Population and Literate Status of Study Area

Village Name	No. of Houses	Total Population		Children (0-6)		Schedule Caste		Schedule Tribe		Literates		Total Workers	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Addakurukki	581	1288	1216	191	175	226	199	4	4	758	540	709	314
Agaram Agraharam	288	620	599	68	58	71	60	9	14	389	298	416	325
Bukkasagaram	460	1109	1017	128	131	165	154	0	0	742	471	246	118
Doripalli	852	1898	1783	216	182	304	292	0	0	1165	848	775	365
Halekotta	707	1535	1455	148	153	103	106	46	37	1071	760	809	454
Kamandoddi	1450	3394	3130	415	382	460	418	76	54	2093	1508	1982	1021
Marandapalli	963	2355	2308	303	276	58	64	0	0	1355	1008	1411	1016
Nallaganakothapalli	968	2028	1905	247	277	207	212	15	11	1378	931	1201	458
Samanapalli	721	1635	1563	217	172	165	139	0	0	922	730	954	676
Shoolagiri	82427	187714	177616	22960	21664	25353	24694	2366	2232	117400	85597	109990	63190
Subbagiri	158	333	323	46	35	0	0	0	0	194	166	190	18
Thiyagarsanapalli	990	2291	2188	242	233	158	164	0	0	1304	982	1437	932
Thiyarandurgam	919	2136	2007	223	240	232	210	40	42	1337	908	1306	831
Thuppuganapalli	989	2192	2089	248	253	616	585	0	0	1340	988	1381	1014
Uddanapalli	1091	2387	2304	308	247	326	322	28	30	1563	1216	1473	833
Ullatti	737	1762	1549	206	180	111	99	0	0	1023	615	1068	786
Total	94301	214677	203052	26166	24658	28555	27718	2584	2424	134034	97566	125348	72351

Source: DCHB Census 2011, Tamil Nadu.

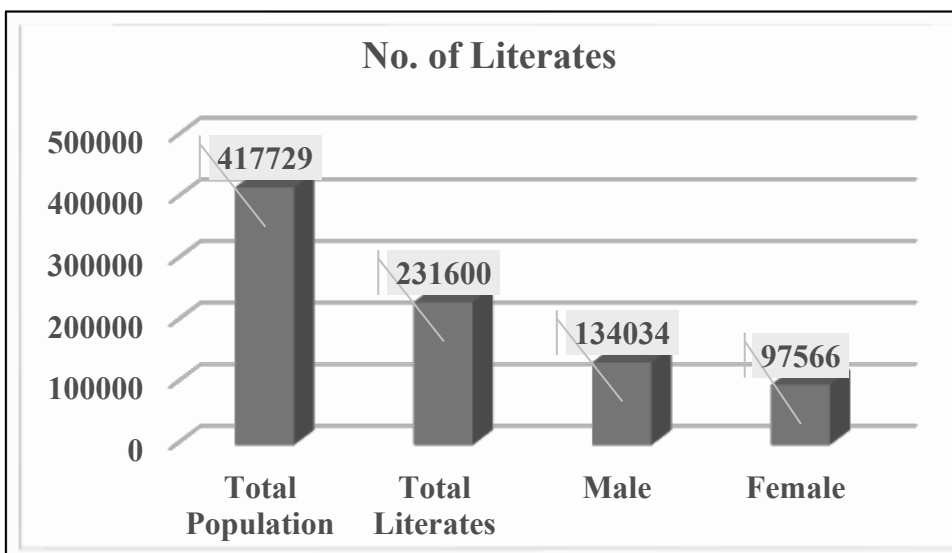
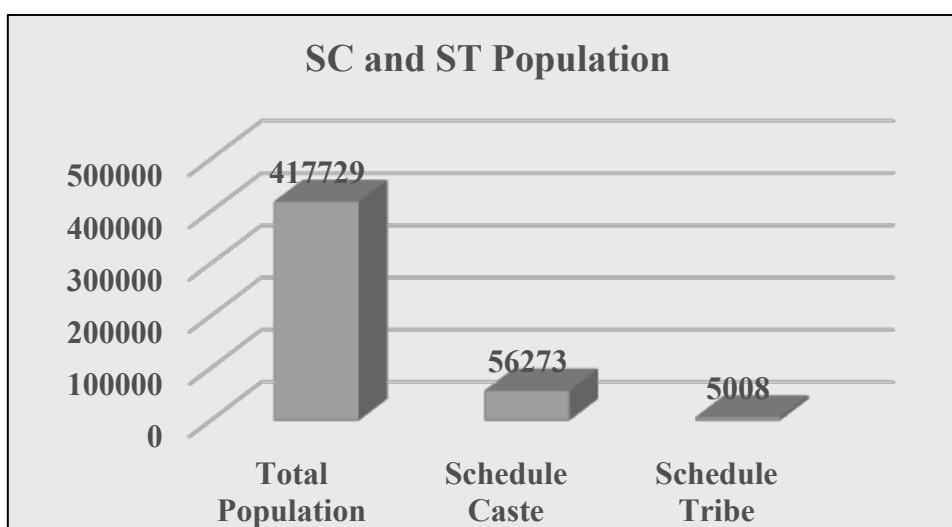
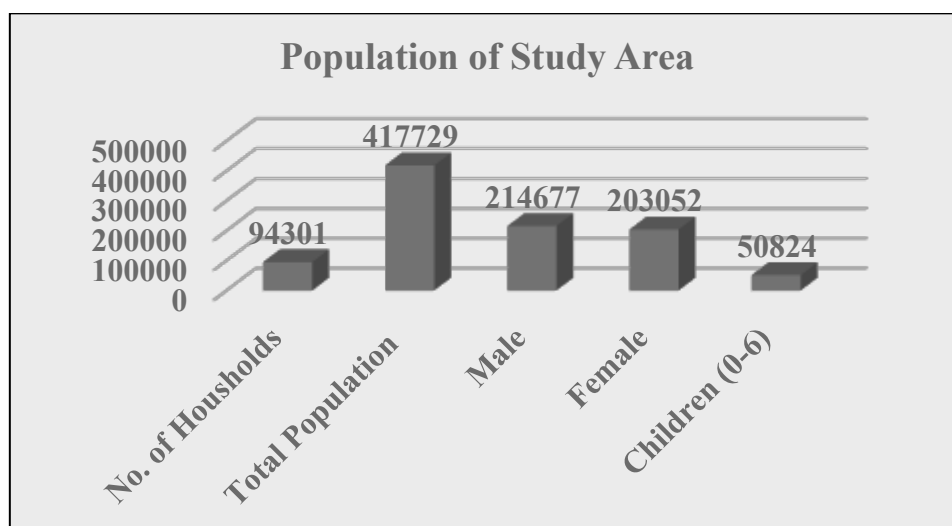


Figure 3.30 Details of Population, Literacy status and Workers Profile of the Villages

Table 3.34 Workers Profile of Study Area

Name of Village	Total Worker	Male Worker	Female Worker	Main Workers	Cultivator	Agricultural Labourers	Other Workers	Non-Workers
Addakurukki	1023	709	314	682	199	272	210	1481
Agaram Agraharam	741	416	325	692	290	276	112	478
Bukkasagaram	364	246	118	278	104	53	99	1762
Doripalli	1140	775	365	1056	353	243	444	2541
Halekotta	1263	809	454	1098	493	397	192	1727
Kamandoddi	3003	1982	1021	2221	863	403	906	3521
Marandapalli	2427	1411	1016	1688	796	651	204	2236
Nallaganakothapalli	1659	1201	458	1383	489	118	751	2274
Samanapalli	1630	954	676	1585	443	894	221	1568
Shoolagiri	173180	109990	63190	152228	56119	50149	43229	192150
Subbagiri	208	190	18	208	174	18	16	448
Thiyagarsanapalli	2369	1437	932	1772	459	961	337	2110
Thiyarandurgam	2137	1306	831	1692	598	524	551	2006
Thuppuganapalli	2395	1381	1014	2322	445	1563	290	1886
Uddanapalli	2306	1473	833	1820	1049	81	619	2385
Ullatti	1854	1068	786	1727	877	586	231	1457
Total	197699	125348	72351	172452	63751	57189	48412	220030

Source: DCHB Census 2011, Tamil Nadu.

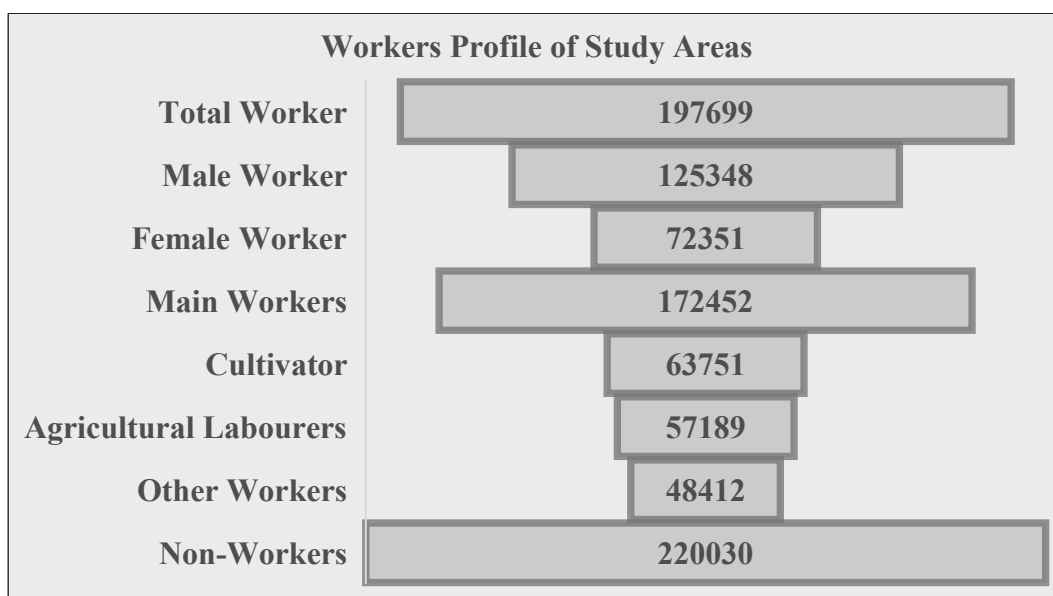


Figure 3.31 Details on the No. of Workers of the Selected villages

As per SEAC recommendation the project proponent should spend minimum of 5 lakhs to the nearby school from the proposed project site as part of CER cost. Also, the village panchayat will get direct benefit from the government through District mineral Resource fund (DMF) for infrastructure development activities.

- ❖ Awareness and Opinion of the People About the Project, to assess public awareness and opinions regarding the proposed project, the following key observations were recorded:
- ❖ During the survey, it was observed that only residents of nearby villages were aware of the proposed project, while those in more distant villages were largely unaware.

People in the region expressed expectations that the project would generate employment opportunities and lead to improvements in education, transportation, and sanitation facilities provided by the project authorities.

3.7.6 Recommendation and Suggestion

The village development plans are made in consultation with the community through Gram Sabha; these appear to address the needs of the community. However, it may be noted that at the implementation stage these plans often are fraught with problem of inadequate funds, lack of proper planning, corruption, vested interests and political agendas. Hence while ascertaining the scope for convergence with the government activities, care must be taken to ascertain realistic possibilities for implementation.

- Women empowerment– Home based income generation activities, vocational training programs and common education centre for increasing the literacy rate.

- Education – Free uniform, construction of common rooms and library, computer education and physical education, furniture and equipment in schools, up-gradation of existing school infrastructure.
- Agriculture/livestock – Infrastructure such as agricultural practices, electricity connections, assistance with buying improved tools and equipment, capacity building, supply and/or knowledge of better variety of seeds, pasture land development and trainings on animal husbandry & facility of veterinary doctor.
- Health – Improvements in sanitary conditions of villages, assistance with construction of latrines, improvement in drainage system, health camps and awareness campaigns for diseases like common cold, malaria, typhoid, tuberculosis, yellow fever and pneumonia. Repairing of PHCs and Anganwadi centres.
- People with disability – Establishment of centre for special education, sensitization of the community towards disabled and awareness on Government schemes.
- While Developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.
- Connectivity –Transport connectivity to easiness accessibility to the region.

While developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.

3.7.7 Conclusion

This study was carried out the baseline socio-economic conditions of the study area. It examined parameters including the population, number of households, literacy rate, sex ratio, workforce details, and the availability of essential amenities like transportation, drinking water, road connectivity, and educational facilities. The study revealed both positive and negative socio-economic implications associated with the proposed project and cluster quarries. While potential environmental and social impacts must be addressed, the project is expected to provide significant economic benefits in terms of local employment and improved livelihood opportunities in directly and indirectly.

Therefore, with the implementation of effective mitigation and management measures, the project can contribute positively to the socio-economic development of the area while minimizing adverse impacts.

3.8 TRAFFIC DENSITY

The traffic survey conducted based on the transportation route of material, the Rough Stone is proposed to be transported mainly through Village Road (Nallaganakothapalli) Hosur to Krishnagiri (NH-44) as shown in Table 3.40 and in Figure 3.37. Traffic density measurements were made continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., Heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station. During each, shift one person on either direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken. Direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken.

Table 3.35 Traffic Survey Locations

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Village Road	0.89 km-W	Village Road
TS2	Hosur to Krishnagiri (NH-44)	1.82 km-N	Hosur to Krishnagiri (NH-44)

Source: On-site monitoring by GTMS FAE & TM

Table 3.36 Existing Traffic Volume

Station code	HMV		LMV		2/3 Wheelers		Total PCU
	No	PCU	No	PCU	No	No	
TS1	218	654	45	45	78	39	738
TS2	235	705	97	97	108	54	856

Source: On-site monitoring by GTMS FAE & TM

* PCU conversion factor: HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 2/3 Wheelers = 0.5

Table 3.37 Rough Stone Transportation Requirement

Transportation of Rough Stone Per day		
Capacity of trucks	No. of Trips per day	Volume in PCU
15 tonnes	84	252

Source: Approved Mining Plan

Table 3.38 Summary of Traffic Volume

Route	Existing traffic volume in PCU	Incremental traffic due to the project	Total traffic volume	Hourly Capacity in PCU as per IRC – 1960 guidelines
Village Road	738	252	990	1200
Hosur to Krishnagiri (NH-44)	856	252	1108	1200

Source: On-site monitoring analysis summary by GTMS FAE & TM

- Due to these projects the existing traffic volume will not exceed the traffic limit. As per the IRC 1960 this existing village road can handle 1,200 PCU in hour and Major district road can handle 1500 PCU in hour. Hence there will not be any conjunction due to this proposed transportation.

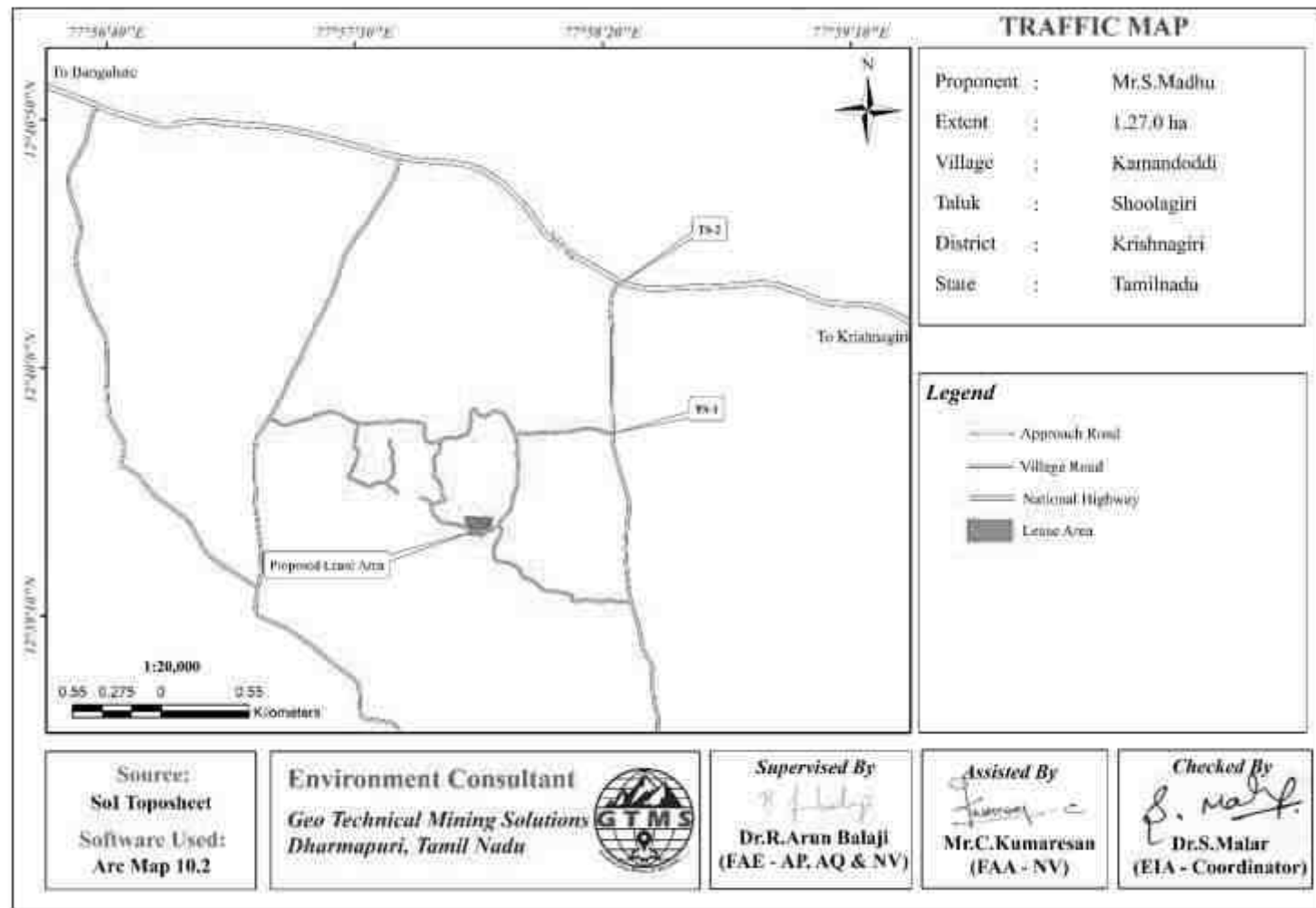


Figure 3.32 Traffic Density Map

3.9 SITE SPECIFIC FEATURES

There are no Wildlife Sanctuaries, Reserve Forest and National Park within 10 km radius. Therefore, there will be no need of acquisition/diversion of forest land. The details related to the environmentally sensitive areas around the proposed mine lease area i.e., 10 km radius and the nearby water bodies are given in the Table 3.44.

Table 3.39 Details of Environmentally Sensitive Ecological Features in the Study Area

S. No.	Sensitive Ecological Features	Name	Areal Distance in km
1	National Park / Wild life Sanctuaries	None	Nil within 10 km radius
		None	Nil within 10 km radius
2	Reserve Forest	Thekkalapalli R.F	9.80 -East
		Sulagiri R.F	3.5 -North
		Errandapalli R.F	10.94 -East
		Kariyanapalli R.F	15.65-NE
		Melumalai R.F	11.48 -East
		Sulagunda R.F	15.5-SE
		Settipatti R.F	3.04 - North
		Sanamavu R.F	7.28-SW
		Udedurgam R.F	13.70- South
		Perandapalli R.F	4.04-West
		Veppanapalli R.F	23.92-NE
3	Lakes/Reservoirs/ Dams/Streams/Rivers	Ponnaiyar River	1.31-SW
		Pillayakottur lake	0.230-NW
		Kurupachappadi Lake	1.37- East
		Chappadi North lake	1.66-NE
		Chappadi South lake	1.82-SE
		Kottoor lake	2.58-SE
		Narur Lake	2.70-West
		Pannapalli lake	2.23-NW
		Kamandoddi lake	2.88-NW
		Sivapellai lake	1.80-North
4	Tiger Reserve/Elephant Reserve/ Biosphere Reserve	None	Nil within 10 km radius
5	Critically Polluted Areas	None	Nil within 10 km radius
6	Mangroves	None	Nil within 10 km radius
7	Mountains/Hills	None	Nil within 10 km radius
8	Centrally Protected Archaeological Sites	None	Nil within 10 km radius
9	Industries/Thermal Power Plants	None	Nil within 10 km radius
10	Defence Installation	None	Nil within 10 km radius

Source: Survey of India Toposheet





Figure 3.33 Field Study Photographs

CHAPTER IV

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 GENERAL

In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans sustainable resource extraction. This chapter discusses the anticipated impacts on soil, land, water, air, noise, biological, and socioeconomic environments.

4.1 LAND ENVIRONMENT

4.1.1 Anticipated Impact

- ❖ Permanent or temporary change on land use and land cover.
- ❖ Change in topography of the mine lease area will change at the end of the life of the mine.
- ❖ Problems to agricultural land and human habitations due to dust, and noise caused by movement of heavy vehicles.
- ❖ Degradation of the aesthetic environment of the core zone due to quarrying
- ❖ Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season
- ❖ Siltation of water course due to wash off from the exposed working area

4.1.2 Mitigation Measures from Proposed Project

- ❖ The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigate measures like phase wise development of greenbelt etc.
- ❖ Construction of garland drains all around the quarry pits and construction of check dam at strategic location in lower elevations to prevent erosion due to surface runoff during rainfall and also to collect the storm water for various uses within the proposed area.
- ❖ Green belt development along the boundary within safety zone. The small quantity of water stored in the mined-out pit will be used for greenbelt.
- ❖ Thick plantation will be carried out on unutilized area, top benches of mined out pits, on safety barrier, etc.,
- ❖ At conceptual stage, the land use pattern of the quarry will be changed into Greenbelt area and temporary reservoir.
- ❖ In terms of aesthetics, natural vegetation surrounding the quarry will be retained (such as in a buffer area i.e., 7.5m, 10m and 50m safety barrier and other safety provided) so as to help minimize dust emissions.
- ❖ Proper fencing will be carried out at the conceptual stage, Security will be posted round the clock, to prevent inherent entry of the public and cattle.

4.2 SOIL ENVIRONMENT

4.2.1 Anticipated Impact on Soil Environment

Following impacts are anticipated due to mining operations:

- ❖ Removal of protective vegetation cover
- ❖ Exposure of subsurface materials which are unsuitable for vegetation establishment

4.2.2 Common Mitigation Measures from proposed project

- ❖ Run-off diversion- Garland drains will be constructed around the project boundary to prevent surface flows from entering the quarry works areas and will be discharged into vegetated natural drainage lines, or as distributed flow across an area stabilised against erosion.
- ❖ Sedimentation ponds - Run-off from working areas will be routed towards sedimentation ponds. These trap sediment and reduce suspended sediment loads before runoff is discharged from the quarry site. Sedimentation ponds should be designed based on runoff, retention times, and soil characteristics. There may be a need to provide a series of sedimentation ponds to achieve the desired outcome.
- ❖ Retain vegetation- Retain existing or re-plant the vegetation at the site wherever possible.
- ❖ Monitoring and maintenance- Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season.

4.3 WATER ENVIRONMENT

4.3.1 Anticipated Impact

- ❖ Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- ❖ As the proposed project acquires 3.5KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

4.3.2 Common Mitigation Measures for the Proposed Project

- ❖ Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes.
- ❖ Domestic sewage from site office will be discharged in bio-septic tank and then directed to soak pits.
- ❖ Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse.
- ❖ The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage.

- ❖ Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted.
- ❖ Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program.

4.4 AIR ENVIRONMENT

4.4.1 Anticipated Impact

The proposed rough stone quarry project involves activities such as formation of benches, approach roads, drilling, blasting, excavation, and transportation, all of which may lead to dust generation and pose potential health risks. To mitigate these impacts, dust suppression measures like water sprinkling at loading/unloading points and along haul roads will be implemented. Quarrying will be carried out using opencast semi-mechanized methods, where drilling and blasting will be conducted in a controlled manner to reduce dust and vibration. The primary air pollutant expected is particulate matter (PM₁₀), while emissions of Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂) from vehicle movement are anticipated to be minimal. Air quality impact assessment has been conducted based on the proposed production levels and estimated emissions.

4.4.2 Emission Estimation

Emission resulting from different mining activities is estimated using relevant empirical formulae developed by Chaulya et al., 2001. The equations used for SPM, SO₂, and NO_x emission estimation have been given in Table 4.1.

Table 4.1 Empirical Formula for Emission Rate from Overall Mine

	Pollutant	Source Type	Empirical Equation	Parameters
Overall Mine	SPM	Area	$E = [u0.4a0.2\{9.7 + 0.01p + b/(4 + 0.3b)\}]$	u = Wind speed(m/s); p = Mineral production (Mt/yr); b = Overburden handling (Mm ³ /yr); a = Lease area(km ²); E = Emission rate(g/s).

The emission rate thus calculated using the empirical formula is used as one of the inputs in the AERMOD modelling. It is important to note that PM₁₀ emission rate is derived from the SPM estimation in the background that PM₁₀ constitutes 52% of SPM emission. The PM_{2.5} and PM₁₀ emission results have been given in Table 4.2.

Table 4.2 Estimated Emission Rate

Activity	Pollutant	Calculated Value (g/s)	Lease Area in m ²	Calculated Value (g/s/m ²)
Overall Mine	PM _{2.5}	0.486945381	12700	3.83422E-05
Overall Mine	PM ₁₀	0.973890762		7.66843E-05

4.4.2.1 Modelling of Incremental Concentration

Anticipated incremental concentration and net increase in emissions due to quarrying activities within 500m around the project area is predicted by open pit source modelling using AERMOD Software and the incremental values of the air pollutants were added to the base line data monitored at the proposed site to predict total GLC of the pollutants, as shown in Tables 4.3-4.4.

4.4.2.2 Model Results

The post project resultant concentrations of PM₁₀, PM_{2.5} (GLC) is given in Tables 4.3- 4.4.

Table 4.3 Incremental & Resultant GLC of PM_{2.5}

Station ID	Distance to core area (km)	Direction	PM 2.5 concentrations($\mu\text{g}/\text{m}^3$)			Comparison against air quality standard ($60 \mu\text{g}/\text{m}^3$)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.68	NW	16.7	4.37	21.07	Below standard	26.2	Not significant
AAQ2	1.40	NNW	14.5	0.5	15		3.4	
AAQ3	2.34	WSW	15.6	0.2	15.8		1.3	
AAQ4	4.75	WSW	14.3	0.2	14.5		1.4	
AAQ5	2.61	S	14.0	0.1	14.1		0.7	
AAQ6	4.63	ENE	16.4	0.2	16.6		1.2	
AAQ7	4.05	N	15.5	0.2	15.7		1.3	
AAQ8	0.78	NE	30.7	1	31.7		3.3	
AAQ9	0.81	NW	32.4	0.5	32.9		1.54	

Table 4.4 Incremental & Resultant GLC of PM₁₀

Station ID	Distance to core area (km)	Direction	PM ₁₀ concentrations($\mu\text{g}/\text{m}^3$)			Comparison against air quality standard ($100 \mu\text{g}/\text{m}^3$)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.68	NW	41.8	9.1	50.69	Below standard	21.8	Not significant
AAQ2	1.40	NNW	36.2	1	36.7		2.8	
AAQ3	2.34	WSW	39.1	0.5	39.6		1.3	
AAQ4	4.75	WSW	35.7	0.5	36.2		1.4	
AAQ5	2.61	S	35.0	0.1	35.5		0.3	
AAQ6	4.63	ENE	40.9	0.5	41		1.2	
AAQ7	4.05	N	38.8	0.5	39.3		1.3	
AAQ8	0.78	NE	52.2	2	57.2		3.8	
AAQ9	0.81	NW	53.7	2	54.2		3.72	

The values of cumulative concentration i.e., background + incremental concentration of pollutant in all the receptor locations are still within the prescribed NAAQ limits without effective mitigation measures. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be controlled further.

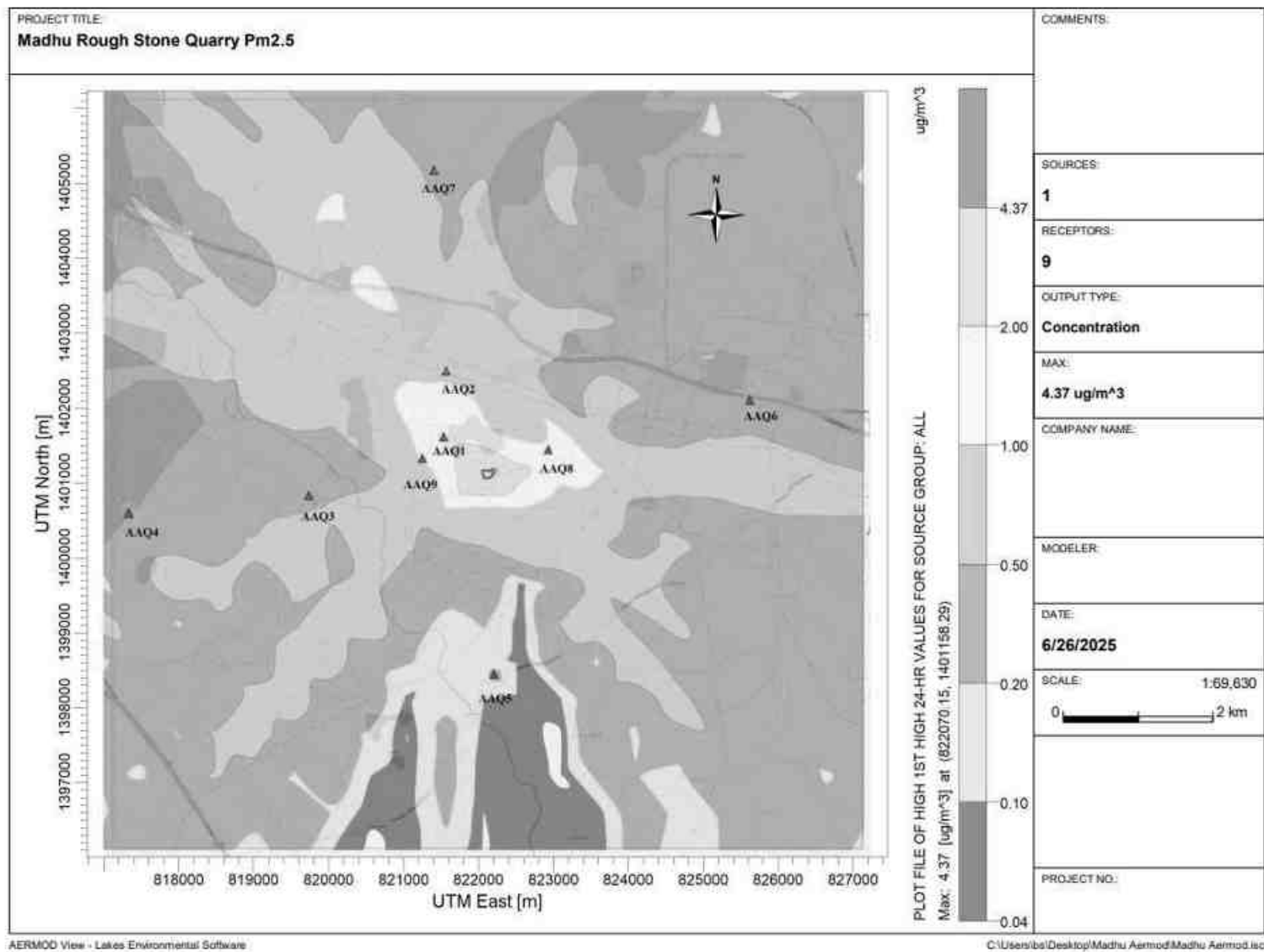


Figure 4.1 Predicted Incremental Concentration of PM_{2.5}

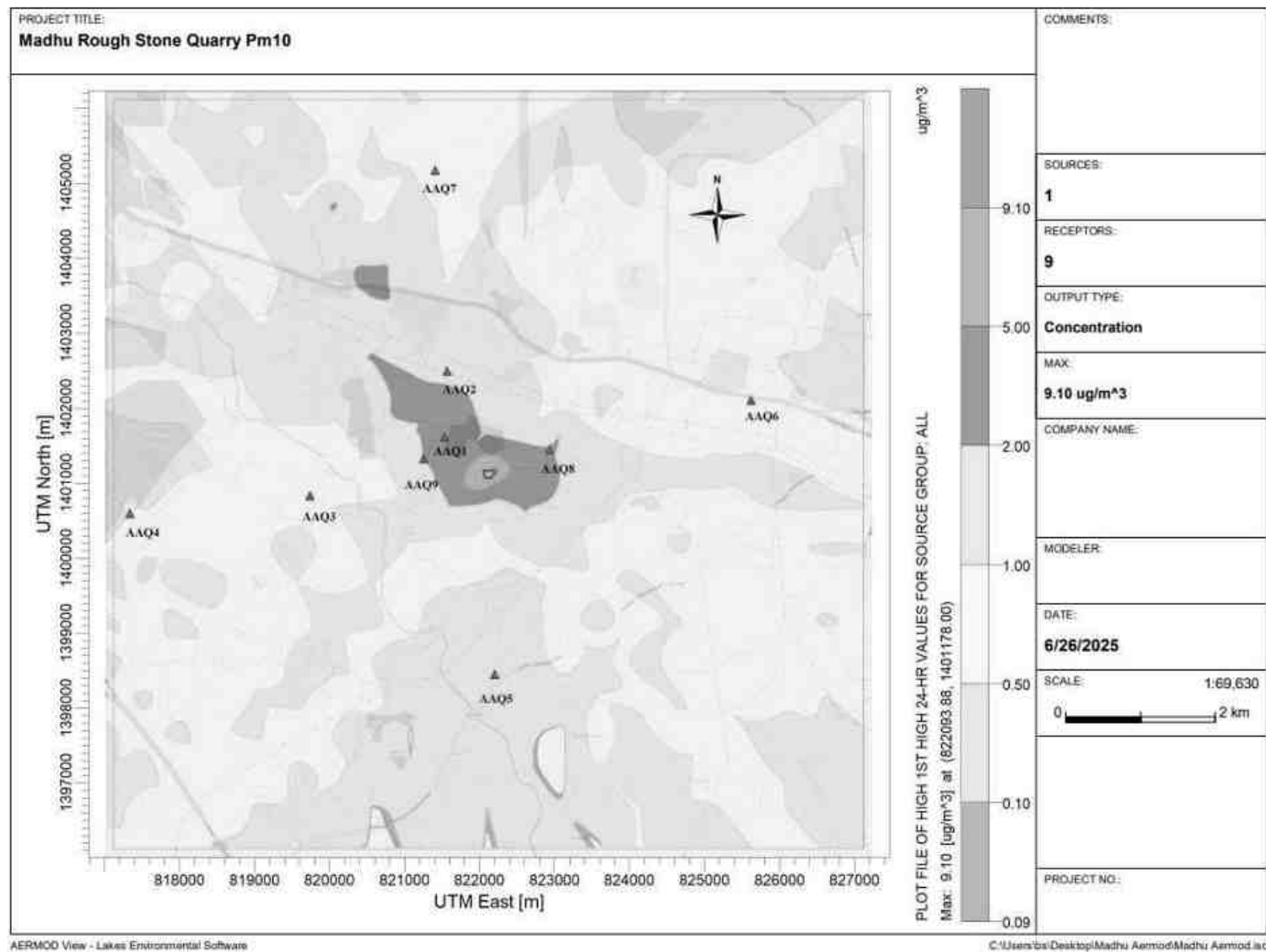


Figure 4.2 Predicted Incremental Concentration of PM₁₀

The Air quality results is less or more same as compared to the previous report on the month Oct- 2023 to Dec- 2023 due to vehicle movements, blasting, drilling. Fugitive dust Emission resulting from different mining activities is slightly increased from March to May 2025 study period. It leads to dust generation.

4.4.2 Mitigation Measures

- ❖ To mitigate air pollution and dust generation in the rough stone quarry, a range of dust control measures will be implemented. Regular water sprinkling will be carried out at key locations such as drilling sites, blasting areas, haul roads, and loading/unloading points. This will help suppress fugitive dust emissions and improve air quality around the project site. Additionally, mist spray systems will be used in dust-prone areas for enhanced control, ensuring effective dust suppression during operations.
- ❖ Drilling and blasting activities, which are common in quarrying, will be carefully controlled to minimize air pollution. Wet drilling methods will be used to reduce the amount of dust generated during drilling operations. For blasting, controlled techniques with optimized charge and timing will be employed to limit dust dispersion. Furthermore, blasting will only be carried out during favourable conditions, such as low wind speeds, to prevent the dust from being carried towards nearby habitations and sensitive areas.
- ❖ Vehicle emissions from haul trucks and machinery will also be managed through regular maintenance and the use of PUC-certified vehicles. These measures will help reduce exhaust emissions, especially on unpaved roads where dust generation is higher. Additionally, vehicle speed will be restricted on haul roads to minimize the lifting of dust.
- ❖ To further reduce air pollution, a greenbelt will be developed around the quarry boundary and along internal roads. This will act as a barrier to trap dust particles and reduce their spread. Regular air quality monitoring will also be conducted at strategic locations to ensure that air quality remains within permissible limits, and that the quarry operations do not negatively impact the surrounding environment or human health.

Occupational Health

- ✚ Dust mask will be provided to the workers and their use will be strictly monitored
- ✚ Annual medical checkups, trainings and campaigns will be arranged to ensure awareness about importance of wearing dust masks among all mine workers and tipper drivers.
- ✚ Ambient air quality monitoring will be conducted every six months to assess effectiveness of mitigation measures proposed.

4.5 NOISE ENVIRONMENT

Noise modelling has been carried out to assess the impact on surrounding ambient noise levels. Basic phenomenon of the model is the geometric attenuation of sound. Noise at a point generates spherical waves which are propagated outwards from the source through the air at a speed of 1,100 ft/sec with the first wave making an ever-increasing sphere with time. As the wave spreads the intensity of noise diminishes as the fixed amount of energy is spread over an increasing surface area of the sphere. The assumption of the model is based on point source relationship i.e., for every doubling of the distance the noise levels are decreased by 6 dB (A).

For hemispherical sound wave propagation through homogeneous loss free medium, one can estimate noise levels at various locations at different sources using a mathematical model based on first principle.

$$L_{p2} = L_{p1} - 20 \log (r_2/r_1) - A_{e1,2}$$

Where,

L_{p1} & L_{p2} are sound levels at points located at distances r_1 and r_2 from the source

$A_{e1,2}$ is the excess attenuation due to environmental conditions. Combined effect of all sources can be determined at various locations by logarithmic addition.

$$L_{p \text{ total}} = 10 \log \{10^{(L_{p1}/10)} + 10^{(L_{p2}/10)} + 10^{(L_{p3}/10)} + \dots\}$$

4.5.1 Anticipated Impact

Noise generated at the quarry will mainly result from semi-mechanized operations such as drilling, controlled blasting, and transportation of materials; however, the noise levels are expected to dissipate within the quarry boundary, and due to the considerable distance of nearby villages from the quarrying area, the impact on the surrounding community is expected to be negligible.

The attenuation due to several factors including ground reflection, atmosphere, wind speed, temperature, trees, and buildings as 35.5 dB (A), the barrier effect. Attenuation due to Green Belt has been taken to be 4.9 dB (A). The inputs required for the model are: source data, receptor data, and attenuation factor. Source data has been computed taking into account of all the machinery and activities used in the mining process. Same has been listed in Table 4.5.

Table 4.5 Activity and Noise Level Produced by Machinery

S. No.	Machinery / activity	Impact on environment?	Noise produced in dB(A) at 50 ft from source*
1	Blasting	Yes	94

2	Jack hammer	Yes	88
3	Compressor	No	81
4	Excavator	No	85
5	Tipper	No	84
Total			95.8

The total noise to be produced by mining activity is calculated to be 95.8 dB (A). We have considered the total noise to be produced by mining activity to be 95.8 dB (A).

Table 4.6 Predicted Noise Incremental Values

Noise Monitoring Location	Distance From Project Site(m)	Baseline Noise Level (dBA)m During Day Time	Predicted Noise Level (dBA)	Total (dBA)
Near Core	420	47.2	31.5	47.3
Pillaikothur	1190	43.8	22.4	43.8
Pathakotta	1910	44.8	18.3	44.8
Nayakanapalli	4270	41.2	11.4	41.2
Keeranapalli	2630	39.8	15.6	39.8
Shoolagiri	4810	52.4	10.3	52.4
Kanalatti	3910	42.2	12.1	42.2
Near Core	550	43.5	29.1	43.6
NAAQ Standards	Industrial Day Time - 75 dB (A) & Night Time- 70 dB (A) Residential Day Time - 55 dB (A) & Night Time- 45 dB (A)			

From the above table, it can be seen that the ambient noise levels at all the locations near habitations are within permissible limits of Residential Area (buffer zone) as per **THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000**. Therefore, no impact is anticipated on the noise environment due to the project.

4.5.2 Common Mitigation Measures

- ❖ To reduce noise from the rough stone quarry, drilling will be done using well-maintained and low-noise equipment. Wet drilling methods will also be used to help reduce the amount of noise generated during the process.
- ❖ Blasting will be carried out in a controlled manner using limited charge and proper timing. All blasting activities will take place only during the daytime to avoid disturbing nearby areas during early morning or night hours.

- ❖ Vehicles and machines used in the quarry will be regularly serviced to keep noise levels low. Wherever possible, silencers and noise-dampening systems will be installed on machinery to reduce loud sounds.
- ❖ A greenbelt with trees and shrubs will be developed around the quarry to act as a natural barrier against noise. Workers will be given ear protection, such as earplugs, when working near loud equipment, and noise levels will be monitored regularly to make sure they stay within safe limits.

4.5.3 Ground Vibrations

Ground vibrations due to the proposed mining activities are anticipated due to operation of mining machines like excavators, drilling and blasting, transportation vehicles, etc., however, the major source of ground vibration from the quarry is blasting. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kutcha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements.

Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining lease area and may cause injury to persons or damage to the structures. The ground vibrations due to the blasting in the quarry are calculated using the empirical equation.

The empirical equation for assessment of peak particle velocity (PPV) is given below:

$$V = K [R/Q^{0.5}]^{-B}$$

Where,

V = peak particle velocity (mm/s)

K = site and rock factor constant (500)

Q = maximum instantaneous charge (kg)

B = constant related to the rock and site (usually 1.6)

R = distance from charge (m)

Table 4.7 Predicted PPV Values due to Blasting

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in mm/s	Fly rock distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	48.18	804	0.249	19	0.11	135

Table 4.8 Predicted PPV Values due to Blasting at 100-500 m radius

Location ID	Maximum Charge in kgs	Radial Distance in m	PPV in mm/s	Fly rock distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	48.18	100	7.00	19	1.37	157
		200	2.31		0.60	150
		300	1.20		0.37	145
		400	0.76		0.25	142
		500	0.53		0.20	140

4.5.3.1 Common Mitigation Measures

- ❖ The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations.
- ❖ Proper quantity of explosives, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting.
- ❖ Adequate safe distance from blasting will be maintained as per DGMS guidelines.
- ❖ Blasting shelter will be provided as per DGMS guidelines.
- ❖ Blasting operations will be carried out only during day time.
- ❖ The charge per delay will be minimized and preferably a greater number of delays will be used per blasts.
- ❖ During blasting, other activities in the immediate vicinity will be temporarily stopped
- ❖ Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast.
- ❖ A fully trained explosives blast man (Mining Mate, Mines Foreman, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed.
- ❖ A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating procedures that will be followed to ensure that shot firing operations on site take place without endangering the workforce or public.
- ❖ Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire.
- ❖ The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used.
- ❖ The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.

- ❖ Appropriate blasting techniques shall be adopted in such a way that the predicted peak particle velocity shall not exceed 0.251mm/s.
- ❖ Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

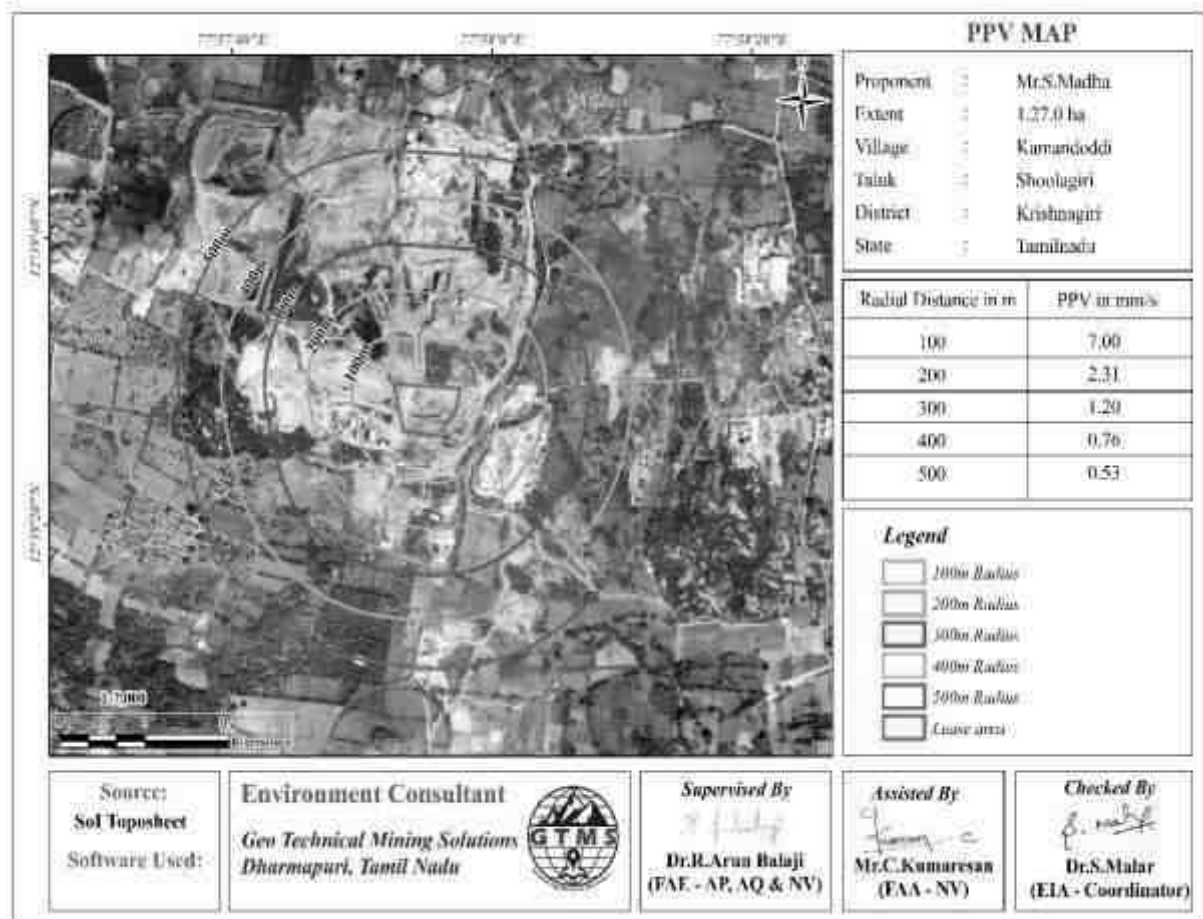


Figure 4.3: Predicted PPV Values due to Blasting at 100-500 m radius

4.6 BIOLOGICAL ENVIRONMENT

There will not be any clearance of vegetation due to the proposed mining project since there is no vegetation within the mining lease area. The fauna in the vicinity of the mine is restricted to few common small species. There will be no impact on fauna due to this mining project.

4.6.1 Impact on Flora

- ❖ As it is a mining project of stone quarry activities will be confined to core zone only.
- ❖ The activities related to mining as transportation of material and passage of workers to and from mining area may have an adverse impact on the road side flora, if adequate control measures will not be taken into consideration.

- ❖ There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly
- ❖ Most of the land in the buffer area is undulating terrain with crop lands, grass patches and small shrubs. Hence, there will be no effect on flora of the region. There are no trees in mine lease area.
- ❖ Carbon released from quarrying machineries and tippers during quarrying would be 09kg per day, 2459kg per year and 45326kg over five years, as provided in Table 4.9.

Table 4.9 Carbon Released During Five Years of Rough Stone Production

	Per day	Per year	Per five years
Fuel consumption of excavator	9	2459	45326
Fuel consumption of tipper	760	205213	250836
Total fuel consumption in liters	186	50167	296162
CO ₂ emission in kg	498	134448	793714

4.6.2 Mitigation Measures on Flora

- ❖ Plantation will be carried out on approach roads and nearby vicinity at river banks areas.
- ❖ Native plant species which are resistant and pollution tolerant and comparatively well acclimatized should be grown along roadsides.
- ❖ Selection of plant species, shall be preferred to consider certain factors as agro climatic suitability, height and canopy architecture, growth rate and habit and aesthetic looks (foliage, conspicuous and attractive flower colour).
- ❖ During conceptual stage, the top bench will be re-vegetated by planting local / native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.
- ❖ Existing roads will be used; new roads will not be constructed to reduce impact on flora.
- ❖ Annual bio-monitoring of roadside plants exposed to vehicular pollution will be done to assess the impact of dust load.

Carbon Sequestration

- ❖ To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 4909kg of carbon per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.

- ❖ As per the greenbelt development plan as recommended by SEAC (Table 4.10), about 700 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 45326kg of the total carbon, as provided in Table 4.10.

Table 4.10 CO₂ Sequestration

CO ₂ sequestration in kg	09	2459	45326
Remaining CO ₂ not sequestered in kg	62	16783	83916
Trees required for environmental compensation	4909		
Area required for environmental compensation in hectares	10		

Table 4.11 Recommended Species for Greenbelt Development Plan

S. No	Botanical Name of the Plant	Family Name	Common Name	Category	Dust Capturing Efficiency Features
1	<i>Azadirachta indica</i>	Meliaceae	Neem, Vembu	Tree	Well distinct thick at both the layer Well distinct in Palisade & Spongy parenchyma. Spongy parenchyma is present at lower epidermis Many vascular bundles arranged almost parallel series
2	<i>Tectona grandis</i>	Lamiaceae	Teak	Tree	
3	<i>Polyalthia longifolia</i>	Annonaceae	Nettilling	Tree	
4	<i>Albizia lebbeck</i>	Fabaceae	Vagai	Tree	
5	<i>Delonix regia</i>	Fabaceae	Cemmayir-konrai	Tree	
6	<i>Bauhinia racemose</i>	Fabaceae	Aathi	Tree	
7	<i>Cassia fistula</i>	Fabaceae	Sarakondrai	Tree	
8	<i>Aegle marmelos</i>	Rutaceae	Vilvam	Tree	
9	<i>Pongamia pinnata</i>	Fabaceae	Pungam	Tree	
10	<i>Thespesia populnea</i>	Malvaceae	Puvarasu	Tree	

Table 4.12 Greenbelt Development Plan

	No. of trees proposed for plantation	No. of trees expected to survive @ 80%	Area to be covered(m ²)
Plantation in the construction phase (3 months)	Number of plants inside the mine lease area		
	500	500	7,200
	Number of plants outside the mine lease area		
	200	200	10,800
Total	700	700	18,000

Table 4.13 Budget for Greenbelt Development Plan

Activity	Plantation in the construction Phase (3Months)	Cost	Capital Cost (Rs.)	Recurring Cost/ annum
Plantation inside the mine lease area (in safety margins)	500	Site clearance, preparation of land, digging of pits /trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring))"	1,00,000	15,000
Plantation outside the area	200	Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	60,000	6,000
Total			1,60,000	21,000

Source: EMP budget

After complete extraction of mineral, the excavated pits will be allowed to collect rainwater and seepage water to serve as a reservoir to charge the nearby wells. Fish culture will also be attempted. A bund will be constructed around the pits. In order to minimize the impact of mining on the vegetation outside the mine lease area, it is recommended that adequate protection measures must be implemented. As mining involves movement of vehicles and increased anthropogenic activities, some of the areas can be fenced by involving local people and educating them about increased benefits of such activities.

4.6.3. Impact on Fauna

- ❖ The mining, specifically, will have no adverse impact on fauna whereas the operational activities such as human activity, transportation and noise generation may have an adverse impact on fauna.
- ❖ No wild life sanctuary is present within 5 km radius of study area. No major wildlife observed within mine lease area during the survey period. Considering size of mine and management practice by scientific method of mining with proper Environmental Management Plan including pollution control measures especially for air and noise, which will not cause any adverse impact on the surrounding animals.
- ❖ Fencing around the entire mine lease area is recommended in order to restrict the entry of stray animals into the mining area.

- ❖ Green belt development will be carried out which will help in arresting dust and minimizing sound level arising from the mining operation.
- ❖ Some fauna will move from the area of the road side as a result of habitat loss and physical disturbance.

4.6.4 Mitigation Measures on Fauna

- ❖ All equipment should have sound-control devices not less effective than those provided on the original equipment. Motorized equipment used should be adequately muffled and maintained.
- ❖ Mining will be carried out on the dry part of the lease area to avoid disturbance to the aquatic habitat.
- ❖ Operation and storage of heavy equipment within riparian habitat will be restricted.
- ❖ Fencing will be constructed around the proposed mine lease area to restrict the entry of stray animals
- ❖ The workers shall be trained not to harm any wildlife near the project site

4.6.5 Impact on agriculture and horticulture crops in 1km Radius

- ❖ Problems to agricultural and horticulture land due to dust caused by movement of heavy vehicles.
- ❖ Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season.
- ❖ The fugitive dust released from the mining operations may cause effect on the agricultural and horticulture land who are directly exposed to the fugitive dust.
- ❖ Dust from the quarries is likely to affect reproductive systems in nearby agricultural and horticulture lands.
- ❖ Dust from quarries can affect plant growth and reduce vegetable yields.

4.6.6 Mitigation Measures on agriculture and horticulture crops.

- ❖ The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. In order to compensate the loss of vegetation cover, it is suggested to carry out afforestation program mainly inside and outside of the lease area in different phases.
- ❖ Quarry approach roads are sprayed with water 3 times a day to control dust. Thus, the damage to the nearby farmlands is controlled.
- ❖ A green belt will be created in 7.5m safety zone around the quarry to contain the dust from the quarry and prevent the dust from spreading to the adjacent agricultural land.

- ❖ Transportation of material will be carried out during day time and material will be covered with tarpaulin
- ❖ The speed of tippers plying on the haul road will be limited to < 20 km/hr to avoid generation of dust.

Aquatic Biodiversity

Mining activities will not disturb the existing aquatic ecology as there is no effluent discharge proposed from the rough stone quarry. There is no natural perennial surface water body within the mine lease area. Hence, aquatic biodiversity is not observed in the mine lease area.

4.7 SOCIO ECONOMIC ENVIRONMENT

4.7.1 Anticipated Impact from Proposed and Existing Projects

- ❖ Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area.
- ❖ Approach roads can be damaged by the movement of tippers.

4.7.2 Common Mitigation Measures for Proposed Project

- ❖ Good maintenance practices will be adopted for all 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.
- ❖ Air pollution control measure will be taken to minimize the environmental impact within the core zone.
- ❖ For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules.
- ❖ Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc., from this project directly and indirectly.
- ❖ From above details, the quarry operations will have highly beneficial positive impact in the area.
- ❖ Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region

4.8 OCCUPATIONAL HEALTH AND SAFETY

Occupational health and safety hazards occur during the operational phase of mining and primarily include the following:

- ❖ Respiratory hazards
- ❖ Noise

- ❖ Physical hazards
- ❖ Explosive storage and handling

4.8.1 Respiratory Hazards

Long- term exposure to silica dust may cause silicosis the following measures are proposed:

- ❖ Cabins of excavators and tippers will be enclosed with AC and sound proof
- ❖ Use of personal dust masks will be made compulsory

4.8.2 Noise

Workers are likely to get exposed to excessive noise levels during mining activities. The following measures are proposed for implementation

- ❖ No employee will be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection
- ❖ The use of hearing protection will be enforced actively when the equivalent sound level over 8 hours reaches 85dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110 dB(A)
- ❖ Ear muffs provided will be capable of reducing sound levels at the ear to at least 85 dB(A)
- ❖ Periodic medical hearing checks will be performed on workers exposed to high noise levels.

4.8.3 Physical Hazards

The following measures are proposed for control of physical hazards

- ❖ Specific personnel training on work-site safety management will be taken up;
- ❖ Natural barriers, temporary railing, or specific danger signals will be provided along rock benches or other pit areas where work is performed at heights more than 2m from ground level;
- ❖ Maintenance of yards, roads and footpaths, providing sufficient water drainage and preventing slippery surfaces with an all-weather surface, such as coarse gravel will be taken up.

4.8.4 Occupational Health Survey

All the persons will undergo pre-employment and periodic medical examination. Employees will be monitored for occupational diseases by conducting the following tests

- ❖ General physical tests
- ❖ Audiometric tests
- ❖ Full chest, X-ray, Lung function tests, Spirometric tests
- ❖ Periodic medical examination- yearly
- ❖ Lung function test- yearly, those who are exposed to dust
- ❖ Eye test

Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

4.9 MINE WASTE MANAGEMENT

No waste is anticipated from any of the proposed quarries.

4.10 MINE CLOSURE

Mine closure plan is the most important environmental requirement in mining project. The mine closure plan should cover technical, environmental, social, legal and financial aspects dealing with progressive and post closure activities. The closure operation is a continuous series of activities starting from the decommissioning of the project. Therefore, progressive mine closure plan should be specifically dealt with in the mining plan and is to be reviewed along with mining plan. As progressive mine closure is a continuous series of activities, it is obvious that the proposals of scientific mining have included most of the activities to be included in the closure plan. While formulating the closure objectives for the site, it is important to consider the existing or the pre-mining land use of the site; and how the operation will affect this activity.

The primary aim is to ensure that the following broad objectives along with the abandonment of the mine can be successfully achieved:

- ❖ To create a productive and sustainable after-use for the site, acceptable to mine owners, regulatory agencies, and the public
- ❖ To protect public health and safety of the surrounding habitation
- ❖ To minimize environmental damage
- ❖ To conserve valuable attributes and aesthetics
- ❖ To overcome adverse socio-economic impacts.

4.10.1 Mine Closure Criteria

The criteria involved in mine closure are discussed below:

4.10.1.1 Physical Stability

All anthropogenic structures, which include mine workings, buildings, rest shelters etc., remaining after mine decommissioning should be physically stable. They should present no hazard to public health and safety as a result of failure or physical deterioration and they should continue to perform the functions for which they were designed. The design periods and factors of safety proposed should take full account of extreme events such as floods, hurricane, winds or earthquakes, etc. and other natural perpetual forces like erosion, etc.,

4.10.1.2 Chemical Stability

The solid wastes on the mine site should be chemically stable. This means that the consequences of chemical changes or conditions leading to leaching of metals, salts or organic compounds should not endanger public health and safety nor result in the deterioration of environmental attributes. If the pollutant discharges likely to cause adverse impacts is predicted in advance, appropriate mitigation measures like settling of suspended solids or passive treatment to improve water quality as well as quantity, etc., could be planned. Monitoring should demonstrate that there is no adverse effect of pollutant concentrations exceeding the statutory limits for the water, soil and air qualities in the area around the closed mine.

4.10.1.3 Biological Stability

The stability of the surrounding environment is primarily dependent upon the physical and chemical characteristics of the site, whereas the biological stability of the mine site itself is closely related to rehabilitation and final land use. Nevertheless, biological stability can significantly influence physical or chemical stability by stabilizing soil cover, prevention of erosion/wash off, leaching, etc.,

A vegetation cover over the disturbed site is usually one of the main objectives of the rehabilitation programme, as vegetation cover is the best long- term method of stabilizing the site. When the major earthwork components of the rehabilitation programme have been completed, the process of establishing a stable vegetation community begins. For re-vegetation, management of soil nutrient levels is an important consideration. Additions of nutrients are useful under three situations.

- ❖ Where the nutrient level of spread topsoil is lower than material in-situ e.g., for development of social forestry
- ❖ Where it is intended to grow plants with a higher nutrient requirement than those occurring naturally.
- ❖ Where it is desirable to get a quick growth response from the native flora during those times when moisture is not a limiting factor. For example, development of green barriers

The Mine closure plan should be as per the approved mining plan. The mine closure is a part of approved mine plan and activities of closure shall be carried out as per the process described in mine closure plan.

CHAPTER V

ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.0 INTRODUCTION

Consideration of alternatives to a proposed project is a requirement of EIA process. During the scoping process, alternatives to a proposed project can be considered or refined, either directly or by reference to the key issues identified. A comparison of alternatives helps to determine the best method of achieving the project objectives with minimum environmental impacts or indicates the most environmentally friendly and cost-effective options.

5.1 FACTORS BEHIND THE SELECTION OF PROJECT SITE

The proposed project is site specific and has the following advantages:

- ❖ The mineral deposit occurs in a non-forest area.
- ❖ There is no habitation within the project area; hence no R & R issues exist.
- ❖ There is no river, stream, nallah and water bodies in the applied mine lease area.
- ❖ Availability of skilled, semi-skilled and unskilled workers in this region.
- ❖ All the basic amenities such as medical, firefighting, education, transportation, communication and infrastructural facilities are well connected and accessible.
- ❖ The mining operations will not intersect the ground water level. Hence, no impact on ground water environment.
- ❖ As the proposed project area falls in seismic zone II, there is no major history of landslides, earthquake, subsidence etc., recorded in the past history.

5.2 ANALYSIS OF ALTERNATIVE SITE

No alternatives are suggested as the mine site is mineral specific.

5.3 FACTORS BEHIND SELECTION OF PROPOSED TECHNOLOGY

Manual open cast mining method with secondary blasting will be applied to extract rough stone and gravel in the area. The proposed mining lease areas have following advantages:

- ❖ As the mineral deposition is homogeneous and batholith formation, opencast method of working is preferred over underground method.
- ❖ The material will be loaded with the help of excavators into tractors/tippers and transported to the need by customers.
- ❖ Semi-skilled labours fit for quarrying operations are easily available around the nearby villages.

5.4 ANALYSIS OF ALTERNATIVE TECHNOLOGY

Open cast mechanized method has been selected for this project. This technology is having least gestation period, economically viable, safest and less labour intensive. The method has inbuilt flexibility for increasing or decreasing the production as per market condition.

CHAPTER VI

ENVIRONMENTAL MONITORING PROGRAMME

6.0 GENERAL

The monitoring and evaluation of environmental parameters indicates potential changes occurring in the environment, which paves way for implementation of rectifying measures wherever required to maintain the status of the natural environment. Evaluation is also a very effective tool to judge the effectiveness or deficiency of the measures adopted and provides insight for future corrections. The main objective of environmental monitoring is to ensure that the obtained results in respect of environmental attributes and prevailing conditions during operation stage are in conformity with the prediction during the planning stage. In case of substantial deviation from the earlier prediction of results, this forms as base data to identify the cause and suggest remedial measures. Environmental monitoring is mandatory to meet compliance of statutory provisions under the Environment (Protection) Act, 1986, relevant conditions regarding monitoring covered under EC orders issued by the SEIAA-TN as well as the conditions set forth under the order issued by Tamil Nadu Pollution Control Board while granting CTE/CTO.

6.1 METHODOLOGY OF MONITORING MECHANISM

Implementation of EMP and periodic monitoring will be carried out by respective project proponents. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Environmental protection measures like dust suppression, control of noise and blast vibrations, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of Environmental Management Plan and environmental clearance conditions will be monitored by the respective mine management. On the other hand, implementation of area level protection measures like green belt development, environmental quality monitoring etc., are taken up by a senior executive who reports to their Mine Management.

An Environment monitoring cell (EMC) will be constituted to monitor the implementation of EMP and other environmental protection measures in the proposed quarry. The responsibilities of this cell will be:

- ❖ Implementation of pollution control measures
- ❖ Monitoring programme implementation
- ❖ Post-plantation care
- ❖ To check the efficiency of pollution control measures taken
- ❖ Any other activity as may be related to environment

- ❖ Seeking expert's advice when needed.

The environmental monitoring cell will co-ordinate all monitoring programs at site and data thus generated will be regularly furnished to the State regulatory agencies as compliance status reports.

The sampling and analysis report of the monitored environmental attributes will be submitted to the Tamil Nadu Pollution Control Board (TNPCB) at a frequency of half-yearly and yearly by the proposed project proponent. The half-yearly reports are submitted to Ministry of Environment and Forest, Regional Office and SEIAA-TN as well.

The sampling and analysis of the environmental attributes will be as per the guidelines of Central Pollution Control Board (CPCB)/Ministry of Environment, Forest and Climate Change (MoEF & CC). The Environmental Monitoring Cell will be formed for the proposed project. The structure of the cell will be as shown in Figure 6.1.

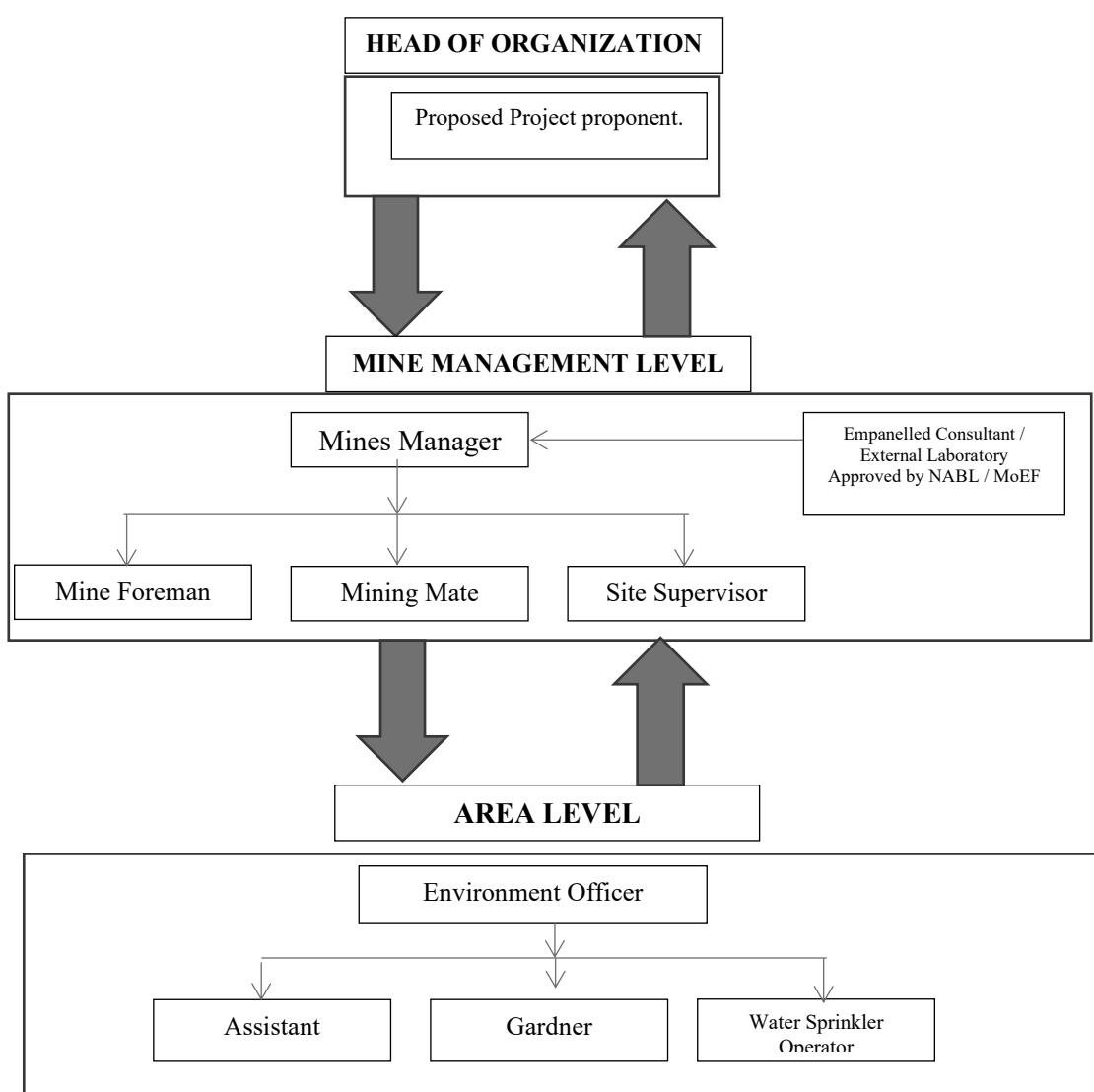


Figure 6.1 Proposed environmental monitoring chart

6.2 IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

The mitigation measures proposed in chapter IV will be implemented so as to reduce the impact on the environment due to the operations of the proposed project. Implementation schedule of mitigation measures is given in Table 6.1.

Table 6.1 Implementation Schedule for Proposed Project

S. No.	Recommendations	Time Period	Schedule
1	Land Environment Control Measures	Before commissioning of the project	Immediately after the commencement of project
2	Soil Quality Control Measures	Before commissioning of the project	Immediately after the commencement of project
3	Water Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
4	Air Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
5	Noise Pollution Control measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
6	Ecological Environment	Phase wise implementation every year along with mine operations	Immediately and as project progress

6.3 MONITORING SCHEDULE AND FREQUENCY

Monitoring shall confirm that commitments are being met. This may take the form of direct measurement and recording of quantitative information, such as amounts and concentrations of discharges, emissions and wastes, for measurement against statutory standards. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints.

The environmental monitoring will be conducted in the mine operations as follows:

- ❖ Air quality
- ❖ Water and wastewater quality
- ❖ Noise levels
- ❖ Soil quality and

❖ Greenbelt development

The details of proposed monitoring schedule have been provided in Table 6.2.

Table 6.2 Proposed Monitoring Schedule Post EC for the Proposed Quarry

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, PM _{2.5} , PM ₁₀ , SO ₂ and NO _x .
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in m BGL
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Peak particle velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and chemical characteristics
8	Greenbelt	Within the project area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

6.4 BUDGETARY PROVISION FOR ENVIRONMENT MONITORING PROGRAM

The cost in respect of monitoring of environmental attributes, parameter to be monitored, sampling/monitoring locations with frequency and cost provision against each proposal is shown in Table 6.3. Monitoring work will be outsourced to external laboratory approved by NABL / MoEF. The proposed recurring cost for Environmental Monitoring Programme is Rs 2,95,000 /- per annum for the proposed project site.

Table 6.3 Environment Monitoring Budget

S. No.	Parameter	Capital Cost	Recurring Cost per annum
1	Air Quality	-	Rs 60,000/-
2	Meteorology	-	Rs 15,000/-
3	Water Quality	-	Rs 20,000/-
4	Water Level Monitoring		Rs 10,000/-
5	Soil Quality	-	Rs 20,000/-
6	Noise Quality	-	Rs 10,000/-
7	Vibration Study	-	Rs 1,50,000/-
8	Greenbelt	-	Rs 10,000/-
Total		-	Rs 2,95,000 /-

Source: Field Data

6.5 REPORTING SCHEDULES OF MONITORED DATA

The monitored data on air quality, water quality, noise levels and other environmental attributes will be periodically examined by the Cluster Mine Management Coordinator and Respective Head of Organization for taking necessary corrective measures. The monitoring data will be submitted to Tamil Nadu State Pollution Control Board in the Compliance to CTO Conditions & environmental audit statements every year to MoEF & CC and Half-Yearly Compliance Monitoring Reports to MoEF & CC Regional Office and SEIAA.

Periodical reports to be submitted to:

- ❖ MoEF & CC – Half yearly status report
- ❖ TNPCB - Half yearly status report
- ❖ Department of Geology and Mining: quarterly, half yearly annual reports

Besides the Mines Manager/Agent of respective project will submit the periodical reports to:

- ❖ Director of mines safety
- ❖ Labour enforcement officer
- ❖ Controller of explosives as per the norms stipulated by the department.

CHAPTER VII

ADDITIONAL STUDIES

7.0 GENERAL

Additional studies deal with:

- ❖ Public Consultation for Proposed Project
- ❖ Risk Assessment
- ❖ Disaster Management Plan
- ❖ Cumulative Impact Study
- ❖ Plastic Waste Management

7.1 PUBLIC CONSULTATION FOR PROPOSED PROJECT

Application to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site or in its close proximity in the district was made and the public opinions on the proposed project will be updated in the final EIA/EMP report.

7.2 RISK ASSESSMENT FOR PROPOSED PROJECT

Risk Assessment is all about prevention of accidents and to take necessary steps to prevent it from happening. The methodology for the risk assessment is based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad, vide circular No.13 of 2002, dated 31st December, 2002. The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. Further, mechanisms responsible for these hazards are identified and their control measures, set to timetable are recorded along with pinpointed responsibilities. The whole quarry operation will be carried out under the direction of a Qualified Competent Mine Manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad for proposed project.

Factors of risks involved due to human induced activities in connection with these proposed mining & allied activities with detailed analysis of causes and control measures for the mine is given in Table 7.1.

Table 7.1 Risk Assessment & Control Measures for Proposed Project

S. No.	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and heavy mining machineries.	Improper handling and unsafe working practice	✓ All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations. ✓ Workers will be sent to the Training in the nearby Group Vocational Training Centre Entry of unauthorized persons will be prohibited. ✓ Fire-fighting and first-aid provisions in the mine office complex and mining area. ✓ Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use. ✓ Working of quarry, as per approved plans and regularly updating the mine plans. ✓ Cleaning of mine faces on daily basis shall be daily done in order to avoid any overhang or undercut. ✓ Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of a Mine Manager. ✓ Maintenance and testing of all mining equipment as per manufacturer's guidelines.
2	Drilling	Improper and unsafe practices; Due to high pressure of compressed air, hoses may burst; Drill Rod may break;	✓ Safe operating procedure established for drilling (SOP) will be strictly followed. ✓ Only trained operators will be deployed. ✓ No drilling shall be commenced in an area where shots have been fired until the blaster/blasting foreman has made a thorough Examination of all places, ✓ Drilling shall not be carried on simultaneously on the benches at places directly one above the other.

			✓ Periodical preventive maintenance and replacement of worn-out accessories in the compressor and drill equipment as per operator manual. ✓ All drills unit shall be provided with wet drilling shall be maintained in efficient working in condition. ✓ Operator shall regularly use all the personal protective equipment.
3	Transportation	Potential hazards and unsafe workings contributing to accident and injuries Overloading of material While reversal & overtaking of vehicle Operator of truck leaving his cabin when it is loaded.	✓ Before commencing work, drivers personally check the truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio-visual reversing alarm, rear view mirrors, side indicator lights etc., are in good condition. ✓ Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle. ✓ Concave mirrors should be kept at all corners ✓ All vehicles should be fitted with reverse horn with one spotter at every tipping point ✓ Loading according to the vehicle capacity ✓ Periodical maintenance of vehicles as per operator manual
4	Natural calamities	Unexpected happenings	✓ Escape Routes will be provided to prevent inundation of storm water ✓ Fire Extinguishers & Sand buckets
5	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	✓ Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m.

Source: Analysed and proposed by FAE & EC

7.3 DISASTER MANAGEMENT PLAN FOR PROPOSED PROJECT

Natural disasters like Earthquake, Landslides have not been recorded in the past history as the terrain is categorized under seismic zone II. The area is far away from the sea. Hence, the disaster due to heavy floods and tsunamis are not anticipated. The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- ❖ Rescue and medical treatment of casualties;
- ❖ Safeguard other people;
- ❖ Minimize damage to property and the environment;
- ❖ Initially contain and ultimately bring the incident under control;
- ❖ Secure the safe rehabilitation of affected area; and
- ❖ Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In case a disaster takes place, despite preventive actions, disaster management will have to be done in line with the descriptions below. There is an organization proposed for dealing with the emergency situations. Structure of the team has been shown in Figure 7.1.

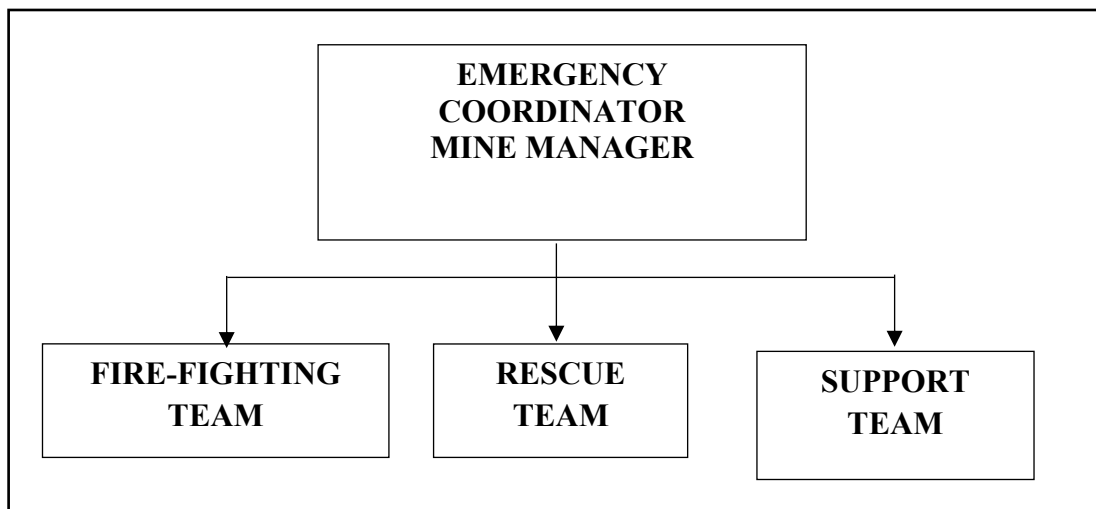


Figure 7.1 Disaster management team layout for proposed project

7.3.1 Emergency Control Procedure

The onset of emergency, will in all probability, commence with a major fire or explosion or collapse of wall along excavation and shall be detected by various safety devices and also by members of operational staff on duty. If located by a staff member on duty, he (as per site emergency procedure of which he is adequately briefed) will go to nearest alarm call

point, break glass and trigger off the alarms. He will also try his best to inform about location and nature of accident to the emergency control room. In accordance with work emergency procedure the following key activities will immediately take place to interpret and take control of emergency.

- ❖ On site fire crew led by a fireman will arrive at the site of incident with fire foam tenders and necessary equipment.
- ❖ Emergency security controller will commence his role from main gate office
- ❖ Incident controller shall rush to the site of emergency and with the help of rescue team and will start handling the emergency.
- ❖ Site main controller will arrive at MECR with members of his advisory and communication team and will assume absolute control of the site.
- ❖ He will receive information continuously from incident controller and give decisions and directions to:
 - ❖ Incident controller
 - ❖ Mine control rooms
 - ❖ Emergency security controller

7.4 CUMULATIVE IMPACT STUDY

The Cumulative Impact is mainly anticipated due to drilling & blasting and excavation and transportation activities in all the quarries within the cluster and major impact anticipated is on Air & Noise Environment and Ground Vibrations due to blasting. For this cumulative study, 4 proposed projects, known as P1, P2, P3 and P4 are taken into consideration. The details P1, P2, P3 and P4 are given in the Table 7.2 to 7.5.

Table 7.2 Salient Features of the Proposed Project P1

Name of the Quarry	Thiru. S. Madhu
Type of Land	Government Poramboke Land
Extent	1.27.0 Ha
S.F.No	1151,1155,1212 to 1219,1222,1225 & 1226/A (P- 5)
Toposheet No	57-H/14
Location of Project Site	12°39'26.21"N to 12°39'29.82"N 77°57'52.44"E to 77°57'57.57"E
Highest Elevation	762m AMSL
Ultimate depth of Mining	55 m (15AGL+40BGL)
Geological Resources	Rough Stone in Tons
	3,90,672
Mineable Reserves	Rough Stone in &Tons
	2,94,489Tons

Proposed reserves for five years	Rough Stone in Tons	
	2,94,489Tons	
Method of Mining	Open-Cast Mechanized mining	
Topography	Elevated Topography	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Tipper	4
	Excavator	1
Proposed Manpower Deployment	16 Nos	
Project Cost	Rs.1,54,60,000/-	
Proposed Water Requirement	3.5 KLD	

Table 7.3 Salient Features of the Proposed Project P2

Name of the Quarry	Thiru.V. Venkatesulu	
Type of Land	Government Poramboke Land	
Extent	4.00.0 Ha	
S.F.No	754 & 760 (P-6)	
Toposheet No	57-H/14	
Location of Project Site	12°39'26.93"N to 12°39'35.28"N 77°57'37.60"E to 77°57'44.84"E	
Highest Elevation	776 m AMSL	
Ultimate depth of Mining	55 m (BGL)	
Geological Resources	Rough Stone in Tons	Top Soil in Tons
	49,50,248	4,00,020
Mineable Reserves	Rough Stone in Tons	Top Soil in Tons
	18,59,055	3,26,560
Proposed reserves for five years	Rough Stone in Tons	Top Soil in Tons
	18,59,055	3,26,560
Method of Mining	Open-Cast Mechanized mining	
Topography	Elevated Topography	
Machinery proposed	Jack Hammer	4
	Compressor	2
	Tipper	8
	Excavator	2
Proposed Manpower Deployment	23 Nos	
Project Cost	Rs.8,84,95,000/-	
Proposed Water Requirement	3.0 KLD	

Table 7.4 Salient Features of the Proposed Project P3

Name of the Quarry	Thiru.P. Mallikarjuna
Type of Land	Government Poramboke Land
Extent	3.50.0

S.F.No	754 &760 (Part 4)		
Toposheet No	57 – H/14		
Location of Project Site (Centre Point)	12°39'36.15"N to 12°39'43.54"N 77°57'43.80"E to 77°57'51.81"E		
Ultimate Pit Dimensions	Length (m)	Width (m)	Depth (m)
	36	91	127
Depth of Mining	120 m BGL		
Geological Resources	Rough Stone in Tons		
	11,399,677		
Mineable Reserves	Rough Stone in Tons		
	19,109,120		
Proposed reserves for five years	Rough Stone in Tons		
	86,22,441		
Method of Mining	Open-Cast Semi Mechanized mining		
Topography	Hilly Terrain		
Machinery proposed	Jack Hammer	6	
	Compressor	1	
	Tipper	4	
	Excavator	1	
Blasting Method	The quarrying operation is proposed to carried out by open cost, using jack hammer drilling followed by manual breaking will be adopted to release the rough stone and nonel blasting is proposed in this lease area.		
Proposed Manpower Deployment	18 Nos		
Project Cost	Rs. 32,930,000/-		
CER Cost	Rs. 5,00,000/-		
Proposed Water Requirement	2.5 KLD		

Table 7.5 Salient Features of the Proposed Project P4

Name of the Quarry	S.R. Sambangi		
Type of Land	Government Poramboke Land		
Extent	2.23.0		
S.F.No	1151,1155,1212 to 1219, 1222, 1225 and 1226/A (Part – IV)		
Toposheet No	57 – H/14		
Location of Project Site (Centre Point)	12°39'29.49"N to 12°39'33.28"N 77°57'51.63"E to 77°58'00.55"E		
Ultimate Pit Dimensions	Length (m)	Width (m)	Depth (m)
	67	105	99
Depth of Mining	70 m BGL		
Geological Resources	Rough Stone in Tons		Topsoil in Tons
	5,855,715		33,398

Mineable Reserves	Rough Stone in Tons	Topsoil in Tons
	4,698,694	32,410
Proposed reserves for five years	Rough Stone in Tons	Gravel in Tons /1 year
	1,490,778	32,410
Method of Mining	Open-Cast Semi Mechanized mining	
Topography	Hilly Terrain	
Machinery proposed	Jack Hammer	6
	Compressor	1
	Tipper	3
	Excavator	1
Blasting Method	The quarrying operation is proposed to carried out by open cost, using jack hammer drilling followed by manual breaking will be adopted to release the rough stone and nonel blasting is proposed in this lease area.	
Proposed Manpower Deployment	20 Nos	
Project Cost	Rs.3,06,30,000/-	
CER Cost	Rs. 5,00,000/-	
Proposed Water Requirement	2.5 KLD	

7.4.1 Air Environment

As the production of rough stone and gravel plays a vital role in affecting the air environment. The data on the cumulative production resulting from four proposed project have been given in Tables 7.6 and 7.7.

Table 7.6 Cumulative Production Load of Rough Stone

Proposed Production Details				
Quarry	5 Years in Tons	Per Year in Tons	Per Day in Tons	Number of Lorry Load Per Day
P1	2,94,489	58,898	218	13
P2	18,59,055	3,71,811	1,375	83
P3	86,22,441	17,24,489	6,386	387
P4	14,90,778	2,98,155	1,106	67
Grand Total	1,22,66,763	24,53,353	9,085	550

The cumulative study shows that the overall production of rough stone from the quarry is 3224 m³ per day with a capacity of 537 trips of rough stone per day.

7.4.1.1 Cumulative Impact of Air Pollutants

The results on the cumulative impact of the 1 proposed project on air environment of the cluster have been provided in Table 7.7. The cumulative values resulting from the 1 projects for each pollutant do not exceed the permissible limits set by CPCB.

Table 7.7 Cumulative Impact Results from the Cluster

Pollutants	Baseline Data ($\mu\text{g}/\text{m}^3$)	Incremental Values ($\mu\text{g}/\text{m}^3$)				Cumulative Value ($\mu\text{g}/\text{m}^3$)
		P1	P2	P3	P4	
PM _{2.5}	18.9	4.37	5.6	8.80	7.61	45.28
PM ₁₀	41.5	9.1	8.89	13.39	11.58	84.46

7.4.2 Noise Environment

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities. Predictions have been carried out to compute the noise level at various distances around the different quarries within the 500 m radius.

Table.7.8 Cumulative Impact of Noise from Cluster Quarries

Location ID	Distance (m)	Direction	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	804	E	44.0	23.42	43.80	55
Habitation Near P2	550	N	43.8	27.58	43.81	
Habitation Near P3	960	N	43.8	24.31	43.85	
Habitation Near P4	1310	N	43.8	21.61	43.83	
Cumulative Noise (dB (A))					48.82	

Source: Lab Monitoring Data

The cumulative analysis of noise due to Cluster projects shows that habitation of Cluster will receive about 45.52 dB (A) respectively. The cumulative results for all the villages in consideration do not exceed the limit set by CPCB for residential areas for day time.

Ground Vibrations

Cumulative results of ground vibrations due to mining activities in the Cluster Quarries have been shown in Table 7.9.

Table 7.9 Cumulative Effect of Ground Vibrations Resulting from Cluster

Location ID	Nearest Habitation in m	Maximum Charge in kgs	PPV in mm/s
P1	804	48.18	0.249
P2	550	223.5	0.64
P3	960	38.6	0.06
P4	1310	33.6	0.015
Total			0.964

Results from the above tables 7.9 indicate that the cumulative PPV value of each habitation is well below the peak particle velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

7.4.3 Socio Economic Environment

Socio Economic benefits of the four proposed project were calculated and the results have been shown in Table 7.8 the three quarries together will contribute Rs. 15,00,000/-towards CER fund.

Table 7.10 Socio Economic Benefits from Cluster

Location ID	Project Cost	CER Cost
P1	1,54,60,000	5,00,000
P2	8,84,95,000	5,00,000
P3	3,29,30,000	5,00,000
P4	3,06,30,000	5,00,000
Grand Total	Rs. 16,75,15,000	Rs. 20,00,000

Table 7.11 Employment Benefits from Cluster

Location ID	Employment
P1	16
P2	23
P3	18
P4	20
Grand Total	77

A total of 77 people will get employment due to mines in cluster

7.4.4 Ecological Environment

Table 7.12 Greenbelt Development Benefits from Cluster

Code	Number of Trees proposed	Area to be covered (m ²)	No. of Trees expected to be grown @ 80% survival rate	Species recommended
P1	635	7700	794	<i>Azadirachta indica, Albizia lebbeck,</i>
P2	2000	18000	1600	
P3	1750	15750	560	

P4	1115	10035	892	<i>Delonix regia,</i> <i>Tectona grandis, etc.,</i>
Total	5500	51485	3846	

Cumulative studies show that the proposed project will plant about 5500 native tree species like *Azadirachta indica*, *Albizia lebbeck*, *Delonix regia*, *Tectona grandis*, etc inside and outside the lease area. It is expected that 80 % of trees, i.e., 3846 trees will survive in this green belt development program.

7.5 PLASTIC WASTE MANAGEMENT PLAN FOR PROPOSED PROJECT

All the Project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (EC.2) Department Dated: 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986.

7.5.1 Objective

- ❖ To investigate the actual supply chain network of plastic waste.
- ❖ To identify and propose a sustainable plastic waste management by installing bins for collection of recyclables with all the plastic waste
- ❖ Preparation of a system design layout, and necessary modalities for implementation and monitoring.

A detailed action plan to manage plastic waste has been provided in Table 7.13.

Table 7.13 Action Plan to Manage Plastic Waste

S. No.	Activity	Responsibility
1	Framing of Layout Design by incorporating provision of the Rules, user fee to be charged from waste generators for plastic waste management, penalties/fines for littering, burning plastic waste or committing any other acts of public nuisance.	Mines Manager
2	Enforcing waste generators to practice segregation of bio-degradable, recyclable and domestic hazardous waste.	Mines Manager
3	Collection of plastic waste.	Mines Foreman
4	Setting up of Material Recovery Facilities.	Mines Manager
5	Segregation of Recyclable and Non-Recyclable plastic waste at Material Recovery Facilities.	Mines Foreman
6	Channelization of Recyclable Plastic Waste to registered recyclers.	Mines Foreman

7	Channelization of Non-Recyclable Plastic Waste for use either in Cement kilns, in Road Construction.	Mines Foreman
8	Creating awareness among all the stakeholders about their responsibility.	Mines Manager
9	Surprise checking's of littering, open burning of plastic waste or committing any other acts of public nuisance.	Mine Owner

Source: Proposed by FAEs and EC

CHAPTER VIII

PROJECT BENEFITS

8.0 GENERAL

The proposed project at Kamandoddi Village aims to produce **107087 m³** and **2,94,489 Tons** of rough stone over a period of 5 years. This will enhance the socio-economic activities in the adjoining areas and will result in the following benefits:

- ❖ Increase in Employment Potential
- ❖ Improvement in Socio-Economic Welfare
- ❖ Improvement in Physical Infrastructure
- ❖ Improvement in Social infrastructure

8.1 EMPLOYMENT POTENTIAL

It is proposed to provide employment to about 16 persons for carrying out mining operations and give preference to the local people in providing employment in this cluster. In addition, there will be an opportunity for indirect employment to the form of contractual jobs, business opportunities, and service facilities etc. Because of this, the economic status of the local people will improve.

8.2 SOCIO-ECONOMIC WELFARE MEASURES PROPOSED

The impact of mining activity in the area will be more positive on the socio-economic environment in the immediate project impact area. The employment opportunities both direct and indirect will contribute to enhanced money incomes to job seekers with minimal skill sets especially among the local communities.

8.3 IMPROVEMENT IN PHYSICAL INFRASTRUCTURE

The proposed quarry project is located in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. The area has already well-established communications roads and other facilities. The following physical infrastructure facilities will further improve due to proposed project.

- ❖ Road transport facilities
- ❖ Communications
- ❖ Medical, Educational and social benefits will be made available to the nearby civilian population in addition to the workmen employed in the mine.

8.4 IMPROVEMENT IN SOCIAL INFRASTRUCTURE

Employment is expected during civil construction period, in trade, garbage lifting, sanitation and other ancillary services, Employment in these sectors will be primarily temporary or contractual and involvement of unskilled labour will be more. A major part of the labour force will be mainly from local villagers who are expected to engage themselves both in agriculture and mining activities. This will enhance their income and lead to overall economic growth of the area.

8.5 OTHER TANGIBLE BENEFITS

The proposed mine is likely to have other tangible benefits as given below

- ❖ Indirect employment opportunities to local people in contractual works like construction of infrastructural facilities, transportation, sanitation for supply of goods and services to the mine and other community services
- ❖ Additional housing demand for rental accommodation will increase
- ❖ Cultural, recreation and aesthetic facilities will also improve
- ❖ Improvement in communication, transport, education, community development and medical facilities and overall change in employment and income opportunity
- ❖ The State Government will also benefit directly from the proposed mine, through increased revenue from royalties, cess, DMF, GST etc.,

8.6 CORPORATE SOCIAL RESPONSIBILITY

Individual project proponents will take responsibility to develop awareness among all levels of their staff about CSR activities and the integration of social processes with business processes. Those involved with the undertaking of CSR activities will be provided with adequate training and re-orientation.

Under this programme, the project proponents will take-up following programmes for social and economic development of villages within 5 km of the project site. For this purpose, separate budget will be provided every year. For finalization of these schemes, proponent will interact with LSG. The schemes will be selected from the following broad areas –

- ❖ Health Services
- ❖ Social Development
- ❖ Infrastructure Development
- ❖ Education & Sports
- ❖ Self-Employment
- ❖ CSR Cost Estimation

- ❖ CSR activities mainly contributing to education, health, training of women self-help groups and infrastructure etc., will be taken up in the Kamandoddi Village. CSR budget is allocated.

8.7 CORPORATE ENVIRONMENT RESPONSIBILITY

Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III dated 01.05.2018. As per para 6 (II) of the office memorandum, being a green field project & capital investment is ≤ 100 crores, the proposed project shall contribute 2% of capital investment towards CER as per directions of EAC/SEAC. However, the SEAC has suggested to allocate CER fund on the basis of the extent of the project. Therefore, Rs. 5,00,000 is allocated for CER. The proposed utilization of the budget of CER activities is given in Table 8.1.

Table 8.1 CER Action Plan

S. No.	Activity	Budget (Rs.in Lakh)
1	The applicant Indents to involve in corporate environment responsibilities (CER) activities such as renovation of existing toilet, plantation within the school premises, donating environment related books to the nearby school library, etc.	Rs.5,00,000
	Total	Rs.5,00,000

Source: Field survey conducted by FAE in consultation with project proponent

8.8 SUMMARY OF PROJECT BENEFITS

The project would pay about **Rs. 1,20,65,396** to the state government through various ways, as provided in Table 8.2.

Table 8.2 Project Benefits to the State Government

Particulars	Budget for Rough Stone (Rs.)
CER	5,00,000
Seigniorage @ Rs.90/m ³ of rough stone	96,37,830
District Mineral Foundation Tax @ 10% of Seigniorage	9,63,783
Green Tax @ 10% of Seigniorage	9,63,783
Total	1,20,65,396

CHAPTER IX
ENVIRONMENTAL COST BENEFIT ANALYSIS

Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

CHAPTER X

ENVIRONMENTAL MANAGEMENT PLAN

10.0 GENERAL

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of environmental management plan will ensure to keep all the environmental parameters of the project in respect of ambient air quality, water quality, socio economic improvement standards. Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

10.1 Budgetary Provision for Environmental Management

Adequate budgetary provision has been made by the company for execution of Environmental Management Plan. The Table 10.1 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

Table 10.1 EMP Budget for Proposed Project

Attribute	Mitigation measures	Provision for Implementation	Capital Cost	Recurring Cost/annum
			(Rs.)	(Rs.)
Air Environment	Compaction, gradation and drainage on both sides	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare and yearly maintenance @ Rs. 10,000/- per hectare	12700	12700
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed sprinkler installation and new water tanker cost for capital; and water sprinkling (thrice a day) cost for recurring	800000	50000
	Air quality will be regularly monitored as per norms within ML area & ambient area	Yearly compliance as per CPCB norms	0	50000

	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	50000	5000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin to avoid escape of fines to the atmosphere	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per tipper/dumper deployed	20000	0
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes	0	5000
	Regular sweeping and maintenance of roads for at least about 200 m from quarry entrance	Provision for 2 labours @ Rs.10,000/labour (Contractual) / hectare	0	25400
	Installing wheel wash system near exit gate of quarry	Installation + Maintenance + Supervision	50000	20000
Total Air Environment			932700	188100
Noise Environment	Source of noise will be transportation vehicles, and HEMM. For this, proper maintenance will	Provision made in Operating Cost	0	0

	be done at regular intervals.			
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done.	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implementations that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Competent Person	0	0
	Provision for Portable blaster shed	Installation of portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control	Rs. 30/- per 6 tons of blasted material	0	299844

	Ground vibration and fly rocks			
Total Noise Environment			50000	301844
Water Environment	Water Management	Provision for garland drain @ Rs. 10,000/- per hectare with maintenance of Rs. 5,000/- per annum	12700	6350
Total Water Environment			12700	6350
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency (capital cost, recurring cost for collection /disposal).	25000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Total Waste Management			30000	22000
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed display board at the quarry entrance as permanent structure	10000	1000
Total Implementation of EC, Mining Plan			10000	1000
Occupational Health and Safety	Workers will be provided with Personal Protective Equipment	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and	64000	16000

		tear (say, @ Rs. 1000/- per employee)		
	Health checkup for workers will be provisioned	IME & PME Health checkup @ Rs. 1000/- per employee	0	16000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	5080
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum (4.00.0 hectare)	254000	12700
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	63500	12700
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 st Class / 2 nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000

Total Occupational Health and Safety			421500	849480
Developm ent of Green Belt	Green belt development - 500 trees per hectare (200 Inside Lease Area & 300 Outside Lease Area)	Site clearance, preparation of land, digging of pits /trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring))"	50800	7620
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	114300	11430
Total Development of Green Belt			165100	19050
Mine Closure	Closure includes 10% of the amount allotted for Greenbelt development, wire fencing, and garland drainage (Rule 27 in MCDR 2017 for Cat B mines will pay 2 lakhs per hectare or minimum amount of financial assurance of 5 lakhs)		0	43180
	G.O.(Ms)No.23, Dated: 28.09.2021	Section IVA of TNMMCR 1959 (@10% of Seigniorage Fee) (Seigniorage Fee for Roughstone = Rs.90)	963783	0
TOTAL			2585783	1387824

Table 10.2 Estimation of Overall EMP Budget after Adjusting 5% Annual Inflation

Ist Year	IInd Year	IIIrd Year	IVth Year	Vth Year (including Mine Closure Cost)	Total Recurring Cost	Total EMP Cost
1387824	1457215	1530076	1606579	1730088	7711781	10297564

In order to implement the environmental protection measures, an amount of **Rs. 2585783** as capital cost and recurring cost as **Rs. 1387824** as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be **Rs. 10297564** as shown in Table 10.2.

10.2 CONCLUSION

Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and fund has been allocated for the same. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Senior Management responsible for the project will conduct a review of EMP and its implementation to ensure that the EMP remains effective and appropriate. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

CHAPTER XI

SUMMARY AND CONCLUSION

11.1 INTRODUCTION

As the proposed rough stone mining project (P1) falls within the quarry cluster of 500 m radius with the total extent of 29.01.5ha, it requires submission of EIA report for grant of Environmental Clearance (EC) after conducting public hearing. The proposed project falling in S.F.No's. 1151,1155,1212 to 1219,1222,1225 & 1226/A (P- 5) over an extent of 1.27.0 ha is situated in the cluster falling in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. The quarries involved in the calculation of cluster extent are four proposed quarries, ten existing quarries.

11.2 PROJECT DESCRIPTION

The proposed project area is located between Latitudes from 12°39'26.21"N to 12°39'29.82"N Longitudes from 77°57'52.44"E to 77°57'57.57"E in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. According to the approved mining plan, about 1, 07,087m³ & 2,94,489Tons of rough stone will be mined up to the ultimate depth of 55m (15 m AGL & 40m BGL) in the five years. The quarrying operation is proposed to be carried out by open cast semi mechanized mining method involving drilling, blasting, and formation of benches of the prescribed dimensions.

11.3 DESCRIPTION OF THE ENVIRONMENT

Baseline data were collected maximum locations i.e, in the core and buffer zone for the present cluster in the 29.05.2025 (**one Day**), for cross verification. Field monitoring studies to evaluate the base line status of the project site were carried out with CPCB guidelines. Environmental baseline data were collected by an NABL accredited and MoEF notified **Ekdant Enviro Services (P) Ltd & Greenlink Analytical and Research Laboratory (India) Private Ltd** the environmental attributes including soil, water, air, and noise and by FAEs for ecology and biodiversity, traffic, and socio-economy.

11.3.1 Land Environment

Land use pattern of the area of 5km radius was studied using Sentinel II imagery. LULC types and their extent are given in Table 11.1.

Table.11.1 LULC Statistics of the Study Area

S. No.	LU/LC Type	Extend (ha)	Percentage
1	Water	30.47	0.35
2	Trees	65.29	0.75
3	Crops	4450.39	51.39

4	Built area	2423.44	27.98
5	Mining/Industrial area	119.24	1.38
6	Bare Land	31.07	0.36
7	Range land	1540.02	17.78
Total		8659.92	100.0

Source: Sentinel II Satellite Imagery

11.3.2 Soil Environment

A. Physical Characteristics of Soil

- **Texture:** In lease area the soil is red calcareous. They are mostly sandy to loamy and characterised by the hard and compact layer of lime. In other places the soil found is brown in colour.
- **Structure:** The grain size is greater than 2mm in the lease area and in other places where the samples collected ranges from 0.002mm to 2mm.
- **Porosity:** The 500m radius cluster consists of Charnockite formations affect the porosity found in this study.
- **Density** The soil samples collected within 5km radius are generally characterized by higher bulk densities typically ranging from 1.25 to 1.66g/cm³. This is due to the presence of red sandy and in some areas with red loamy soil.
- **Consistence:** A soil moisture content between 12.5% to 18.4% is generally considered optimal for plant growth in medium-textured soils (like loams). This range falls within the 50- 75% available water zone where plants are at risk of stress if a water deficit is prolonged.

B. Chemical Characteristics of Soil

- pH is found to be from slightly acidic to neutral (6.8- 7.6) in reaction. Electrical conductivity a measure of soluble salts in the soil is in the range of 165 – 298μS/cm. The important water-soluble cations in the soil are nitrogen, phosphorus, potassium, calcium and magnesium whose concentration levels ranged from N- 13.67mg kg⁻¹ to 26.86mg kg⁻¹, P- 1.37mg kg⁻¹ to 3.42mg kg⁻¹, K- 39.91mg kg⁻¹ to 52.3mg kg⁻¹, C- 1127mg/Kg- 18564mg/Kg & M- 16737mg kg⁻¹ - 22937mg kg⁻¹ respectively.

- The soil samples in the study area show loamy textures varying between Silt Loam and sandy loam. pH of the soil varies from 6.8 – 7.6 indicating slightly acidic to slightly alkaline nature. Electrical conductivity of the soil varies from 165 – 298 μ S/cm. The physical and chemical properties of soil is shown in the Table 3.5.

11.3.3 Water Environment

11.3.3.1 Physical Parameter of ground water:

The basic physical parameters of water include

Colour:

- Value observed in Project Site (True/Apparent Color): 1 Hazen unit.
- Acceptable and permissible limits: 5 Hazen units and 15 Hazen units respectively. The value in the project site is as same as the acceptable limits prescribed by IS 10500: 2012 (referred as “*Standards*” from herein).

Odour & Taste:

The water is odour less. The taste of the water is slightly salty which is due to the presence of hardness in water which is attributed to the presence of calcium and magnesium in the water. As per the standards the odour and taste should be agreeable.

pH:

- Value observed in the Project Site: Min.-6.9 & Max. 7.3 mg/L.
- Acceptable and permissible limits: 6.5-8.5. The pH value is the measure of acid – base equilibrium. The value of pH in the project site clearly indicates that water is neutral in nature.

Turbidity:

Value observed in the Project Site: less than 1. Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplankton and other sediments.

Total Dissolved Solids:

- Value observed in the Project Site: Min.-592 & Max. 807 mg/L.
- Acceptable and permissible limits: 500 mg/L and 2000 mg/L respectively.
- TDS is the presence of inorganic salts and small amounts of organic matter present in the water.

11.3.3.2 Chemical parameters of

water: Calcium:

Value observed in Min.- 51 & Max. 94 mg/L. Acceptable and permissible limits: 75mg/L and 200 mg/L respectively.

Magnesium:

Value observed in Min.- 17 & Max. 49mg/L. Acceptable and permissible limits: 30 mg/L and 100 mg/L respectively.

Chloride

Value observed in Min.- 174 & Max. 310 mg/L. Acceptable and permissible limits: 250 mg/L and 1000 mg/L respectively.

Total Alkalinity as CaCO₃:

Value observed in 196mg/L. Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

Hardness:

Value observed in Min.- 610 & Max. 824 mg/L. Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

Surface water

The surface water quality is compared with the CPCB Water Quality Criteria against A, B, C, D & E class of water. From the test result, it is found that both the water does not fit Class A (Drinking Water Source without conventional treatment but after disinfection). But they can be used for outdoor bathing as it meets the requirements shown for class B water.

11.3.4 Air Environment

As per the monitoring data, PM_{2.5} ranges from 13.0 µg/m³ to 31.3 µg/m³, PM₁₀ from 37.3 µg/m³ to 56.1 µg/m³, SO₂ from 1.3 µg/m³ to 9.75 µg/m³, NO_x from 4 µg/m³ to 17.3 µg/m³. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index

The AQI shows that the air quality of the study area falls within good category 40 causing minimal impact to human health.

11.3.5 Noise Environment

Noise level in core zone was 47.2 dB (A) Leq during day time and 35.4 dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 38.6 to 52.4 dB (A) Leq and during night time from 30.6 to 42.2 dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB.

11.3.6 VIBRATION MONITORING

- ✚ Ground Vibration and noise levels were recorded from the instruments the figure 3.33 it can be observed that the vertical Peak Particle Velocity (PPV) recorded was 1.801mm/s at nearby bare land at distance of 100m.
- ✚ Air Over-Pressure (AOP) was 103.5dB and 0.003kPa at nearby Study area at distance of 100m.

11.3.7 Biological Environment

The study found that there is no endemic, endangered migratory fauna found in the area. This area is not also a migratory path of any faunal species. Hence, this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

Flora in core zone

There are no trees in the quarry lease area, only shrubs, herbs and grasses. Taxonomically total of 23 species belonging to 18 families were recorded. Among them are herbs (19) and shrubs (4). Majority of the species belongs to the family of Fabaceae and Poaceae.

Flora in 300 m radius zone

The vegetation habit analysis indicates that the flora of the 300m radius of the study area consists of 60 species belonging to 31 families. Among the 60 species, 22 herbs, 24 shrubs and 14 trees. the highest number of species were from the Poaceae family (7), followed by Fabaceae (6), Malvaceae (4), and Mimosaceae (4). Three species were recorded from the Amaranthaceae, Apocynaceae, and Asteraceae families, while six species each were recorded from the Arecaceae, Boraginaceae, Convolvulaceae, Cucurbitaceae, Euphorbiaceae, and Lamiaceae families. The endangered or threatened and Species Richness (margalef Index) in the study area it mentioned in Table 3.27- 3.29. The Settupalli Reserve Forest is located 2.64km for Northeast of the quarry lease area. The reserve forest is predominantly populated with *Albizia amara*, *Azadirachta indica*, *Vachellia leucophloea*, *Chloroxylon swietenia*, and *Ziziphus mauritiana*.

Flora in 10 km radius buffer zone

The 10km radius A total of 102 species of invasive alien species belonging to 82 general and 39 families were recorded in 10km radius (Table 3.30). Herbs (73.83%) formed the predominant life form followed by shrubs (10.28%), climbers (8.42%), trees (4.67%) and grasses (2.80%).

Fauna in Core Zone

The faunal species observed in the study area are listed in Table 3.22. A total of 25 species were recorded in core zone of the project area. The core zone exhibited fewer species, with only a small number of insects, mammals, and reptiles, whereas the buffer zone showed greater species diversity. Among the 25 species recorded, the distribution was as follows: (08) 32% insects, (03) 12% reptiles, (05) 20% mammals & 9 (36%) Avian. These species were cross-checked against the IUCN Red List Database version 3.1 to identify any threatened species. Data analysis revealed that 8 species are categorized as Least Concern on the Red List, while 17 species were not listed. The analysis indicates that there are no REET species in the core zone of the proposed quarry site.

Fauna in Buffer Zone

The faunal species observed in the study area are listed in Table 3.32. Taxonomically a total of 50 species belonging to 35 families have been recorded from the buffer zone area. Based on habitat classification the majority of species were Birds 15 (30%), followed by Insects 14 (28%), Reptiles 13 (26%), Mammals 5 (10%) and amphibians 3 (6%). There are 4 schedule II species and 24 schedule IV species according to Indian wild life Act 1972. Totally, 19 species of bird were sighted in the study area.

11.3.8 Socio Economic Environment

The proposed project will provide direct and indirect employment and improve the infrastructural facilities in that area, thus leading to the improvement of people's standard of living.

11.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

11.4.1 Land Environment

Anticipated Impact

- ✦ Permanent change on land use and land cover.
- ✦ Change in topography of the mine lease area will change at the end of the life of the mine.
- ✦ Problems to agricultural land and human habitations due to dust, and noise caused by movement of heavy vehicles
- ✦ Degradation of the aesthetic environment of the core zone due to quarrying
- ✦ Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season
- ✦ Siltation of water course due to wash off from the exposed working area

Mitigation Measures

- ✦ The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigate measures like phase wise development of greenbelt etc.
- ✦ Construction of garland drains all around the quarry pits and construction of check dam at strategic location in lower elevations to prevent erosion due to surface runoff during rainfall and also to collect the storm water for various uses within the proposed area.
- ✦ Green belt development along the boundary within safety zone. The small quantity of water stored in the mined-out pit will be used for greenbelt
- ✦ Thick plantation will be carried out on unutilized area, top benches of mined out pits, on safety barrier, etc.,
- ✦ At conceptual stage, the land use pattern of the quarry will be changed into Greenbelt area and temporary reservoir.
- ✦ In terms of aesthetics, natural vegetation surrounding the quarry will be retained (such as in a buffer area i.e., 7.5 m,10m safety barrier and other safety provided) so as to help minimize dust emissions.
- ✦ Proper fencing will be carried out at the conceptual stage, Security will be posted round the clock, to prevent inherent entry of the public and cattle.

11.4.2 Soil Environment

Anticipated Impact

- ✦ Removal of protective vegetation cover
- ✦ Exposure of subsurface materials which are unsuitable for vegetation establishment

Mitigation Measures

- ✦ Run-off diversion – Garland drains will be constructed around the project boundary to prevent surface flows from entering the quarry works areas and will be discharged into vegetated natural drainage lines, or as distributed flow across an area stabilised against erosion.
- ✦ Sedimentation ponds - Run-off from working areas will be routed towards sedimentation ponds. These trap sediment and reduce suspended sediment loads before runoff is discharged from the quarry site. Sedimentation ponds should be designed based on runoff, retention times, and soil characteristics. There may be a need to provide a series of sedimentation ponds to achieve the desired outcome.
- ✦ Retain vegetation – Retain existing or re-plant the vegetation at the site wherever possible.

- ✚ Monitoring and maintenance – Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season.

11.4.3 Water Environment

Anticipated Impact

- ✚ Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- ✚ As the proposed project acquires 3.5KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

Mitigation Measures

- Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes.
- Domestic sewage from site office will be discharged in septic tank and then directed to soak pits.
- Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse.
- The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage.
- Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted.
- Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program.

11.4.4 AIR ENVIRONMENT

Anticipated Impact

The proposed rough stone quarry project involves activities such as formation of benches, approach roads, drilling, blasting, excavation, and transportation, all of which may lead to dust generation and pose potential health risks. To mitigate these impacts, dust suppression measures like water sprinkling at loading/unloading points and along haul roads will be implemented. Quarrying will be carried out using opencast semi-mechanized methods, where drilling and blasting will be conducted in a controlled manner to reduce dust and vibration. The primary air pollutant expected is particulate matter (PM₁₀), while emissions of Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂) from vehicle movement are anticipated to be minimal. Air quality

impact assessment has been conducted based on the proposed production levels and estimated emissions.

Mitigation Measures

- ✚ To mitigate air pollution and dust generation in the rough stone quarry, a range of dust control measures will be implemented. Regular water sprinkling will be carried out at key locations such as drilling sites, blasting areas, haul roads, and loading/unloading points. This will help suppress fugitive dust emissions and improve air quality around the project site. Additionally, mist spray systems will be used in dust-prone areas for enhanced control, ensuring effective dust suppression during operations.
- ✚ Drilling and blasting activities, which are common in quarrying, will be carefully controlled to minimize air pollution. Wet drilling methods will be used to reduce the amount of dust generated during drilling operations. For blasting, controlled techniques with optimized charge and timing will be employed to limit dust dispersion. Furthermore, blasting will only be carried out during favourable conditions, such as low wind speeds, to prevent the dust from being carried towards nearby habitations and sensitive areas.
- ✚ Vehicle emissions from haul trucks and machinery will also be managed through regular maintenance and the use of PUC-certified vehicles. These measures will help reduce exhaust emissions, especially on unpaved roads where dust generation is higher. Additionally, vehicle speed will be restricted on haul roads to minimize the lifting of dust.
- ✚ To further reduce air pollution, a greenbelt will be developed around the quarry boundary and along internal roads. This will act as a barrier to trap dust particles and reduce their spread. Regular air quality monitoring will also be conducted at strategic locations to ensure that air quality remains within permissible limits, and that the quarry operations do not negatively impact the surrounding environment or human health.

Occupational Health

- ✚ Dust mask will be provided to the workers and their use will be strictly monitored
- ✚ Annual medical checkups, trainings and campaigns will be arranged to ensure awareness about importance of wearing dust masks among all mine workers and tipper drivers.
- ✚ Ambient air quality monitoring will be conducted every six months to assess effectiveness of mitigation measures proposed.

11.4.5 Noise Environment

Anticipated Impact

Noise generated at the quarry will mainly result from semi-mechanized operations such as drilling, controlled blasting, and transportation of materials; however, the noise levels are expected to dissipate within the quarry boundary, and due to the considerable distance of nearby villages from the quarrying area, the impact on the surrounding community is expected to be negligible.

Mitigation Measures

- ✚ To reduce noise from the rough stone quarry, drilling will be done using well-maintained and low-noise equipment. Wet drilling methods will also be used to help reduce the amount of noise generated during the process.
- ✚ Blasting will be carried out in a controlled manner using limited charge and proper timing. All blasting activities will take place only during the daytime to avoid disturbing nearby areas during early morning or night hours.
- ✚ Vehicles and machines used in the quarry will be regularly serviced to keep noise levels low. Wherever possible, silencers and noise-dampening systems will be installed on machinery to reduce loud sounds.
- ✚ A greenbelt with trees and shrubs will be developed around the quarry to act as a natural barrier against noise. Workers will be given ear protection, such as earplugs, when working near loud equipment, and noise levels will be monitored regularly to make sure they stay within safe limits.

11.4.6 Ground Vibrations

Anticipated Impact

Ground vibrations due to the proposed mining activities are anticipated due to operation of mining machines like excavators, drilling and blasting, transportation vehicles, etc., however, the major source of ground vibration from the quarry is blasting. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kutcha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements.

Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining lease area and may cause injury to persons or damage to the structures.

Mitigation Measures

- ✦ The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations
- ✦ Proper quantity of explosives, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting
- ✦ Adequate safe distance from blasting will be maintained as per DGMS guidelines
- ✦ Blasting shelter will be provided as per DGMS guidelines
- ✦ Blasting operations will be carried out only during day time
- ✦ The charge per delay will be minimized and preferably a greater number of delays will be used per blasts.
- ✦ During blasting, other activities in the immediate vicinity will be temporarily stopped
- ✦ Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast.
- ✦ A fully trained explosives blast man (Mining Mate, Mines Foreman, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed
- ✦ A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating procedures that will be followed to ensure that shot firing operations on site take place without endangering the workforce or public
- ✦ Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire
- ✦ The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used
- ✦ The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.
- ✦ Appropriate blasting techniques shall be adopted in such a way that the predicted peak particle velocity shall not exceed 0.251mm/s.
- ✦ Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

11.4.7 Biological Environment

Anticipated Impact

- ✦ During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly

- ✚ The Number of plants in the mining lease area is given in Chapter 3 which vegetation in the lease area may be removed during mining.
- ✚ Carbon released from quarrying machineries and tippers during quarrying would be 1619kg per day, 437075kg per year and 7431864kg over five years.

Mitigation Measures

- ✚ During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.
- ✚ Existing roads will be used; new roads will not be constructed to reduce impact on flora.
- ✚ To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 35544kg of carbon per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.
- ✚ As per the greenbelt development plan as recommended by SEAC (Table 4.11), about 700 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 177722kg of the total carbon.

11.4.8 Socio Economic Environment

Anticipated Impact

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area
- Approach roads can be damaged by the movement of tippers
- Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region

Mitigation Measures

- Good maintenance practices will be adopted for all 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
- Air pollution control measure will be taken to minimize the environmental impact within the core zone

- For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules
- Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc., from this project directly and indirectly.

11.4.9 Occupational Health

- All the persons will undergo pre-employment and periodic medical examination
- Employees will be monitored for occupational diseases by conducting medical tests: General physical tests, Audiometric tests, Full chest, X-ray, Lung function tests, Spirometric tests, Periodic medical examination – yearly, Lung function test – yearly, those who are exposed to dust and Eye test
- Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost.
- The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

11.2 Environment Monitoring Program

No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, PM _{2.5} , PM ₁₀ , SO ₂ and NO _x .
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in m BGL

5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Peak particle velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and chemical characteristics
8	Greenbelt	Within the project area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

11.5 ADDITIONAL STUDIES

11.5.1 Risk Assessment

The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. The whole quarry operation will be carried out under the direction of a Qualified Competent Mine Manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad for proposed project.

11.5.2 Disaster Management Plan

The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to:

- Rescue and treat casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

11.5.3 Cumulative Impact Study

The results on the cumulative impact of the four proposed projects on air environment of the cluster do not exceed the permissible limits set by CPCB for air pollutants.

- ✚ The cumulative results of noise for the habitation in consideration do not exceed the limit set by CPCB for residential areas for day time

- ✚ PPV resulting from four proposed project is well below the permissible limit of Peak Particle Velocity of 5 mm/s
- ✚ The proposed four projects will allocate Rs. 20,00,000/- towards CER as recommended by SEAC
- ✚ The proposed four projects will directly provide jobs to 77 local people, in addition to indirect jobs
- ✚ The proposed four projects will plant 5500 about trees in and around the lease area
- ✚ The proposed four projects will add 2817 PCU per day to the nearby roads.

11.6 Project Benefits

Various benefits are envisaged due to the three proposed mine and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole are:

- Direct employment to 116 local people
- Creation of community assets (infrastructure) like school buildings, village roads/ linked roads, dispensary & health Centre, community Centre, market place etc.,
- Strengthening of existing community facilities through the Community Development Program
- Skill development & capacity building like vocational training.
- Rs. 5,00,000 will be allocated for CER

11.7 ENVIRONMENT MANAGEMENT PLAN

In order to implement the environmental protection measures, an amount of **Rs. 2585783** as capital cost and recurring cost as **Rs. 1387824** as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be **Rs. 10297564**.

CHAPTER XII

DISCLOSURES OF CONSULTANT

The Project Proponent, **Thiru. S. Madhu** has engaged **Geo Technical Mining Solutions**, a NABET accredited consultancy for carrying out the EIA study as per the ToR issued.

Address of the consultancy:

No: 1/213B Natesan Complex,
Oddapatti, Dharmapuri – 636705,
Tamil Nadu, India.
Email: info.gtmsdpi@gmail.com
Web: www.gtmsind.com
Phone: 04342 232777.

The accredited experts and associated members who were engaged in this EIA study are given below:

S. No	Name of the expert	In house/ Empanelled	Sector	Functional Area	Category
Approved Functional Area Experts & EC					
1	Dr. S. Malar	EIA Coordinator (EC) In-house	1(a)(i)	WP	B
2	Dr. G. Prabakaran	In-house, FAE	1(a)(i)	SE	B
3	P. Venkatesh	In-house, FAE	1(a)(i)	AQ	B
4	J.N. Manikandan	Empanelled FAE	1(a)(i)	RH, SHW	B
7	Dr. S. Malar	In-house, FAE	1(a)(i)	WP	B
8	G. Umamaheswaran	In-house, FAE	1(a)(i)	HG, LU, GEO	B
9	C. Kumaresan	In-house, FAE	1(a)(i)	NV	B
10	P. Venkatesh	In-house, FAE	1(a)(i)	AP	B
11	Dr. D.Kalaimurugan	In-house, FAE	1(a)(i)	SC, EB	B
Approved Functional Area Associates					
12	K. Prithiviraj	FAA	1(a)(i)	HG, GEO	B
13	R. Srikrishna	FAA	1(a)(i)	LU, LC	B
14	Moorthi	FAA	1(a)(i)	AP, AQ	B
15	V. Malavika	FAA	1(a)(i)	NV, SHW	B
Abbreviations					
EC	EIA Coordinator	NV	Noise and Vibration		

FAE	Functional Area Expert	SE	Socio Economics
FAA	Functional Area Associates	HG	Hydrology, ground water and water conservation
TM	Team Member	SC	Soil conservation
GEO	Geology	RH	Risk assessment and hazard management
WP	Water pollution monitoring, prevention and control	SHW	Solid and hazardous wastes
AP	Air pollution monitoring, prevention and control	MSW	Municipal Solid Wastes
LU	Land Use	ISW	Industrial Solid Wastes
AQ	Meteorology, air quality modelling, and prediction	HW	Hazardous Wastes
EB	Ecology and bio-diversity	GIS	Geographical Information System

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA & EMP

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the EIA & EMP report.

Signature : 

Date :

Name : **Dr. S. Malar**

Designation : EIA Coordinator

Name of the EIA Consultant Organization : Geo Technical Mining Solutions

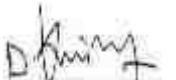
Period of Involvement : Till date

We, the FAEs and FAAs hereby declare that information furnished in this EIA/EMP report for **Thiru. S. Madhu** rough stone quarry project with the extent of 1.27.0 ha situated in the cluster with the extent of **29.01.5ha** in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District of Tamil Nadu is true and correct to the best of our knowledge.

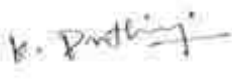
List of Functional Area Experts Engaged in this Project

S. No.	Functional Area	Involvement	Name of the Experts	Signature
1	AP	○ Identification of different sources of air pollution due to the proposed mine activity ○ Prediction of air pollution and propose mitigation measures / control measures	P.Venkatesh	

2	WP	○ Suggesting water treatment systems, drainage facilities ○ Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.	Dr.S. Malar	
3	HG	○ Interpretation of ground water table and predict impact and propose mitigation measures. ○ Analysis and description of aquifer Characteristics	G. Uma Maheswaran	
4	GEO	○ Field Survey for assessing the regional and local geology of the area. ○ Preparation of mineral and geological maps. ○ Geology and Geo morphological analysis/description and Stratigraphy/Lithology.	G. Uma Maheswaran	
5	SE	○ Revision in secondary data as per Census of India, 2011. ○ Impact Assessment & Preventive Management Plan ○ Corporate Environment Responsibility.	Dr. G. Prabhakaran	
6	EB	○ Collection of Baseline data of Flora and Fauna. ○ Identification of species labelled as Rare, Endangered and threatened as per IUCN list. ○ Impact of the project on flora and fauna. ○ Suggesting species for greenbelt development.	Dr. D. Kalaimurugan	
7	RH	○ Identification of hazards and hazardous substances ○ Risks and consequences analysis ○ Vulnerability assessment	J.N. Manikandar	

		○ Preparation of Emergency Preparedness Plan ○ Management plan for safety.		
8	LU	○ Construction of Land use Map ○ Impact of project on surrounding land use ○ Suggesting post closure sustainable land use and mitigative measures.	G. Uma Maheswaran	
9	NV	○ Identify impacts due to noise and vibrations ○ Suggesting appropriate mitigation measures for EMP.	C. Kumaresan	
10	AQ	○ Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. ○ Recommending mitigations measures for EMP	P.Venkatesh	
11	SC	○ Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. D.Kalaimurugan	
12	SHW	○ Identify source of generation of non-hazardous solid waste and hazardous waste. ○ Suggesting measures for minimization of generation of waste and how it can be reused or recycled.	J.N. Manikandan	

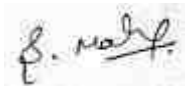
List of Functional Area Associate Engaged in this Project

S.No.	Name	Functional Area	Involvement	Signature
1	R. Srikrishna	LU, LC	○ Site visit with FAE ○ Provide inputs & Assisting FAE for LU and HG	
2	K. Prithiviraj	HG & GEO	○ Field visits along with FAE ○ Assistance to FAE in both primary and secondary data collection	

3	Moorthi	AP	☐ Site visit with FAE ☐ Assistance to FAE in collection of both primary and secondary data	
4	V. Malavika	NV, SHW	☐ Site visit along with FAE ☐ Assistance in report preparation	

DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION

I, **Dr. S. KARUPPANNAN**, Managing Partner, **Geo Technical Mining Solutions**, hereby, confirm that the above-mentioned functional area experts and team members prepared the EIA/EMP report for **Thiru. S. Madhu** rough stone quarry project with the extent of 1.27.0 ha situated in the cluster with the extent of **29.01.5 ha** in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District of Tamil Nadu is true and correct to the best of our knowledge.

Signature : 

Date :

Name : **Dr. S. Malar**

Designation : EIA Coordinator

Name of the EIA Consultant Organization : Geo Technical Mining Solutions

NABET Certificate No & Issue Date : **NABET/EIA/23-26/RA 0319**

Validity : **Till 31.12.2026.**



File No: 11424
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA),
TAMIL NADU)



Dated 17/06/2025



To,

Thiru.MADHU SRINIVASAN
 S/o. Srinivasan, D No. 12 EDEN Garden, Thally Road, Hosur, Krishnagiri, Hosur, KRISHNAGIRI,
 TAMIL NADU, 635109
 madhuquarry@gmail.com

Subject: Grant of Terms of Reference along with Public Hearing under the provision of the EIA Notification 2006-as amended regarding.

Sir/Madam,

Sub:SEIAA TN – Proposed Rough Stone Quarry lease over an extent 1.27.0 Ha at S.F. Nos.1151, 1155, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu by Thiru. S. Madhu - under project category – “B1” and Schedule S.No.1(a) “Mining of Minerals Projects” of EIA Notification, 2006, as amended – ToR issued along with Public Hearing - preparation of EIA report – Regarding.

Ref:

1. Online proposal No. SIA/TN/MIN/537428/2025 Dated 13.05.2025.
2. Your application submitted for Terms of Reference dated:08.11.2024.
3. Minutes of the 564th SEAC meeting held on 13.05.2025.
4. Minutes of the 836th SEAC meeting held on 06.06.2025 & 11.06.2025.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO25B0108TN5385770N
(ii) File No.	11424
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Kamandoddi Village Rough Stone Mining Lease
(viii) Name of Company/Organization	MADHU SRINIVASAN
(ix) Location of Project (District, State)	KRISHNAGIRI, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no

In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.

The above-mentioned proposal has been considered by (SEIAA) Appraisal Committee of SEIAA in the meeting held on 06.06.2025. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,] are available on PARIVESH portal which can be accessed by scanning the QR Code above.

The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).

The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference for instant proposal Thiru. S. Madhu under the provisions of EIA Notification, 2006 and as amended thereof.

The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.

The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

This issues with the approval of the Competent Authority.

The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. Monitoring Cell, IA Division, Ministry of Environment, Forests &CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
5. The District Collector, Krishnagiri District.
6. Stock File.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seiaa Specific Conditions:

S. No	Terms of Reference
1.1	The Authority noted that the subject was placed in the 564 th meeting of SEAC-I held on 13.05.2025. After detailed discussions, the Authority accepts the recommendation of SEAC-I and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 1,07,087 m ³ of Rough Stone up to the depth of 55 m (15m AGL + 40m BGL) as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC-I & normal conditions & the conditions mentioned below.

2. Seiaa Standard Conditions:

S. No	Terms of Reference
2.1	<u>Cluster Management Committee</u> 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. <u>Agriculture & Agro-Biodiversity</u> 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. <u>Forests</u> 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. <u>Water Environment</u> 19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect

S. No	Terms of Reference
	groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 20. Erosion Control measures. 21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: - Hydrothermal/Geothermal effect due to destruction in the Environment. - Bio-geochemical processes and its foot prints including Environmental stress. - Sediment geochemistry in the surface streams. <u>Energy</u> 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. <u>Climate Change</u> 29. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. <u>Mine Closure Plan</u> 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. <u>EMP</u> 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan. <u>Risk Assessment</u> 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. <u>Disaster Management Plan</u> 36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. <u>Others</u> 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies

S. No	Terms of Reference
	such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.



SEAC SPECIFIC CONDITIONS:

1. As committed by the PP, a detailed plan for formation of proper, scientific re-alignment of benches should be submitted along with the EIA Report.
2. The PP should submit a valid Certified Compliance Report (CCR) from the RO, MoEF&CC for the EC obtained earlier.
3. **A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal:**
 - (i) **Copy of the agreement forming CMC.**
 - (ii) **The Organisation chart of the Committee with defining the role of the members.**
 - (iii) **The 'Standard Operating Procedures' (SoP) towards executing the planned activities.**
4. The Geo referenced Boundary pillars to be erected on the field as per the mine rules and the evidence should be submitted along with the EIA report.
5. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
6. The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed and existing quarry wall.
7. The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report.

SEAC STANDARD CONDITIONS:

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
 - (i) Original pit dimension
 - (ii) Quantity achieved Vs EC Approved Quantity

- (iii) Balance Quantity as per Mineable Reserve calculated.
 - (iv) Mined out Depth as on date Vs EC Permitted depth
 - (v) Details of illegal/illicit mining
 - (vi) Violation in the quarry during the past working.
 - (vii) Quantity of material mined out outside the mine lease area
 - (viii) Condition of Safety zone/benches
 - (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.
 6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.

8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.
12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
 13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
 14. Quantity of minerals mined out.
 - Highest production achieved in any one year
 - Detail of approved depth of mining.
 - Actual depth of the mining achieved earlier.
 - Name of the person already mined in that leases area.
 - If EC and CTO already obtained, the copy of the same shall be submitted.
 - Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,

17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.
22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine

- lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.
 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
 28. Impact on local transport infrastructure due to the Project should be indicated.
 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.
 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner

34. A Disaster Management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
 40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
 41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
 42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
- Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

A. STANDARD TERMS OF REFERENCE

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery

and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of

the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of

sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and

submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along

with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed: -
 - a) Executive Summary of the EIA/EMP Report
 - b) All documents to be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
 - e) Where the documents provided are in a language other than English, an English translation should be provided.
 - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
 - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
 - h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
 - i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance

for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

In addition to the above, the following shall be furnished: -

The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

1. Project name and location (Village, District, State, Industrial Estate (if applicable)).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.

15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

Besides the above, the below mentioned general points should also be followed: -

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.
 - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
 - The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
 - The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

MoEF & CC -Standard Terms of Reference for (Mining of minerals)

S. No	Terms of Reference
1.1	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.2	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.3	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)
1.4	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics
1.5	Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority
1.6	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large,may also be detailed in the EIA Report

S. No	Terms of Reference
1.7	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.8	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period
1.9	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given
1.10	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given
1.11	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees
1.12	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished
1.13	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated

S. No	Terms of Reference
1.14	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.15	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted
1.16	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished
1.17	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost
1.18	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.19	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such

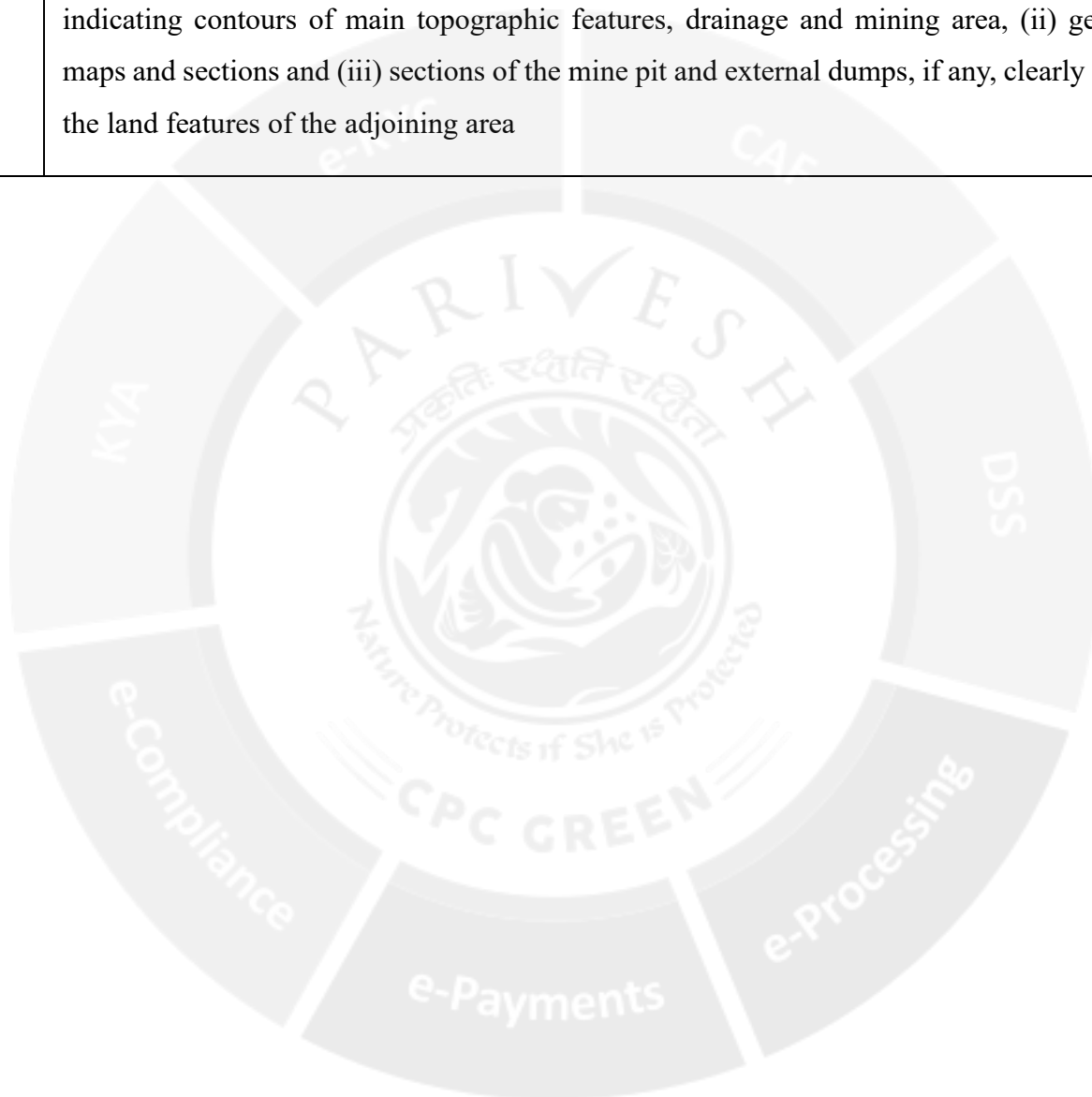
S. No	Terms of Reference
	as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.20	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.21	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site- specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given
1.22	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map

S. No	Terms of Reference
1.23	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.24	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.25	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.26	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.27	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.28	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.29	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution

S. No	Terms of Reference
1.30	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines
1.31	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.32	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report
1.33	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed
1.34	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations
1.35	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation
1.36	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project

S. No	Terms of Reference
1.37	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project
1.38	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.39	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.40	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.41	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc
1.42	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. h) As per the circular no. J-

S. No	Terms of Reference
	11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area



From
Dr. P.Jayapal, M.Sc.,Ph.D.,
 Deputy Director,
 Dept. of Geology and Mining,
 Krishnagiri.

To
Thiru.S.Madhu,
 S/o.Srinivasan,
 No.12, Eden Garden,
 Thally Road, Hosur Taluk,
 Krishnagiri District-635 109.

Roc.No.206/2018/Mines

dated .10.2024

Sir,

Sub: Mines and Minerals-Minor Mineral-Rough Stone-Krishnagiri District- Shoolagiri Taluk - Kamandoddi Village-Government Poromboke land in S.F.No. 1151,1155,1212 to 1219,1222,1225 & 1226/A(P-5)-Over an extent of 1.27.00 ha - Tender cum Auction conducted- Thiru.S.Madhu declared as the highest bidder -- Scheme of Mining plan approved - Details of quarries situated within 500m radial distance requested - Quarry details furnished - Reg.

- Ref:**
1. Krishnagiri District Extraordinary Gazette No. 01, dated 19.01.2018.
 2. Precise area Communication issued by the Deputy Director of Geology & Mining, Krishnagiri vide Rc.No.206/2018/Mines, dated 09.03.2018.
 3. Mining plan approved by the Deputy Director of Geology & Mining, Krishnagiri in letter No.206/2018/Mines, dated 23.05.2018.

4. Scheme of Mining approved by the Deputy Director of Geology and Mining, Krishnagiri vide letter Rc.No.206/2018/Mines, dated 17.10.2024.
5. Letter from Thiru.S.Madhu S/o.Srinivasan, No.12, Eden Garden, Thally Road, Hosur Taluk, Krishnagiri District-635 109, dated 17.10.2024.

Kind attention is invited to the references cited above.

2. Tender Cum Auction was conducted on 07.02.2018 for the grant of quarry lease to quarry rough stone in Government land in S.F.No. 1151,1155,1212 to 1219,1222,1225 & 1226/A(P-5) over an extent of 1.27.00 hectares in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District. Since Thiru.S.Madhu had been declared as the highest bidder, the said tender was confirmed to him.

3. Subsequently, Thiru.S.Madhu had been communicated precise area vide reference 2nd cited and directed to submit the Mining plan and Environmental Clearance for grant of Rough stone quarry lease in Government land in S.F.No. 1151,1155,1212 to 1219,1222,1225 & 1226/A(P-5) over an extent of 1.27.00 hectares in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District for a period of 10 (Ten) years under the provisions of Rule 8 of Tamil Nadu Minor Mineral Concession Rules, 1959.

4. The Mining Plan was approved by the Deputy Director of Geology & Mining vide the reference 3rd cited and the Scheme of Mining was approved by the Deputy Director of Geology & Mining vide the reference 4th cited.

5. At this juncture, the applicant has requested the details of quarries situated within 500m radial distance from the subject quarry vide letter dated 17.10.2024. As requested by the applicant, the details of quarries situated within 500m radial distance from the subject quarry is furnished as follows:

I. Details of Existing Quarries

S. No.	Name of the Lessee	Village/ Taluk	S.F.No.	Extent in ha	Collector's Proceedings Rc.No. & date	Lease period
1	Thiru.G.Ashoka, S/o.Gunnanappa, No.31/5, 1 st Main Road, 2 nd Cross, Nehru Nagar, Hosur Taluk, Krishnagiri District-635109.	Kamandod di Village and Shoolagiri Taluk	754 & 760 (P-3)	3.66.0	Rc.No.199/2018/ Mines, dated 09.03.2018	17.02.2022 to 16.02.2032
2	Thiru.V.Karunanithi, S/o. Vellaya Gounder, D.No.127A, Molaiyanur, Pappireddi patty Taluk, Dharmapuri district.	Kamandod di Village and Shoolagiri Taluk	754 & 760 (P-5)	4.30.0	Rc.No.201/2018/ Mines, dated 09.03.2018	24.06.2022 to 23.06.2032
3	M/s.Royal Blue Metals, R.No.207, Chinnammal Building, 102-A, Peramanur Main Road, 4 Roads, Salem.	Kamandod di Village and Shoolagiri Taluk	1151,1 155,12 12 to 1219,1 222,12 25 & 1226/A (P-1)	2.70.0	Rc.No.202/2018/ Mines, dated 09.03.2018	04.07.2024 to 03.07.2034
4	M/s.Royal Blue Metals, R.No.207, Chinnammal Building, 102-A, Peramanur Main Road, 4 Roads, Salem.	Kamandod di Village and Shoolagiri Taluk	1151,1 155,12 12 to 1219,1 222,12 25 & 1226/A (P-2)	2.87.0	Rc.No.203/2018/ Mines, dated 09.03.2018	24.06.2022 to 23.06.2032
5	Thiru.K.Muruges, S/o. Krishnappa, No.492, Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District.	Kamandod di Village and Shoolagiri Taluk	1151,1 155,12 12 to 1219,1 222,12 25 & 1226/A (P-3)	2.82.0	Rc.No.204/2018/ Mines, dated 09.03.2018	30.03.2023 to 29.03.2033
6	Thiru.C.Surendiran, S/o. Chinnappa, Pillaiyakolathur, Hosur Taluk, Krishnagiri District.	Kamandod di Village and Shoolagiri Taluk	1269/2 A	1.66.5	Rc.No.123/2016/ Mines, dated 06.10.2017	13.10.2017 to 12.10.2027

7	Thiru.S.Madhu, S/o.Srinivasan, No.12, Eden Garden, Thally Road, Hosur Taluk, Krishnagiri District-635 109.	Kamandod di Village and Shoolagiri Taluk	1151,1 155,12 12 to 1219,1 222,12 25 & 1226/A (P-5)	1.27.0	Rc.No.206/2018/ Mines, dated 09.03.2018	06.12.2019 to 05.12.2029
Total				19.28.5		

II. Details of Expired/Abandoned Quarries

S. No.	Name of the Applicant/Lessee	Taluk / Village	S.F.No.	Extent (ha)	Collector's Proceeding Rc.No. & date	Lease period
1	Tmt.V.Renuka, W/o.Venkatesh Reddy, Kukkalappalli Village, Kamandoddi Post, Hosur Taluk, Krishnagiri District - 635109.	Kamandoddi Village and ShoolagiriTal uk	1269/2 B	2.05.0	Rc.No.736/2 015/Mines- 2, dated 11.07.2017	13.07.2017 to 12.07.2022
Total				2.05.0		

III. Details of Proposed/applied quarries

S. No.	Name of the Applicant/Lessee	Taluk / Village	S.F.No.	Extent (ha)	Collector's Proceeding Rc.No. & date	Lease period
1	Thiru.Mallikarjun, S/o.Y.Parthasarathy ,No.12,Naganayakk anahalli, Kasaba Hobli,Marsur Post, Anekkal Taluk, Bangalore District.	Kamandoddi Village and ShoolagiriTal uk	754 & 760 (P-4)	3.50.0	Rc.No.200/20 18/Mines, dated 09.03.2018	Instant Proposal
2	Thiru. S.R.Sampangi, S/o.Rajappa, D.No.1/129, Sanamavu Village and Post, Shoolagiri Taluk, Krishnagiri District.	Kamandoddi Village and ShoolagiriTal uk	1151,115 5,1212 to 1219,122 2,1225 & 1226/A(P-4)	2.23.0	Rc.No.205/20 18/Mines, dated 09.03.2018	Instant Proposal
Total				5.73.0		

Deputy Director,
Dept. of Geology and Mining,
Krishnagiri.

M.P.
17.10.24

Copy to:

The Chairman, Tamil Nadu State Environment
Impact Assessment Authority, 3rd Floor, Panakal Maligai,
No. 1 Jeenes Road, Saidapet, Chennai -15.

From

Dr. P.Jayapal, M.Sc.,Ph.D.,
Deputy Director,
Dept of Geology and Mining,
Krishnagiri.

To

Thiru.S.Madhu,
S/o.Srinivasan,
No.12, Eden Garden,
Thally Road, Hosur Taluk,
Krishnagiri District-635 109.

Roc.No.206/2018/Mines**dated 17.10.2024**

Sub: Mines and Minerals-Minor Mineral-Rough Stone-Krishnagiri District- Shoolagiri Taluk-Kamandoddi Village-Government Poromboke land in S.F.No. 1151,1155,1212 to 1219,1222,1225 & 1226/A(P-5)-Over an extent of 1.27.00 ha - Roughstone quarry lease granted to Thiru.S.Madhu under Tender Cum Auction for the period of 10 years- Mining plan approved - Draft scheme of mining submitted- Scheme of mining approved- Reg.

Ref:

1. Krishnagiri District Extraordinary Gazette No. 01. dated 19.01.2018.
2. The Deputy Director of Geology & Mining, Krishnagiri in Rc.No.206/2018/Mines, dated 09.03.2018 (Precise area communication).
3. The Deputy Director of Geology & Mining, Krishnagiri letter in Rc.No.206/2018/Mines, dated 23.05.2018 (Mining plan approval).
4. Thiru.S.Madhu S/o.Srinivasan,No.12, Eden Garden. Thally Road, Hosur Taluk, Krishnagiri District-635 109 letter, dated 11.07.2024.

Kind attention is invited to the references cited above.



2. A quarry lease had been granted in favour of Thiru.S.Madhu in Government land in S.F.No. 1151,1155,1212 to 1219,1222,1225 & 1226/A(P-5) over an extent of 1.27.00 hectares in Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District under Rule 8 of Tamil Nadu Minor Mineral Concession Rules, 1959 through Tender Cum Auction for the period of 10 years valid from 06.12.2019 to 05.12.2029.

3. In respect of the said quarry lease, Mining Plan for the first 5 years of lease period had already been approved by the Deputy Director of Geology and Mining vide the reference 3rd cited before grant of lease.

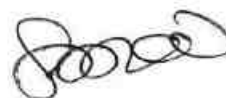
4. Thiru.S. Madhu has submitted draft Scheme of Mining for the second 5 years of lease period through representation vide letter dated 11.07.2024 with a request to approve the same.

5. The draft Scheme of Mining has been examined as per the Act and Rules in force and the followings are observed:

Yearwise production for the last 5 years

Year	Roughstone (m³) @ 100% Recovery	Topsoil (m³)
6 th Year	20763	-
7 th Year	21904	-
8 th Year	21000	-
9 th Year	22230	-
10 th Year	21190	-
Total	107087	-

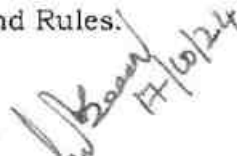
7. The observations made in perusal of examination of the draft Scheme of Mining is found correct and in accordance with Rule. Hence, the power delegated under Rule 41 of the Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the guidelines/instructions issued by the Commissioner of Geology and Mining, vide letter



Rc.No.3868/LC/2012 dated 19.11.2012, the Scheme of Mining is hereby approved subject to the following conditions:

- i. The Scheme of Mining is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- ii. This approval of the Scheme of Mining does not in any way imply the approval of the Government in terms of any other provisions of Mines and Minerals (Development and Regulation) Act, 1957, or any other connected laws including Forest (Conservation) Act, 1957, or any other connected Laws, Forest (Conservation) Act, 1980, Forest Conservation Rules 1981, Environment protection Act, 1986, Indian Explosives Act, 1884 (Central Act IV of 1884), Metalliferous Mines Regulations, 1961 and the rules made thereunder, Minor Mineral Conservation and Development Rules, 2017 and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- iii. The Scheme of Mining is approved without prejudice to any other order or directions from any court of competent jurisdiction.
- iv. All the conditions mentioned in the precise area communicated to the applicant shall be followed during quarry operation as per Act and Rules.

Encl.: Scheme of Mining


Deputy Director,

Dept. of Geology and Mining,

Krishnagiri.


17.10.24



Copy to: -

The Chairman, Tamil Nādu State Environment
Impact Assessment Authority,
3rd Floor, Panakal Maligai,
No. 1, Jeeves Road, Saidapet,
Chennai -15.

SCHEME OF MINING

FOR KAMANDODDI VILLAGE ROUGH STONE MINING LEASE INCLUDING
PROGRESSIVE QUARRY CLOSURE PLAN

Govt Poramboke land / Opencast, Semi-Mechanized Mining / Non-forest/ Non-captive use

(Lease Period: 06.12.2019 – 05.12.2029)

Scheme of Mining: - 2024-2025 to 2028-2029

(Prepared under rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959)

LOCATION OF THE LEASE AREA

STATE : TAMILNADU
DISTRICT : KRISHNAGIRI
TALUK : SHOOLAGIRI
VILLAGE : KAMANDODDI
S.F.No's : 1151, 1155, 1212 to 1219, 1222, 1225 &
1226/A (Part-5)
EXTENT : 1.27.0 HECTARES

ADDRESS OF THE APPLICANT

Mr. S.Madhu,

S/o. Srinivasan

No. 12, Eden Garden,

Thally Road, Hosur Taluk,

Krishnagiri District-635109.

PREPARED BY

Dr.S.KARUPPANNAN.M.Sc., Ph.D.,

RQP MAS 263/2014/A

GEO TECHNICAL MINING SOLUTIONS

(A NABET Accredited & ISO Certified Company)

No: 1/213 -B, Ground Floor, Natesan Complex,

Oddapatti, Collectorate Post office,

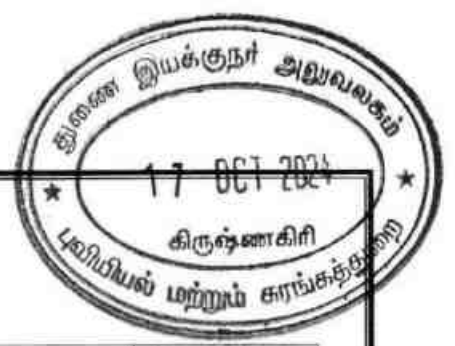
Dharmapuri-636705, Tamil Nadu.

Mob. : +91 9443937841, +917010076633.

E-mail: info.gtmsdpi@gmail.com .

Website: www.gtmsind.com





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ANNEXURES

Sl. No.	Description	Annexure No.
1.	Copy of precise area communication letter	I
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3.	Copy of previous lease particulars a. Environmental Clearance Certificate b. Proceeding Letter c. Lease execution deed d. TNPCB	III
4.	Copy of FMB (Field Measurement book)	IV
5.	Copy of A-Register	V
6.	Copy of DFO letter	VI
7.	Copy of Explosive deed agreement	VII
8.	Photocopy of the applied lease area	VIII
9.	Copy of ID Proof of the authorized signature	IX
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LIST OF PLATES



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1	Key Map	I	Not to scale
2	Location Plan	I-A	Not to scale
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5	Environmental Plan	I-D	1: 5,000
6	Mine Lease Plan	II	1:1000
7	Surface and Geological Plan	III	Plan: 1:1000
8	Geological Sections	IIIA	Section: Hor 1:1000 Ver 1:500
9	Year wise Development, Production Plan	IV	Plan: 1:1000
10	Year wise Development, Production Sections	IVA	Section: Hor 1:1000 Ver 1:500
11	Mine Layout Plan and Land Use Pattern	V	1:1000
12	Conceptual Plan	VI	Plan: 1:1000
13	Conceptual Sections	VIA	Section: Hor 1:1000 Ver 1:500

Mr. S.Madhu,
S/o. Srinivasan
No. 12, Eden Garden,
Thally Road, Hosur Taluk,
Krishnagiri District-635109



CONSENT LETTER FROM THE APPLICANT

The Scheme of Mining in respect of rough stone quarry lease over an extent of 1.27.0Hectare in S.F.No's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State has been prepared by

Dr. S. KARUPPANNAN., M.Sc., Ph.D. Regn. No. RQP/MAS/263/2014/A

I request the **Deputy Director, Department of Geology and Mining, Krishnagiri District** to make further correspondence regarding modifications of the Scheme of Mining with the said Recognized Qualified Person on this following address

Dr. S.KARUPPANNAN.M.Sc., Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
(A NABET Accredited & ISO Certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841., 7010076633.
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

I hereby undertake that all modifications so made in the Scheme of Mining by the Recognized Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Place: Krishnagiri, TN

Date:


Signature of the Applicant
(S.Madhu)

Mr. S.Madhu,
S/o. Srinivasan
No. 12, Eden Garden,
Thally Road, Hosur Taluk,
Krishnagiri District-635109



DECLARATION

The Scheme of Mining in respect of rough stone quarry lease over an extent of 1.27.0Hectare in S.F.No's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State have been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

Place: Krishnagiri, TN

Date:


Signature of the Applicant
(S.Madhu)

Dr. S.KARUPPANNAN.M.Sc., Ph.D.,

RQP/MAS/263/2014/A

GEO TECHNICAL MINING SOLUTIONS

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Ph: +91 9443937841., 7010076633.

E-mail: info.gtmsdpi@gmail.com,

Website: www.gtmsind.com



CERTIFICATE

This is to certify that, the provisions of 8(1) Tamil Nadu Minor Minerals Concession Rules, 1959 have been observed in the Scheme of Mining for the grant of rough stone quarry lease, over an extent of 1.27.0hectare, Govt Poramboke land in S.F.No's : 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State applied to **Mr. S.Madhu.**

Wherever specific permission / exemptions / relaxations or approvals are required, the applicant will approach the concerned authorities of State and Central governments for granting such permissions etc.

Place: Dharmapuri, TN

Date:

Signature of the Recognized Qualified Person.

Dr.S.KARUPPANNAN,M.Sc,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
A NABET Accredited and ISO Certified Company
1/213-B, Ground Floor, Natesan Complex,
Collectorate Post Office, Oddapatti,
Dharmapuri-636705, TamilNadu, India

Dr. S.KARUPPANNAN.M.Sc., Ph.D.,

RQP/MAS/263/2014/A

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Oddapatti, Collectorate Post office, Dharmapuri-636705

Ph: +91 9443937841., 7010076633.

E-mail: info.gtmsdpi@gmail.com,

Website: www.gtmsind.com



CERTIFICATE

Certified that, in preparation of Scheme of Mining for rough stone quarry lease, over an extent of 1.27.0 Hectare of Govt Poramboke land in S.F.No's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State prepared to **Mr. S.Madhu**, Krishnagiri, Covers all the provisions of Mines Act, Rules, and Regulations etc made there under and whenever specific permission are required, the applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Place: Dharmapuri, TN

Date:

Signature of the Recognized Qualified Person.

Dr.S.KARUPPANNAN,M.Sc,Ph.D.,

RQP/MAS/263/2014/A

GEO TECHNICAL MINING SOLUTIONS

A NABET Accredited and ISO Certified Company

1/213-B, Ground Floor, Natesan Complex,

Collectorate Post Office, Oddapatti,

Dharmapuri-636705, TamilNadu, India

SCHEME OF MINING PLAN

KAMANDODDI VILLAGE ROUGH STONE MINING LEASE

PROGRESSIVE QUARRY CLOSURE PLAN

Govt Poramboke land /Open Cast-Semi-Mechanized mining/Non- Forest/Non-Captive Use

Lease period (06.12.2019 – 05.12.2029)

Scheme of Mining: 2024-2025 to 2028 - 2029

(Prepared under rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959)



INTRODUCTORY NOTES:

- a) **Lease Particulars:** The scheme of mining plan with progressive mine closure plan had prepared for Mr.S.Madhu S/o.Srinivasan, residing at No.12, Eden Garden, Thally, Road, Hosur Taluk, Krishnagiri District, Tamil Nadu State and The District Collector, Krishnagiri, has granted a quarry lease for a period of 10 years in favor of Mr.S.Madhu to quarrying rough stone, in Government Poramboke land at S.F.No's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) over an extent of 1.27.0hectares of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State vide the District Collector, Krishnagiri proceedings **Roc.No.206/2018/Mines Dated 06.12.2019.**
- b) **Previous mining plan approval & EC:** Accordingly, the mining plan was prepared and got approved vide Roc.No.206/2015/mines Dated 23.05.2018 and Environmental Clearance was Obtained from the District Level Environmental Impact Assessment Authority (DEIAA), Tamil Nadu Vide Lr.No.03/DEIAA-KGI/EC.No80/2018 Dated 27.08.2018. (Ref.Annexure - IIIA). The Mining Lease Deed was executed on 06.12.2019 and the lease will be expiry on 05.12.2029 (Ten Years plan Period).
- c) **Preparation and submission of Scheme of Mining Plan:** The Scheme of Mining Plan with progressive mine closure plan has been prepared for existing quarrying of rough stone in government land at S.F.no's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) over an extent of 1.27.0Hect of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State.
- d) **Review of Previous Mining Plan:** The original mining plan had been prepared for a total production of 679602m³ of rough stone upto a restricted depth of 92m (15m Above ground level & 77m Below Ground Level).

It has been observed that the bench geometry of bench height of 7m with bench width of 5m is provide in the approved mining plan which is not in consistent with the legal

requirement of the MMR 1961, So Accommodating the bench geometry designed with 5m height & 5m Width without affecting the provisions of MMR 1961.

- Geological Resources of Rough stone is 1951992m³ and top soil is 13200m³ upto depth of 141m (15m Above Ground Level + 126m Below Ground Level).
- Mineable reserves of rough stone is 750164m³ and top soil is 13200m³ upto depth of 141m (15m Above Ground Level + 126m Below Ground Level).
- Year wise Production reserves of rough stone is 679602m³ and top soil is 13200m³ upto depth of 92m (15m Above Ground Level + 77m Below Ground Level).

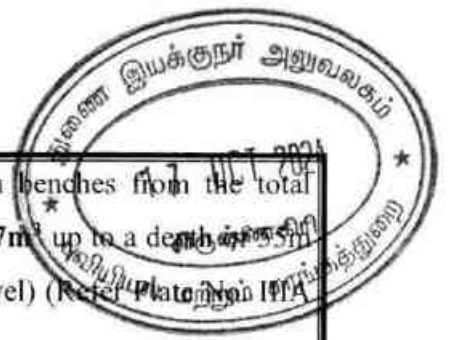
- e) **Previous Lease Particulars:** During this previous mining period the rough stone was excavated and there is existing pit was noticed with an average pit dimension as given under the table and the existing pit marked in the mining plan (Refer Plate No.III). Earth Bund Available along in the safety area.

Old Pit Details			
Pit No's	Length(m)	Width(m)	Depth (m)
I	24	22	7
Avg.Existing Pit Details			
Pit No's	Length(m)	Width(m)	Depth (m)
I	121	87	26

- f) **Previous Approved Quantity and Archived Quantity:** As per the approved mining plan was quantity was about 679602m³ of rough stone up to a depth of 92m (15m Above Ground Level + 77m Below Ground Level). The details of approved and achieved production in the below.

S.No	Year	Approved Quantity in m ³		Achieved Quantity in m ³
		Rough Stone in m ³	Top Soil in m ³	Rough Stone in m ³
1	2019-2020	99792	13200	259200
2	2020-2021	164850	---	
3	2021-2022	135170	---	
4	2022-2023	153230	---	
5	2023-2024	126560	---	
Total		679602	13200	259200

- g) **Updated Geological resources and Mineable reserves:** The lease area of 1.27.0Hect have been splitted into one sections XY-AB. In both section the same applicant quarried about 26m depth (15m above ground level and 11m below ground level) of the area in the privious lease period. Now, he continued for another lease on the same area to do quarry of 55m depth (Which is 15m above ground level and 40m below ground level). Geological resource of estimated as 391272m³ including the resources of safety zone, topsoil etc. Of which, rough stone resources of about 390672m³ and residual topsoil is 600m³. The total mineable reserve is estimated to be

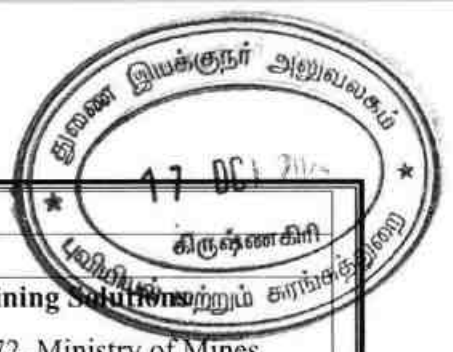


- 107087m³ by deducting the reserve safety zone, block in benches from the total Geological resources. of which, rough stone is about 107087m³ up to a depth of 55m (Which is 15m above ground level + 40m below ground level) (Refer Plate No. IVA & IVA).
- h) **Proposed Production Schedule:** Total proposed production of rough stone is 107087m³ up to a depth of 55m (Which is 15m above ground level + 40m below ground level) for five years plan period. Average production shall be 21417m³ of rough stone per year.(Refer Plate No.VIA).
- i) **Environmental Sensitivity of the proposed lease area: -**
- i). **Interstate boundary:** There is no interstate boundary around 10Km radius periphery of proposed lease area.
 - ii). **Wildlife Sanctuaries any:** There are no notified wildlife sanctuaries within the radius of 10km from the project site under the wildlife (Protection) Act, 1972.
 - iii). **Forest (conservation) Act, 1980:** No forest land granted for quarrying and within 60m radius there is no reserve forest.
 - iv). **CRZ Notification, 2019:** There is no Sea coastal zone found within radius of 10km and this project site doesn't attract CRZ Notification, 2019.
- h) **Environmental measures to be adopted during the ongoing activity period,**
- a. Usage of sharp drill bits while drilling which will help in reducing noise.
 - b. Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders.
 - c. Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained.
 - d. Green Belt/Plantation will be developed around the project area and along the haul roads. The plantation minimizes propagation of noise.
 - e. Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation.
 - f. Transportation of material will be carried out during day time and material will be covered with tarpaulin.
 - g. The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.
 - h. And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.



1.0 GENERAL:

a.	Name of the Applicant	:	Mr.S.Madhu,
	Applicant address	:	S/o. Srinivasan, No.12, Eden Garden, Thally Road, Hosur Taluk,
	District	:	Krishnagiri
	State	:	Tamilnadu
	Pin code	:	635109
	Phone	:	
	Fax	:	Nil
	Gram	:	Nil
	Telex	:	Nil
	E-mail	:	.....
b.	Status of the Applicant		
	Private individual	:	Private Individual
	Cooperative Association	:	---
	Private company	:	---
	Public Company	:	--
	Public Sector Undertaking	:	---
	Joint Sector Undertaking	:	---
	Other (pl. specify)	:	---
c.	Mineral(s) Which are occurring in the area and which the applicant intends to mine	:	Rough Stone Quarry Lease
d.	Period for which the mining lease granted /renewed/ proposed to be applied	:	The proceeding letter issued by district collector, krishnagiri has been communicated to the applicant for rough stone quarry lease period of 10 years.
	Name of the RQP preparing the Mining Plan	:	Dr. S.KARUPPANNAN.M.Sc.,Ph.D.,
	Address	:	Geo Technical Mining Solutions (A NABET Accredited & ISO certified Company) No: 1/213-B, Natesan Complex, Oddapatti, Collectorate Post office, Dharmapuri-636705 Web site: www.gtmsind.com
	Phone	:	+91 9443937841, 7010076633
	Fax	:	Nil
	e-mail	:	info.gtmsdpi@gmail.com
	Telex	:	Nil
	Registration number	:	RQP/MAS/263/2014/A



	Date of grant/renewal	:	16.12.2014
	Valid upto	:	15.12.2024
f.	Name of the prospecting agency	:	Geo Technical Mining Solutions GSR 286(E) No:272, Ministry of Mines Notification 7th April 2022.
	Address	:	No: 1/213-B, Natesan Complex, Oddapatti, Collectorate Post office, Dharmapuri-636705 Web site: www.gtmsind.com
	Phone	:	+91 9443937841, 7010076633
g.	Reference No. and date of consent letter from the state government	:	The proceeding letter issued by district collector, krishnagiri vide Roc.No.206/2015/Mines Dated 09.03.2018

2.0 LOCATION AND ACCESSIBILITY:

a.	Details of the Area:	:	Refer plate no: IA & IB		
	District & State	:	Krishnagiri, Tamil Nadu		
	Taluk	:	Shoolagiri		
	Village	:	Kamandoddi		
Khasra No./ Plot No./ Block Range/ Felling Series etc.:					
	Survey No.	Sub division	Total Extent in Hect	Patta No.	Ownership / Occupancy
	1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A	Part-5	1.27.0	---	Govt Poramboke land
	Total		1.27.0		
	Lease area (hectares)	:	1.27.0 Hectares		
	Whether the area is recorded to be in forest (please specify whether protected, reserved, etc)	:	It is a Government Poramboke Land		
	Ownership / Occupancy	:	Government of Tamil Nadu		



Existence of Public Road / Railway line if any nearby and approximate distance	: ✓ Exploited quarry materials transported through the approach road is situated on the Northeast side. ✓ There is no SH road within the radius of 5Km periphery of the lease area. ✓ There is an NH-44 is situated on the western side about 1.7km away on the northern side which is connecting Hosur - Krishnagiri Road. ✓ There is no railway line situated around 5km radius from the lease area.																		
Toposheet No. with latitude and longitude	: Toposheet No. 57 H/14 Latitude: From 12°39'26.21"N to 12°39'29.82"N Longitude: From 77°57'52.44"E to 77°57'57.57"E																		
Geo-Coordinates of the lease boundary:																			
<table border="1"> <thead> <tr> <th>PILLAR ID</th> <th>LATITUDE</th> <th>LONGITUDE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12°39'29.52"N</td> <td>77°57'57.57"E</td> </tr> <tr> <td>2</td> <td>12°39'28.02"N</td> <td>77°57'57.21"E</td> </tr> <tr> <td>3</td> <td>12°39'26.21"N</td> <td>77°57'55.86"E</td> </tr> <tr> <td>4</td> <td>12°39'26.53"N</td> <td>77°57'53.23"E</td> </tr> <tr> <td>5</td> <td>12°39'29.82"N</td> <td>77°57'52.44"E</td> </tr> </tbody> </table>		PILLAR ID	LATITUDE	LONGITUDE	1	12°39'29.52"N	77°57'57.57"E	2	12°39'28.02"N	77°57'57.21"E	3	12°39'26.21"N	77°57'55.86"E	4	12°39'26.53"N	77°57'53.23"E	5	12°39'29.82"N	77°57'52.44"E
PILLAR ID	LATITUDE	LONGITUDE																	
1	12°39'29.52"N	77°57'57.57"E																	
2	12°39'28.02"N	77°57'57.21"E																	
3	12°39'26.21"N	77°57'55.86"E																	
4	12°39'26.53"N	77°57'53.23"E																	
5	12°39'29.82"N	77°57'52.44"E																	
Land use pattern (Forest, Agricultural, Grazing, Barren etc.)	: It is an barren Land existing quarry lease area.																		
b. <i>Attach a general location and vicinity map showing area boundaries and existing and proposed access routs. It is preferred that the area to be marked on a survey of India topographical map or a cadastral map or forest map as the case may be. However if none of these are available, the area should be shown on an accurate sketch map on scale of 1 : 5000.</i>	: Refer plate no-IA & IB																		

i) INFRASTRUCTURE AND COMMUNICATION:

S.No	Description	Place	Distance	Direction
a.	Nearest post office	Koneripalli	2.3Km	North
b.	Nearest police station	Shoolagiri	4.8km	Northeast
c.	Nearest fire station	Hosur	20.7km	West
d.	Nearest medical facility	Kamandoddi	4.4km	Northwest
e.	Nearest school	Addakurukki	3.6km	Northwest
f.	Nearest railway station	Kelamangalam	11.6km	Southwest
g.	Nearest port facility	Chennai	257km	Northeast
h.	Nearest airport	Bengaluru	45.6km	Northwest
i.	Nearest DSP office	Hosur	16.9km	West
j.	Nearest villages	Koneripalli	1.4km	North
		Sappadi	0.84km	East
		Keeranapalli	1.35km	South
		Tirumalaigovunikotta	1.23km	West





PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

(a) Briefly describe the topography and general geology and local/mine geology of the mineral deposit including drainage pattern:

(i)	Topography	:	The proposed lease area is Elevated topography. The maximum elevation (762m) was observed northwest side of the site, while the minimum elevation (747m) was observed east side of the site. The slope is towards Western side and falls in Toposheet no. 57 H/14.
(ii)	General Geology of the District: The geological formations of the district belong mainly to Archaean age along with rock of Proterozoic age. The former is represented by Khondalite Group of rocks, Charnockite Group of rocks, Migmatites Complex, Sathyamangalam Group of rocks, while the latter is represented by Alkaline rocks. The Khondalite Group includes garnet sillimanite gneiss and quartzite which occur as small patches. The migmatite complex includes garnetiferous quartz feldspathic gneiss and hornblends biotite gneiss, the former exposed on the western part of the district. The Sathyamangalam Group includes fuchsite quartzite, sillimanite mica schist and amphibolites. The Bhavani Group in this area includes fissile hornblende-biotite gneiss, granitoid gneiss and pink migmatite. Amphibolites with barbed ferruginous quartzite and associated quartzo-feldspathic rocks (Champion Gneiss) represent the Kolar group and are found west and southwest of Epiphaniically. Following this there are basic intrusions occurring as dykes. The Charnockite Group occupies a major part of the south-west portion of this district with small bands of garnetiferous quartzo-feldspathic gneiss, Granite gneiss and dolerite dykes. The North-East and Northern part of the district mainly consist of granite gneiss with small patches of Pink Migmatite, hornblende-biotite gneiss and dolerite dykes. The Eastern part of the district consists of Epidote-Hornblende Gneiss, Ultra Mafics, Syenite and Carbonatite.		



Order of Superposition of the proposed lease area,

Age	Group	Rock Formation
Recent to Sub recent	----	Top Soil (2m Thick)
Archean to Lower Proterozoic	Migmatite complex	Pegmatite and Quartz/veins Dolerite dyke Peninsular gneisses and Migmatites
Archean	Charnockite Group	Charnockite, Garnetiferous quartzo-feldspathic, Biotite gneisses

(iii) Local / Mine Geology of The Mineral Deposit:

Topography of the proposed lease area:

The applied lease area exhibits an almost elevated and the maximum elevation (762m) was observed northwestern side of the site, while the minimum elevation (747m) was observed southeast side of the site. The rocks exhibits layered, medium to coarse grained hornblende biotite, orthopyroxene charnockite gneiss.

The Residual topsoil is obtained the slope of the hillock average of 0-1.0m and a rough stone starts from 1.0m to 55m (R.L.762-707m) from top of the hillock. The Surface plan showing elevation, contour, accessibility road and Geological map was prepared the proposed lease area.

Mode of origin:

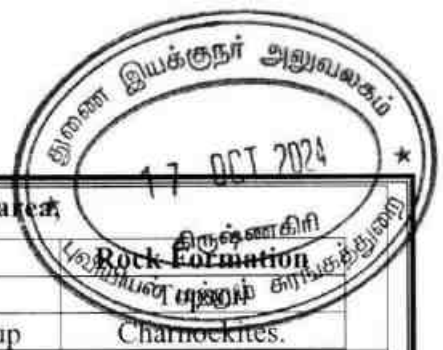
The Charnockite series originally was assumed to have developed by the fractional crystallization of silicate magma. Subsequent studies have shown, however, that many, if not all, of the rocks are metamorphic, formed by recrystallization at high pressures and moderately high temperatures.

Physiography of the rocks:

General characteristics of the rocks of this series has recorded that the rocks are in general bluish gray or darkish in colour and extremely fresh in appearance with an even grained granular structure.

Chemical composition of rocks:

The compositional characteristics of coexisting orthopyroxene, garnet and biotite have established several petrographic varieties within the Charnockites-Enderbites such as the granulite's and gneisses. Plagioclase feldspars, alkali feldspars and quartz are the salic minerals present in this series of rocks.



Order of superposition of the proposed lease area		
Age		Group
Recent to Sub recent		----
Archaean		Charnockite Group
		Charnockites.
(iv)	Drainage Pattern	: There is no major river found within 50m radius. The drainage in the area is sub-dendritic in nature.
(b)	<i>The topographic plan of the lease area prepared on a scale of 1 :1000 or 1 : 2000 with contour interval of 3 to 10m depending upon the topography of the area should be taken as the base plan for preparation of geological plan. The details of exploration already carried out including evidences of mineral existence should be shown on the geological plan:</i>	
	a. Present status:	: No exploration carried out. The lease area was presently operated quarrying of rough stone in favor of S.Madhu, over an extent of 1.27.0 Hectares for a period of 10 years from 06.12.2019 to 05.12.2029. There are existing pit level are noticed with an average pit dimension of pit level – I Show in plate – III, hence RQP examined the surface features during survey.
	b. Surface Plan	: Surface plan is prepared as 1:1000 Scale with ground level at various place in grid pattern with various lithological factors like length, width and depth.
(c)	Geological sections should be prepared at suitable intervals on a scale of 1: 1000 / 1: 2000:	: Geological plan is prepared as 1: 1000 Scales (Plate No.III) with ground level at various places, lithological factors in grid pattern like length, width and depth and sections are prepared boundary to boundary perpendicular to the rock with proper scale of 1: 1000 is horizontal axis, 1:500 as Vertical axis.
(d)	<i>Broadly indicate the Yearwise future programme of exploration, taking into consideration the future production programme planned in next five years as in table below:-</i>	



Year	No.of boreholes	Total Metterage	No.of Pits and Dimensions	No.of Trenches and Dimensions
VI	N.A	---	---	N.A
VII	N.A	---	---	N.A
VIII	N.A	---	---	N.A
IX	N.A	---	---	N.A
X	N.A	---	---	N.A

No future programmed proposed in this area. Its massive homogeneous parent rock. Hence exploration proposal is not required to this mining project.

(e) Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations along with required sections (giving split up of various categories i.e. proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.

The geological resources were computed by cross section method with respect to the boundaries of the lease area. In this method, the lease area was divided into one longitudinal and one transverse section to calculate the volume of material up to the depth of 55m (which is 15m above ground level and 40m below ground level) for five years plan period. (Refer Plate No. IIIA). The one longitudinal and one transverse cross section were assigned XY-AB as respectively. Using the cross-sectional method, total reserve is estimated to be **391272m³** including the resources of safety zone, and residual topsoil, etc. Of which, rough stone resources of about **390672m³** and residual topsoil is **600m³**.

GEOLOGICAL RESOURCES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m ³	Rough Stone in m ³	Residual Topsoil in M ³
XY-AB	Hill Slope	20	30	1	600	.....	600
	I	20	30	5	3000	3000	.....
	II	20	30	5	3000	3000	.....
	III	20	30	5	3000	3000	.....
	IV	20	34	5	3400	3400	.....
	V	20	38	5	3800	3800	.....
	VI	126	43	1	5418	5418	.....
	VI	126	101	4	50904	50904	.....
	VII	126	101	5	63630	63630	.....
	VIII	126	101	5	63630	63630	.....
	IX	126	101	5	63630	63630	.....
	X	126	101	5	63630	63630	.....
	XI	126	101	5	63630	63630	.....
TOTAL					391272	390672	600

(f) Indicate mineable reserves by slice plan / level plan method, as applicable, as per the proposed mining parameters: -

The total mineable reserve is estimated to be **107087m³** by deducting the reserve safety zone, block in benches from the total Geological resources up to a depth of 55m

(which is 15m above ground level and 40m below ground level). Of which, rough stone is about **107087m³**. The commercially viable rough stone has been prepared on 1: 1000 scale and sections are prepared in a scale of 1:1000 in horizontal axis and 1:500 as vertical axis. (Refer plate no's. - VIA).

MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m ³	Rough Stone in m ³	Residual Topsoil in m ³
XY-AB	III	91	10	5	4550	4550	.....
	IV	81	9	5	3645	3645	.....
	V	71	8	5	2840	2840	.....
	VI	61	8	1	488	488	.....
	VI	101	66	4	26664	26664	.....
	VII	91	56	5	25480	25480	.....
	VIII	81	46	5	18630	18630	.....
	IX	71	36	5	12780	12780	.....
	X	61	26	5	7930	7930	.....
	XI	51	16	5	4080	4080	.....
TOTAL					107087	107087	0

4.0 MINING:

a)	Briefly describe the existing / proposed method for developing / working the deposit with all design parameters. (Note: In case of pocket deposits, sequence of development/working may be indicated on the same plan)	:	The mining operation is open-cast, semi-mechanized method are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all open cast workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal.
b)	Indicate quantum of development and tonnage and grade of production expected pit wise as in table below. Total proposed production rough stone is about 107087m³ up to a depth of 55m (which is 15m above ground level and 40m below ground level) for five years plan period, Average production shall be 21417m³ of rough stone per year. (Refer Plate No.VIA).		



Year	Pit No.(s)	Topsoil/ Overburden (m ³)	ROM (m ³)	Saleable rough stone (m ³) @ 100%	Rough stone rejects(m ³)	Sub grade/ Weathered rock (m ³)	Saleable Graveling	Rough stone to waste
VI	I	...	20763	20763	...	...	...	...
VII	I	...	21904	21904	...	...	...	...
VIII	I	...	21000	21000	...	...	...	...
IX	I	...	22230	22230	...	...	...	...
X	I	...	21190	21190	...	...	...	...
Total	---	...	107087	107087	...	...	...	...

c) *Composite plans and Year wise sections (In case of 'A' class mines):* : Not applicable.

YEARWISE PRODUCTION RESERVES								
Section	Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m ³	Rough Stone in m ³	Residual Topsoil in m ³
XY-AB	VI- YEAR	III	91	10	5	4550	4550	.....
		IV	81	9	5	3645	3645	.....
		V	71	8	5	2840	2840	.....
		VI	61	8	1	488	488	.....
		VI	35	66	4	9240	9240	.....
TOTAL						20763	20763	0
XY-AB	VII- YEAR	VI	66	66	4	17424	17424	.....
		VII	16	56	5	4480	4480	.....
TOTAL						21904	21904	0
XY-AB	VIII- YEAR	VII	75	56	5	21000	21000	.....
TOTAL						21000	21000	0
XY-AB	IX- YEAR	VIII	81	46	5	18630	18630	.....
		IX	20	36	5	3600	3600	.....
TOTAL						22230	22230	0
XY-AB	X-YEAR	IX	51	36	5	9180	9180	.....
		X	61	26	5	7930	7930	.....
		XI	51	16	5	4080	4080	.....
TOTAL						21190	21190	0
GRAND TOTAL						107087	107087	0

d) Attach supporting composite plan and section showing pit layouts, dumps, stacks of sub-grade mineral, if any, etc. : The proposed area is an existing quarry lease.(Refer Plate No.III)

e) *Indicate proposed rate of production when the mine is fully developed and the expected life of the mine and the year from which effected:*
At this rate of production, the expected life of quarry is calculated as given below:



	<u>Rough stone:</u> Mineable reserves of rough stone (5 Years) = 107087m ³ Yearly production = 21417m ³ Monthly production of rough stone = 1785m ³																																																	
f)	<i>Attach a note furnishing a conceptual mining plan for the entire lease period (for "B" category mines) and upto the life of the mine (for "A" category mines) based on the geological, mining and environments considerations:</i>																																																	
i)	<table><tr><td>Time frame of completion of mineral exploration program in leasehold area: Give broad description identified potential areas to be covered in the given time frame:</td><td>: Considering the indefinite depth persistence of the rough stone deposit is proved beyond the workable limits about up to a depth of 55m (which is 15m above ground level and 40m below ground level) from the petrogenetic character of the charnockite rock as well as from the actual mining practice in the area and with the current trend of rough stone production.</td></tr></table>	Time frame of completion of mineral exploration program in leasehold area: Give broad description identified potential areas to be covered in the given time frame:	: Considering the indefinite depth persistence of the rough stone deposit is proved beyond the workable limits about up to a depth of 55m (which is 15m above ground level and 40m below ground level) from the petrogenetic character of the charnockite rock as well as from the actual mining practice in the area and with the current trend of rough stone production.																																															
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ii)	Whether ultimate pit limit has been determined and demarcated on surface and geological plan :- The ultimate pit limit has been determined and demarcated at end of five years plan periods as given below. <table><tr><th colspan="6">SECTION XY-AB</th></tr><tr><th>Bench</th><th>Bench R.L</th><th>Overburden/ Mineral</th><th>L (m)</th><th>W (m)</th><th>D (m)</th></tr><tr><td>--</td><td>Residual</td><td>Top Soil</td><td colspan="3" rowspan="4">Existing Pit Depth-10m</td></tr><tr><td>I</td><td>R.L 762-757m</td><td rowspan="11">Rough stone</td></tr><tr><td>II</td><td>R.L 757-752m</td></tr><tr><td>III</td><td>R.L 752-747m</td></tr><tr><td>IV</td><td>R.L 747-742m</td></tr><tr><td>V</td><td>R.L 742-737m</td></tr><tr><td>VI</td><td>R.L 737-736m</td></tr><tr><td>VI</td><td>R.L 736-732m</td></tr><tr><td>VII</td><td>R.L 732-727m</td></tr><tr><td>VIII</td><td>R.L 727-722m</td></tr><tr><td>IX</td><td>R.L 722-717m</td></tr><tr><td>X</td><td>R.L 717-712m</td></tr><tr><td>XI</td><td>R.L 712-707m</td></tr><tr><td colspan="5">Total Depth</td><td>55</td></tr></table>	SECTION XY-AB						Bench	Bench R.L	Overburden/ Mineral	L (m)	W (m)	D (m)	--	Residual	Top Soil	Existing Pit Depth-10m			I	R.L 762-757m	Rough stone	II	R.L 757-752m	III	R.L 752-747m	IV	R.L 747-742m	V	R.L 742-737m	VI	R.L 737-736m	VI	R.L 736-732m	VII	R.L 732-727m	VIII	R.L 727-722m	IX	R.L 722-717m	X	R.L 717-712m	XI	R.L 712-707m	Total Depth					55
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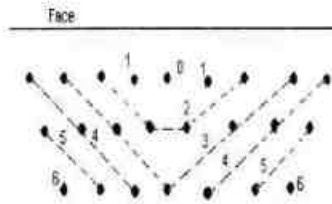
	term, use in the event of continuation of mining activity: -	
iv)	Whether back filling of pits after recovery of mineral up to techno -economically feasible depth envisaged. If so, describe the broad features of the proposal: -	: As the depth of persistence of the deposit may likely to continue for further depth, it is proposed not to backfilled the quarry pit.
v)	Whether post mining land use envisaged: -	: At the end of mining activities over the quarry pit may be utilized for storage of rain water and may be converted in to dumping yards for solid waste by adopting suitable technologies.
g)	Open cast mining	
i)	Describe briefly giving salient features of the mode of working (Mechanized, Semi-Mechanized, manual)	: It is a Existing quarry lease. The mining operation is opencast, semi-mechanized methods are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all opencast workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal.
ii)	Describe briefly the layout of mine workings, the layout of faces and sites for disposal of overburden/waste. A reference to the plans enclosed under 4(b) and 4(d) will suffice	The rough stone is proposed to quarry at 5m bench height & width conventional opencast semi mechanized quarrying operation using shot hole drilling with the help of tractor mounted compressor attached with jack hammers, smooth blasting and waste and are removal using Hydraulic excavator and loaded directly to the tippers and transported to the needy customer. Bench height = 5mts. Bench width = 5mts.



	a. Details of Topsoil/ Overburden	There is no topsoil will be removed.																					
	b. Rough Stone waste and side burden waste:-	The recovery of rough stone in this quarry is 100%. There is no rough stone waste or side burden will be removed.																					
H	Underground Mining	Not applicable																					
i)	Extent of mechanization: Describe briefly including the calculation for adequacy and type of machinery and equipment proposed to be used in different mining operations.																						
	(1) Drilling Machines: Drilling of shot holes will be carried out using tractor mounted compressor and jack hammer. Details of drilling equipment's are given below.																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th><th>Nos</th><th>Dia of hole (mm)</th><th>Size / Capacity</th><th>Make</th><th>Motive power</th><th>H.P.</th></tr> </thead> <tbody> <tr> <td>Jack Hammer</td><td>2</td><td>32 mm</td><td>Hand held</td><td>--</td><td>Diesel</td><td>--</td></tr> <tr> <td>Compressor</td><td>1</td><td>---</td><td>Air</td><td>--</td><td>Diesel</td><td>--</td></tr> </tbody> </table>	Type	Nos	Dia of hole (mm)	Size / Capacity	Make	Motive power	H.P.	Jack Hammer	2	32 mm	Hand held	--	Diesel	--	Compressor	1	---	Air	--	Diesel	--	
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	(2) Loading Equipment: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th><th>Nos</th><th>Size / Capacity</th><th>Make</th><th>Motive power</th><th>H.P.</th></tr> </thead> <tbody> <tr> <td>Hydraulic Excavator</td><td>1</td><td>2.9-4.5m³</td><td>--</td><td>Diesel</td><td>--</td></tr> </tbody> </table>		Type	Nos	Size / Capacity	Make	Motive power	H.P.	Hydraulic Excavator	1	2.9-4.5m ³	--	Diesel	--									
Type	Nos	Size / Capacity	Make	Motive power	H.P.																		
Hydraulic Excavator	1	2.9-4.5m ³	--	Diesel	--																		
	(3) Haulage and Transport Equipment (a) Haulage within the mining leasehold: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th><th>Nos</th><th>Size / Capacity</th><th>Make</th><th>Motive power</th><th>H.P.</th></tr> </thead> <tbody> <tr> <td>Tipper</td><td>4</td><td>--</td><td>--</td><td>Diesel</td><td>--</td></tr> </tbody> </table>		Type	Nos	Size / Capacity	Make	Motive power	H.P.	Tipper	4	--	--	Diesel	--									
Type	Nos	Size / Capacity	Make	Motive power	H.P.																		
Tipper	4	--	--	Diesel	--																		
	Whether the dumpers are fitted with exhaust conditioner should be indicated: The dumpers not used in this quarry area, hence it's a small B category mine.																						
b)	Transport from mine head to the destination	Tipper will be used for transport rough stone from the mine head to needy customer.																					
c)	Describe briefly the transport system (please specify)	Hydraulic excavator and tippers utilized for internal transport sizeable rough stone lumps and deliver to the customer's area.																					
	i) Ore transported by: own trucks / hired trucks	Hired trucks for initially production purposes																					
	ii) Main destination to which ore is transported (giving to and from distance)	The excavated stone materials road metal will be supplied to the consumers like road laying, earth filling, building construction, etc																					
a)	Details of hauling / transport equipment: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th><th>Nos</th><th>Size / Capacity</th><th>Make</th><th>Motive power</th><th>H.P.</th></tr> </thead> <tbody> <tr> <td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr> </tbody> </table>		Type	Nos	Size / Capacity	Make	Motive power	H.P.	--	--	--	--	--	--									
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--	--	--	--	--	--																		

4)	(4). Miscellaneous: Describe briefly any allied operations and machineries related to the mining of the deposit not covered earlier.																																															
	(A) Operations	The mining operation is open cast, semi mechanized methods are adopted and on single shift basis only.																																														
	(B) Machineries deployed	Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling and blasting. Hydraulic Excavators and tipper combination are adapted (Refer Part -A-4(i))																																														
5.	BLASTING: <i>a) Broad blasting parameters like charge per hole, blasting pattern, charge per delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.</i> Blasting pattern: The quarrying operation is proposed to carried by open cast mining in conjunction with conventional method using jack hammer drilling and blasting for shattering effect and loosen the rough stone. Rough stone production for 5 years = 107087m³ <table><tr><th colspan="2">BLAST DESIGN</th></tr><tr><td>Blasthole Diameter (D) in mm</td><td>32</td></tr><tr><td>Burden (B) in m</td><td>1.2</td></tr><tr><td>Spacing (S) in m</td><td>1.38</td></tr><tr><td>Subdrill in m</td><td>0.5</td></tr><tr><td>Charge length (C) in m</td><td>0.70</td></tr><tr><td>Stemming</td><td>0.5</td></tr><tr><td>Hole Length (L) in m</td><td>1.2</td></tr><tr><td>Bench Height (BH) in m</td><td>2.5</td></tr><tr><td>Mass of explosive/hole in g</td><td>437.5</td></tr><tr><td>Stemming material size in mm</td><td>3.2</td></tr><tr><td>Burden stiffness ratio</td><td>2.08</td></tr><tr><td>Blast volume/hole in m³</td><td>4.14</td></tr><tr><td>Production of rough stone/day in m³</td><td>76</td></tr><tr><td>Number of blast holes/day</td><td>18</td></tr><tr><td>Number of blast round/day</td><td>1</td></tr><tr><td>Blasthole pattern</td><td>Staggered</td></tr><tr><td>Mass of explosive /day in kg</td><td>8.08</td></tr><tr><td>Powder factor in kg/m³</td><td>0.11</td></tr><tr><td>Loading density</td><td>0.63</td></tr><tr><td>Type of explosives</td><td>Slurry</td></tr><tr><td>Diameter of packaging in mm</td><td>25</td></tr><tr><td>Initiation system</td><td>NONEL</td></tr></table>		BLAST DESIGN		Blasthole Diameter (D) in mm	32	Burden (B) in m	1.2	Spacing (S) in m	1.38	Subdrill in m	0.5	Charge length (C) in m	0.70	Stemming	0.5	Hole Length (L) in m	1.2	Bench Height (BH) in m	2.5	Mass of explosive/hole in g	437.5	Stemming material size in mm	3.2	Burden stiffness ratio	2.08	Blast volume/hole in m ³	4.14	Production of rough stone/day in m ³	76	Number of blast holes/day	18	Number of blast round/day	1	Blasthole pattern	Staggered	Mass of explosive /day in kg	8.08	Powder factor in kg/m ³	0.11	Loading density	0.63	Type of explosives	Slurry	Diameter of packaging in mm	25	Initiation system	NONEL
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Blasthole Diameter (D) in mm	32																																															
Burden (B) in m	1.2																																															
Spacing (S) in m	1.38																																															
Subdrill in m	0.5																																															
Charge length (C) in m	0.70																																															
Stemming	0.5																																															
Hole Length (L) in m	1.2																																															
Bench Height (BH) in m	2.5																																															
Mass of explosive/hole in g	437.5																																															
Stemming material size in mm	3.2																																															
Burden stiffness ratio	2.08																																															
Blast volume/hole in m ³	4.14																																															
Production of rough stone/day in m ³	76																																															
Number of blast holes/day	18																																															
Number of blast round/day	1																																															
Blasthole pattern	Staggered																																															
Mass of explosive /day in kg	8.08																																															
Powder factor in kg/m ³	0.11																																															
Loading density	0.63																																															
Type of explosives	Slurry																																															
Diameter of packaging in mm	25																																															
Initiation system	NONEL																																															

Note: If >2kg of explosives per day use for blasting if proponent get the permission from the DGMS



Staggered method of mining

b) Type of explosives used / to be used:

Following explosives are recommended for efficient blasting with safe practice.

Small dia. 25mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of rough stone. No deep hole drilling or primary blasting is proposed.

c) Measures proposed to minimize ground vibration due to blasting:

The control blasting measures is being adopted for minimizing ground vibration and fly rock.

Shallow depths jack hammer drilling and blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in rough stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting permits to divide the shot to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals. The major advantages of delay blasting are:

- ❖ Reduction of ground vibration
- ❖ Reduction in air blast
- ❖ Reduction in over break
- ❖ Improved fragmentation
- ❖ Better control of fly rock

Blasting program for the production per day

No of holes	:	18holes
Yield	:	76m ³
Total explosive required	:	8.08kg-Slurry explosives
Charge per hole	:	0.5kg
Blasting at day time only	:	12.0p.m-1.0p.m

c)	Powder factor in ore, and overburden / waste / development heading / stope	: Powder factor is proposed as 0.11kg per hole of explosives.
d)	Whether secondary blasting is needed, if so describe it briefly	There is no secondary blasting involved.
e)	Storage of explosives (like capacity and type of explosive magazine)	1. The applicant is advised to engage an authorized explosive agency to carry out blasting. 2. First Aid Box will be keeping ready at all the time. 3. Necessary precautionary announcement will be carried out before the blasting operation.
6.	MINE DRAINAGE:	
a)	Likely depth of water table based on observations from nearby wells and water bodies	: The ground water table is reported as of 90m in summer and 85m in rainy season from the general ground level observed in the adjacent bore well.
b)	Workings expected to be _____ m. above / reach below water table by the year _____.	: Proposed Scheme of mining depth is 55m (which is 15m above ground level and 40m below ground level). Now, the present Mining lease shall be proposed above the water table and hence, quarrying may not affect the ground water.
c)	Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged	: The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300 L pm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 H.P. Motor. The quality of water is potable and it is not contaminated with any hazardous things.



7.	STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:																													
a).	Indicate briefly the nature and quantity of top soil, overburden / waste and mineral rejects likely to be generated during the years:																													
	<table border="1"><thead><tr><th>Year</th><th>Topsoil/ Overburden (m³)</th><th>Weathered rock / Side burden(m³)</th><th>Mineral reject / waste</th></tr></thead><tbody><tr><td>VI</td><td>---</td><td>---</td><td>---</td></tr><tr><td>VII</td><td>---</td><td>---</td><td>---</td></tr><tr><td>VIII</td><td>---</td><td>---</td><td>---</td></tr><tr><td>IX</td><td>---</td><td>---</td><td>---</td></tr><tr><td>X</td><td>---</td><td>---</td><td>---</td></tr><tr><td>Total</td><td>---</td><td>---</td><td>---</td></tr></tbody></table>	Year	Topsoil/ Overburden (m ³)	Weathered rock / Side burden(m ³)	Mineral reject / waste	VI	---	---	---	VII	---	---	---	VIII	---	---	---	IX	---	---	---	X	---	---	---	Total	---	---	---	
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Total	---	---	---																											
b).	Land chosen for disposal of waste with proposed justification	:	There is no topsoil will be removed.																											
c).	Attach a note indicating the manner of disposal and configuration, sequence of buildup of dumps along with the proposals for the stacking of sub-grade ore, to be indicated Year wise.	:	The recovery of rough stone in this quarry is 100%. If rough stone may be unsold will be keep within the lease boundary.																											
8.	USE OF MINERAL:																													
a).	Describe briefly the end-use of the mineral (sale to intermediary parties, captive consumption, export, industrial use)	:	The excavated stone materials will be supplied to the consumers like stone pillar, sized stone, etc. For instance, aggregates are mostly used for building, roads and footpaths., etc																											
b).	Indicate physical and chemical specifications stipulated by buyers	:	Basically, the materials produced at this quarry are rough stone (charnockite) and topsoil the same are used for building materials and road metal. So, there is no chemical specifications are specified. Only physical specifications are involved.																											
c).	Give details in case blending of different grades of ores is being practiced or is to be practiced at the mine to meet specifications stipulated by buyers.	:	Not blending process is involved, after blasting the rough stone and topsoil will be directly loaded to the needy customer.																											

9.	OTHERS																							
	Describe briefly the following a) Site services	: Infrastructure required for such mines like office, stores, canteen, first aid station, shelter latrine and bath rooms have been provided as per the Metalliferous Mines Regulations, 1961 as a welfare amenity for our quarry laborers.																						
	b) Employment potential: As per Mines safety under the provisions of Metalliferous Mines Rules, 1961 under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified Mining Mate to keep all the production workers directly under his control and supervision. The following man power is proposed for quarrying stone material during the next five years period the same manpower will be utilize for this mining plan period to achieve the proposed production and to comply the provisions of as per the MMR, 1961 norms. <table border="1"> <tr> <td rowspan="4">1.</td> <td>Highly Skilled</td> <td>Mines Manager</td> <td>1No.</td> </tr> <tr> <td></td> <td>Mine Engineer</td> <td>1No.</td> </tr> <tr> <td></td> <td>Mine Geologist</td> <td>1No</td> </tr> <tr> <td></td> <td>Blaster</td> <td>1No</td> </tr> <tr> <td>2.</td> <td>Unskilled</td> <td>Musdoor / Labours</td> <td>12 No's</td> </tr> <tr> <td colspan="3">Total =</td> <td>16 No's</td> </tr> </table>			1.	Highly Skilled	Mines Manager	1No.		Mine Engineer	1No.		Mine Geologist	1No		Blaster	1No	2.	Unskilled	Musdoor / Labours	12 No's	Total =			16 No's
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10	MINERAL PROCESSING/BENEFICIATIONS:																							
(a)	If processing / beneficiations of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing /beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product), recovery rate.	: Excavated rough stone minerals directly will be used by the applicant for required size ½, ¾ and 1½ inches Jelly which are mainly used in road and building construction purpose. The recovery of rough stone in this quarry is 100%.																						
(b)	Explain the disposal method for tailings or waste from the processing plant (quantity and	: No water shall be used for quarrying or any other processing except drinking water to be drawn from public sources. Some stagnation																						



	quality of tailings proposed to be discharged, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam).		of rain water in the pit shall be used for drilling and spraying haul roads. Therefore, need for tailing dam doesn't arise. But tailing control of rain water flow during rainy season has to be done by decanting the SPM in a pit before passing the water in to natural system.
(c)	A flow sheet or schematic diagram of the processing procedure should be attached.	:	Not applicable.
(d)	Specify quantity and type of chemicals to be used in the processing plant.	:	Not applicable
(e)	Specify quantity and type of chemicals to be stored on site / plant.	:	Not applicable
(f)	Indicate quantity (cu.m. per day) of water required for mining and processing and sources of supply of water. Disposal of water and of recycling.	:	Drinking is 0.2KLD, Domestic water is 0.8KLD, Dust suppression is 1.2KLD and Green Belt is 1.3KLD. Minimum quantity of water 3.5KLD per day. It is proposed to make an authorized water vendors for drinking water, dust suppression. The workers utilized water will be used for green belt development. The sewage water to a tune of 0.9KLD generated from the mine office toilet and mine labour toilet will be diverted to the septic tank followed by soak pit.



PART – B

11.0 ENVIRONMENTAL MANAGEMENT PLAN:

a) Attach a note on the status of Baseline information with regard to the Following:

11.1	Existing lease land use pattern indicating the area already degraded due to quarrying /pitting, dumping, roads, processing plant, workshop, township etc in a tabular form. The present land use pattern is given as below.																						
	<table border="1"> <thead> <tr> <th>S.No</th><th>Land Use</th><th>Present area (Hect.)</th></tr> </thead> <tbody> <tr> <td>1</td><td>Area under Mining</td><td>1.05.27</td></tr> <tr> <td>2</td><td>Infrastructure</td><td>Nil</td></tr> <tr> <td>3</td><td>Roads</td><td>0.03.00</td></tr> <tr> <td>4</td><td>Unutilized Area</td><td>0.11.03</td></tr> <tr> <td>5</td><td>Green belt & Dump</td><td>0.07.70</td></tr> <tr> <td></td><td>Grand Total</td><td>1.27.00</td></tr> </tbody> </table>	S.No	Land Use	Present area (Hect.)	1	Area under Mining	1.05.27	2	Infrastructure	Nil	3	Roads	0.03.00	4	Unutilized Area	0.11.03	5	Green belt & Dump	0.07.70		Grand Total	1.27.00	
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11.2	Water Regime	: Water table in this area is noticed at a depth of 90m in summer and 85m in rainy season from the below ground level and presently the quarrying of rough stone is ultimate up to a depth of 55m (Which is 15m above ground level and 40m below ground level). Hence, it will not affect the ground water depletion of this area. It is proposed to make an authorized water vendors for drinking water, dust suppression. The workers utilized water will be used for green belt development.																					
11.3	Flora and Fauna	: There is no major flora observed in this area and except bushes, shrubs, no other valuable trees are noticed in the lease area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.																					
11.4	Quality of air, ambient noise level and water	: Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc..., will be suppressed by periodical wetting of land by water spraying. Quarrying of rough stone will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out every six months around the quarry site.																					



11.5	Climatic conditions: Krishnagiri, India weather forecasted for the maximum temperature of 29°C/84°F. Min temperature will be 18°C/64°F. Most precipitation will be 8.20mm/0.32inch. Windiest day is expected to see wind of upto 17kmph/11mph.																										
11.6	Human Settlement: The nearest villages are found in the buffer zone with population as per 2011 census. <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>S.No</th> <th>Village</th> <th>Direction</th> <th>Distance in Kms</th> <th>Population</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Koneripalli</td> <td>North</td> <td>1.40km</td> <td>1126</td> </tr> <tr> <td>2</td> <td>Sappadi</td> <td>East</td> <td>0.84km</td> <td>662</td> </tr> <tr> <td>3</td> <td>Keeranapalli</td> <td>South</td> <td>1.35km</td> <td>1267</td> </tr> <tr> <td>4</td> <td>Tirumalaigovunikotta</td> <td>West</td> <td>1.23km</td> <td>878</td> </tr> </tbody> </table>		S.No	Village	Direction	Distance in Kms	Population	1	Koneripalli	North	1.40km	1126	2	Sappadi	East	0.84km	662	3	Keeranapalli	South	1.35km	1267	4	Tirumalaigovunikotta	West	1.23km	878
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11.7	Public buildings, places of worship and monuments	: No infrastructure like residential building, are found within radius of 300m. The places of special interest like archeological monuments, Sanctuaries, etc., are found around 10km radius.																									
11.8	Attach plans showing the locations of sampling stations	: The proposed Ambient air quality, Water quality Ambient noise level and vibration are periodically tested for every season (6 months once) around 5km radius as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.																									
11.9	Does area (partly or fully) fall under notified area under Water (Prevention & Control of Pollution), Act, 1974	: The proposed area not fall under notified area under Water (Prevention & Control of Pollution), Act, 1974																									

b) Attach an Environmental Impact Assessment Statement describing the impact of Mining and beneficiation on environment on the following over the next five years (and upto conceptual plan period for 'A' category mines)

- i) **Land area indicating the area likely to be degraded due to quarrying / pitting, dumping, roads, workshop, processing plant, township etc:** 17 OCT 2022

Due to quarrying and exploitation of the rough stone, there will impact in the form i.e. change in the ground profile, pits, and dumps. The details of the land use pattern, during the ensuing plan period and till lease period is shown in the tabular form:

Sl. No.	Land Use	Area in use during the quarrying period (Hect.)
1	Area under Mining	0.85.63
2	Infrastructure	0.02.00
3	Roads	0.05.00
4	Un-Utilized Area	0.15.62
5	Green Belt	0.18.75
Grand Total		1.27.00

ii).	Air Quality	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc., will be suppressed by periodical wetting of land by water spraying.
iii).	Water quality	A water sample from the open/bore wells was tested to NABL approved lab to assess hardness, Salinity, colour, Specific gravity, etc.
iv).	Noise levels	Quarrying of rough stone and topsoil will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out every six months around the quarry site.
v).	Vibration levels (due to blasting)	No deep hole blasting envisaged. Small dia shot holes are used for breaking boulders. The maximum peak particles velocity shall be recoded using mini seismograph devises as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.
vi).	Water regime	No major river or any odai track are found around 50m radius.
vii).	Socio-economics	1. To provide Employment opportunities of the nearby villagers. 2. For the cultural development of the nearby villagers.

vii).	Historical monuments etc.	There are no historical monuments, etc found around 10km radius.

c) Attach an Environmental Management Plan (supported by appropriate plans and sections) defining the time bound action proposed to be taken with sequence & timing in the following areas (or diagrams should be used):

i).	temporary storage and utilization of topsoil	: No separate of topsoil will be removed.
ii).	Yearwise proposal for reclamation of land affected by abandoned quarries and other mining activities during next five years (and upto conceptual plan period for 'A' category mines) clarifying the extent of back filling and re-contouring and / or alternative use of unfilled / partially filled excavations / road sides / slopes and mine. In case abandoned quarries/ pits are proposed to be used as reservoir, their size, water holding capacity and proposal for utilization of such water be given.	: The present Scheme of mining is proposed to an average depth of 55m (Which is 15m above ground level and 40m below ground level) from the below ground level has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of working bench with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.

iii). *Programme of afforestation, Yearwise for the initial ten years (and upto conceptual plan period for 'A' category mines) indicating the number of plants with name of species to be afforested under different areas in hectares.*

Green Belt Development:

Safety barrier, nearby school area and Nearest Panchayat approach Roads has been identified to be utilized for Greenbelt appropriate native species of Neem, Pungan and other regional trees will be planted in a phased manner as described below

Year	Place	Area in Sq.m	No.of Plants	Rate of survival	Rate	Amount in Rs
First	Lease Boundary	1875	210	80%	@100 Rs Per	21,000/-

	Second	Approach road and Nearby Village Road	--	340	80%	sapling	34,000/-
	Third	Schools	--	300	80%		30,000/-
	Total						85,000/-
iv).	Stabilization and vegetation of dumps along with waste dump management Year wise for the five years (and upto conceptual plan period for 'A' category mines).			:	No waste or rejects shall be proposed.		
v).	Measures to control erosion / sedimentation of water courses.			:	Not applicable. There is no major dumps are stabilize in this quarry area.		
vi).	Treatment and disposal of water from mine.			:	It will not be harmful and it does not require any treatment before discharging into the natural courses.		
vii).	Measures for minimizing adverse effects on water regime.			:	There is no water to be pumped out will be very pure and portable and therefore, it will not affect any water regime surrounding the quarry.		
viii).	Protective measures for ground vibrations / air blast caused by blasting,			:	It is a small "B" category open cast, semi mechanized mining and no heavy machinery shall be used. The only smooth blasting is proposed, therefore no change for ground vibration or noise from the quarry.		
ix).	Measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity.			:	No historical monuments and for rehabilitation of human settlements doesn't to be disturbed during mining activity.		
x).	Socioeconomic benefits arising out of mining.			:	The nearest villages are will get employment benefits.		

d). Monitoring schedules for different environmental components after the commencement of mining and other related activities. (for 'A' category mines only)

Not applicable. It is B category quarry

12.0 PROGRESSIVE QUARRY CLOSURE PLAN:

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	:	The Ultimate mining is proposed to an average depth of 55m (Which is 15m above ground level and 40m below ground level). The mined-out area will be fenced on top of working bench with S1 fencing to arrest the entry of cattle's and public in to the quarry site.
12.2	Measures to be under taken on mine closure as per Act & Rules	:	Measures will be taken as per the Acts and Rules. The quarried pit will be fenced by Barbed wire fencing. Green belt development at the rate of 210 trees will be proposed in the quarry area. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	:	The quarry lease is a existing mining lease, no mitigation measures observed.
12.4	Mine closure activity	:	The present Scheme of mining plan is proposed to depth of 55m (Which is 15m above ground level and 40m below ground level) has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of open cast working with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.5	Safety and security	:	Safety measures implement to the prevent access to surface opening excavations will be taken as Metalliferous mine regulations, 1961, it is a small open cast mining method adopted. Safety provisions like helmet,



			goggles, safety shoes, Dust mask, Ear muffs etc have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation.
12.6	Disaster management and Risk Assessment	:	Open cast mining method is adopted in this quarry. If the benches are made with proposed height and with no risk will be there. Even then if any minor or major accident happens the quarry staffs having First aid facilities with first aid box with all necessary medicine and stretches etc., to give first aid treatment at the site and will arrange immediately the vehicle to reach nearest hospital, if any disaster happens the lessee is capable to meet such eventualities. At the time of any accident during mining activity, proposal of first aid facility at quarry and one vehicle always ready at quarry site.
12.7	Care and maintenance during temporary discontinuance	:	A board of discontinuance will be changed on the main entrance of the working place. One watch man will be kept on the quarry area for security purposes also look after the survival of the plants.
12.8	Economic repercussions of closure of quarry and man power entrenchments	:	During the five years mining period the employment potential will be generated, general financial status and socio-economic conditions of approx. 16 labors will be improved.

12.9 Proposed Financial Estimate / Budget for (EMP) Environment Management:

A	Fixed Asset Cost:		
	1. Land Cost (Tender Cost)	:	Rs. 1,00,00,000
	2. Labour Shed	:	Rs. 1,00,000/-

	3. Sanitary Facility	: Rs. 75,000/-
	4. Fencing	: Rs. 2,00,000/-
	5. Other expenses (Security guard, dust bin, etc)	: Rs. 5,00,000/-
	Total	: Rs. 1,08,75,000/-
B	B. Machinery cost	: Rs. 20,00,000/- (Hire Basis)
C	Total Expenditure of EMP cost (for next five years)	
	1. Drinking Water Facility	: Rs. 1,50,000/-
	2. Sanitary facility & Maintenance	: Rs. 1,00,000/-
	3. Permanent water sprinkler	: Rs. 75,000/-
	4. Afforestation and its maintenance	: Rs. 85,000/-
	5. Safety Kits	: Rs. 1,00,000/-
	6. Provision of tyre washing facility	: Rs. 75,000/-
	7. Blasting materials with blast mat cost	: Rs. 15,00,000/-
	8. Environment monitoring	: Rs. 5,00,000/-
	Total	: Rs. 25,85,000/-
D	Total Project Cost (A+B+C)	: Rs. 1,54,60,000/-

13.0 FINANCIAL ASSURANCE:

Not applicable, it is a small "B" rough stone quarry.

14.0 CERTIFICATES:

All required certificates are enclosed.

15.0 PLAN AND SECTIONS, ETC:

Plan and Sections are submitted along with Scheme of mining plan.

16.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

- Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.
- The applicant will endeavor every attempt to quarry the rough stone economically without any wastage and to improve the environment and ecology.
- The Scheme of Mining Plan is prepared by incorporating the conditions stipulated in the Proceeding letter issued by the Deputy Director, Department of Geology and Mining, Krishnagiri vide letter **Roc.No.206/2018/Mines Dated 06.12.2019.**
- Total proposed production rough stone is **107087m³** up to a depth of 55m (Which is 15m above ground level and 40m below ground level) for five years plan period).

17.0 CSR Expenditure:

CSR (Corporate Social responsibility) shall provide by the lessee @ 2.0% of average net profit of the company for the last three financial years to the neighboring villages on the provisions under section 135(1) of the companies Act, 2013 and Rule 3(2) companies CSR Rules, 2014 as circular no.05/01/2014.

Place: Dharmapuri, TN

Date:

Signature of the Recognized Qualified Person.

Dr.S.KARUPPANNAN,M.Sc,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
A NABET Accredited and ISO Certified Company
1/213-B, Ground Floor, Natesan Complex,
Collectorate Post Office, Oddapatti,
Dharmapuri-636705, TamilNadu, India

This Mining Plan is approved based on guidelines / instruction issued and in corporation of the particulars specified in the letter Roc. No. 266/18 Dated 17.10.24 of the Deputy Director of Geology and Mining, Krishnagiri and subject to further fulfillment of the conditions laid down under Tamil Nadu Minor Mineral Concession Rules, 1959 and Minor Mineral Conservation and Development Rule 2010.

DEPUTY DIRECTOR
Department of Geology and Mining,
Collectorate, Krishnagiri.

17.10.24

This Mining Plan is approved subject to the conditions / Stipulation Indicated in the Mining Plan Approval

Letter Roc. No. 266/18 Dated 17.10.24

ANNEXURE

ந.க.எண்.206/2018/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,
(புவியியல் மற்றும் சரங்கத்துறை),
கிருஷ்ணகிரி மாவட்டம்,
கிருஷ்ணகிரி.
நாள் 9.02.2018



குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாராரண கற்கள் கிருஷ்ணகிரி மாவட்டம் - குளகிரி வட்டம் - காமன்தொட்டி கிராமம் அரசு புல எண் 1151,1155,1212,1219,1222,1225, மற்றும் 1226A (பகுதி-5) ல் 1.27.0 ஹெக்டேர் பரப்பளவில் அரசு நிலத்தில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு டெண்டருடன் இணைந்த ஏல முறையில் குத்தகை வழங்க டெண்டர்/பொது ஏலம் நடத்தப்பட்டது - பொது ஏலத்தில் அதிக தொகை கோரிய திருமது த/பெ சீனிவாசன், எண்.12 ஈடன் கார்டன், தன் ரோடு, ஓசூர் என்பவருக்கு சாதாரண கற்குவாரி குத்தகை வழங்குதல் தொடர்பாக அங்கீகரிக்கப்பட்ட சரங்கத்திட்டம், தமிழ்நாடு மாநில சற்றுச்சூழல் பாதிப்பு மதிப்பீடு ஆணையத்தின் தடையின்மீது சான்று மற்றும் தமிழ்நாடு மாநகராட்சி கட்டுப்பாட்டு வாரிய இலாப ஆகியவற்றை பெற்று வழங்க கோருதல் - தொடர்பாக.

பார்வை:

1. கிருஷ்ணகிரி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.01நாள்: 19.01.2018.
4. 03.02.2018 அன்று தினமணி நாளிதழில் வெளியிடப்பட்ட பத்திரிக்கை செய்தி.
2. திருமது த/பெ சீனிவாசன், எண்.12 ஈடன் கார்டன், தன் ரோடு, ஓசூர் என்பவரது டெண்டர் விண்ணப்பம் நாள்: 07.02.2018.

கிருஷ்ணகிரி மாவட்டம், குளகிரி வட்டம், காமன்தொட்டி கிராமம் 1151,1155,1212,1219,1222,1225, மற்றும் 1226A (பகுதி-5) ல் 1.27.0 ஹெக்டேர் பரப்பளவில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்குவது தொடர்பாக 07.02.2018 அன்று நடைபெற்ற பொது ஏலத்தில் திருமது த/பெ சீனிவாசன், எண்.12 ஈடன் கார்டன், தன் ரோடு, ஓசூர் என்பவர் அரசு நிர்ணயம் செய்த குறைந்தபட்ச குத்தகை தொகையை விட அதிக தொகையான ரூ.1,00,00,000/- (ரூபாய் ஒரு கோடி மட்டும்)ஐ பொது ஏலத்தில் கோரியதால் அவருக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் வதி 8(6)(b)-ன்படி அவருக்கு கீழ்க்கண்ட நிபந்தனைகளுடன் குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ளது.

(i) குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள மட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

(ii) அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.



2. எனவே, கிருஷ்ணகிரி மாவட்டம், குளகிரி வட்டம், காமண்டிதாடி கிராமம்/புல எண் 1151,1155,1212,1219,1222,1225, மற்றும் 1226A (பகுதி-5) ஆகியவற்றில் பரப்பளவில் புல வரைபடத்தில் குறிப்பிட்டுள்ள மருதியில் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றம் நாளிலிருந்து இந்த ஆண்டுகளுக்கு சாதாரண கற்கள் வெட்டியெடுக்க குவாரி குத்தகை வழங்குதல் தொடர்பாக தமிழ்நாடு சிறுகணிம சலுகை விதிகள் 1959ன் விதி 41 மற்றும் 42 ஆகியவற்றில் கண்டுள்ள காலவரையறைக்குள் அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம், தமிழ்நாடு மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீடு ஆணையத்தின் இசைவு மற்றும் தமிழ்நாடு மாகாணப்பாட்டு வாரிய இசைவு ஆகியவற்றை சமர்ப்பிக்கவேண்டும் என திருமது த/பெ சீனிவாசன் என்பவருக்கு தெரிவிக்கப்படுகிறது.

3. உரிய காலத்தில் மேற்கண்ட ஆவணங்களை சமர்ப்பிக்க தவறினால் விதிகளின்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும், தெரிவிக்கப்படுகிறது.

4. மேற்கூறிய ஆவணங்களை சமர்ப்பித்த பின்பு குவாரி குத்தகை வழங்கப்பட்டு குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றிய பின்பே மேற்கண்ட புலத்தில் குவாரிப்பணிகளை தொடங்கவேண்டும். தவறினால் தமிழ்நாடு சிறுகணிமச் சலுகை விதிகள் 1959ன் விதி 36 (அ)ன்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும் தெரிவிக்கப்படுகிறது.

5. மேலும், மேற்கண்ட குறிப்பானை மாண்புமிகு சென்னை உயர்நீதி மன்றம் ரிட் மனு எண் 2733/2018ன் மீது வழங்கும் ஆணைக்கு உட்பட்டது எனவும் தெரிவிக்கப்படுகிறது.

இணைப்பு : புல வரைபடம்.

217 மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி.

பெறுதல் :

திருமது
த/பெ சீனிவாசன்,
எண்.12 ஈடன் கார்டன்,
தனி ரோடு, ஓசூர்

பதிவஞ்சலில் ஒப்புகை
அட்டையுடன்

நகல் : 1) தலைவர், கிருஷ்ணகிரி மாவட்ட சுற்றுச்சூழல் பாதிப்பு மதிப்பீடு
ஆணையம், மாவட்ட ஆட்சியர் அலுவலகம், கிருஷ்ணகிரி.

2) ஆணையர், புவியியல் மற்றும் சுரங்கத்துறை, திரு.வி.க.
தொழிற்போட்டை, கிண்டி, சென்னை - 32.

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அனுப்பப்பட்டது
நாள்: 26/5/2018

தமிழ்நாடு அரசு
2017



கிருஷ்ணகிரி மாவட்ட அரசிதழ்

சிறப்பு வெளியீடு

ஆணையின்படி வெளியிடப்பட்டது

கிருஷ்ணகிரி, டிசம்பர் 30, 2017 [எண் 24]
[ஹேவிளம்பி, மார்கழி 15 - திருவள்ளுவர் ஆண்டு 2048]

மாவட்ட ஆட்சியர் அறிவிக்கை

[நக. எண். 72/2017 (கனிமம்), நாள் 27-12-2017]

கிருஷ்ணகிரி மாவட்டத்தில் அரசு புறம்போக்கு நிலங்களில் அமைந்துள்ள கல் குவாரிகளிலிருந்து சாதாரண கல் உடைக்க குத்தகை உரிமம் பெற முன்னுரிமை அடிப்படையில் பொன் விழா கிராம சுய வேலைவாய்ப்புத் திட்டத்தின் கீழ் பதிவு செய்யப்பட்ட சுய உதவி குழுக்கள் (SGSY) மற்றும் விடுவிக்கப்பட்ட கொத்தடிமை தொழிலாளர் சங்கங்களிடமிருந்து நேரடியாக விண்ணப்பங்களை வரவேற்கும் ஒழிவிக்கை.

1959 ஆம் ஆண்டு தமிழ்நாடு சிறு கனிமச் சலுகை விதிகளின் விதி 8 (10-A) என்படி கிருஷ்ணகிரி மாவட்டத்தில் இவ்வறிவிக்கையுடன் இணைக்கப்பட்ட அட்டவணையில் குறிப்பிட்டுள்ள அரசு புறம்போக்கு நிலங்களில் அமைந்துள்ள சாதாரண கற்குவாரிகளிலிருந்து கட்டுமானப்பணிகளுக்கு உபயோகப்படுத்தப்படும் சாதாரண கட்டுக்கல், சக்கைகல், வேலிகல் ஜல்லி ஆகியவற்றை குவாரி செய்வதற்காக குத்தகை உரிமம் பெற விரும்பும் உள்ள உரிய அங்கீகாரம் பெற்ற பொன்விழா கிராம சுய வேலைவாய்ப்புத் திட்டத்தின் கீழ் பதிவு செய்யப்பட்ட சுய உதவி குழுக்கள் (SGSY) மற்றும் விடுவிக்கப்பட்ட கொத்தடிமை தொழிலாளர் சங்கங்கள் ஆகியவற்றிற்கு கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு நேரடியாக குத்தகை உரிமம் வழங்கும் பொருட்டு விண்ணப்பங்கள் 2018 ஆண்டு ஜனவரி மாதம் 17-ஆம் தேதி-பாலை-15.00 மணிக்கு வரவேற்கப்படுகிறது.

இந்த அரசிதழுடன் இணைக்கப்பட்டுள்ள தமிழ்நாடு சிறு கனிமச் சலுகை விதிகளின் இணைப்பு VI-B ல் கண்டுள்ள படிவத்தில் பூர்த்தி செய்த விண்ணப்பங்கள் மேற்கண்ட நாள், நேரத்திற்குள் நேரிலேயே தபாலிலோ, கிருஷ்ணகிரி மாவட்ட ஆட்சியர் அலுவலகத்தின் அறை எண். 30 ல் உள்ள கிருஷ்ணகிரி மாவட்ட புவியியல் மற்றும் கரங்கத்துறை, துணை இயக்குநர் அலுவலகத்திற்கு வந்து சேருமாறு அனுப்ப வேண்டும். மேலே குறிப்பிட்டுள்ள கால கெடுவிற்கு பிறகு தாமதமாக வந்து சேரும் மனுக்கள் எவ்வித காரணம் கொண்டும் ஏற்றுக்கொள்ளப்படமாட்டாது.

நிபந்தனைகள்

01. மேற்கண்ட குழு மற்றும் சங்கங்கள் தமிழ்நாடு கூட்டுறவு சங்கங்களின் சட்டம் 1983 (தமிழ்நாடு சட்டம் 30/1983) அல்லது தமிழ்நாடு சங்கங்களின் பதிவு சட்டம் 1975 (தமிழ்நாடு சட்டம் 27/1975) ஆகியவையின் கீழ் பதிவு பெற்றிருக்க வேண்டும்.

02. சங்கம் பதிவு செய்யப்பட்ட பதிவுச்சான்றின் சான்றொப்பமிட்ட நகல் மனுவுடன் இணைக்கப்பட வேண்டும்.



03. சங்கத்தின் செயல்பாட்டு எல்லை சங்கவிதிகளில் (Bye-law) உணர்முறை செய்து கொடுக்க இதுவே வேண்டும். இந்த விதியின்கீழ் விண்ணப்பிக்கும் போது மேற்படி சங்கத்தின் செயல்பாட்டிற்கெனத் தவறாமுறை செய்யப்பட்டுள்ள பஞ்சாயத்து எல்லைக்குள் அமைந்துள்ள குவாரிகளுக்கு மட்டுமே விண்ணப்பித்தல் வேண்டும். சங்கத்தின் பகுதிகளை விடிகள் நகல் இணைக்கப்படவேண்டும்.

04. சங்கங்களில் உள்ள அனைத்து உறுப்பினர்களும் கல்குவாரிகளில் குறைந்த பட்சம் இரு ஆண்டுகள் வேலை செய்த முன் அனுபவம் பெற்றிருக்க வேண்டும். இதற்கான சான்றிதழை மாவட்ட ஆட்சியரிடமிருந்து பெற்று இணைக்க வேண்டும்.

05. இத்துடன் இணைக்கப்பட்ட விண்ணப்ப படிவம் VI-B வரிசை எண் 9,10ல் கூறப்பட்டுள்ளபடி வருமான வரி மற்றும் கரங்க வரி நிலுவையில்லா சான்று அல்லது ரூ 20.00 (ரூபாய் இருபது மட்டும்) மதிப்புள்ள முத்திரைத்தாள்ரில் ஆணை உறுதி வாக்குமூலம் நோட்டரி வழக்குரைஞர் முன்னிலையில் கையொப்பம் பெற்று விண்ணப்பப்படிவத்துடன் இணைக்கப்பட வேண்டும்.

06. ஒவ்வொரு சாதாரண கல்குவாரிக்கும் திரும்ப வழங்க இயலாத விண்ணப்ப கட்டணமாக ரூ 500/- (ரூபாய் ஐநூறு மட்டும்) மாவட்ட கருவூலத்தில் செலுத்தி அச்சு செலுத்துச் சிட்டை விண்ணப்பப்படிவத்துடன் இணைக்க வேண்டும்.

07. கல்குவாரிகளுக்கான குவாரிக் குத்தகை உரிய சங்கங்களின் (அல்லது) குழுவின் பெயரிலேயே வழங்கப்படும். தனி நபர் பெயரில் வழங்கப்பட மாட்டாது.

08. மாவட்ட ஆட்சியரை தலைவராகக் கொண்டும், மாவட்ட ஊராட்சி மன்றத் தலைவர் மற்றும் குவாரி அமைந்துள்ள ஊராட்சி ஒன்றியத் தலைவரை உறுப்பினராகக் கொண்டும், ஊரக வளர்ச்சித் துறையின் உட்தல் ஆட்சியர் பதவிக்கு இணையான அலுவலர் மற்றும் புலியியல் மற்றும் கரங்கத்துறை துணை இயக்குநரை அலுவல் சார்ந்த உறுப்பினராக கொண்டு அமைந்துள்ள சிறப்பு குழுவின் முன்னிலையில் மனுக்கள் பரிசீலிக்கப்பட்டு 60 நாட்களுக்குள் இறுதி ஆணை பிறப்பிக்கப்படும்.

09. இவ்விதியின் கீழ் வழங்கப்படும் குவாரியின் குத்தகை காலம் 05 (ஐந்து) ஆண்டுகளாகும், குழ்திலைக் கேற்பவும், பொது நலன் கருதியும் கனிமத்தின் அளவைப் பொறுத்தும் குவாரி குத்தகை காலத்தை ஐந்து ஆண்டுகளுக்கு குறைவாக நிர்ணயம் செய்ய மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு. தமிழ்நாடு சிறு கனிமச் சலுகை விதிகளின் விதி 8 (10-A) ன்படி வழங்கப்படும் இந்த குவாரிக் குத்தகையை பதுப்பிக்க இயலாது.

10. ஒரே குவாரிக்கு குத்தகை கோரி சுய உதவிக் குழுவும் மற்றும் விடுவிக்கப்பட்ட கொத்தடிமைகளால் அமைக்கப்பட்ட தொழிலாளர் கூட்டுறவுச் சங்கமும் மனு செய்திருந்தால் முன்னுரிமை அடிப்படையில் விடுவிக்கப்பட்ட கொத்தடிமை தொழிலாளர் கூட்டுறவு சங்கத்திற்கு குவாரிக் குத்தகை அளிக்கப்படும்.

11. குவாரி அமைந்துள்ள பஞ்சாயத்து யூனியன் எல்லைக்குள் ஏற்கனவே பொது ஏலம் அல்லது டெண்டர் வாயிலாக குத்தகை விடப்பட்டிருந்தால் பெறப்பட்ட குத்தகை தொகையின் சராசரி அடிப்படையிலே அல்லது அவ்வாறு பஞ்சாயத்து யூனியன் எல்லைக்குள் குவாரி ஏதும் டெண்டருடன் இணைந்த ஏலம் மூலம் குத்தகைக்கு விடப்பட வில்லைபெனில் மாவட்டம் முழுவதும் ஏலம் விடப்பட்டுள்ள குவாரிகளின் குத்தகை தொகையின் அடிப்படையில் மாவட்ட ஆட்சியர் குத்தகை காலம் முழுமையாக்குமான ஒட்டு மொத்த குத்தகைத் தொகையை நிர்ணயம் செய்வார். அத்தொகையில் 50 % தள்ளுபடி செய்யப்பட்டு மீதி தொகை தற்போது குவாரிக்கான குத்தகைத் தொகையாக நிர்ணயிக்கப்படும். இக்குத்தகைத்தொகையை முதல் ஆண்டில் நான்கு தவணைகளாக செலுத்தப்பட வேண்டும். ஒவ்வொரு தவணைத் தொகையும் உரிய காலாண்டு காலம் ஆரம்பிக்கும் தேதிக்கு 15 நாட்களுக்கு முன்னரே செலுத்தப்பட வேண்டும். அவ்வாறு தொகையை செலுத்தத் தவறினால் அச்சங்கத்திற்கு/குழுவிற்கு வழங்கப்பட்ட குவாரிக் குத்தகை மாவட்ட ஆட்சியரால் ரத்து செய்யப்படுவதுடன் குழு/சங்கத்தினர் எதிர்காலத்தில் முன்னுரிமை முறையில் குவாரி குத்தகை பெறும் தகுதியை இழந்தவராவர். அச்சுமுநிலையில் அவர்கள் மேற்கொண்டு குத்தகை கோரி மனுச் செய்திருந்தால் அம்மனு உடனடியாக தள்ளுபடி செய்யப்படும்.

12. மாண்புமிகு இந்திய உச்சநீதிமன்றம் வழக்கு எண் ஐ.ஏ 12-13/2012 எஸ்.எல்.பி (சி) எண்.19628 - 19629/2009 மற்றும் இவற்றின் மீது 27.02.2012 அன்று வழங்கியுள்ள ஆணைகளின்படிமும் இந்திய அரசு கற்றுச் குழல் மற்றும் வனத்துறை குறிப்பாணை எண். எல்.11011/47/2011 - IA, H(M) நாள் 18.05.2012ன்படிமும், 1959-ஆம் வருடத்தைய தமிழ்நாடு சிறுகனிமச் சலுகை திருத்தம் செய்யப்பட்டு சேர்க்கப்பட்ட விதிகள் 41 மற்றும் 42-ல் கண்டுள்ளவாறு அங்கீகரிக்கப்பட்ட கரங்கத்திட்டம் மற்றும் தமிழ்நாடு மாநில/கிருஷ்ணகிரி மாவட்ட கற்றுகுழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் தடையின்மை சான்று பெற்று அமர்ப்பித்த பின்பு மட்டுமே குவாரி குத்தகை வழங்க முடியும்.



13. எனவே இவ்விதிகளின்படி குவாரி குத்தகை உரிமை பெற தகுதியுள்ள குடிசைகளைத் தேர்வு செய்யப்பட்டவர்கள் அவர்களுக்கு முதல் காலாண்டு குத்தகை தொகை மற்றும் அதற்கான 2% வரம்புள்ள அடீயவற்றை உரிய காலத்திற்குள் செலுத்தமாறு அறிவிக்கை அனுப்பப்படும். அவர்கள் முதல் காலாண்டு குத்தகை தொகையை செலுத்தியவுடன் அவர்களுக்கு குவாரி குத்தகை வழங்கப்பட உள்ள குவாரியின் புல எண் பரப்புளவு ஆகிய விவரங்கள் அடங்கிய அறிவிக்கை வழங்கப்பட்டு அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் தமிழ்நாடு மாநில/கிருஷ்ணகிரி மாவட்ட சுற்றுமூலப் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் தடையின்மை சான்று ஆகியவற்றை உரிய காலத்திற்குள் சமர்ப்பிக்குமாறு தெரிவிக்கப்படும்.

14. மேற்கண்ட அறிவிக்கை பெற்றுக்கொண்ட குழு/சங்கத்தினர் சுரங்கத்திட்டத்தை அங்கீகாரம் பெற்ற தகுதி வாய்ந்த நபர் (RQP) மூலம் அரசு தெரிவித்துள்ள விதிகளையும் வழிகாட்டுதலின் படி தயாரித்து அறிவிக்கை பெறப்பட்ட நாளிலிருந்து மூன்று மாத காலத்திற்குள் கிருஷ்ணகிரி புலியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநரிடம் அங்கீகாரம் பெற சமர்ப்பிக்க வேண்டும்.

15. மேற்கண்ட குழு/சங்கத்தினர் கிருஷ்ணகிரி புலியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநரால் அங்கீகாரம் வழங்கப்பட்ட சுரங்கத்திட்டத்தை தமிழ்நாடு மாநில/ கிருஷ்ணகிரி மாவட்ட சுற்றுமூலப் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் முன்பு சமர்ப்பித்து தடையின்மை சான்று கோரி விண்ணப்பித்து தடையின்மை சான்று மற்றும் தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரிய இசைவு ஆகியவற்றை பெற்று சமர்ப்பிக்க வேண்டும்.

16. அ) குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றம் முன்பு மேற்கண்ட குழு/சங்கத்தினர் மாவட்ட வன அலுவலர் ஒருர் அவர்களது முன் அனுமதி பெற்று சமர்ப்பிக்க வேண்டும்.

ஆ) இரு மாநில எல்லையிலிருந்து ஐந்து கிலோமீட்டர் தொலைவிற்குள்ளும் வனவிலங்கு சரணாலயத்திலிருந்து பத்து கிலோமீட்டர் தொலைவிற்குள்ளும் அமைந்துள்ள குவாரிகளுக்கு மத்திய அரசு சுற்றுச்சூழல் ஆணையத்தின் முன் அனுமதி பெற்று சமர்ப்பிக்க வேண்டும்.

17. காவேரி வடக்கு வனவழியின் சரணாலயத்திலிருந்து பத்து கிலோமீட்டர் தொலைவிற்குள் அமைந்துள்ள குவாரிகளுக்கு வனவிலங்கு தேசிய வாரிய நிலைக்குழுவிடமிருந்து (Standing Committee of National Board of Wildlife) தடையின்மை சான்று பெற்று சமர்ப்பிக்க வேண்டும்.

18. அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் முதல் ஐந்து ஆண்டு காலத்திற்கு மட்டுமே செல்லத்தக்கதாகும்.

19. மேற்கண்ட ஆவணங்களை சமர்ப்பித்தபின் தகுதிவாய்ந்த குழு/ சங்கத்தினருக்கு குவாரி குத்தகை வழங்கி மாவட்ட ஆட்சியரால் ஆணையிடப்படும்.

20. அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் தமிழ்நாடு மாநில சுற்றுமூலப் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் தடையின்மை சான்று ஆகியவற்றை குறிப்பிட்ட காலக்கெடுவிற்குள் சமர்ப்பிக்க தவறினால் மாவட்ட ஆட்சியர் அவர்களால் சம்பந்தப்பட்ட சுரங்க நிர்வாகிகளுக்கு மாவட்ட ஆட்சியர் முன்பு விசாரணைக்கு ஆஜராக வாய்ப்பளித்து விசாரணை நடத்தப்பட்டு ஏற்கனவே வழங்கப்பட்ட உத்தரவு ரத்து செய்யப்படும்.

21. குவாரி குத்தகை ஆணை வழங்கப்பட்ட பின்பு நிர்ணயிக்கப்பட்ட குத்தகை தொகையில் 10 சதவீதம் அல்லது ரூ 5000/- (ரூபாய் ஐந்தாயிரம் மட்டும்) இவற்றில் எது அதிகமோ அது காப்புத் தொகையாக செலுத்தப்பட வேண்டும் மற்றும் குவாரி குத்தகை வழங்கப்பட்ட பரப்பிற்கான பரப்புலரி செலுத்த வேண்டும் மற்றும் குறிப்பிட்டுள்ள கால கெடுவிற்குள் உரிய முத்திரை தாளில் குத்தகை ஒப்பந்தத்திடம் தயார் செய்து மாவட்ட ஆட்சியர் அவர்களுடன் குத்தகை ஒப்பந்தம் நிறைவேற்றி சமர்ப்பிக்கப்பட சரர் பதிவாளர் அலுவலகத்தில் குத்தகைதாரர் தனது செலவில் பதிவு செய்து மீள சமர்ப்பிக்க வேண்டும்.

22. மாவட்ட ஆட்சியர் அவர்களுடன் ஒப்பந்தத்திடம் நிறைவேற்றிய பின்னரே சமர்ப்பிக்கப்பட்ட குழு/சங்கத்தினர் குவாரியினி செய்ய அனுமதிக்கப்படுவர்.

23. அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டத்தில் தெரிவித்துள்ளவாறு மட்டுமே குவாரிபணிகள் மேற் கொள்ளப்படவேண்டும் அதற்கு மாறாக குவாரிபணிகள் மேற்கொள்வது கண்டறியப்பட்டால் குவாரிபணியை நிறுத்தி வைப்பதற்கு மாவட்ட ஆட்சியரால் நடவடிக்கை எடுக்கப்படும்.



24. குத்தகை உரிமம் பெற்ற குழுக்கள்/ சங்கங்கள் குவாரிகளை நிர்ணயிக்கப் பட்ட குத்தகை உரிமம் வழங்கப்பட்ட குவாரியில் இருந்து எடுத்துக் செல்லப்படும் அனைத்து வகையான சிறு கனிமச் சலுகையும் 1959 ஆம் ஆண்டு சிறு கனிமச் சலுகை விதிகள் இணைப்பு - II இல் உள்ளவாறு சீனியோடு கட்டளாம் செலுத்தி கனிமங்களை எடுத்துக் செல்ல, கிருஷ்ணகிரி மாவட்ட புலியியல் மற்றும் கரங்கத்தூறை துணை இயக்குநர் அலுவலகத்தில் உரிய அனுப்புகைச் சீட்டில் மேலொப்பம் பெற்று குவாரியிலிருந்து கனிமங்களை ஏற்றிச் செல்லும் ஒவ்வொரு வாகனத்திற்கும் முறையாக பூர்த்தி செய்து கொடுக்க வேண்டும். குத்தகை அனுமதி வழங்கப்பட்ட நிலத்திலிருந்து வெட்டி எடுக்கப்படும், வெளியேற்றும் மற்றும் இருப்புள்ள கனிமங்களுக்கும் கற்களுக்கும் முறையான கணக்குகளை கரங்கவாயில் பதிவேட்டில் முறையாக பராமரித்தல் வேண்டும். அவற்றை சம்மந்தப்பட்ட அலுவலர்கள் தணிக்கைக்கு ஆஜர்படுத்த கோரினால் தவறாது சமர்ப்பிக்க வேண்டும்.

25. குவாரிகளுக்கு அருகில் உள்ள அங்கீகரிக்கப்பட்ட குடியிருப்புகளுக்கு 300 மீட்டரும் தேசிய நெடுஞ்சாலைகள், ரயில்பாதைகள், மின்கம்பங்கள் ஆகியவற்றிற்கு 50 மீட்டரும் பஞ்சாயத்து சாலைகளுக்கு 10 மீட்டரும் பாதுகாப்பு இடைவெளியிட்டு மீதமுள்ள இடத்திற்குள் மட்டுமே குவாரிப் பணி செய்யவேண்டும். பொது மக்கள் உபயோகிக்கும் இடம், குடியிருப்புகள், பட்டா நிலங்கள் அல்லது பொதுச் சொத்துகளுக்கு ஏதேனும் சேதம் ஏற்படின் அதற்கு குத்தகைதாரரே முழுப்பொறுப்பு ஏற்க வேண்டும்.

26. மேற்படி கல் குவாரிகளில் சாதாரண கல், சக்கைக்கல், கட்டுக்கல், துல்லிக்கற்கள் ஆகியவற்றை மட்டும் குவாரி செய்ய வேண்டும். வெளிநாட்டிற்கு ஏற்றுமதி செய்வதற்குப் மேலுறை பயன்படும் வகையிலும் உள்ள பெரிய துளவியான கந்துண்டங்களை எக்காரணத்தை முன்னிட்டும் உற்பத்தி செய்யக்கூடாது.

27. குத்தகைக்கு விடப்படும் கல் குவாரிகளுக்கு அரசு நிலங்களில் பாதை இல்லாத பட்சத்தில் குத்தகை எடுப்பவரே தமது சொந்த பொறுப்பில் பாதை ஏற்படுத்திக் கொள்ள வேண்டும்.

28. வழங்கப்பட்ட குத்தகை உரிமத்திற்கு பொது மக்கள் மற்றும் அரசு-துறை மூலம் கடுமையான ஆட்சேபம் இருப்பின் பொது நன்மையை கருதி மாவட்ட ஆட்சியர் குத்தகையை ரத்துச் செய்ய நேரிட்டால் அதனால் ஏற்படும் இழப்பிற்கு ஈடுகேள் குத்தகைதாரருக்கு எவ்வித உரிமையும் இல்லை.

29. குவாரிக் குத்தகையை வேறயாருக்கும் மாற்றவோ உள் குத்தகைக்கு விட்டுக் கூடாது. அப்படி ஏதாவது செய்திருப்பது தெரியவந்தால் மேற்படி குத்தகை ரத்துச் செய்யப்படுவதுடன் குத்தகைதாரர் செலுத்திய தொகையும் அரசுக்கு ஆதாயம் செய்யப்படும்.

30. சிறு கனிமத்திற்கு உரிய அனுப்புகை சீட்டை குத்தகை வழங்கப்பட்ட குவாரியிலிருந்துதான் வாகனங்களுக்கு கொடுத்து அனுப்ப வேண்டும். அனுப்புகை சீட்டை வேறு இடங்களிலிருந்தோ அல்லது வேறு குவாரிகளிலிருந்தோ கொடுத்து அனுப்பினால் குத்தகை உரிமம் ரத்துச் செய்யப்பட்டு அனைத்து தொகைகளும் அரசுக்கு ஆதாயம் செய்யப்படும்.

31. ஒப்புதல் பெறப்படாத அனுப்புகை சீட்டுடன் கொண்டு செல்லப்படும் சிறுகனிமங்கள் முறையற்ற வகையில் எடுத்ததாக கருதப்பட்டு உரிய சட்டத்தின்படி உரிய அலுவலர்களால் கைப்பற்றப்பட்டு அபராதம் விதிக்கப்படும்.

32. அனுப்புகை சீட்டில் உள்ள கலங்கள் பூர்த்தி செய்யப்படாமலோ அல்லது தவறாக எழுதப்பட்டு வாகனங்களுக்கு கொடுக்கப்பட்டிருந்தாலோ சிறுகனிமம் கொண்டு செல்லும் வாகன உரிமையாளருக்கு அபராதம் விதித்து வசூல் செய்யப்படும். குவாரிகுத்தகையை ரத்து செய்ய நடவடிக்கை மேற்கொள்ளப்படும்.

33. குத்தகை நிபந்தனை மீறப்பட்டால் குத்தகையை ரத்துச் செய்யவோ செய்யப்பட்ட தவறுகளுக்கு குத்தகைதாரருக்கு தண்டனை விதிக்கவோ கிரிமினல் வழக்கு தொடரவோ மாவட்ட ஆட்சியருக்கு முழு அதிகாரம் உண்டு. குத்தகை ரத்துச் செய்யப்பட்டால் காப்புத் தொகை உள்பட அனைத்து தொகைகளும் அரசுக்கு ஆதாயம் செய்யப்படும். மாவட்ட ஆட்சியர் எக்காரணத்திற்காவது குவாரி குத்தகையை ரத்துச் செய்யும் பட்சத்தில் அதனால் ஏற்படும் எவ்வித நட்டங்களுக்கும் அரசு பொறுப்பில்லை. குத்தகை எடுத்தவர் எந்த காரணத்தை முன்னிட்டும் தனக்கு இழப்பு ஏற்பட்டால் நஷ்டஈடு கேட்கக்கூடாது.

34. குவாரிகளின் எல்லைகள் பற்றி பிரச்சனைகள் ஏற்பட்டால் மாவட்ட ஆட்சியரின் தீர்ப்பே இறுதியுடையது.

35. கற்குவாரி குத்தகை உரிமம் வழங்கப்பட்ட பின்னர் அக்கற்குவாரியின் ஏதாவது ஒரு பகுதி வரலாற்று முக்கியத்துவம் வாய்ந்த புராதனக்கால கல்வெட்டுக்கள், சிற்ப வடிவமைப்புகள் போன்றவைகள் காணப்பட்டால் அது குறித்து அரசுக்கு தகவல் தரவேண்டும். மேலும் அப்பகுதியில் கற்கள் உடைப்பது நிறுத்தப்பட்டு அப்பராதன சின்னங்கள் பாதுகாக்கப்பட வேண்டும்.



36. குத்தகைதாரர் குத்தகை வழங்கப்பட்ட குவாரி முகப்பில் குவாரியின் படிமம், குத்தகைதாரர் பெயர் குத்தகை வழங்கப்பட்ட மாவட்ட ஆட்சியர் செயல்முறை எண், குத்தகை தொகை மற்றும் குத்தகை கட்டிய இலவரிக்கையின் குத்தகைத் தகவல் பலகையை இவ்வறிவிக்கையில் இணைக்கப்பட்ட இணைப்பு 4ல் கண்ட படிவத்தில் குத்தகைதாரர் குத்தகை வைத்து குத்தகை காலம் முழுவதும் நல்ல முறையில் பராமரிக்கவேண்டும்.
37. குத்தகைதாரர் குவாரியின் எல்லைகளை தெளிவாக தெரிவித்து வண்ணமிட்ட கல் உள்ளி அடையாளமிட்டு வைத்தபின் குவாரியெய் வேண்டும். எல்லைகளை குத்தகை காலம் முழுவதும் தளது சொத்த செலவில் நன்கு பராமரிக்க வேண்டும்.
38. அரசு, ஆணையர் புலியியல் மற்றும் சுரங்கத்துறை மற்றும் மாவட்ட ஆட்சியரால் இது தொடர்பாக ஏற்படுத்தப்பட்டுள்ள மற்றும் அவ்வப்போது ஏற்படுத்தப்படும் சட்ட திட்டங்களுக்கும் நிபந்தனைகளுக்கும் குத்தகைதாரர் கட்டுப்பாடு நடக்க வேண்டும்.
39. இக்குவாரி குத்தகை தொடர்பான நடவடிக்கைகள் அனைத்தும் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 இல் உள்ள அனைத்து விதிகளுக்கும் 1957 ஆம் ஆண்டு சுரங்கங்கள் மற்றும் கனிமங்கள் (முறைப்படுத்துதல் மற்றும் மேம்படுத்துதல்) சட்டம் மற்றும் தமிழ்நாடு அரசு அவ்வப்போது பிறப்பிக்கும் சட்டம் மற்றும் விதி முறைகளுக்கும் கட்டுப்பாட்டாகும்.
40. 1961ம் ஆண்டின் மெட்டாபிரைஸ் மைன்ஸ் ரெகுலேஷன்ஸ், 1936 ஆம் ஆண்டின் சம்பளம் வழங்குதல் சட்டம், 1884 ஆம் ஆண்டின் இந்திய வெடிப்பொருட்கள் சட்டம், 1884 ஆம் ஆண்டு குறைந்தபட்ச ஊதியச்சட்டம் ஆகியவற்றிற்கு உட்பட்டு குத்தகைதாரர் கனிமங்கள் வெட்ட வேண்டும்.
41. குத்தகை கோரும் விண்ணப்பத்தினை பரிசீலித்து ஏற்றுக்கொள்ளலோ, நிராகரிக்கலோ மாவட்ட ஆட்சியருக்கு பூரண அதிகாரம் உள்ளது. குத்தகை உரிமம் வழங்குதல் தொடர்பாக மாவட்ட ஆட்சியரின் முடிவே இறுதியானதாகும்.
42. காலம் கடந்து பெறப்படும் மனு, அறிவிப்பு செய்யப்படாத குவாரிகளுக்கான மனு, முறையாக பூர்த்தி செய்யப்படாத மனு மற்றும் தேவையான இணைப்புகளுடன் பெறப்படாத மனு ஆகியவை நிராகரிக்கப்படும்.
43. குழந்தை தொழிலாளர்களை எக்தாரணம் கொண்டும் குவாரி பணியில் ஈடுபடுத்தக்கூடாது.
44. குத்தகைதாரர் வருமானவரி நிர்ந்தர கணக்கு எண் பெற்று குவாரிக்கு செலுத்தப்படும் குத்தகை தொகைக்கும், சீனியரேஜ் தொகைக்கும் 200 சதவீதம் வருமான வரி செலுத்த வேண்டும்.
45. இந்த அறிவிப்பில் கண்டுள்ள எந்த குவாரியையும் முன் அறிவிப்பின்றி நீக்க மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு.
46. குத்தகை ஒப்பந்த பத்திரத்தில் உள்ள நிபந்தனைகளை மாற்றவோ அல்லது புதிய நிபந்தனைகளை சேர்க்கவோ மாவட்ட ஆட்சியருக்கு முழு அதிகாரம் உண்டு.
47. இந்த அறிவிப்பு பிரசுரிக்கப்பட்ட பின்னரோ, குத்தகை உறுதி ஆணை பிறப்பிப்பதற்கு முன்னரோ அல்லது பின்னரோ நிபந்தனைகளை மாற்றவோ, ரத்து செய்யவோ மற்றும் பட்டியலில் கண்டுள்ள எல்லா குவாரிகளின் குத்தகை உரிமம் கோரும் விண்ணப்பத்தை எக்காரணமின்றி ரத்து செய்யவோ மாவட்ட ஆட்சியருக்கு முழு அதிகாரம் உண்டு. அதற்கு விண்ணப்பதாரர் நஷ்ட ஈடு கோர உரிமை இல்லை.
48. இவ்விதியின் கீழ் வழங்கப்படும் குத்தகை உரிமங்கள் பூர்த்திக்கப்படமாட்டாது, மற்றும் எக்காரணத்தைக் கொண்டும் கால நீட்டிப்பு வழங்கப்படமாட்டாது.
49. குத்தகை காலம் முடிந்தவுடன் அல்லது உரிமம் ரத்து செய்யப்படுகின்ற குத்தகை இடத்தை குத்தகைதாரர் மறு தின்பே சம்பந்தப்பட்ட வட்டாட்சியரிடம் ஒப்படைத்து அதற்கான அத்தாட்சியை பெற்றுக்கொள்ள வேண்டும். இதனை மறுபலர்கள் மீது தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் 1959ன் விதி 36 (அ)வின் படி உரிய தண்டனைக்குள்ளாவார்கள்.
50. குத்தகைதாரர் இவ்வறிக்கையின் இணைப்பு (2)ல் கண்டுள்ள படிவத்தில் கண்டுள்ளபடி குவாரியில் பதிவேடுகளை பராமரிக்க வேண்டும்.
51. குத்தகைதாரர் ஒவ்வொரு மாதமும் குவாரி செய்த கனிமத்திற்குரிய கணக்குகளை பிரதி மாதம் 5ஆம் தேதிக்குள் துணை இயக்குநர் புலியியல் மற்றும் சுரங்கத்துறை கிருஷ்ணகிரி அவர்களுக்கு இவ்வறிக்கையின் இணைப்பு 3ல் கண்டுள்ள படிவத்தில் தனித்தனிக் குழு ஆஜர் செய்ய வேண்டும்.
52. குத்தகை காலத்திலோ அதற்குப் பின்னரோ கிராமம் தவறி குத்தகையை பயன்படுத்துவதில் ஏற்படும் சகல நஷ்டங்களுக்கும் குத்தகைதாரர் பொறுப்பு ஏற்க வேண்டும். இதற்காக விதிக்கப்படும் அபராதமும் செலுத்த வேண்டும்.
53. குவாரி குத்தகை வழங்கப்பட்ட பகுதியில் குழு/சங்க உறுப்பினர்கள் மட்டுமே குவாரிப்பணி செய்ய வேண்டும்.
54. குவாரியில் வேலை செய்யும் தொழிலாளர்கள் மற்றும் இது நபர்களுக்கு விபத்து ஏற்படின் அதற்கான முழுப் பொறுப்பையும் குத்தகைதாரரே ஏற்க வேண்டும். இதற்கு எவ்வகையிலும் அரசு பொறுப்பாகாது.

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55. குத்தகை நிபந்தனைகள் மீறப்பட்டால் குத்தகையை ரத்துசெய்யும்படி தலவருக்கு அபராதம் விதிக்கவேண்டிய விதிகளைத் தொடர்வோ மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு.

56. குவாரிகளில் நவம்பர், டிசம்பர், ஜனவரி மற்றும் பிப்ரவரி மாதங்களில் மாலை ஆறு மணிக்கு முதல் காலை ஆறு மணி வரை பாறைகளை வெடி வைத்து தகர்க்க கூடாது.

57. குவாரிகளில் இருந்து நவம்பர், டிசம்பர், ஜனவரி மற்றும் பிப்ரவரி மாதங்களில் மாலை ஆறு மணிக்கு மேல் காலை ஆறு மணி வரை உடை கற்களை வெளியில் எடுத்துச் செல்லக் கூடாது.

58. குவாரி தொடர்பான அனைத்து பணிகளும் மாலை 6.00 மணி முதல் காலை 6.00 மணி வரை நிறுத்தப்பட வேண்டும்.

59. குவாரி குத்தகை வழங்கப்படும் பகுதியை சுற்றி குறைந்த பட்சம் 100 மரக்கன்றுகளாவது நடவுசெய்து பாதுகாத்து பராமரித்து பசுமை வளையம் அமைக்கப்படவேண்டும்.

60. ஆய்வுகளை கிணறு அமைக்கும் வாகனம் கொண்டு குழிகள் அமைத்து வெடிவைக்க கூடாது.

61. அங்கீகரிக்கப்பட்ட சுரங்க திட்டத்தின்படி குவாரி பணி செய்யப்பட வேண்டும். குத்தகை காலத்தில் அங்கீகரிக்கப்பட்ட சுரங்க திட்டத்தில் குறிப்பிட்ட அளவை விட அதிகமான கனிமத்தை குவாரி செய்ய வேண்டியிருப்பின் திருத்தப்பட்ட சுரங்க திட்டம் சமர்ப்பித்து அங்கீகாரம் பெற்று அதற்கான சுற்றுச் சூழல் தடைபின்மை சான்று சமர்ப்பித்த பின்பே அதனை செய்ய வேண்டும்.

62. குவாரி ஆரம்பிப்பது தொடர்பான அறிவிப்பை (Notice of Opening) இந்திய அரசு பெங்களூரு மண்டல சுரங்க பாதுகாப்பு துறை இயக்குநர் அவர்களுக்கு சமர்ப்பிக்க வேண்டும்.

63. குவாரியில் அங்கீகாரம் பெற்ற மைன்ஸ் மேனேஜர்/ மைன்ஸ் மேட்/ பிளாஸ்டர் ஆகியோர்களை பணியமர்த்திய பின்பே குவாரிப் பணியை தொடங்க வேண்டும்.

64. குவாரிப் பகுதியில் மைன்ஸ் மேட் கண்காணிப்பிலேயே வெடிவைத்து வெடிக்கும் பணியை செய்ய வேண்டும்.

65. குவாரிப் பகுதியில் விபத்து ஏதும் ஏற்பட்டால் அதனை உடனடியாக இந்திய அரசு பெங்களூரு மண்டல சுரங்க பாதுகாப்பு துறை இயக்குநர் அவர்களுக்கும் கிருஷ்ணகிரி மாவட்ட ஆட்சியர் அவர்களுக்கும் தெரிவிக்க வேண்டும். குவாரிப் பகுதியில் ஏற்படும் விபத்துக்கு குவாரி குத்தகை தாரரே முழு பொறுப்பவார்.

66. கீழ்க்கண்ட அட்டவணையில் குறிப்பிட்டுள்ள கல்குவாரிகளுக்கான குத்தகை காலம், குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றப்பட்ட நாளிலிருந்து 5 ஆண்டுகள் ஆகும். ஆனால் சரியான காரணங்களின் அடிப்படையில் குத்தகைக் காலத்தை குறைவாகவும் நிர்ணயிக்க மாவட்ட ஆட்சியருக்கு அதிகாரமுண்டு.

அட்டவணை - 1

சாதாரண கற்குவாரி பட்டியல்.

(1) கிருஷ்ணகிரி வருவாய் கோட்டம்.

கிருஷ்ணகிரி வட்டம்

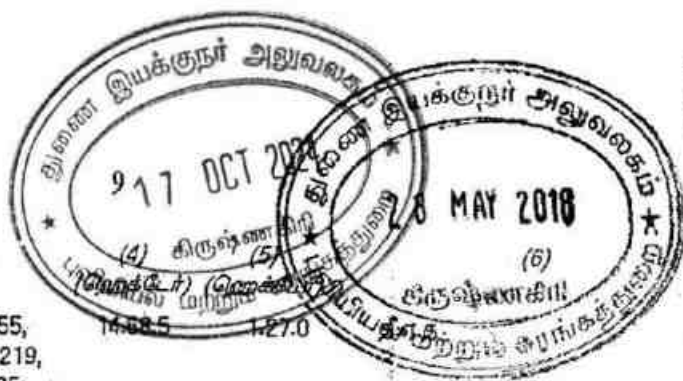
வ.எண்	கிராமம்	ச.எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வரைகட்டாடு
(1)	(2)	(3)	(4)	(5)	(6)
			(ஹெக்டேர்)	(ஹெக்டேர்)	
1	கல்லுக்குறுக்கி	701(பகுதி-1)	83.60.5	2.00.0	மாலை
2	கல்லுக்குறுக்கி	701(பகுதி-2)	83.60.5	2.00.0	மாலை
3	கல்லுக்குறுக்கி	701(பகுதி-3)	83.60.5	2.00.0	மாலை



(1)	(2)	(3)	(4)	(5)	(6)
4	கல்லுக்குறுக்கி	399/1 (பகுதி-B)	13.62.0	1.00.0	கல்லாங்குத்து
5	கல்லுக்குறுக்கி	255(பகுதி)	2.48.0	1.00.0	போடுகால் (குட்பாளன் மலை)
6	கரியசாகரம் தலாவ்	50(பகுதி)	4.51.5	2.78.0	கல்வெட்டுக் குழி
7	கிருஷ்ணகிரி டவுன்	வார்டு -பி: பிளாக்: 5/1(பகுதி-1)	49.67.0	2.50.0	பைர மலை புறம்போக்கு
8	கிருஷ்ணகிரி டவுன்	வார்டு-பி: பிளாக்: 5/1(பகுதி-2)	49.67.0	2.50.0	பைர மலை புறம்போக்கு
9	கொண்டப்பநாயனப்பள்ளி	63(பகுதி)	1.90.0	1.50.0	கல்வெட்டு குழி
10	கொண்டப்பநாயனப்பள்ளி	202/1(பகுதி-ஏ)	15.61.5	3.00.0	தீ.ஏ.த பாறை
11	கொண்டப்பநாயனப்பள்ளி	202/1(பகுதி-பி)	15.61.5	3.00.0	தீ.ஏ.த பாறை
பர்கூர் வட்டம்					
12	சிகரலப்பள்ளி	366(பகுதி-1)	10.05.5	2.00.0	மலை
13	சிகரலப்பள்ளி	366(பகுதி-2)	10.05.5	2.00.0	மலை
14	பர்கூர்	63(பகுதி-பி)	10.78.5	4.40.0	கல்லாங் குத்து
15	குலாமலை	54 (பகுதி)	16.45.0	2.00.0	பாறை
16	பி.ஆர்.ஜி.மாதேப்பள்ளி	271(பகுதி)	3.56.0	3.00.0	போடுகால்
17	மல்லப்பாடி	652(பகுதி)	12.60.5	3.00.0	அரக புறம்போக்கு
ஒசூர் வருவாய் கோட்டம்.					
ஒசூர் வட்டம்					
18	கோபனப்பள்ளி	327/3	1.33.5	1.33.5	போடு கால்
19	அச்செட்டிப்பள்ளி	881	1.26.5	1.26.5	தீ.ஏ.த, கல்லாங்குத்து
		884	2.22.0	2.22.0	
		885	0.81.0	0.81.0	
			4.29.5	4.29.5	
20	அச்செட்டிப்பள்ளி	886 (பகுதி)	8.85.0	3.00.0	தீ.ஏ.த,
21	அச்செட்டிப்பள்ளி	888 (பகுதி)	0.67.5	0.33.55	தீ.ஏ.த, கல்லாங்குத்து
		889	1.71.0	1.71.0	
		890 (பகுதி)	1.37.0	1.04.5	
		891(பகுதி)	2.12.5	1.00.0	
			5.88.0	4.09.0	
22	பஞ்சாட்சிபுரம்	603/1 (பகுதி-A)	21.20.5	2.50.0	தீ.ஏ.த
23	பஞ்சாட்சிபுரம்	603/1(பகுதி - B)	21.20.5	2.50.0	தீ.ஏ.த



(1)	(2)	(3)	(4)	(5)	(6)
24	அச்செட்டிப்பள்ளி	1050/1 A	2.17.5	2.17.5	
25	நாரிகாண்புரம்	40 (பகுதி)	2.24.0	1.80.0	
26	கேரணப்பள்ளி	327/1 (பகுதி)	24.31.5	2.52.0	
27	ஆலூர்	809(பகுதி-3)	11.25.0	1.46.0	த.ஏ.த
28	ஆலூர்	588(பகுதி)	17.42.5	3.35.0	அரசுபுறம்போக்கு முத்தம்மன்காடு
குளகிரி வட்டம்					
29	பன்னப்பள்ளி	75/6(பகுதி)	2.52.0	1.85.0	தீ.ஏ.த.பாறை
30	மீளந்தொட்டி	103/4	1.81.5	1.81.5	தீ.ஏ.த.பாறை
31	மீளந்தொட்டி	106/3	0.86.0	0.86.0	தீ.ஏ.த.பாறை
32	வெங்கடேசபுரம்	86(பகுதி-5)	60.86.0	4.20.0	தீ.ஏ.த. காடு
33	மருதாண்டப்பள்ளி	109 (பகுதி-1)	7.52.0	2.00.0	தீ.ஏ.த. காடு
34	மருதாண்டப்பள்ளி	109 (பகுதி-2)	7.52.0	1.20.0	தீ.ஏ.த. காடு
35	பிள்ளைத்திம்மசந்திரம்	88/1 (பகுதி-2)	12.79.0	3.50.0	தீ.ஏ.த. பாறை
36	காமன்தொட்டி	616/3(பகுதி)	7.85.5	3.77.0	தீ.ஏ.த.
37	காமன்தொட்டி	754 & 760 (பகுதி-1)	36.46.5	1.80.0	தீ.ஏ.த.மலை
38	காமன்தொட்டி	754 & 760 (பகுதி-2)	36.46.5	2.10.0	தீ.ஏ.த.மலை
39	காமன்தொட்டி	754 & 760 (பகுதி-3)	36.46.5	3.66.0	தீ.ஏ.த.மலை
40	காமன்தொட்டி	754 & 760 (பகுதி-4)	36.46.5	3.50.0	தீ.ஏ.த.மலை
41	காமன்தொட்டி	754 & 760 (பகுதி-5)	36.46.5	4.30.0	தீ.ஏ.த.மலை
42	காமன்தொட்டி	1151,1155, 1212 to,1219, 1222,1225, 1226/A (பகுதி-1)	14.68.5	2.70.0	தீ.ஏ.த
43	காமன்தொட்டி	1151,1155, 1212 to,1219, 1222,1225, 1226/A (பகுதி-2)	14.68.5	2.87.0	தீ.ஏ.த
44	காமன்தொட்டி	1151,1155, 1212 to,1219, 1222,1225, 1226/A (பகுதி-3)	14.68.5	2.82.0	தீ.ஏ.த
45	காமன்தொட்டி	1151,1155, 1212 to,1219, 1222,1225, 1226/A (பகுதி-4)	14.68.5	2.23.0	தீ.ஏ.த



(1)	(2)	(3)	(4)	(5)	(6)
46	காமன்தொட்டி	1151,1155, 1212 to,1219, 1222,1225, 1226/A (பகுதி-5)	14.68.5	1.27.0	கிருஷ்ணகிரி மாவட்டம் செலம் அரங்கம்
47	தேளிப்பள்ளி	144(பகுதி)	3.41.5	2.30.0	தீ.ஏ.த. பாறை
48	தேளிப்பள்ளி	152/2(பகுதி)	4.23.0	2.00.0	தீ.ஏ.த. பாறை
49	துப்புகாணப்பள்ளி	637 (பகுதி-1)	25.27.0	4.00.0	தீ.ஏ.த.கரடு
50	துப்புகாணப்பள்ளி	637 (பகுதி-2)	25.27.0	4.50.0	தீ.ஏ.த.கரடு
51	துப்புகாணப்பள்ளி	637 (பகுதி-3)	25.27.0	4.50.0	தீ.ஏ.த.கரடு
52	சென்னப்பள்ளி	242/4(பகுதி)	1.87.5	1.00.0	தீ.ஏ.த.கரடு
53	பஸ்தலப்பள்ளி	130 (பகுதி)	15.90.0	4.66.0	தீ.ஏ.த.கரடு
54	துப்புகாணப்பள்ளி	314(பகுதி-3)	36.64.0	4.94.32	தீ.ஏ.த.கரடு
55	வெங்கடேசபுரம்	294(பகுதி-1)	18.36.5	3.00.0	தீ.ஏ.த.கரடு
56	வெங்கடேசபுரம்	294(பகுதி-2)	18.36.5	3.75.0	தீ.ஏ.த.கரடு
57	வெங்கடேசபுரம்	196(பகுதி-1)	9.70.0	2.00.0	தீ.ஏ.த.கரடு
58	வெங்கடேசபுரம்	196(பகுதி-2)	9.70.0	3.25.0	தீ.ஏ.த.கரடு
59	வெங்கடேசபுரம்	136(பகுதி-3)	69.36.0	4.10.0	தீ.ஏ.த.கரடு
60	வெங்கடேசபுரம்	136(பகுதி-12)	69.36.0	2.70.0	தீ.ஏ.த.கரடு
தேன்கனிக்கோட்டை வட்டம்					
61	ஓசபுரம்	96 (பகுதி)	2.13.5	0.82.0	தீ.ஏ.த. கல்லாங்குத்து
		97(பகுதி)	1.04.5	0.28.0	
			3.18.0	1.10.0	
62	மதகொண்டப்பள்ளி	265 (பகுதி-1)	8.73.0	2.50.0	தீ.ஏ.த. கல்லாங்குத்து
63	மதகொண்டப்பள்ளி	265 (பகுதி-2)	8.73.0	2.50.0	தீ.ஏ.த. கல்லாங்குத்து
64	மதகொண்டப்பள்ளி	265 (பகுதி-3)	8.73.0	1.60.0	தீ.ஏ.த. கல்லாங்குத்து
65	மதகொண்டப்பள்ளி	265 (பகுதி-4)	8.73.0	1.46.0	தீ.ஏ.த. கல்லாங்குத்து
66	கலுகொண்டப்பள்ளி	360 (பகுதி)	0.62.5	0.62.5	தீ.ஏ.த.
67	நாகமங்கலம்	629 (பகுதி)	188.50.0	4.00.0	தீ.ஏ.த. கல்லாங்குத்து
68	கோட்டுர்	144	2.00.5	2.00.5	தீ.ஏ.த. கல்லாங்குத்து
69	தண்டரை	733 (பகுதி-2)	61.77.0	3.00.0	மலை புறம்போக்கு

கிருஷ்ணகிரி,
29-12-2017.

சி. கதிரவன்,
மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி மாவட்டம்.

தமிழ்நாடு எழுதப்பெற்றும் அச்சுத்துறை இயக்குநரால் செலம் அரங்கம் வளை அச்சுத்துறை
அச்சிடப்பட்டு மாவட்ட ஆட்சியரால் வெளியிடப்பட்டது.



(தமிழ்நாடு சிறுவகைக் கனிமச்சலுகை விதிகள் 1959-ன் விதி 8 (10-A) ஐக் காணவும்)

அரசு புறம்போக்கு நிலங்களில் உள்ள சாதாரண கற்குவாரிகளை, விடுவிக்கப்பட்ட கொத்தடிமைத் தொழிலாளர்களால் அமைக்கப்பட்ட சங்கம் / (SGSY) பொன்விழா கிராம சுய உதவிக்குழுக்கள் ஆகியவற்றுக்கு குத்தகை உரிமம் வழங்கக் கோரும் மனு.

(அச்சல் மற்றும் இரண்டு நகல்களில் இணைப்புகளுடன் கொடுக்க வேண்டும்)

நாள் - 2018

அனுப்பநர்

பெறுநர்

மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி மாவட்டம்,
கிருஷ்ணகிரி.

அப்பா,

நான் / நாங்கள் 1959 ஆம் வருட தமிழ்நாடு சிறுகனிமச் சலுகை விதி 8-ன் சர்ப்புவிதி 10 ஏ-ன்படி எங்கள் சுய உதவிக்குழுவிற்கு / விடுவிக்கப்பட்ட கொத்தடிமை தொழிலாளர் சங்கத்திற்கு சாதாரண கற்கள் வெட்டி எடுக்க கல் குவாரி குத்தகை உரிமம் வேண்டி கிருஷ்ணகிரி மாவட்ட அரசிதழில் வெளியான _____ நாளிட்ட அறிவிக்கை எண். _____ன்படி விண்ணப்பித்தினை சுமர்ப்பிக்கின்றோம்.

மனு தொடர்பான விவரங்கள் கீழே கொடுக்கப்பட்டுள்ளன.

1. (SGSY) பொன்விழா கிராம சுய வேலை வாப்பி திட்டக்குழு :
விடுவிக்கப்பட்ட கொத்தடிமை சங்கத்தின் சரியான
அலுவலக பெயரும் முகவரியும்

2. (அ) குழு மற்றும் சங்கங்கள் தமிழ்நாடு கூட்டுறவு சட்டம் 1983 :
(தமிழ்நாடு சட்டம் 30/1983) அல்லது தமிழ்நாடு சங்கங்களின்
பதிவு சட்டம் 1975 (தமிழ்நாடு சட்டம் 27/1975)
ஆகியவைகளின்கீழ் பதிவு செய்யப்பட்ட விவரம் மற்றும்
சான்றிதழ் இணைக்கப்பட்ட வேண்டும்

(ஆ) குழு / சங்க உறுப்பினர் பெயர் மற்றும் முகவரி பட்டியல் :
(உறுப்பினர் பற்றிய விவரம் மற்றும் உறுப்பினர் எண் விவரம்
இணைக்கப்பட்ட வேண்டும்).

(இ) குழு / சங்கம் செயல்பட அனுமதிக்கப்பட்டுள்ள
பஞ்சாயத்து விவரம்.



3. மனுக்கட்டணம் செலுத்திய விவரம் (சலான் எண் மற்றும் நாள்) :

4. குழு / சங்கம் குவாரி செய்ய விரும்பும் சிறுகனிமத்தின் பெயர் :

5. கல்குவாரி செய்ப தேவைப்படும் குத்தகைக் கால அளவு :

6. கல்குவாரி செய்ய விண்ணப்பிக்கும் மொத்த பரப்பு :

7. குத்தகைக்கு மனு செய்யப்படும் புலம் பற்றிய விவரம் :

மாவட்டம்	வட்டம்	கிராமம்	பஞ்சாயத்து	புல எண்.	பட்டாவு (ஹெக்டேர்)
(1)	(2)	(3)	(4)	(5)	(6)

8. ஏற்கனவே மனுதாரர் குழு / சங்கத்திற்கு தமிழ்நாட்டில் நடைமுறையில் குவாரி குத்தகை இருந்தால் அதன் விவரம் :

9. குழு / சங்கத்திற்கான வருமானவரி, நிலுவையின்மை சான்று :
இணைக்கப்பட்டுள்ளதா, இல்லையெனில்)
கீழ்க்கண்டவற்றுக்கான உறுதி மொழி ஆவணம்
இணைக்கப்பட்டுள்ளதா.

(அ) நடப்பு ஆண்டு வரை வருமானவரி விவரப்பட்டியல் :
அத்துறைக்கு கொடுக்கப்பட்டு உள்ளதா (அல்லது)

(ஆ) துறையினரால் கணக்கிடப்பட்ட வருமானவரி :
செலுத்தப்பட்டுள்ளதா (அல்லது)

(இ) 1961 ஆம் வருடத்திய வருமான வரி :
செலுத்தப்பட்டுள்ளதா (அல்லது)

10. (அ) மனுதாரர் குழு / சங்கத்தின் உறுப்பினர் அனைவரும் :
கரங்கவரி நிலுவை இல்லை என்பதற்கான சான்று
பெற்றுள்ளனரா, ஆம் எனில் நகல் இணைக்கவும்

(ஆ) இந்த மனு கொடுக்கப்படும் நாளில் உறுப்பினர்களுக்கு :
குத்தகை இல்லை எனில் அதற்கான உறுதிமொழி
தனித்தனியாக கொடுக்கப்பட்டு இணைக்கப்பட்டுள்ளதா.

11. இது தவிர மனுதாரர் வேறு விவரங்கள் ஏதேனும்
கொடுக்க விரும்பினால் இங்கு குறிப்பிடவும்.

மேலே கொடுக்கப்பட்டுள்ள விவரங்கள் யாவும் உண்மையானவையாக இருப்பதை உறுதிப்படுத்துவதற்காக மனுவரால்
அதனை அளிக்க தயாராக உள்ளேன் எனவும் உறுதியளிக்கிறேன். காப்புத் தொகை மாவட்ட ஆட்சியகம் (அரசினால்) தீர்மானிக்கப்பட்டால்
அதனை செலுத்தத் தயாராக உள்ளேன் என உறுதியளிக்கிறேன். குத்தகை பெறுவது தொடர்பாக கம்யூனியூட்டியில் சாதாரண கற்கள்
வெட்டுவது தொடர்பாகவும் 1959 ஆம் வருடத்திற் தமிழ்நாடு சிறுசனரிட சலுகை விதிகளையும் மாவட்ட அரசினால் வெளியிடப்பட்டுள்ள
விதிகளையும் நன்கறிவேன் என்று உறுதியளிக்கின்றேன். சாதாரண கற்கள் வெட்ட வழங்கப்பட்ட கல்குவாரியில் மெருகேற்றி
அழகுபடுத்தப் பயன்படும் வகையில் எந்த அளவிலும் கிராண்ட் கர்த்தண்டங்கள் வெட்ட மட்டும் எனவும் உறுதியளிக்கிறேன்.

இம்
நாள்:

இப்படிக்கு,
தங்கள் உண்மையுள்ள,



குவாரியில் பராமரிக்கப்பட வேண்டிய பதிலுக்கு முகவரி
நாள் முன்திருப்பு உற்பத்தி மோத்தம் வெளியேற்றம் மதிஇருப்பு வாகனத்தின் தன்மையும் அண்மையும்

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

இணைப்பு-3

திங்கள் தோறும் குவாரியில் இருந்து எடுக்கப்பட வேண்டிய கனிமங்கள் குறித்து அனுப்பப்பட வேண்டிய கணக்குப் படிவம்

1. குத்தகைதாரரின் பெயர் மற்றும் முகவரி
2. குவாரி அமைந்துள்ள வட்டம்

கிராமம்

புல எண்.

பரப்பளவு

3. மாவட்ட ஆட்சியரின் ஆணை எண் மற்றும் நாள்
4. குத்தகை காலம்
5. குவாரியில் வேலை செய்யும் ஆட்களின் விவரம்
ஆண்கள்
பெண்கள்
6. குத்தகைத் தொகை செலுத்திய விவரம்
7. நடப்புத் திங்களில் எடுக்கப்பட்ட கனிமத்தின் அளவு
8. வெளியே அனுப்பப்பட்ட கனிமத்தின் அளவு
9. மதி இருப்பில் உள்ள கனிமத்தின் அளவு



1. குத்தகைதாரரின் பெயர் மற்றும் முகவரி

2. குவாரி அமைந்துள்ள வட்டம்

கிராமம்

புல எண்.

பரப்பளவு

3. மாவட்ட ஆட்சியரின் ஆணை எண் மற்றும் நாள்

4. குத்தகை காலம்

5. குத்தகை மொத்த தொகை


S. DHANASEKAR, M.Sc. (Geo)
ROP/MAS/225/2011/A



THIRU C.KATHIRAVAN, I.A.S.,
CHAIRMAN/
DISTRICT COLLECTOR.

Krishnagiri District
Environment Impact
Assessment Authority,
Room No.30,
Collectorate,
Krishnagiri.

ENVIRONMENTAL CLEARANCE

Lr.No.03/DEIAA-KGI/EC No.80/2018 dated: 27.08.2018

To

THIRU.S.MADHU ,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD,
HOSUR TALUK,
KRISHNAGIRI DISTRICT

Sir,

Sub: DEIAA - Application for Environment Clearance for the Proposed quarrying and transportation of 679602 cbm of Rough Stone generated from the rough stone quarry over an extent of 1.27.0 Hects. in Government Poramboke land S.F.No. 1151, 1155, 1212, TO 1219, 1222, 1225 & 1226/1A(part-5) of Kamandoddi village of Bargur Taluk Krishnagiri District preferred by **THIRU.S.MADHU** , S/o.SRINIVASAN, No.12, EDEN GARDEN, THALLY ROAD, HOSUR TALUK, KRISHNAGIRI DISTRICT - Issue of Environmental Clearance - Reg.

Ref: 1. **THIRU.S.MADHU**, S/o. SRINIVASAN Application for Environment Clearance dated 26.06.2018
2. Minutes of the DEAC meeting conducted on 25.08.2018
3. Minutes of the DEIAA meeting held on 27.08.2018

-oOo-

Details of Minor mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor mineral rough stone based on the particulars furnished in your application as shown below:

1.	Name of Project Proponent and address	THIRU.S.MADHU S/o.SRINIVASAN, No.12, EDEN GARDEN, THALLY ROAD, HOSUR TALUK, KRISHNAGIRI DISTRICT'



2.	Location of the Proposed Activity	
	Survey Number and Extent	1151,1155,1212, TO 1219,1222,1225 & 1226/1A(part-5) Extent : 1.27.0 hec
	Latitude and Longitude	12° 39' 26.19" N to 12° 39' 29.79" N 77° 57' 52.44" E to 77° 58' 57.57" E
	Topo Sheet No.	57 H / 14
	Village	Kamandoddi
	Taluk	Shoolagiri
	District	Krishnagiri District
3.	Proposed Activity	
	i. Minor mineral	Rough Stone
	ii. Mining Lease Area	1.27.0 Hects.,
	iii. Approved quantity	679602 cbm of Rough Stone
	iv. Depth of Mining	92 mts(including topsoil and burden) from a period of 5 years
	v. Type of mining	Rough Stone Quarrying by open cast shallow mining method
	vi. Category (B1/B2)	B2
	vii. Precise Communication Area	The District Collector Roc.No.206/2015/Mines dated:09.03.2018
	viii. Mining Plan approval	Mining Plan approved by the Deputy Director of Geology of Mining Krishnagiri Lr.No.206/2015/Mines dated: 23.05.2018
	ix. Mining lease period	10 years Environment Clearance in 5 years
4.	Whether Project area attracts any general conditions specified in the EIA notification, 2006 as amended:-	Not attracted Affidavit furnished
5.	Man Power requirement per day	18 Employees
6.	Utilities	
	i. Source of Water	a. For Drinking and Domestic purpose water will be purchased from approved water vendors. b. For dust suppression and



			green belt development water from the existing bore hole situated near by the quarry area will be used.
	ii.	Quantity of Water Requirement in KLD:	
	a.	Domestic & Drinking	0.750 kilo litre
	b.	Industrial	
	c.	Green Belt & Dust Suppression	1.750 kilo litre
	iii.	Power requirement	
	a.	Domestic purpose	TNEB
	b.	Industrial purpose	Fuels is used for operating machineries and vehicles during the quarrying process and transportation and the fuel required for the entire project life is 545881.6 Lts. of HSD.
7.		Cost	
	i.	Project Cost	Rs.1,49,59,990/-
	ii.	EMP Cost	Rs.3,70,000/-
8.		Public Consultation:-	Not required as per O.M. dated 24.12.2013 of MoEF, GOI
9.		Date of Appraisal by DEAC: Agenda No.	Agenda No.66 of 3 rd meeting of DEAC conducted on 25.08.2018
10.		Date of review / discussion by DEIAA and the Remarks:- The proposal was placed before the DEIAA in its 3 rd meeting on 27.08.2018 as agenda No.66 and the authority after careful consideration, decided to grant Environmental Clearance to the said project of Mining of rough stone subject to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.	
11.		Validity: This Environmental Clearance is granted to Mining of Rough Stone for the production quantity of 679602 Cbm of rough stone for the period of five years from the date of execution of the mining lease period.	



12.	NBWL Clearance: The proposal area is situated 13.34 kms away from The Cauvery north Wild Life Sanctuary and it does not attract NBWL clearance.
13	Special Condition: i) Ground Water Quality test should be conducted periodically. ii) Water Sprinkling arrangement shall be maintained as proposed. iii) Environment Management plan should be submitted before the grant of permission.

Conditions to be Compiled before / during commencing operations:-

(1) The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that

- i) The project has been accorded Environmental Clearance.
- ii) Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
- iii) Environmental Clearance may also be seen on the website of the State Level Environment Impact Assessment Authority.
- iv) The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the DEIAA.

(2). The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.

(3). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.

(4). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.

(5). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ 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 be put on the website of the proponent and also kept at the site, for the general public to see.

(6). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.

(7). The proponent shall ensure that First Aid Box is available at site.

(8). The excavation activity shall not alter the natural drainage pattern of the area.



(9). The excavated pit shall be restored by the project proponent for useful purposes.

(10). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.

(11). The quarrying operation shall be restricted between 7 AM and 5 PM.

(12). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.

(13). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.

(14). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.

(15). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.

(16). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.

(17). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.

(18). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.

(19). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.

(20). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.

(21). The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009. (GLC = Ground Level Concentration), (NAAQ = Noise and Ambient Air Quality)

(22). The following measures are to be implemented to reduce Air Pollution during transportation of mineral

(i). Roads shall be graded to mitigate the dust emission.



- (ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.
- (23). The following measures are to be implemented to reduce Noise Pollution
- (i). Proper and regular maintenance of vehicles and other equipment.
 - (ii). Limiting time exposure of workers to excessive noise.
 - (iii). The workers employed shall be provided with protection equipment and earmuffs etc.
 - (iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
- (24). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.
- (25). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with **Assistant Director, Ground Water Division, PWD, Dharmapuri.**
- (26) **Rain water harvesting to collect and utilize the entire water falling in land area should be provided by construction of a storage tank with a capacity of 5,00,000 litres and the rain water harvested in the entire quarry area should be stored in it and used for the quarry purpose like dust prevention, wet drilling, providing water for green belt etc.**
- (27). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- (28). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- (29). The following measures are to be adopted to control erosion of dumps:-
- (i). Retention/ toe walls shall be provided at the foot of the dumps.
 - (ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- (30). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
- (31). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (32). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the



(lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season. **Photographs of the silt trap should be furnished before commencing quarry operation.**

(33). The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, that the ground water is getting depleted due to the quarrying activity, necessary corrective measures shall be carried out. **The Assistant Director Ground water Division, PWD Dharmapuri shall monitor.**

(34). No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

(35). To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution and it should be monitored by the District Environmental Engineer, TNPCB, Hosur on yearly basis.

(36). It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.

(37). It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site

(38). Ground water quality monitoring should be conducted once in 3 Months.

(39). Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.

(40). Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI once in three months.

(41). Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI periodically once in six months.

(42). Bunds should be provided at the boundary of the project site and it should be properly maintained.



(43). The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

(44). At least 10 Neem trees should be planted around the boundary of the quarry site.

(45). Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.

(46). The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity.

(47). The Project Proponent shall provide solar lighting system to the nearby villages.

(48). The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.

(49). Rainwater shall be pumped out Via Settling Tank only

(50). Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.

(51). As per MoEF & CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.

(52). The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.

(53) Safety equipments to be provided to all the employees.

(54) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai

(55) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license /certificate obtained from the competent authority before execution of mining lease.

(56) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.

(57) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.



(58) The proponent shall furnish the data obtained from the Public Works Department regarding the details of ground water table in the quarry site.

(59) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh case before execution of mining lease.

(60) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.

(61) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.

(62) The environmental norms shall be monitored by the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur.

(63) The Assistant Director Public Works Department, Ground Water Division Dharmapuri shall monitor whether the quarrying activity is carried out above the ground water level on yearly basis.

(64) NOC for sanitary certificate shall be obtained from the Deputy Director of Health Services, Krishnagiri.

(65) **Yearly** medical examination of the quarry workers should be carried out by a registered medical practitioner and the report should be filed in the quarry office in a separate file and copy should be sent to the Deputy Director, Health Services, Krishnagiri.

(66) **Closed circuit camera** should be erected at the quarry site and the passage of vehicles in and out of the quarry should be recorded and the footage of the recordings of the camera should be maintained and should be produced before the enforcing officials when ever called for.

(67) Vehicles used for transportation of quarried materials should be fitted with GPS and monitored.

(68) Pit Mouth register should be maintained in online

(69) Auditor report on the annual turnover amount should be submitted to the District Collector within one month from the end of the financial year.

(70) 02.5% of the turn over amount should be utilized for the CSR activity after consultation with the District Collector.

B. General Conditions:

(1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.

(2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.



- (3) No change in mining technology and scope of working should be made without prior approval of the DEIAA, Tamil Nadu.
- (4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (6) Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- (7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- (8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.
- (10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- (11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- (12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- (13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- (14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.



(15) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its regional office located at Chennai.

(16) The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

(17) This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

(18) The DEIAA, Krishnagiri may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.

(19) The DEIAA, Krishnagiri may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this DEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

(20) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

(21) The above conditions will 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, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

(22) Quarrying recommended proposed depth below ground level. Further deepening and continuous seepage if any to be informed to the concerned department. Ground water quality test to be done periodically.

(23) Periodical analysis of Air, dust vibration noise to be done in mining

(24) Adequate green belt shall be developed as proposed.

(25) Ground water table to be assured.

(26) NOC from DGMS shall be obtained for working common boundaries between quarries.

(27) Any other conditions stipulated by other Statutory/ Government authorities shall be complied.



(28) Any appeal against this environmental Clearance shall be with the Hon'ble National Green Tribunal, if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act 2010

Sd/-C.Kathiravan
**CHAIRMAN DEIAA-KGI/
DISTRICT COLLECTOR,
KRISHNAGIRI.**

//True Copy//By Order//

[Signature]
**For CHAIRMAN DEIAA-KGI/
DISTRICT COLLECTOR,
KRISHNAGIRI.**

Copy to *[Signature]* *[Signature]*

1. The Secretary, Ministry of Mines, Government of India , Shastri Bhawan, New Delhi
2. The Principal Secretary, Environment and Forest Department, Government of Tamil Nadu, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Government of Tamil Nadu, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai-34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex East Arjun Nagar, New Delhi 110 032.
6. The Member Secretary, State Level Environmental Impact Assessment Authority Tamil Nadu Panagal Building Saidapet, Chennai
7. The Chairman Tamil Nadu Pollution Control Board, 76.Mount Salai (Guindy, Chennai-32)
8. The Commissioner of Geology and Mining, Guindy, Chennai-32
9. E1 Division, Ministry of Environment and Forests Paryavaran Bhawan, New Delhi.
10. File No.51/ DEIAA/KGI/2018.

PROCEEDINGS OF THE DISTRICT COLLECTOR, KRISHNAGIRI**Present: Dr. S. Prabhakar, I.A.S.**

Roc.206/2018/Mines

Dated 06.12.2019

Sub: Mines and Minerals - Minor Mineral - Rough Stone - Krishnagiri District - Shoolagiri Taluk - Kammandoddi Village- Govt. Land in S.F. No. 1151,1155,1212 to 1219, 1222, 1225, 1226/A (part-5) - Over an extent of 1.27.0 Hects. - Precise area for the grant of Quarry lease for rough stone issued to Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur, Hosur Taluk Krishnagiri District under Tender-cum-Auction - DEIAA clearance obtained - order issued - reg.

- Ref:**
1. Krishnagiri District Gazette Extra Ordinary No.01 dated 19.01.2018.
 2. Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur, Hosur Taluk Krishnagiri District tender application dated 07.02.2018.
 3. The District Collector, Krishnagiri Memorandum in Roc.No.206/2018/Mines/ dated 9.03.2018.
 4. Mining plan approved by the Deputy Director of Geology and Mining, Krishnagiri in Roc. No. 206/ 2018 / Mines dated 28.05.2018.
 5. The District Level Environmental Impact Assessment Authority Tamil Nadu Letter No. 03/DEIAA-KGI/EC No.80/2018 dated 27.08.2018.
 6. The Deputy Director of Town and County Paining Dharmapuri letter No. 2793/2018 Thama dated 14.11.2018.
 7. Proceedings No. 1906HSR/RS/DEE/TNPCB/ HSR/A/2019 dated 13.02.2019 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur
 8. Proceedings No. 1906HSR/RS/DEE/TNPCB/ HSR/W/2019 dated 13.02.2019 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur .

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ORDER:

Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur, Hosur Taluk Krishnagiri District had participated in the tender-cum-auction for the grant of quarry lease for rough stone over an extent of 1.27.0 Hects in Government land S.F.No. 1151,1155,1212 to 1219, 1222, 1225, 1226/A (part-5) Kammandoddi Village of Shoolagiri Taluk Krishnagiri District on 07.02.2018 and he had been declared as the highest bidder and precise area had been given for the grant of rough stone quarry lease in the said area for a period of Ten years from the date of execution



of lease deed and he had been directed to submit the approved mining plan, Environmental Clearance from the DEIAA of Tamil Nadu and consent of the Tamil Nadu Pollution Control Board vide in the Memorandum 3rd cited.

The applicant had submitted the approved mining plan approved by the Deputy Director of Geology and Mining vide in the reference 4th cited, the Environment clearance given by the District Level Environment Impact Assessment Authority Krishnagiri in the reference 5th cited. Further the applicant had submitted the Deputy Director of Town and country planning Dharmapuri region Dharmapuri letter 6th cited in which it is stated that the lease applied area is situated "Non Planning Area" and also stated that there is no provision to classify the said lands as industrial use. The applicant has obtained the Tamil Nadu pollution Control Board consent for operation vide the reference 7th and 8th cited.

In view of the above a quarry lease for rough stone is hereby granted to Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur Taluk Krishnagiri District over an extent of 1.27.0 Hects in Government land S.F.No. 1151,1155,1212 to 1219, 1222, 1225, 1226/A (part-5) of Kammandoddi village of Shoolagiri Taluk Krishnagiri District under the provisions of Rule 8 (1) of Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of Ten years from the date of execution of lease deed subject to the following conditions.

I) The grantee should remit a sum of Rs. 20,00,000/- towards security deposit, Rs. 1,905/- towards area assessment in the relevant head of accounts and submit non judicial stamp papers for the value of Rs. 9,22,000/- and to execute the lease deed with District Collector in the prescribed time limit.

II. a) The grantee should sent the notice for operating the quarry to Director of Mines safety, Bangalore.

b) Quarrying operation should carried out only after appointing Mines Manager, Mines Mate and Foremen.

c) At any cost the blasting activity should be carried out under the Supervision of Mines Manger / Mines mate

d). If any accident occur in the quarry area the lessees should give intimation to the Director of Mines safety Bangalore and District Collector, Krishnagiri at once and lessee is solely responsible for any violation.

III.) A) சிறப்பு நிபந்தனைகள்:

- i. குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும். அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

நாடுபிடிக்குந்து பத்து
புதுபுது

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முத்திரை மற்றும் அலுவலக முத்திரைகள் பெற்று குவாரியிலிருந்து குண்டுக்கல் கட்டுக்கல், சக்கை மற்றும் ஜல்லி ஆகியவற்றை வெளியில் எடுத்துச் செல்லும் வகை வாகனத்திற்கும் ஒவ்வொரு நடைக்கும் வழங்கப்படவேண்டும். குண்டுக்கல், சக்கை, ஜல்லி ஆகியவற்றை ஏற்றிச் செல்லும் ஒவ்வொரு வாகனமும் அதனைச் சோதனைச் செய்வதற்கு அதிகாரம் பெற்ற அலுவலர் சோதனைச் செய்யும்போது நடைச்சீட்டினைக் காண்பிக்க வேண்டும். இசைவாணைச்சீட்டு மற்றும் நடைச்சீட்டின் நகல்களை குவாரியில் வைத்திருக்க வேண்டும். முறையான இசைவாணைச்சீட்டு மற்றும் நடைச்சீட்டுகள் இல்லாமல் கனிமங்களை ஏற்றிச் செல்லும் வாகனங்கள் 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் மற்றும் கரங்கங்கள் மற்றும் கனிமங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம், 1957-ன்படி கைப்பற்றப்பட்டு, குத்தகைதாரர் மீது நடவடிக்கை எடுக்கப்படுவதுடன் குவாரிக் குத்தகையையும் ரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.

- (14) குத்தகை வழங்கப்பட்ட இடத்தை குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஜல்லி குவாரி செய்ய மட்டும் பயன்படுத்த வேண்டும். குத்தகை உரிம ஆணை அல்லது குத்தகை ஒப்பந்தப்பத்திரத்தில் தவறுதலாக கனிம விவரம் குறிக்கப்பட்டு இருந்தால் அதனை எந்த நேரத்திலும் திருத்துவதற்கு மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு. குத்தகைதாரர் அதனடிப்படையில் எந்த உரிமையும் கோரமுடியாது.
- (15) மெருகேற்றுவதற்கும், அயல் நாட்டிற்கு ஏற்றுமதி செய்வதற்கும் பயன்படும் பெரிய கற்குண்டங்கள் வடிவத்தில் கற்குவாரி செய்யக் கூடாது.
- (16) குத்தகை ஒப்பந்தப்பத்திரத்தில் குறிக்கப்படாத வேறு ஏதாவதொரு கனிமம் கிடைத்தால், அதனை சம்மந்தப்பட்ட அலுவலரின் அனுமதியைப் பெறாமலும், அதற்குரிய சீனியரேஜ் தொகையைச் செலுத்தாமலும் எடுக்கக்கூடாது. புதிய கனிமம் கிடைத்த விவரத்தை 30 தினங்களுக்குள் தெரிவிக்காமல் எடுத்துச் சென்றால் இக்குற்றத்திற்கு அந்த கனிமத்திற்குரிய சாதாரண சீனியரேஜ் கட்டணத்தைப்போல் 15 மடங்குவரை மாவட்ட ஆட்சித்தலைவரால் அபராதம் விதித்து வசூலிக்கப்படும்.
- (17) குத்தகை காலம் முடிந்தபிறகு, குத்தகை வழங்கப்பட்ட இடத்திலிருந்து குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஜல்லியை குவாரி செய்து வெளியில் எடுத்துச் செல்ல குத்தகைதாரருக்கு உரிமையில்லை.
- (18) குத்தகை காலம் முடிவடைந்த பிறகு குத்தகை இடத்தில் எஞ்சின், மெஷின் போன்ற எந்தவிதமான தளவாட பொருட்களையும் வைத்திருக்கக்கூடாது. அவற்றை குத்தகை காலத்தில் கடைசி நாளன்று குத்தகைதாரர் எடுத்துச் சென்றுவிட வேண்டும்.
- (19) குத்தகையை வேறு எவருக்கும் உள் குத்தகைக்கு விடக்கூடாது.
- (20) குவாரி செய்வதில் இழப்பு ஏற்படின் நஷ்டஈடு கேட்கக்கூடாது.
- (21) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் மற்றும் இதர நபர்களுக்கு விபத்து ஏதாவது ஏற்படின் அதற்கு முழுப் பொறுப்பினையும் குத்தகைதாரரைச்சேரும். இதற்கு அரசு பொறுப்பல்ல.
- (22) அரசுக்கு செலுத்த வேண்டிய தொகையை உரிய காலத்திற்குள் செலுத்தவில்லை என்றால் அத்தொகை 24 % அல்லது அரசால் அவ்வப்போது நிர்ணயிக்கப்படும் வீதத்தில் வட்டியுடன் குத்தகைதாரரிடமிருந்து வசூலிக்கப்படும்.
- (23) அரசுக்கு செலுத்த வேண்டிய பாக்கித் தொகை தமிழ்நாடு வருவாய் வசூல் சட்டம் 1864-ன் கீழ் வசூலிக்கப்படும்.
- (24) குத்தகை நிபந்தனைகள், 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள், அரசு ஆணையர், புனியியல் மற்றும் கரங்கத்துறை, மாவட்ட ஆட்சித்தலைவர் ஆகியோரது ஆணைகள் மீறப்படின் மீறுதலுக்கு அபராதம் விதிப்பதோடு அல்லாமல் குத்தகைதாரருக்கு நேர்ப்பு விசாரணைக்கு வாய்ப்பளித்த பின்பு குத்தகை உரிமம் ரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.
- (25) அரசின் அவ்வப்போதைய ஆணைகளுக்கேற்ப நிபந்தனைகளை மாற்றி அமைக்கவோ, நீக்கவோ, கூடுதலாக சேர்க்கவோ, மாவட்ட ஆட்சித்தலைவருக்கு முழு அதிகாரம் உண்டு.



- (26) மேற்கூறிய நிபந்தனைகளுடன் 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுசுளிச் சலுகைச்சட்டம், கரங்கங்கள் மற்றும் கனிமங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம் 1957, மாவட்ட ஆட்சித்தலைவர் ஆகியோரால் அவ்வப்போது பிறப்பிக்கப்படும் ஆணைகள் குத்தகைதாரரிடம் கட்டுப்படுத்தும்.
- (27) குவாரிகள்/கரங்கங்களுக்கு பொருந்தக்கூடிய தொழிலாளர் சட்டங்களுக்கு கட்டுப்பாடு குத்தகைதாரர் குவாரி செய்யவேண்டும். தவறினால் சம்மந்தப்பட்ட அரசின் சட்டப்பூர்வமான நடவடிக்கைகளுக்கு குத்தகைதாரர் உள்ளாக வேண்டி இருக்கும்.
- (28) இந்திய வெடிமருந்து சட்டம் 1884 (Central Act IV of 1884)-ன்படி உரிய வெடிமருந்து உரிமம் பெற்று குத்தகைதாரர் பாறைகளை வெடிவைத்து உடைக்க வேண்டும். தவறும் பட்சத்தில் குத்தகைதாரர் கடும் தண்டனைக்கு உள்ளாக வேண்டியிருக்கும்.
- (29) குத்தகைதாரர் குவாரியில் குழந்தை தொழிலாளர்களை பணியமர்த்தக்கூடாது.

IV) a) The conditions imposed by the Tamil Nadu Pollution Control Board in the consent to Operate in Air and Water Pollution Act should be strictly adhered and the consent should be renewed periodically.

b) The Environment Clearance issued by the SEIAA, Tamil Nadu should be renewed within the prescribed time limit.

V) Conditions imposed by the SEIAA.

1. (i) The Environmental Clearance is granted to Mining of Rough Stone for the production quantity of 679602 Cu.m of Rough stone for the period of 5 Years for the date of execution of the Mining lease period.

(ii) Depth of mining permitted = 92.mts.(including topsoil and burden) from a period of 5 years.

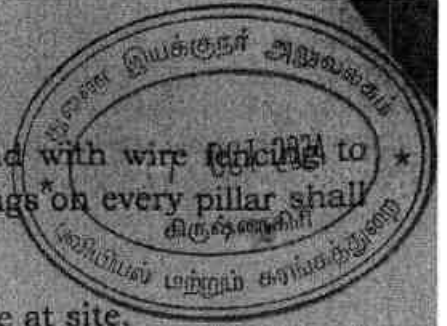
2. A.Conditions to be complied before the commencing of mining operation

(1) The applicant has to obtain land use classification as industrial use before issue/ renewal of mining lease.

(2). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.

(3). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.

(4). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ 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 be put on the website of the proponent and also kept at the site, for the general public to see.



- (5). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- (6). The proponent shall ensure that First Aid Box is available at site.
- (7). The excavation activity shall not alter the natural drainage pattern of the area.
- (8) The excavated pit shall be restored by the project proponent for useful purpose.
- (09). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- (10). The quarrying operation shall be restricted between 7 AM and 5 PM.
- (11). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- (12). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
- (13). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
- (14). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- (15). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- (16). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- (17). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
- (18). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- (19). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such



design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.

(20) The proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF & CC, Col on 16.11.2009.(GLC= Ground Level Concentration), (NAAQ= Noise and Ambient Air Quality)

(21). The following measures are to be implemented to reduce Air Pollution during transportation of mineral

(i). Roads shall be graded to mitigate the dust emission.

(ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.

(22). The following measures are to be implemented to reduce Noise Pollution

(i). Proper and regular maintenance of vehicles and other equipment.

(ii). Limiting time exposure of workers to excessive noise.

(iii). The workers employed shall be provided with protection equipment and earmuffs etc.

(iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

(23). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, Gol to control noise to the prescribed levels.

(24). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Assistant Director, Ground Water Division, PWD, Dharmapuri.

(25) Rain water harvesting to collect and utilize the entire water falling in land area should be provided by construction of a storage tank with a capacity of 5,00,000 litres and the rain water harvested in the entire quarry area should be stored in it and used for the quarry purpose like dust prevention, wet drilling, providing water for green belt etc.,

(26). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.

(27). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.

(28). The following measures are to be adopted to control erosion of dumps.

(i). Retention/ toe walls shall be provided at the foot of the dumps.

(ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

(29). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.

(30). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(31). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the (lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season. Photographs of the silt trap should be furnished before commencing quarry operation.

(32). The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, that the ground water is getting depleted due to the quarrying activity, necessary corrective measures shall be carried out. The Assistant Director Ground water Division PWD Dharmapuri shall monitor.

(33). No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

(34). To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution and it should be monitored by the District Environmental Engineer, TNPCB, Hosur on yearly basis.





(35). It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period.

(36). It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site

(37) Ground water quality monitoring should be conducted once in 3 Months.

(38) Transportation of the quarried materials shall not cause any hindrance to the village people/ Existing Village road.

(39). Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF and CC, GOI once in three months.

(40). Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI. and it should be properly maintained.

(41). Bunds to be provided at the boundary of the project site and it should be properly maintained.

(42). The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

(43). At least 10 Neem trees should be planted around the boundary of the quarry site.

(44). Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.

(45). The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity.

(46). The Project Proponent shall provide solar lighting system to the nearby villages.

(47) The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.



- (48). Rainwater shall be pumped out Via Settling Tank only
- (49). Earthen bunds and barbed wire fencing around the pits with green belt along the boundary shall be developed and maintained.
- (50) As per MoEF & CC, GOI, Office Memorandum dated 30.03.2015 for clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for wild life as applicable shall be obtained before starting the quarrying operation if the project site is located with 10 MK from National Park and Sanctuaries.
- (51) The quarrying activity shall be stopped if the entire quantity indicated in the Mining Plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
- (52) Safety equipments to be provided to all the employees.
- (53) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai.
- (54) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license / certificate obtained from the competent authority before execution of mining lease.
- (55) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- (56) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- (57) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- (58) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.
- (59) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- (60) The environmental norms shall be monitored by the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur.

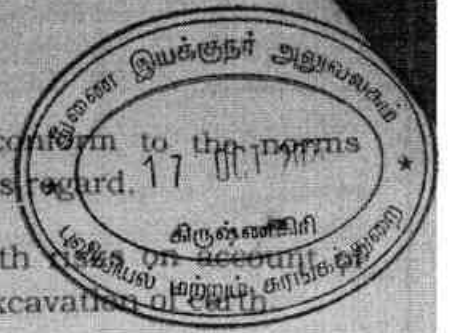


- (61) The Assistant Director Public Works Department, Ground Water Division, Dharmapuri shall monitor whether the quarrying activity is carried out above the ground water level on yearly basis.
- (62) NOC for sanitary certificate shall be obtained from the Deputy Director, Health Services, Krishnagiri.
- (63) Yearly Medical Examination of the quarry workers should be carried out by a registered medical practitioner and the report should be filed in the quarry office in a separate file and copy should be sent to the Deputy Director, Health Services, Krishnagiri.
- (64) Closed circuit camera should be erected at the quarry side and the passage of vehicles in and out of the quarry should be recorded and the footage of the recordings of the camera should be maintained and should be produced before the enforcing officials when ever called for.
- (65) Vehicles used for transportation of quarried materials should be fitted with GPS and monitored.
- (66) Pit mouth register should be maintained in online.
- (67) Auditor report on the annual turnover amount should be submitted to the District Collector within one month from the end of the financial year.
- (68) 02.5% of the turn over amount should be utilized for the CSR activity after consultation with the District Collector.

B. General Conditions:

- (1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- (2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- (3) No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- (4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be

ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.



(6) Effective safeguards shall be adopted against health breeding of vectors in the water bodies created due to excavation of earth.

(7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

(8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

(9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.

(10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.

(11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

(12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.

(13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

(14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

(15) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year

wise expenditure should be reported to the Ministry of Environment and Forests and its regional office located at Chennai.



(16) The Environmental Clearance does not absolve the applicant of his obligation/requirement to obtain other statutory clearances from other statutory and administrative authorities.

(17) This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

(18) The DEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.

(19) The DEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

(20) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

(21) The above conditions will 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, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

(22) Any other conditions stipulated by other Statutory/ Government authorities shall be complied.

VI. The lessee should strictly adhere all the conditions imposed in the environmental clearance issued by The SEIAA Tamil Nadu and consent order of the Tamil Nadu Pollution Control Board.

VII. The lessee should periodically renew the environmental clearance and the consent orders of the Tamil Nadu Pollution Control Board without any lapse.



VIII. If any illicit quarrying is found in the area over an extent of 1 hectare in S.F.No. 1151,1155, 1212,1225, 1226/A (part) of Bulkasagaram Village, Shoolagiri Taluk Krishnagiri District before the date of execution of lease deed, this lease deed is liable to be cancelled and criminal action will be initiated.

IX. If the quarry area is situated within 10 km distance from any protected areas NOC from the Standing committee of NBWL should be obtained before commencing the quarry operation.

X. If the lease holder wants to quarry more than the quantity permitted in the environmental clearance within the lease period, modified mining plan / scheme and Environment Clearance for the additional quantity should be submitted.

O/C

DISTRICT COLLECTOR,
KRISHNAGIRI.

To

Thiru S. Madhu

S/o Srinivasan,

Door No. 12, Eden Garden,

Thalli Road, Hosur,

Hosur Taluk Krishnagiri District

Copy to

1. The Revenue Divisional Officer, Hosur.

2. The Tahsildar, Shoolagiri.

3. The Village Administrative Officer, Bulkasagaram village.

TP/ 79783796/2019

5920

17 OCT 2024



தமிழ்நாடு தமிழ்நாடு TAMILNADU

Rs. 1000/-
16.10.2019

S. Madhu, Shoolagiri

AP 979401

S. M. Bhagavan
STAMPED AND SIGNED
L.No. 208/2019

**LEASE DEED FOR QUARRYING AND CARRYING AWAY MINOR
MINERALS BY PRIVATE PERSONS
(APPENDIX - I)**

(See Rule 8 of Tamil Nadu Minor Mineral Concession Rules 1959
and Krishnagiri District Collector's Proc. No. 206/2018 (Mines)
dated 11.2019.

THIS INDENTURE MADE THIS 6TH day of DECEMBER 2019 between the Governor of Tamil Nadu (hereinafter referred to as "the Lessor" which expression shall, where the context so admits include his successors in office and assigns) on the one part, and Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur, Hosur Taluk Krishnagiri District (hereinafter called "the lessee" which expression shall where the context so admits include his heirs, executors, administrators, legal representatives and assigns) of the other part.

[Signature]

LESSEE

DISTRICT COLLECTOR

Document No.	5920	of 2019 of Book	1
Contains	28	Sheets	1 Sheet.
Registering Officer			



WHEREAS the lessee has been the successful bidder in a sealed tender cum public auction conducted by the Government of Tamil Nadu (hereinafter referred to as "the Government") for the lease of land in Krishnagiri district for the purpose of quarrying rough stone, jelly and sized stone and has deposited with the Collector of Krishnagiri a sum of Rs. 20,00,000/- (Rupees twenty lakhs only) at State Bank of India, Krishnagiri on 06.11.2019 as security for the due and faithful performance by the lessee of the covenants and conditions on the part of the lessee hereinafter contained.

AND WHEREAS the lessor has agreed to grant the lessee, a lease of the lands and premises hereinafter described, as per Tamil Nadu Minor Mineral Concession Rules, 1959 (herein after called "The Rules").

AND WHEREAS the lessee had paid to the credit of the Government a sum of Rs. 1,00,00,000/- (Rupees One crore only) as one time lease amount for Ten years of lease.

NOW THESE PRESENTS WITNESS AS FOLLOWS:-

1. The lessor hereby demises to the lessee all those several pieces or parcels of land situate in the village of Bukkasagaram in the Sub Registrar of Shoolagiri in the State of Tamil Nadu being more particularly described in the Schedule hereunder written and delineated in the map or plan hereunto annexed and there in coloured.

2. There are included in the said demise and for the purposes thereof the liberties following:-

(1) To get rough stone, jelly and sized stones from the said demised pieces of land.

(2) For the purpose aforesaid to use any water in or under the said demised pieces of land and to divert the same and to make or construct any water courses or ponds so, however, that nothing shall be done in the exercise of this authority which shall interfere with the rights of any adjoining owners or tenants of the lessor in respect of such water.

(3) Generally to do all things which shall be convenient or necessary for getting the rough stone, jelly etc. hereby authorised to be got and for removing and disposing thereof as aforesaid.

3. There are excepted from and reserved to the lessor out of this demise:-

(1) All earth, minerals and other substances not hereinbefore expressly authorised to be got from the demised lands by the lessee.

LESSEE

DISTRICT COLLECTOR

Document No.	520	of 2019 of Book	1
Contains	28	Sheets	2
Registering Officer			



(2) Liberty for the lessor or other persons authorised by him to search for, work, get, carry away and dispose of the excepted minerals and other substances and for such purposes to have the right of ingress, egress and regress over the said demised pieces of land and to make, erect and use all pits, machinery, buildings, roads and other necessary works and conveniences provided that the rights hereby reserved shall be exercised in such a way as to cause as little obstruction as possible to the lessee in the use and enjoyment of his rights hereunder and that reasonable compensation for damages caused by any such obstruction shall be paid to the lessee the amount thereof and in case of difference to be settled by arbitration as hereinafter provided.

4. The said premises shall be held by the lessee for the term of **TEN YEARS** from the 6TH day of ~~DECEMBER~~ 2019 to the 5TH day of ~~DECEMBER~~ 2029 which shall however be determinable as hereinafter provided.

5. The lessee shall pay during the said term the area assessment the cess and seigniorage fee or dead rent which ever is greater, for the minerals removed or consumed at the rates prescribed from time to time in appendix II of the rules.

(1) The said seigniorage fee as prescribed in appendix II from time to time shall be paid before the same is removed from the demised pieces of land. The mode of payment of the same shall be indicated by the District Collector from time to time.

(2) The lessee hereby covenants that any fee, cess, rent, rates or any other sum due to the Government if not paid within the stipulated period will pay with interest as envisaged in the rules.

6. The lessee hereby covenants with the lessor as follows:-

(1) To pay the assessment, cess and seigniorage fee or dead rent which ever is greater and other amounts due to the Government, on the days and in the manner aforesaid.

(2) To bear, pay and discharge all existing and future rates, taxes, assessment, duties, impositions, outgoings and burdens whatsoever imposed or charged upon the demised premises or the produce thereof or the land assessment, the cess and the seigniorage fee or dead rent hereby reserved or upon the owner or occupier in respect thereof or payable by either in respect thereof except such charges or impositions as the lessee is or may hereby be by law exempted from.

(3) Before digging or opening any part of the said demised pieces of land for **rough stone, jelly etc.** carefully remove the surface soil and lay aside and store the same in some convenient part of the said demised piece of land until the land from which it has been removed is again restored to a state, fit for cultivation as hereinafter provided.

(4) To effectually fence off the same demised pieces of land from the adjoining lands and to keep the fences in good repairs and -condition.


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(5) Not to assign, underlet or part with the possession of the demised premises or any part thereof without the written consent of the lessor first obtained.

(6) After working out any part of the said demised pieces of land forthwith to level the same and replace the surface soil thereof and slope the edges where necessary so as to afford convenient connection with the adjoining land.

(7) That the lessee shall keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of the mineral obtained by the lessee from the said lands and also the number of persons employed in carrying on the said quarrying operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and workings in the said lands and shall allow any officer thereunto authorized by the Government from time to time and at any time, to examine such accounts and any such plans and shall when so required supply and furnish to the Government all such information and returns regarding all or any of the matters aforesaid, the Government shall from time to time require and direct.

(8) That the lessor's agents, servants and workmen shall be at liberty at all reasonable times during the said term to inspect and examine the works carried on by the lessee under the liberties herein before granted and the lessee shall and will from time to time and at all times during the said term hereby granted confirm to and observe all orders and regulations which the lessor or his authorised agents as the result of such inspection may from time to time see fit to impose to keep the premises in good and substantial repair, order and condition or in the interest of public health and safety.

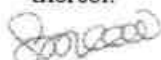
(9) That the lessee shall not without the express sanction in writing of the Collector cut down or injure any timber or trees on the said lands but he may clear away brush wood or undergrowth which interferes with any operations authorized by these presents.

(10) That if the lands shall be used for any purpose other than quarrying for rough stone, jelly etc. or if they are not under or at any time cease to be used for the said purpose the lessor shall be at liberty to terminate the lease without notice.

(11) That this lease may be terminated in respect of the whole or any part of the premises by six months notice in writing on either side.

(12) That on such determination the lessee shall have no right to compensation of any kind.

(13) That the land assessment, cess and seigniorage, rents or other amounts payable under these presents, shall be recoverable under the provisions of Tamil Nadu Revenue Recovery Act 1864 (Tamil Nadu Act II of 1864) or any subsisting statutory modification thereof.


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(14) At the determination of the lease to deliver up the demised premises in such condition as shall be in accordance with the provisions of these presents, save that the lessee shall, if so required by the lessor, restore in manner provided by the foregoing covenant in that behalf the surface of any part of the land which has been occupied by the lessee for the purpose of the works hereby authorized and has not been so restored.

(15) That the lessee shall abide by the conditions laid down in the payment of Wages Act 1936, the Mines Act 1952 (Central Act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884), Mettalliferous Mines Regulations, 1961, Mines and Minerals (Development and Regulation) Act, 1957 and rules made there under.

(16) The lessee shall comply with the provision of labour laws applicable to quarries and any contravention of the provisions shall attract legal proceedings of the appropriate Government.

(17) After signing this agreement and in the sketch of FMB, the lessee has no rights to question about the measurement of the area leased out, lease conditions and other related matters.

(18) On any account neither the lease period can be extended nor renewed for a further period.

(19) (a) On execution of these presents, the lessee has to take possession of the leasehold area immediately by giving proper acknowledgement.

(b) On the date of expiry of the lease period, the lessee shall hand over the leased out area to the Village Administrative Officer concerned through an affidavit, and the acknowledgement obtained from the Village Administrative Officer for having done so shall be handed over to the Taluk Tahsildar concerned under intimation to the concerned Revenue Divisional Officer and the District Collector.

(20) The lessee hereby covenants to get the lease agreement registered at his expenses under clause (d) of sub section (1) of section 17 of Registration Act 1908.

(21) The lessee shall remove, or allow removal and transportation of the mineral prescribed from the area where quarrying is permitted only after obtaining bulk transport permit and authenticated despatch slips in the forms prescribed in Appendices XII and XIII to these rules, from the Deputy Director (Geology and Mining) Krishnagiri. The lessee or his men shall issue the fascimiled despatch slips to the vehicles used for removal or transportation of the mineral furnishing all the particulars in the despatch slips specifically indicating the vehicle number, the quantity of the mineral allowed to be transported by the vehicle by using that despatch slip and the date and time of issue of the despatch slip to the vehicle. All the vehicles used for


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transporting minor mineral from the leased out area shall accompany with the individual despatch slips for the quantity of the minerals available in the vehicle at all the times of transportation of the mineral by the vehicles and produce them for check and verification by the competent authorities.

(22) Any violation of the above condition will lead to penal action under Tamil Nadu Minor Mineral Concession Rules 1959 read with Mines and Minerals (Development and Regulation) Act 1957 (hereinafter called the Act).

(23) (a) Only rough stone, jelly and sized stone must be quarried and the lessee should not quarry big granite blocks or ornamental stone of export worthy blocks to be used for cutting and polishing.

(b) If it is found that the lessee is producing granite blocks for cutting and polishing and for export, the lease granted in these presents will be cancelled, with forfeiture of security deposit to the Government and penal action will be initiated as per Mines and Minerals (Development & Regulation) Act 1957.

(24) The lessee has to form approach road at his own cost and the Government will not be responsible for dispute if any with or nearby Pattadars or other third parties.

(25) The lessee has to quarry according to the provisions of Mines and Minerals (Development and Regulation) Act 1957, Metalliferous Mines Regulations 1961 and the rules made thereunder.

26) The lessee should maintain at his cost boundary pillars, proper sign board indicating the survey number and extent, period of lease, name of the lessee and maintain the sign board during the lease period.

7. The lessor hereby covenants with the lessee that the lessee paying the land assessment, the cess and the seigniorage fee hereby reserved and observing and performing the several covenants and stipulations on the part of the lessee herein contained shall peacefully hold and enjoy the premises, liberties and powers hereby demised and granted during the said term without any interruption by the lessor or any persons rightfully claiming under or in trust for him.

8. It is hereby further agreed between the parties as follows:-

(1) If any part of the land assessment, cess or seigniorage hereby reserved shall be unpaid for thirty days after becoming payable (whether formally demanded or not) or if the lessee which the demised premises or any part thereof remain vested in him, shall become insolvent or if any covenant on the lessee's part herein contained shall not be performed or observed, then and in any of the said cases it shall be lawful for the lessor at any time thereafter to declare the whole or any part of the said security deposit of Rs. 20,00,000/- to be forfeited and also to re-enter upon the demised premises or any part thereof in the name of the whole and thereupon the demise shall absolutely determine but without prejudice to the rights of action of the lessor in respect of any breach or non-observance of the lessee's covenants herein contained.


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(2) At the determination of the lease, the lessee shall be at liberty to remove, carry away and dispose off all the stock of **rough stone, jelly etc** ready for delivery and all engines, machinery, and all plant, articles and things whatsoever (not being building or brick or stones), the lessee first paying any land assessment, cess and seigniorage and other sums which may be due and performing and observing the covenants on his part herein before reserved and contained and also making good any damage done by such removal but any buildings which shall be erected on the said demised pieces of lands by the lessee and left there on at the determination of lease shall be the absolute property of the lessor who shall not be bound to pay any price for the same.

(3) If the lessee shall have paid the land assessment, cess and seigniorage due to the Government and duly observed and performed the covenants and conditions on his part herein contained, the said deposit of Rs. 20,00,000/- (Rupees twenty lakhs only) shall be returned to him at the expiration of the said term of Ten years.

(4) Should any question or dispute arise regarding this agreement executed in pursuance of these Rules or any other matter or thing connected therewith or the powers of the lessee thereunder the amount or payment of the seigniorage fee or area assessment made payable thereby, the matter in issue shall be decided by the Director of Geology and Mining, Chennai. In case the lessee is not satisfied with the decision of the Director of Geology and Mining, Chennai the matter shall be referred to the State Government for decision.

9. If the lessee is in occupation of the lease-hold area after the expiry of the period for which the lease has been granted or after the determination of the lease, the lessee shall be deemed to be in unlawful possession of the said area and he shall be liable for eviction from the lease-hold area in addition to being liable to be charged at double the rate of the lease amount or bid amount as the case may be, for the period of such occupation.

10. All land assessment, cess and seigniorage payable under these presents shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, as if they were arrears of land revenue.

11. In the event of any breach by the lessee by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage or for the Collector to give notice in writing to the lessee of his intention to cancel these presents whereupon the same shall stand canceled but without prejudice to any rights which the Government may have against the pattadar in respect of any antecedent claim or breach of covenant or condition.

12. The lessee shall abide by the conditions laid down in the payment of wages Act, 1936, (Central act IV of 1936), the Mines Act, 1952 (Central act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884).

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13. No hindrance should be caused to, the surrounding patta fields and poramboke lands.

14. The lessee should strictly adhere to the conditions and rules stipulated by the Government for Minor Minerals from time to time and he should remit seigniorage for the Minerals removed as per the rates stipulated by Government from time to time.

15. The lessee should maintain a safety zone of 7.5 metres on the boundary of the patta lands and 10 metre from the poramboke lands in and around the lease hold area.

16. The lessee should demarcate the leasehold area at his own cost and should quarry stone only within that area.

17. The lessee should not assign, underlet or sublet any part of the lease area.

18. The lessee should obtain the permit, and the despatch slips for the transport of Rough stone/Jelly, etc from the Assistant Director/Deputy Director of Geology and Mining, Krishnagiri. The despatch slips should be kept in the quarry site and be issued to all the vehicle shile transporting the stone, Jelly etc from the quarry.

19. The lessee should leave a safety distance of 50 metres from the railway line, National Highways roads, low tension and high tension and Telephone lines, transformers, temples, or historical importance etc. 10 metre from the village road and 300 metre from the approved layout and habitations.

20. The lessee should strictly adhere to the conditions stipulated in Krishnagiri District Gazette Extra Ordinary issued No. 01 dated 19.01.2018 and rules stipulated by the Government from time to time.

21. In the event of any breach of rules or the condition of lease deed or the conditions of the lease order and the Gazzette condition, the lease would become liable for automatic termination without any prior notice.

22. The lessee should adhere the terms and conditions laiddown in Krishnagiri District Collector, Proceedings Roc. No. 206/2018 (Mines-1) dated 11.2019.

23. The lease period starts from the 6TH day of DECEMBER 2019 and ends on the 5TH day of DECEMBER 2029.

24. For the purpose of calucation of Stamp duty one time lease amount of Rs. 1,00,00,000/- +Anticipated total production of rough stone quantity of 1359204 CBM @ Rs. 59/- as sieginiorage fee of Rs. 8,01,93,036/- Security Deposit of Rs. 20,00,000/- +Area Assessment Rs. 1,905/- were taken in to account.

25) a) . The grantee should sent the notice for operating the quarry to Director of Mines safety, Bangalore.

b) Quarrying operation should carried out only after appointing Mines Manager, Mines Mate and Foremen.


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d). If any accident occur in the quarry area the lessees should give intimation to the Director of Mines safety Bangalore and District Collector, Krishnagiri at once and lessee is solely responsible for any violation.

- i. குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 'மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 'மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.
- ii. அருகிலுள்ள கிராம சாலைகளுக்கு 10 'மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 'மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

- (1) குத்தகை காலம், குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றும் நாளிலிருந்து பத்து ஆண்டுகளாகும்.
- (2) குவாரி குத்தகை வழங்கப்பட்ட இடத்தில் குவாரி செய்யும் வேலிக்கல்/ குண்டுக்கல்/ கட்டுக்கல்/ சக்கை மற்றும் ஜல்லி ஆகியவற்றை மேற்படி இடத்திலிருந்து வெளியில் எடுத்துச் செல்வதற்கு முன்பு அவை ஒவ்வொன்றிற்கும் அவற்றிற்குரிய வீதத்தில் சீனியரேஜ் தீர்வை செலுத்தி கிருஷ்ணகிரி, பாமிட் மற்றும் நடைச்சீட்டு பெற்ற பின்புதான் மேற்படி கனிமங்களை குவாரியிலிருந்து வெளியில் எடுத்துச் செல்ல வேண்டும். 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், இணைப்பு II-ல் அடங்கியபோது அரசால் நிர்ணயிக்கப்படும் வீதத்தில் பாபு தீர்வை செலுத்த வேண்டும். மேற்கண்ட தொகையைத் தவிர அரசால் அடங்கியபோது நிர்ணயிக்கப்படும் இதுர தொகைகளையும் குத்தகைதாரர் செலுத்த வேண்டும்.
- (3) குத்தகை இடத்திற்கு அருகிலுள்ள குடியிருப்புகள், கட்டடங்கள், நீர்நிலைகள், குளங்களின் கரைகள், மரங்கள், சாலைகள், வண்டிப்பாதைகள், நடைபாதைகள் மற்றும் இது பொதுச் சொத்துக்களுக்கு பாதுகாமில்லாமல் குவாரி செய்ய வேண்டும்.
- (4) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகாமையில் உள்ள பட்டாதாரர்கள் மற்றும் பொது மக்களுக்கு பாதுகாமில்லாமல் குவாரி செய்ய வேண்டும்.
- (5) அ) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகிலுள்ள ரயில்பாதைகள், சாலைகள், மின்சாரம் மற்றும் தொலைபேசி கம்பிகளுக்கு 50 மீட்டரும், குடியிருப்பு பகுதியிலிருந்து 300 மீட்டரும், நடைபாதைகள், கிராம சாலைகளுக்கு 10 மீட்டரும் பாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.
ஆ) அருகிலுள்ள அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
இ) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
- (6) மாவட்ட ஆட்சித்தலைவர் (அல்லது) அரசால் அதிகாரம் வழங்கப்பட்ட அலுவலரை குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிடவும், குவாரி பதிவேடுகள், ஆவணங்கள் மற்றும் கணக்கை சரிபார்க்கவும் அனுமதிக்க வேண்டும். இது சம்மந்தமாக அவர்கள் கோரும் அனைத்து விவரங்களையும் வழங்க வேண்டும்.
- (7) சுற்றுப்புற சூழ்நிலை பாதுகாப்பு, கனிம பாதுகாப்பு, தொழிலாளர் பாதுகாப்பு முதலியவற்றைக் கருத்தில் கொண்டு விஞ்ஞான அடிப்படையில் திறமையுடன் முறையாகக் குவாரி செய்ய வேண்டும்.
- (8) மாவட்ட ஆட்சித்தலைவர் மற்றும் ஆணையர், புனியியல் மற்றும் சுரங்கத்துறை, ஆகியோரால் அதிகாரம் வழங்கப்பட்ட அலுவலரை மேலே பத்தி (5)-ல் குறிப்பிட்டுள்ள நிபந்தனைகள் தொடர்பாகவும், மேற்கண்ட அலுவலர்களின் ஆணையை நிறைவேற்றவும் குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிட அனுமதிக்க வேண்டும்.
- (9) குத்தகைதாரரின் செலவில் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றி அதனை பதிவு செய்வதற்கு முன்பு குத்தகை இடத்தில் குவாரி மற்றும் இது சம்மந்தப்பட்ட வேலைகளைத் தொடங்கக்கூடாது.
- (10) குத்தகை வழங்கப்பட்டுள்ள இடத்திற்குள் எல்லையிலிருந்து 7.5 மீட்டர் தூரத்திற்குள் குவாரி செய்யக் கூடாது.

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2



- (25) அரசின் அவ்வப்போதைய ஆணைகளுக்கேற்ப நிபந்தனைகளை மாற்றி அமைக்கின்றும் காவல்துறை நிக்சுவோ, கட்டுதலாக சேர்க்கவோ, மாவட்ட ஆட்சித்தலைவருக்கு முழு அதிகாரம் உண்டு.
- (26) மேற்கூறிய நிபந்தனைகளுடன் 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், கரங்கங்கள் மற்றும் கனிமங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம் 1957, மாவட்ட ஆட்சித்தலைவர் ஆகியோரால் அவ்வப்போது பிறப்பிக்கப்படும் ஆணைகள் குத்தகைதாரரைக் கட்டுப்படுத்தும்.
- (27) குவாரிமீள்/கரங்கங்களுக்கு பொருந்தக்கூடிய தொழிலாளர் சட்டங்களுக்கு கட்டுப்பட்டு குத்தகைதாரர் குவாரி செய்யவேண்டும். தவறினால் சம்மந்தப்பட்ட அரசின் சட்டப்பூர்வமான நடவடிக்கைகளுக்கு குத்தகைதாரர் உள்ளாக வேண்டி இருக்கும்.
- (28) இந்திய வெடிமருந்து சட்டம் 1884 (Central Act IV of 1884)-ன்படி உரிய வெடிமருந்து உரிய பெற்று குத்தகைதாரர் பாறைகளை வெடிவைத்து உடைக்க வேண்டும். தவறும் பட்சத்தில் குத்தகைதாரர் கடும் தண்டனைக்கு உள்ளாக வேண்டியிருக்கும்.
- (29) குத்தகைதாரர் குவாரியில் குறுந்தை தொழிலாளர்களை பணியமர்த்தக்கூடாது.

27 a) The conditions imposed by the Tamil Nadu Pollution Control Board in the consent to establishment in Air and Water Pollution Act should be strictly adhered and the consent should be renewed periodically.

b) The Environment Clearance issued by the SEIAA, Tamil Nadu should be renewed within the prescribed time limit.

28) Conditions imposed by the SEIAA.

1. (i) The Environmental Clearance is granted to Mining of Rough Stone for the production quantity of 679602 Cu.m of Rough stone for the period of 5 Years from the date of execution of the Mining lease period.

(ii) Depth of mining permitted = 92 mts. (including topsoil and burden) from a period of 5 years.

2. A. Conditions to be complied before the commencing of mining operation

(1) The applicant has to obtain land use classification as industrial use before issue/ renewal of mining lease.

(2). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.

(3). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.

(4). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ 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 be put on the website of the proponent and also kept at the site, for the general public to see.

(5). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.


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DISTRICT COLLECTOR

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- (6). The proponent shall ensure that First Aid Box is available at site.
- (7). The excavation activity shall not alter the natural drainage pattern of the area.
- (8). The excavated pit shall be restored by the project proponent for useful purpose.
- (09). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- (10). The quarrying operation shall be restricted between 7 AM and 5 PM.
- (11). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- (12). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
- (13). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
- (14). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- (15). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- (16). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- (17). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
- (18). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- (19). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- (20). The proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF & CC, Col on 16.11.2009.(GLC= Ground Level Concentration), (NAAQ= Noise and Ambient Air Quality)
- (21). The following measures are to be implemented to reduce Air Pollution during transportation of mineral
 - (i). Roads shall be graded to mitigate the dust emission.
 - (ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.

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(22). The following measures are to be implemented to reduce Noise Pollution

- (i). Proper and regular maintenance of vehicles and other equipment.
- (ii). Limiting time exposure of workers to excessive noise.
- (iii). The workers employed shall be provided with protection equipment and earmuffs etc.
- (iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

(23). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.

(24). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Assistant Director, Ground Water Division, PWD, Dharmapuri.

(25) Rain water harvesting to collect and utilize the entire water falling in land area should be provided by construction of a storage tank with a capacity of 5,00,000 litres and the rain water harvested in the entire quarry area should be stored in it and used for the quarry purpose like dust prevention, wet drilling, providing water for green belt etc.,

(26). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.

(27). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.

(28). The following measures are to be adopted to control erosion of dumps:-

- (i). Retention/ toe walls shall be provided at the foot of the dumps.
- (ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

(29). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.

(30). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(31). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways.

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The silt trap should be of sufficient dimensions to catch all the silt which being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season. Photographs of the silt trap should be furnished before commencing quarry operation.

(32). The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, that the ground water is getting depleted due to the quarrying activity, necessary corrective measures shall be carried out. The Assistant Director Ground water Division PWD Dharmapuri shall monitor.

(33). No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

(34). To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution and it should be monitored by the District Environmental Engineer, TNPCB, Hosur on yearly basis.

(35). It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.

(36). It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site.

(37) Ground water quality monitoring should be conducted once in 3 Months.

(38) Transportation of the quarried materials shall not cause any hindrance to the village people/ Existing Village road.

(39). Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF and CC, GOI once in three months.

(40). Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI. and it should be properly maintained.

(41). Bunds to be provided at the boundary of the project site and it should be properly maintained.

(42). The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

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- (43). At least 10 Neem trees should be planted around the boundary of the quarry site.
- (44). Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- (45). The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity.
- (46). The Project Proponent shall provide solar lighting system to the nearby villages.
- (47) The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
- (48). Rainwater shall be pumped out Via Settling Tank only
- (49). Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- (50) As per MoEF & CC, GOI, Office Memorandum dated 30.03.2015 prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for wild life as applicable shall be obtained before starting the quarrying operation if the project site is located with 10KM from National Parks and Sanctuaries.
- (51) The quarrying activity shall be stopped if the entire quantity indicated in the Mining Plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
- (52) Safety equipments to be provided to all the employees.
- (53) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai.
- (54) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license / certificate obtained from the competent authority before execution of mining lease.
- (55) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- (56) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- (57) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- (58) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.

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- (59) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- (60) The environmental norms shall be monitored by the District Environmental Engineer, Tamil Nadu pollution Control Board, Hosur.
- (61) The Assistant Director Public Works Department, Ground Water Division Dharmapuri shall monitor whether the quarrying activity is carried out above the ground water level on yearly basis.
- (62) NOC for sanitary certificate shall be obtained from the Deputy Director of Health Services, Krishnagiri.
- (63) Yearly Medical Examination of the quarry workers should be carried out by a registered medical practitioner and the report should be filed in the quarry office in a separate file and copy should be sent to the Deputy Director, Health Services, Krishnagiri.
- (64) Closed circuit camera should be erected at the quarry side and the passage of vehicles in and out of the quarry should be recorded and the footage of the recordings of the camera should be maintained and should be produced before the enforcing officials when ever called for.
- (65) Vehicles used for transportation of quarried materials should be fitted with GPS and monitored.
- (66) Pit mouth register should be maintained in online.
- (67) Auditor report on the annual turnover amount should be submitted to the District Collector within one month from the end of the financial year.
- (68) 02.5% of the turn over amount should be utilized for the CSR activity after consultation with the District Collector.

B. General Conditions:

- (1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- (2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- (3) No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- (4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

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Responsible Officer		

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(6) Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.

(7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

(8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

(9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.

(10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.

(11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

(12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.

(13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

(14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

(15) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its regional office located at Chennai.

(16) The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

(17) This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

(18) The DEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.

LESSEE

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(19) The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage if the validity of this environmental clearance, if it is found or if it comes to the knowledge of this DEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

(20) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

(21) The above conditions will 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, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

(22) Any other conditions stipulated by other Statutory/ Government authorities shall be complied.

29. The lessee should strictly adhere all the conditions imposed in the environmental clearance issued by The SEIAA Tamil Nadu and consent order of the Tamil Nadu Pollution Control Board.

30. The lessee should periodically renew the environmental clearance and the consent orders of the Tamil Nadu Pollution Control Board without any lapse.

31. If any illicit quarrying is found in the area over an extent of 1.27.0 hectares in S.F.No. 1151,1155, 1212 to 1219,1222 1225; 1226/A (Part-5) of Kammondoddi Village, Shoolagiri Taluk, Krishnagiri District before the date of execution of lease deed, this lease deed is liable to be cancelled and criminal action will be initiated.

32. If the quarry area is situated within 10 km distance from any protected areas NOC from the Standing committee of NBWL should be obtained before commencing the quarry operation.

33. If the lease holder wants to quarry more than the quantity permitted in the environmental clearance within the lease period, modified mining plan / scheme and Environment Clearance for the additional quantity should be submitted.

[Signature]
LESSEE

[Signature]
DISTRICT COLLECTOR

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Registering Officer			





THE SCHEDULE

TALUK : SHOOLAGIRI

VILLAGE : KAMMONDODDI

Sl. No.	Survey number	Field	Extent Leased out in Hectares	Boundary			
				North S.F No.	East S.F No.	South S.F No.	West S.F No.
1.	1151,1155, 1212 to 1219,1222 1225, 1226/A (Part-5)		1.27.0	1151, 1155 etc (Part IV)	1151,1155 etc (Part)	1151,1155 etc	754 & 16.0

S. S. S.
LESSEE

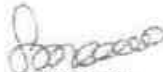
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DISTRICT COLLECTOR

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[Signature]
Registering Officer



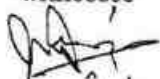


In Witness whereof **Dr. S. Prabhakar I.A.S** the Collector of Krishnagiri District acting for and on behalf of and by the order and direction of the Governor of TamilNadu, "The Lessor" and Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur, Hosur Taluk Krishnagiri District "The lessee" hereunto set their respective hands.

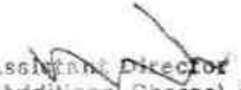

LESSEE

 22/24
DISTRICT COLLECTOR

Signed by the above named
in the presence of the following
witnesses

 (NAGARAJAREDDY)
S/o nanja Reddy
Madivalam vill, Nallur Po.
Hosur -

Signed by the above named
in the presence of the
following witnesses.

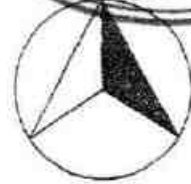

Assistant Director
(Additional Charge)
Geology & Mining Dept.
Collectorate, Krishnagiri.

 (VALUSEKAREDDY)
S/o Venkatesh Reddy
no- 270, Heritage colony.
Thirukku Road, Sarajapuram
B'lore.

 (S. MUTHU)
7/11/24
ASSISTANT GEOLOGIST
O/o. the Dept. of Geology and Mining,
Collectorate, Krishnagiri.

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SCALE 1 : 2000

KRISHNAGIRI DISTRICT
SHOOLAGIRI TALUK

KAMANDODDI VILLAGE

S.F.NO: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A

EXTENT=14.68.5 Hects

1151, 1155, etc

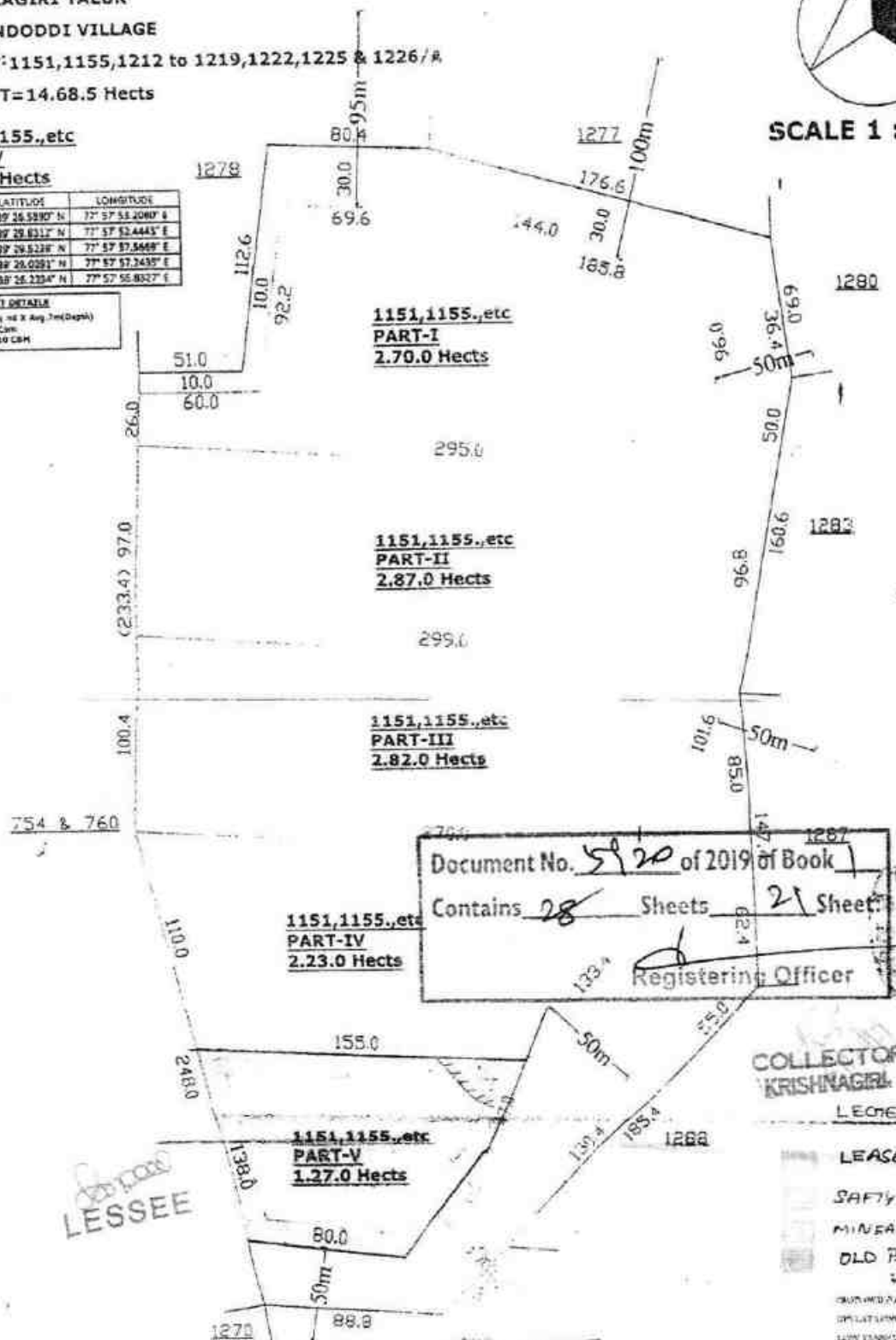
PART-V

1.27.0 Hects

LABEL	LATITUDE	LONGITUDE
1	12° 39' 26.5280" N	77° 57' 51.2080" E
2	12° 39' 29.8317" N	77° 57' 52.4445" E
3	12° 39' 29.5238" N	77° 57' 57.5669" E
4	12° 39' 28.0291" N	77° 57' 57.2435" E
5	12° 39' 26.2304" N	77° 57' 56.8327" E

EXISTING PIT DETAILS

PIT-1 = 500 Sq. mt. & Avg. 7m (Depth)
= 3510 CBM
TOTAL = 2730 CBM



REMARKS

All dimensions are in meters

TAHSILDAR
SHOOLAGIRI



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Registering Officer 2



17 OCT 2024
TAMIL NADU LEGISLATIVE ASSEMBLY
LIBRARY
CHENNAI
17 OCT 2024





भारत सरकार
GOVERNMENT OF INDIA



நாகராஜா ரெட்டி நஞ்ச ரெட்டி
Nagaraja Reddy Nanja Reddy
பிறந்த நாள் / DOB : 04/06/1975
ஆண் / MALE



4303 1698 4032

ஆதார - தாரண மனிதனின் அதிகாரம்

[Signature]



भारतीय विश्व पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

தகவல்:
S/O: நஞ்ச ரெட்டி, டி.நா. 3/23,
மடிவாளம், நல்லூர், மூலூர்,
நல்லூர், நல்லூர், மூலூர்,
கிருஷ்ணகிரி, தமிழ் நாடு:
635103

/ address
S/O: Nanja Reddy, D NO 3/23,
MADIVALAM, NALLUR,
HOSUR, Nallur, Nallore, Hosur,
Krishnagiri, Tamil Nadu, 635103

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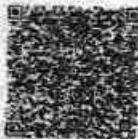
P.O. Box No. 1947,
Bengaluru-560 001



भारत सरकार
GOVERNMENT OF INDIA



வசுதேவ ரெட்டி, ம
Vasudeva Reddy M
பிற. நாள்/ DOB: 01/05/1981
ஆண் / MALE



3715 2906 9654

MEERA AADHAAR, MERI PEHCHAN



भारतीय विश्व पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

Unaided Data: 09/09/2017

வசுதேவ:
கட்டி / வசுதேவ ரெட்டி, வீலா ரெட்டி,
#விலா-270, ஹெரிதேஜ் கவுண்டி, சர்ஜபுர,
ரோட், சர்ஜபுர, பெங்களூர்,
கர்நாடகா - 562125

Address
S/O: Venkata Reddy, #Villa
No- 270, Heritage County,
Thindlu Road, Sarjapure,
Bengaluru,
Karnataka - 562125

3715 2906 9654



1947
1800 200 1947

help@uidai.gov.in

www.uidai.gov.in

P.O. Box No. 1947,
Bengaluru-560 001

[Handwritten mark]

Document No. 5120 of 2012 of Book 1
Contains 28 Sheets 23 Sheet.

[Signature]
Registering Officer





From
Dr. S. Prabhakar, I.A.S.,
District Collector,
Krishnagiri

To
The Sub Registrar,
Shoolagiri

Roc.206/2018/Mines dated. 09.12.2019.

Sir,

Sub: Mines and Minerals - Minor Minerals - Rough stone - Krishnagiri District - Shoolagiri Taluk - Kammondoddy Village - quarry lease for Rough Stone granted in Government land SF.Nos. 1151, 1155, 1212 to 1219, 1222, 1225, 1226/A (part-5) over an extent of 1.27.0 Hect. to Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur Town Hosur Taluk, Krishnagiri District - Lease agreement sent for registration - regarding.

Ref: The District Collector, Krishnagiri Proceedings Roc. 206/2018/Mines dated 06.12.2019.

In the order cited, the District Collector had granted a quarry lease for Rough Stone over an extent of 1.27.0 Hect. in Government land S.F.No. 1151, 1155, 1212 to 1219, 1222, 1225, 1226/A (part-5) of Kammondoddy Village of Shoolagiri Taluk Krishnagiri District for a period of Ten years from the date of execution of lease deed under provisions of Rule 8 (1) of the Tamil Nadu Minor Mineral Concession Rules 1959 to Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur Town Hosur Taluk, Krishnagiri District. The lease agreement was executed on 06.12.2019 and the lease period is 10 years from 06.12.2019 to 05.12.2029.

The lessee to Thiru S. Madhu S/o Srinivasan, Door No. 12, Eden Garden, Thalli Road, Hosur Town Hosur Taluk, Krishnagiri District has been instructed to register the lease agreement at the Sub Registrar Shoolagiri.

In this connection I am to inform you that the stamp duty worked out on the basis of the average seigniorage fee calculated on the anticipated production of 1359204 cbm of Rough Stone planned during the entire lease period of 10 years and security deposit remitted by the lessee is as detailed below.

Tender amount for Ten years	: Rs. 1,00,00,000/-
Anticipated Seigniorage fee for 1359204 cbm of Rough Stone planned for production @ Rs.59/- per cbm of Rough Stone	: Rs. 8,01,93,036/-
Security Deposit	: Rs. 20,00,000/-
Area Assessment	: Rs. 1,905/-
Total	: Rs. 9,21,94,941/-
Stamp duty at the rate of 1%	: Rs. 9,21,949/- (or) 9,22,000/-
Total value of Stamp papers.	: Rs. 9,22,000/-

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Document No.	5920	of 2019 of Book 1
Contains	28	24 Sheet.



The lease deed agreement is herewith enclosed for registration and it is requested to return the registered lease deed through the lessee.

Further, I wish to inform that the District Collector is exempted from the personal appearance for the Registration under section 88 (1) of the Indian Registration Act, 1908.

Encl : Executed lease deed

For Collector,
Krishnagiri.

Copy

Thiru S. Madhu
S/o Srinivasan,
Door No. 12, Eden Garden,
Thalli Road, Hosur Town
Hosur Taluk, Krishnagiri District

(with a direction to registered the lease
deed and the submit the executed lease deed)

Document No.	5920	of 2019 of Book	1
Contains	28	Sheets	25
Registering Officer			



Government of Tamil Nadu
Registration Department
Acknowledgement

Reference Details

SRO Name	Soolagiri
Application No.	S01LANDVV201912108853496
Transaction No.	REG201912108341183
Transaction Date	10/12/2019

Application Details

Applicant Name	MADHU
Service Type	Document Registration (New) in SRO
Stamp Duty (₹)	1083305/-
Registration Fee (₹)	20000/-
Computer Fee (₹)	340/-
CD Fees (₹)	50/-

Payment Details

Name of the Bank	SBI
Bank Ref. No.	CPW9136955
Payment Mode	Online
Amount Paid (₹)	1103695/-
Payment Status	Success
Payment Date	10/12/2019

ஏதேனும் சந்தேகங்கள்/குறைகள் இருப்பின் கீழ்க்கண்ட வழிமுறைகளில் தெரிவிக்கலாம்

கட்டணமில்லா தொலைபேசி எண்

1800 102 5174

மின்னஞ்சல்

contacttigrchennai@gmail.com

மாற்று மின்னஞ்சல் முகவரி

helpdesk@tnreginet.net

Document No. 520 of 2019 of Book 1
Contains 28 Sheets 26 Sheet.

R/Soolagiri/Book-1/5920/2019



CERTIFICATE UNDER SECTION 42 OF THE INDIAN STAMP ACT 1899

S.No 4786 of 2019

I hereby certify that a sum of ₹ 10,83,305/- (Rupees Ten Lakh Eighty Three Thousand Three Hundred and Five only) on account of deficit stamp duty has been levied under section 41 of the Stamp Act in respect of this instrument from Mr. எஸ் டிது residing at NO.12, EDEN GARDEN, THALLY ROAD HOSUR, Hosur, Krishnagiri, Tamil Nadu, India, 635109.

Sub Registrar: Soolagiri
Date: 10/12/2019

Signature of Sub Registrar and Collector under Section
41 of the Indian Stamp Act

Presented in the office of the Sub Registrar of Soolagiri and fee of ₹ 20,390/- paid at 01:34 PM on the 10/12/2019 by

Left Thumb



Additions as per recitals of document

Execution admitted by
Left Thumb



Additions as per recitals of document

Identified By

1.

2.

Mr. NAGARAJ REDDY Son of NANJA REDDY MADIVALAM VILLAGE NALLUR POST, Hosur, Krishnagiri, Tamil Nadu, India, 635109.

Mr. VASUDAVA REDDY Son of VENKATA REDDY VILLA NO.270, HERITAGE COUNTY, THINDLU ROAD SARJAPURA BANGALORE, Karnataka, India, 562125

I have satisfied my self as to the
execution of the instalment by
Thru S. Pralaban collector
who is authorized from Personal
endorsement under section 88(1)

1/2

Document No. 5920 of 2019 of Book 1
Contains 28 Sheets 27

R/Soolagiri/Book-1/5920/2019

10th -day of December 2019



bhaskar m
Sub Registrar
Soolagiri

Registered as Number R/Soolagiri/Book-1/5920/2019.

Date: 10/12/2019
Soolagiri



bhaskar m
Sub Registrar

Document No.	5920	of 2019 of Book	1
Contains	28	Pages	28
Sub Registrar			





RENEWAL OF CONSENT ORDER NO:2309252248419

DATE:26/04/2023

PROCEEDINGS NO.F.1906HSR/RS/DEE/TNPCB/HSR/A/2023 DATED: 26/04/2023

Sub :	Tamil Nadu Pollution Control Board – AUTO RENEWAL OF CONSENT –M/s. S MADHU ROUGH STONE QUARRY , S.F. No. 1151,1155,1212 TO 1219,1222,1225 & 1226/1A(PART-5), KAMANDHODDI village, Shoolagiri Taluk and Krishnagiri District- Renewal of Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) – Issued – Reg.
Ref :	1. TNPCB's Proc. No. F.1906HSR/RS/DEE/TNPCB/HSR/A/2019,Dated: 13/02/2019. 2. Unit's CTO-Auto renew Application No. 52248419, Dated: 17/04/2023. 3. TNPC Board Chairman's Circular Memo No: TNPCB/OCMMS/06517/2019, Dated: 08/06/2022

Renewal of Consent is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor,
M/s . S MADHU ROUGH STONE QUARRY
S.F No. 1151,1155,1212 TO 1219,1222,1225 & 1226/1A(PART-5),
KAMANDHODDI Village,
Shoolagiri Taluk,
Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending - December 05, 2024

R
VENKATESAN
Digitally signed
by R VENKATESAN
Date: 2023.04.27
11:47:10 +05'30'
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl.No.	Description	Quantity	Unit
Product Details :-			
1.	Rough Stone Quarrying in an Extent of 1.27 Hects located at S.F.No.1151,1155,1212 to 1219,1222,1225,& 1226/1A,(Part -5) of Kammondoddi Village, Shoolagiri Taluk ,Krishnagiri District	679602	Cubicmeter/ Five Years
By-Product Details :-			
Intermediate Product Details :-			

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained

I Point source emission with stack :				
Stack No	Point Emission sources	Air pollution Control measures provided	Stack height from Ground Level in m	Gaseous Discharge in Nm3/hr
II Fugitive/Noise emission :				
Sl.No.	Fugitive or Noise Emission sources	Type of Emission	Control measures provided	Quantity
1.	Loading & Unloading	Fugitive	Water sprinkler system	
2.	Vehicle Movement	Fugitive	Water sprinkler system	

Special Additional Conditions-

- i. The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions-

- The unit shall carryout the quarrying activity only with the quarry lease agreement made with the Deputy Director, DDistrict Collector,Krishnagiri.
- The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the Lr No. 03/DEIAA-KGI/EC.No.80/2018 dated 27.08.2018.
- The unit shall comply with the conditions imposed in the Mining Lease Agreement entered with the Deputy Director, Department of Geology and Mines, Krishnagiri dated on 29/11/2022.
- The unit shall operate and maintain the APC measures in the form of portable water sprinklers effectively and continuously so as to satisfy the NAAQ / Emission standards prescribed by the Board.
- The unit shall adhere to the ANL standards as prescribed by the Board.
- The unit shall continue to develop more green belt with trees having thick canopy cover in the unit's premises.
- The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
- The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
- The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
- In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

R

VENKATESAN

Digitally signed
by R VENKATESAN

Date: 2023.04.27

11:47:25 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR



To

The Proprietor,

M/s.S MADHU ROUGH STONE QUARRY,

NO. 12,EDEN GARDEN,THALLY ROAD,HOSUR TALUK,KRISHNAGIRI DISTRICT

Pin: 635109

Copy to:

- 1.The Commissioner, SHOOLAGIRI-Panchayat Union, Shoolagiri Taluk, Krishnagiri District .
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

This is computer generated, Signature is not required.



RENEWAL OF CONSENT ORDER NO:2309152248419

DATE:26/04/2023

PROCEEDINGS NO.F.1906HSR/RS/DEE/TNPCB/HSR/W/2023 DATED: 26/04/2023

Sub :	Tamil Nadu Pollution Control Board – AUTO RENEWAL OF CONSENT – M/s. S MADHU ROUGH STONE QUARRY S.F No. 1151,1155,1212 TO 1219,1222,1225 & 1226/1A(PART-5), KAMANDHODDI Village, Shoolagiri Taluk, Krishnagiri District- Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.
Ref :	1. TNPCB's Proc. No. F.1906HSR/RS/DEE/TNPCB/HSR/W/2019,Dated: 13/02/2019. 2. Unit's CTO-Auto renew Application No: 52248419, Dated: 17/04/2023. 3. TNPC Board Chairman's Circular Memo No: TNPCB/OCMMS/06517/2019, Dated: 08/06/2022

Renewal Of Consent is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor,
M/s. S MADHU ROUGH STONE QUARRY
S.F No. 1151,1155,1212 TO 1219,1222,1225 & 1226/1A(PART-5),
KAMANDHODDI Village,
Shoolagiri Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending - December 05, 2024

R
VENKATESAN
Digitally signed by R
VENKATESAN
Date: 2023.04.27
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

SPECIAL CONDITIONS



1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 3) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl.No.	Description	Quantity	Unit
a. Product Details :-			
1.	Rough Stone Quarrying in an Extent of 1.27 Hects located at S.F.No.1151,1155,1212 to 1219,1222,1225,& 1226/1A,(Part -5) of Kammondoddi Village, Shoolagiri Taluk, Krishnagiri District	679602	Cubicmeter/Five Years
b. By-Product Details :-			
c. Intermediate Product Details :-			

2. This renewal of consent is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
EFFLUENT TYPE :- Effluent Type : Sewage			
1.	Sewage	0.65	On Industrys own land
EFFLUENT TYPE :- Effluent Type : Trade Effluent			
OUTLET NUMBER	DESCRIPTION OF OUTLET	MAXIMUM DAILY DISCHARGE (IN KLD)	POINT OF DISPOSAL

Special Additional Conditions-

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions-

- The unit shall carryout the quarrying activity only with the quarry lease agreement made with the District Collector,Krishnagiri.
- The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the Lr No. 03/DEIAA-KGI/EC.No.80/2018 dated 27.08.2018.
- The unit shall comply with the conditions imposed in the Mining Lease Agreement entered with the Deputy Director, Department of Geology and Mines, Krishnagiri dated on 29/11/2022.
- The unit shall treat and dispose the sewage generated from the unit through Septic tank and Soak Pit arrangement as reported.
- The unit shall ensure that no trade effluent is generated at any stage of its manufacturing process.
- The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
- The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
- The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
- In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.
- The unit shall not use 'Use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc, plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastics flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.,
- In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and

further action will be initiated against the unit as per law.

AIR ACT:

1. The unit shall carryout the quarrying activity only with the quarry lease agreement made with the Deputy Director, Department of Geology and Mines, Krishnagiri.
2. The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the Lr No. 03/DEIAA-KGI/EC.No.54/2018 dated 27.08.2018.
3. The unit shall comply with the conditions imposed in the Mining Lease Agreement entered with the Deputy Director, Department of Geology and Mines, Krishnagiri dated on 29/11/2022.
4. The unit shall operate and maintain the APC measures in the form of portable water sprinklers effectively and continuously so as to satisfy the NAAQ / Emission standards prescribed by the Board.
5. The unit shall adhere to the ANL standards as prescribed by the Board.
6. The unit shall continue to develop more green belt with trees having thick canopy cover in the unit's premises.
7. The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
8. The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
9. The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
10. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

R

VENKATESAN

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

Digitally signed by R
VENKATESAN

Date: 2023.04.27

11:48:11 PM +05'30'

To

The Proprietor,
M/s.S MADHU ROUGH STONE QUARRY,
NO. 12, EDEN GARDEN, THALLY ROAD, HOSUR TALUK, KRISHNAGIRI DISTRICT,
Pin: 635109

Copy to:

1. The Commissioner, SHOOLAGIRI-Panchayat Union, Shoolagiri Taluk, Krishnagiri District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

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~~ANNEXURE~~ IV

KRISHNAGIRI DISTRICT

SHOOLAGIRI TALUK

KAMANDODDI VILLAGE

S.F.NO: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A

EXTENT=14.68.5 Hects

1151, 1155, etc

PART-V

1.27.0 Hects

LABEL	LATITUDE	LONGITUDE
1	12° 39' 26.5596" N	77° 57' 53.2068" E
2	12° 39' 29.8317" N	77° 57' 52.4445" E
3	12° 39' 29.5238" N	77° 57' 57.5609" E
4	12° 39' 28.0244" N	77° 57' 52.3435" E
5	12° 38' 34.2234" N	77° 57' 55.8327" E

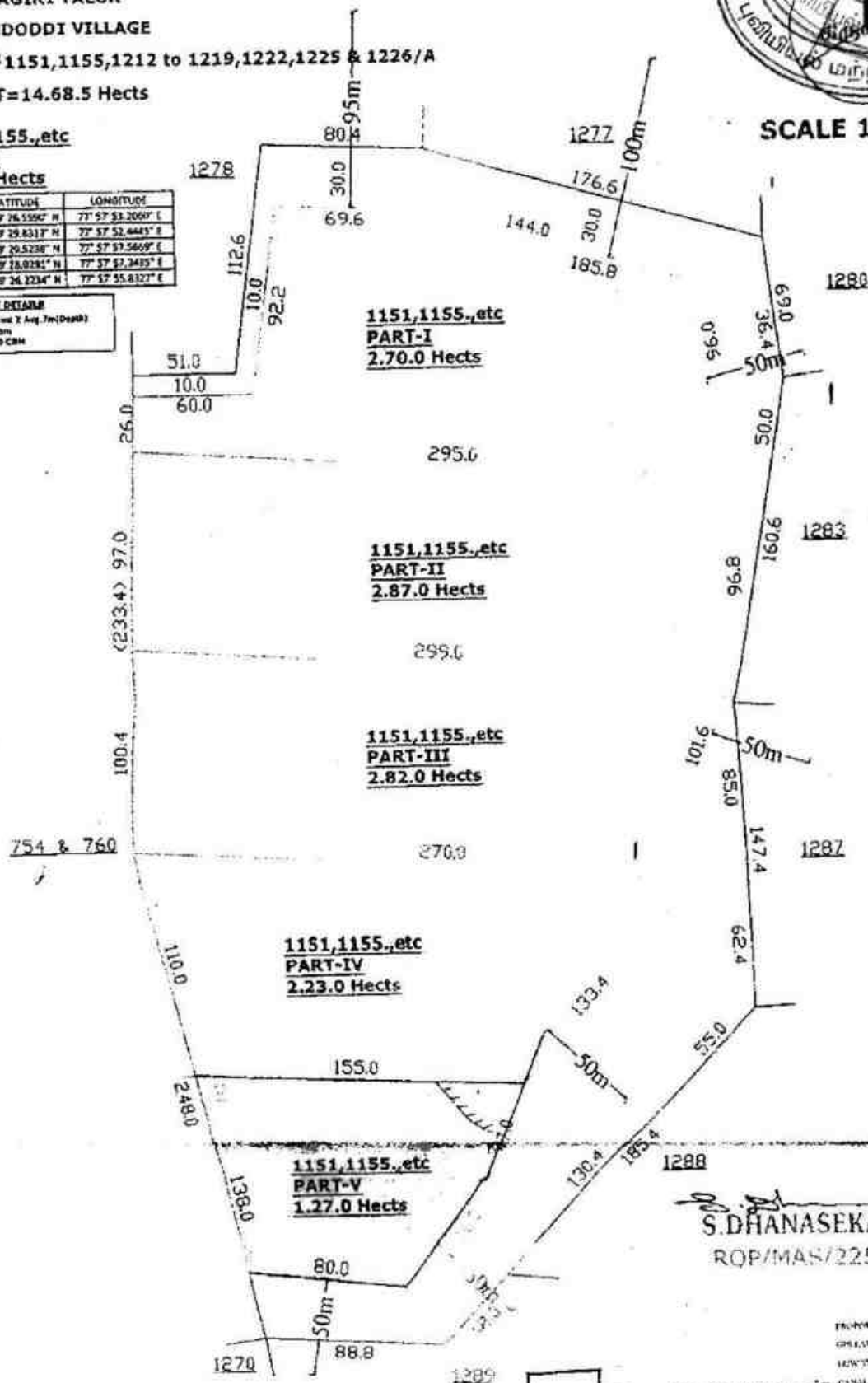
EXHIBIT 10.10.1

$$PIT-1 = 0.50 \text{ Sq. mi.} \times \text{Avg. For (Deaths)}$$

• 3710 Cdn
YCM 44 • 3710 Cdn

TOTAL = 2710 CMM

SCALE 1 : 2000



REMARKS

All dimensions are in meters

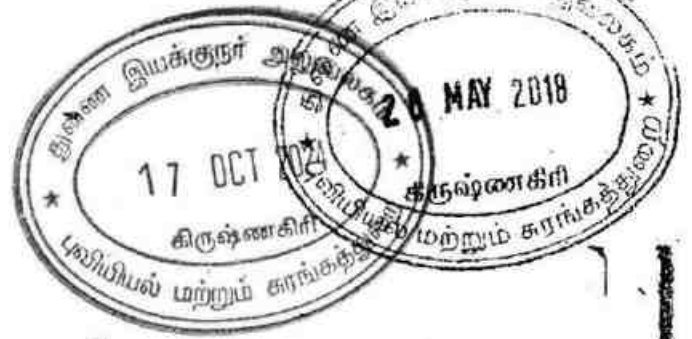
S. DHANASEKAR, M.Sc. (Geo)

ROP/MAS/225/2011/A

TAHSILDAR 5/17
SHOOLAGIRI,

1. REPORT
 2. PREPARED FOR THE OTHER AREA
 3. OR LATEST INFO
 4. LOW TENSION (ELECTRICITY)
 5. GENERAL
 6. PROBABLE CAUSE

28 4.17
 28 4.17
 28 4.17



வி. எண். 126 காமத்தொட்டி

193

1	2	3	4	5	6	7	8	9	10	11	12	
							கு. எப். தொ. எஸ். கு. எப்.					
148	3	1148-பா	ர	பு	...	8-2	6	3 38	0 38-0	1 28	1231 சி. அஜயப்பா (1), சி. சிவசுப்பா (2)	
	4	-பா	ர	பு	...	8-2	6	3 18	0 11-5	0 39	1231 சி. அஜயப்பா (1), சி. சிவசுப்பா (2)	புல்தி பொரு.
								1 84-5	6 25			
49	1	1149 பா	ர	பு	...	8-2	6	3 38	0 21-0	0 93	6 சி. அப்பாஜி	
	2	-பா	ர	பு	...	8-2	6	3 38	0 11-5	0 39	680 அ. முனிராமி	
	3	-பா	ர	பு	...	8-2	6	3 38	0 07-0	0 24	307 க. செல்வசு சாமி.	
	4	-பா	ர	பு	...	8-2	6	3 38	0 09-0	0 30	1008 அ. சரம்மா	
	5	-பா	ர	பு	...	8-2	6	3 38	0 19-0	0 64	88 அ. எஸ். பப்பா	
								0 73-5	2 50			
50	1	1150-பா	ர	பு	...	8-2	6	3 38	0 13-0	0 10	680 அ. முனிராமி	
	2	-பா	ர	பு	...	8-2	6	3 38	0 26-5	0 90	1493 மு. சின்ன தாயப்பாவும் மற்றும் இரண்டு பேர்களுக்கும்.	
								0 25-5	1 00			
		1151-பா	அ	8-0-2	...	...	...	42 81-5	...	...		தேவல ஏற்படாத தரிசு.
		1152	அ	4,0	...	...	...	1 39-5	...	...		முனி.
	1	1153-பா	ர	பு	...	8-2	6	3 38	0 32-0	1 08	181 மு. குறப்பா	
	2	-பா	ர	பு	...	8-2	6	3 38	0 34-0	1 15	1150 மு. தாய்காள்	
	3	-பா	ர	பு	...	8-2	6	3 38	0 43-0	1 45	1235 சி. சின்ன சிவசுப்பா(1), சி. அஜயப்பா(2)	
								1 09-0	3 68			
	1	1154-பா	ர	பு	...	8-5	10	1 09	0 06-5	0 07	181 மு. குறப்பா	
	2	-பா	ர	பு	...	8-5	10	1 09	0 03-5	0 06	181 மு. குறப்பா	புல்தி பொருத்த பொரு.



வகைப்படுத்தல்

அனுப்பதல்

திரு. தீபக் எஸ். சிவ்கி இ.வய.,

மாவட்ட வன அலுவலர்,

ஒசூர் சால்நடை, பண்ணை அஞ்சல்,

மத்திகிரி, ஒசூர் - 635 110.

தொலைபேசி எண். 04344-262259.

பெறுதல்

மாவட்ட ஆட்சித் தலைவர்,

திருவள்ளூர் மாவட்டம்,

திருவள்ளூர்.



ந.க.எண். 62/2017-எல் நான்.14.12.2017
திருவள்ளூர் மாவட்ட சட்டமன்றத் துறை அலுவலர் அலுவலகம் 2048

அப்படி,

பொருள் : கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் வெட்டி
திருவள்ளூர் மாவட்டத்தில் உள்ள அரசு புறம்போக்கு நிலங்களில்
உள்ள சாதாரண கற்கள் வெட்டியெடுக்க டெண்டருடன் ஆணைந்த
ஏலமுறையில் குவாரி குத்தகை வழங்குதல் வனத்துறை சார்பாக
பரிந்துரை செய்ய வேரியது - வனத்துறை நோக்கிலான கருத்து
தெரிவித்தல் - தொடர்பாக

12/11/2017

மாவட்ட ஆட்சித் தலைவர், திருவள்ளூர் மாவட்டம்
ந.க.எண். 72/2017(கனிமம்) நான். 05.09.2017 மற்றும் 15.11.2017.

பார்வையில் கண்ட திருவள்ளூர் மாவட்ட ஆட்சித் தலைவர் அவர்களது கடிதத்தில்,
திருவள்ளூர் மாவட்டத்தில் உள்ள அரசு புறம்போக்கு நிலங்களில் சாதாரண கற்கள் வெட்டி
எடுக்க டெண்டர் / பொது ஏலம் மூலம் குத்தகைக்கு வழங்க, வனத்துறை நோக்கிலான கருத்து
மற்றும் வனத்துறையின் தடையின்றியே சான்று வழங்க வேண்டி தெரிவிக்கப்பட்டுள்ளது.

திருவள்ளூர் மாவட்டத்தில் அரசு புறம்போக்கு நிலங்களில் சாதாரண கற்கள் வெட்டி
எடுக்க டெண்டர் / பொது ஏலத்தில் குத்தகைக்கு விட்டு அதன்மூலம் அரசுக்கு வருவாய் ஈட்டி
வனத்துறையின் இலக்குகளை மீட்டும் திருவள்ளூர் மாவட்ட ஆட்சித் தலைவர்
மேட்டுக்கொண்டதற்கிணங்க, வனச்சரக அலுவலர்கள் மற்றும் பணியாளர்கள், ஒசூர்,
துவாங்கி, இளையக்கோட்டை மற்றும் திருவள்ளூர் ஆகியோருடன் குவாரி பகுதிகளை
தணிக்கை செய்யப்பட்டது கிழக்கண்ட மட்டியல் 1-ல் குறிப்பிட்டுள்ள முதல் 65 வரையிலான
உத்தேச கற்குவாரிகளுக்கு கிழக்கண்ட துபத்தனைகளுடன் வனத்துறை நோக்கிலான கருத்து
தெரிவிக்கப்படுகிறது.



- i) சாதாரண கற்குவாரி குத்தகை வழங்க ஒப்பந்தம் பெய்வது குறித்து கருத்துரை முன்பு ஒவ்வொரு குவாரிப் பகுதிக்கும் வனத்துறையின் நிர்ணயம் பெற்றபின் குவாரிப் பணி செய்ய பணி ஆணை (Work Order) வழங்கப்பட வேண்டும்.
- ii) மேற்படி சாதாரண கற்குவாரி குத்தகை கோரும் புலங்கள் கருவாரிப் பகுதியின் எல்லை சரணாலயத்திற்கான Eco Sensitive Zone எல்லை நிர்ணயம் செய்யப் பின்புள்ளபடி ஆணை எதிர்நோக்கியுள்ள சூழலில், காவேரி வடக்கு வன உயிரின சரணாலய எல்லையிலிருந்து 10 கிமீ-க்குள் அமைந்திருப்பின் தேசிய வன உயிரின வாரியத்தின் முன் அனுமதி (National Board for Wildlife) பெறப்படவேண்டும்.
- iii) மலைதள பாதுகாப்பு பரிந்துரை குழு (Hill Area Conservation Authority)-என்பது அறிவிக்கை செய்யப்பட்ட கிராம எல்லைக்குள் கற்குவாரி பணி செய்ய அனுமதி கோரியுள்ள புலங்கள் அமைந்திருப்பின், மலைதள பாதுகாப்பு பரிந்துரை குழு (Hill Area Conservation Authority)-ன் கீழ் முன் அனுமதி பெறப்பட வேண்டும்.
- iv) உத்தேச கற்குவாரி செய்யும் புலங்கள் வருவாய்த்துறை ஆவணங்களில் "காடு" என வகைப்படுத்தப்பட்ட புலங்களில் கற்குவாரிப் பணி செய்ய அனுமதிக்கக் கூடாது.
- v) உத்தேச கற்குவாரி செய்யும் புலங்கள் தமிழ்நாடு வனச்சட்டம் 1882-ன் பிரிவு 4 மற்றும் 16-ன் கீழ் சாப்பு நிலம் / காப்புக்காடு என அறிவிக்கை செய்யப்பட்ட புலங்களாக இருத்தல் கூடாது.
- vi) உத்தேச கற்குவாரி செய்யும் புலங்கள் தமிழ்நாடு வனச்சட்டம் 1882-ன் பிரிவு 26-ன் கீழ் அறிவிக்கை செய்யப்பட்ட புலங்களாக இருத்தல் கூடாது.
- vii) உத்தேச கற்குவாரி செய்யும் புலங்கள் காப்புக்காட்டின் எல்லைக்கு அருகில் அமைந்திருப்பின், Standing Orders of the Board of Revenue- volume - I Section III, Sub-Section 38 (III) வருவாய்வாரிய நிலை ஆணை தொகுப்பு 1, பிரிவு 3, உப்பிரிவு 38 (III)-ன்படி காப்புக்காட்டிற்கு அருகில் உள்ள நிலத்தில் இதர பண்பாட்டிற்கு உட்படுத்த நடவடிக்கை மேற்கொள்ளப்படும் போது காப்புக் காட்டின் எல்லையிலிருந்து குறைந்த பட்சம் 60 மீட்டர் (3 Chain) தொலைவிற்கு அப்பாற்பட்டிருக்க வேண்டும் என்ற நிபந்தனையை கடைபிடிக்கப்பட வேண்டும்.
- viii) அரசாணை (நிலை) எண்.79 தொழில் (கனியம் 1) துறை நாள்.06.04.2015-ல் குறிப்பிட்டுள்ள நிபந்தனைகளை மாவட்ட நிர்வாகம் / கனிய வளத்துறை கவனத்தில் கொள்ளவேண்டும்.



vii) குவாரி முதல்கை கோரும் பகுதியிலிருந்து 350 மீட்டர் தூரம் வரையில் குடியிருப்பு பகுதிகள் இருக்கக்கூடாது என்பதை மாவட்ட நிர்வாகம் உறுதிப்படுத்த வேண்டும்.

பட்டியல் 1

சாதாரண கற்கள் வெட்டி எடுக்க பரிந்துரை செய்யப்பட்ட 1 முதல் 65 வரையிலான குவாரிப் பகுதிகளின் பட்டியல்.

Hosur Taluk

Sl. No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classification	Virgin or Old quarry	Coordinates	
							Latitude	Longitude
1	Gobanapalli	327/3	133.5 Hects.	133.5	Podugal	Virgin	12°35'36.08"N	77°48'51.48"E
2	Achettupalli	881 884 885	126.5 2.22.0 0.81.0	4.29.5	UAW Kallankuthu	Small age old pit observed in S.F.No.884 with average dimension of 1709 x 2.5 Mts = 4272.5 CBM without any fresh cutting	12°39'16.66"N	77°48'45.73"E
3	Achettupalli	886, (Part)	8.85.0	3.00.0	UAW Kallankuthu	Virgin	12°38'59.31"N	77°48'58.80"E
4	Achettupalli	888 (P) 899 890 (P) 891(P)	0.67.5 1.71.0 1.37.0 2.12.5 5.88.0	0.33.5 1.71.0 1.04.5 1.00.0 4.09.0	UAW Kallankuthu	Virgin	12°39'14.14"N	77°48'52.61"E
5	Panchatchipuram	603/1 (Part-N)	21.20.5	2.50.0	UAW	Already leased out to Thiru Gowdappa and a pit having average dimension of 14005 x 18.6 = 260493 CBM is observed in the area.	12°35'46.32"N	77°47'28.59"E

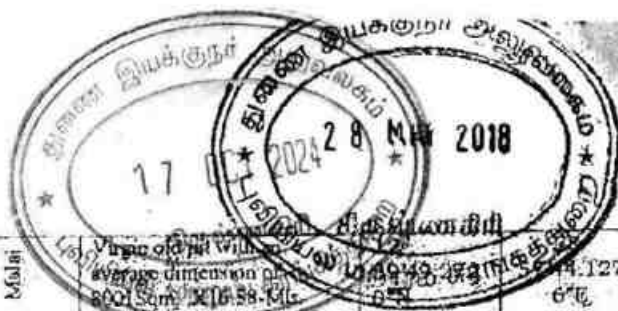


6	Panchatchipuram	503/1 (Part-B)	21.20.5	2.50.0	U.A.W	Virgin	12° 35' 48.50" N	78° 01' 26.4" E
7	Pannapalli	75/6	2.52.0	1.85.0		Virgin	12° 47' 27.619" N	78° 01' 7.3" E
8	Achetipalli	1050/1A	2.17.5	2.17.5	Podugal Anathen am	Two age old pits are observed on the south east and south west side of the area.	12° 39' 12" N	77° 49' 8.84" E
9	Nadiganapuram	40 (part)	2.24.0	1.80.0		Virgin	12° 47' 47.83" N	77° 56' 30.36" E
10	Nandhinangalam	680 / 1 (Part)	2.90.0	2.00.0	Podugal	Virgin	12° 36' 55.74" N	77° 55' 16.53" E
11	Meenandoddi	106/3	0.86.0	0.86.0	Govt - Tharisa	Virgin	12° 46' 44.30" N	78° 00' 37.46" E
12	Meenandoddi	103/4	1.81.5	1.81.5	Govt - Tharisa	Virgin	12° 46' 52.63" N	78° 00' 40.35" E
13	Gobanapalli	327 / 1 (Part-3)	24.21.5	2.62.5	U.A.W	Virgin	12° 33' 41.01" N	77° 48' 47.56" E



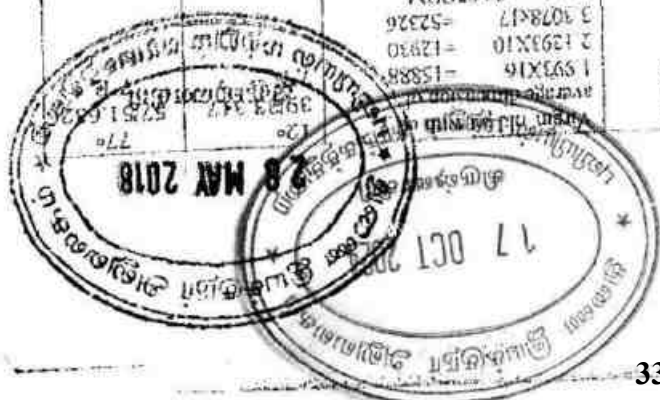
Shoolagiri Tahsil

Sl. No	Village	S.F.No.	Total Extent	Extent proposed for quarry lease	Classification	Remarks or Old Quarry	Latitude	Longitude
14	Venkatesapuram	86 (Part-5)	60.850	4.200	UAW - Karadu	Already leased out to Thiru Srinivasan and two pits having average dimension of 12390x16.83 = 208524 and 16050 x 12.56 = 203320 CBM is observed in the area.	12° 45'10.24" N	77° 56'40.46" E
15	Maruthandapalli	109 (Part-1)	7.520	2.000	UAW-Parai	Virgin	12° 42'21.84" N	78° 00'48.95" E
16	Maruthandapalli	109 (Part-2)	7.520	1.200	UAW-Parai	Virgin	12° 47'25.473 9"N	78° 00'44.454 5"E
17	B.S.Thimmasondirm	88/1 (Part-2)	12.790	3.500	UAW-Parai	Virgin illicit pit having an average dimension of 25x275sqm x7.8Mts. = 19711CBM and penalty had already been levied.	12° 50'37.440 0"N	77° 57'29.990 1"E
18	Kamandoddi	616/3 (Part)	14.810	3.770	UAW	Old quarry already leased out to Thiru.Venkatta Reddy. Old pit with an average dimension of 21441 Sqm. X 24.33 Mts. = 521660 CBM observed in the area.	12° 40'1.46"N	77° 56'53.73" E
19	Kamandoddi	754 & 760 (Part-1)	35.465	1.808	UAW	Virgin old pit with an average dimension of 27.58x185sqm = 49044CBM due to illicit quarrying is observed. proposal for levying penalty forwarded.	12° 39'53.226 4"N	77° 57'45.838 6"E



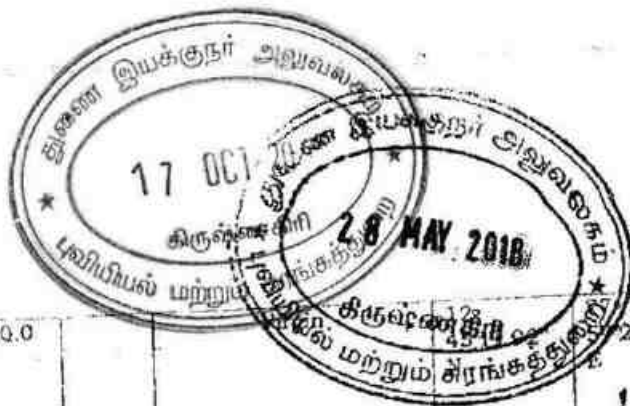
20	Kamandoddi	754 & 760 (Part-2)	36.46.5	2.10.0	Malai	Virgin old pit with an average dimension of 8001.5m x 16.58.10 = 132552 CBM due to illicit quarrying is observed. Proposal for levying penalty forwarded.	12° 39' 45.911 9"N	77° 57' 42.108 1"E
21	Kamandoddi	754 & 760 (Part-3)	36.46.5	3.66.0	Malai	Virgin old pit with following dimension observed due to illicit quarrying 1.446X8=3568 2.2452X10=24520 3.4330X5.16=26673 4.575X8=4600 5.616X7=4312 Total = 63643CBM Proposal for levying penalty forwarded.	12° 39' 38.671 0"N	77° 57' 43.801 0"E
22	Kamandoddi	754 & 760 (Part-4)	36.46.5	3.50.0	Malai	Virgin old pit with following dimension observed due to illicit quarrying. 1.1221x10 =12210 2.1216X10 =12160 3.619X7.16 =4333 Total =28703 CBM Proposal for levying penalty forwarded.	12° 39' 33.863 1"N	78° 57' 42.665 9"E
23	Kamandoddi	754 & 760 (Part-5)	36.46.5	4.50.0	Malai	Virgin old pit with an average dimension of 1.620X10 =6200 2.1964X9=17676 3.1179x10=11790 4.1023X7 =7161 Total 42827 CBM Due to illicit quarrying is observed. proposal for levying penalty forwarded.	12° 39' 39.73" N	77° 57' 51.88" E
24	Kamandoddi	1151, 1155, 1212 to 1219, 1222, 1225, 1226/A (Part-1)	14.68.5	2.70.0	UAW	Virgin old pit with an average dimension of 1.8348X14.25 =118959 2.1648X17 =28016 3.5170x17.5 =90475 4.4063X15.5 =110996 Total 348446 CBM due to illicit quarrying is observed. proposal for levying penalty forwarded.	12° 39' 36.577 1"N	77° 57' 51.761 4"E
25	Kamandoddi	1151, 1155, 1212 to 1219, 1222, 1225, 1226/A (Part-2)	14.68.5	2.87.0	UAW	Virgin old pit with an average dimension of 1.6377X15 =95655 2.1578X12.5 =19725 3.1257x11 =13827 Total 129207CBM Due to illicit quarrying is observed. Proposal for levying penalty forwarded.		

26	Karundodi	1151, 1155, 1212 to 1219, 1222, 1225, 1226A (Part-3)	14.68.5	2.82.0	UAW	average dimension of 530X7 = 3710 Virgin - old pit with an average dimension of 530X7 = 3710 due to illicit quarrying is observed. Proposal for levying penalty forwarded.	120	3929.831	5752.444	370	370
27	Karundodi	1151, 1155, 1212 to 1219, 1222, 1225, 1226A (Part-4)	14.68.5	2.13.0	UAW	Virgin old pit with an average dimension of 530X7 = 3088 Total 43036CBM due to illicit quarrying is observed. Proposal for levying penalty forwarded.	120	3929.831	5752.444	370	370
28	Karundodi	1151, 1155, 1212 to 1219, 1222, 1225, 1226A (Part-5)	14.68.5	1.27.0	UAW	Virgin - old pit with an average dimension of 530X7 = 3710 due to illicit quarrying is observed. Proposal for levying penalty forwarded.	120	3926.559	5753.206	370	370
29	Thoripalli	144 (Part)	3.41.5	2.30.0	UAW - Para	Old quarry Already leased out to Tmt. Manjula Old quarry pit with average dimension of 15147Sq.m x 14.3 = 216602 CBM observed in the field.	120	4224.176	5732.609	370	370
30	Thoripalli	152/2 (Part)	4.23.0	2.00.0	UAW - Para	Virgin area	120	4218.044	5735.232	370	370
31	Thoppuganapalli	637 (Part-1)	25.27	4.00.0	UAW	Virgin	120	3750.129	5714.725	370	370





32	Thuppuganapalli	637 (Part-2)	25.27.0	4.50.0	UAW	Already lease granted area to Thiru Arumugam vide District Collector, Krishnagiri Pro. Rec. No. 89/2008/Mines-2 dated 07.07.2008 for a period of five years from 20.10.2008 to 19.10.2013. Old quarried pit with an average dimension of 11787 sq.mts. X 28.12 mts. = 3,31,450 cbm.	12° 37' 42.825" N	77° 57' 18.152" E
33	Thuppuganapalli	637 (Part-3)	25.27.0	4.50.0	UAW	Virgin	12° 37' 38.855" N	77° 57' 18.152" E
34	Chennapalli	242/4 (P)	1.87.5	1.00.0	UAW Karadu	Virgin	12° 38' 9.2951" N	78° 03' 3.4620" E
35	Beshanapalli	130 (Part)	16.90.0	4.66.0		Virgin	12° 40' 32.91" N	78° 04' 46.69" E
36	Alur	809 (Part-3)	11.25.0	1.46.0	UAW	Previously not leased, illicit carried out in the Northern side of the applied area for an average dimension of 1160x8.25-9570 CBM and penalty proposal against forwarded to the Sub-Collector Hosur	12° 42' 50.8366" N	77° 57' 11.4089" E
37	Thuppuganapalli	314 (Part-3)	36.64.0	4.94.32	UAW Jenu Malai	Virgin	12° 36' 55.74" N	77° 55' 16.53" E



38	Venkatesapuram	262 (Part-1) 295	18.36.5	3.00.0			23.67°
39	Venkatesapuram	196 (Part-1)	9.70.0	2.00.0	Karadu	Already leased out area with old pit dimension 11616 Sq.M. x 21.54 Mts. = 250209 CBM	12° 44' 11.6306" N 77° 55' 24.4781" E
40	Venkatesapuram	196 (Part-2)	9.70.0	3.25.0	Karadu	Already leased out area with old pit dimension 18884 Sq.M. x 27.61 Mts. = 521387 CBM	12° 44' 06.6223" N 77° 55' 21.6168" E
41	Venkatesapuram	262 (Part-2) 395	18.36.5	3.75.0		Virgin	12° 45' 21.85" N 77° 57' 29.27" E
42	Alur	588 (Part)	17.42.5	3.35.0	Govt. Porumbokku-Muthaman Karadu	Virgin	12° 42' 44.36" N 77° 55' 46.27" E

Denkanikottai Taluk

Sl. No.	Village	S.F.No.	Total Extent	Extent proposed for quarry lease	Classification	Virgin or Old quarry	Coordinates	
							Latitude	Longitude
43	Pashupatnam	96 (Part), 97 (Part)	2.13.5 1.04.5 3.18.0	0.82.0 0.23.0 1.10.0	UAW-Kallankuthu	Virgin	12° 37' 4.70" N	77° 49' 22.29" E

44	Mathakond apalli	265/1 (Part-1)	8.73.0	2.50.0	UAW- Parai	Already leased out to Krishna reddy Old pit with an average dimension of 10700 X 5.83 62381 CBM	12° 38'14.98" N	77° 45'12.26" E
45	Mathakondapalli	265/1 (Part-2)	8.73.0	2.50.0	UAW- Parai	Virgin	12° 38'14.98" N	77° 45'12.26" E
46	Mathagondapalli	265/1 (Part-3)	8.73.0	1.60.0	UAW- Parai	Virgin	12° 38'10.50" N	77° 45'10.82" E
47	Mathagondapalli	265/1 (Part-4)	8.73.0	1.46.0	UAW- Parai	Virgin	12° 38'4.14"N	77° 45'6.57"E
48	Kalukondapalli	360	0.62.5	0.62.5	UAW	Virgin Age old pit with water logged condition without any recent cutting is observed with a dimension of 3173 Sq.M. X 4.25 Mts. = 18485 CBM	12° 33'35.40" N	77° 44'52.08" E
49	Nagamangalam	629 (Part)	188.50.0	4.00.0	UAW- Kallan kuthu	Virgin	12° 34'15.776 9"N	77° 54'59.38 10"E
50	Kottur	144	2.00.5	2.00.5		Virgin	12° 32'15.06" N	77° 44'28.97" E
51	Thandarai	738 (Part-2)	61.77.0	3.00.0	Malai	Virgin	12° 34'51.23" N	77° 47'45.92" E



Krishnagiri Taluk

Sl. No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classification	Virgin or Old quarry	Latitude	Longitude
52	Kalluk urukki	701 (Part-1)	83.60.5 Hecta.	2.00.0	Malai	Virgin	12° 33'21.1" N	78° 13'22.39"E
53	Kalluk urukki	701 (Part-2)	83.60.5 Hecta.	2.00.0	Malai	Virgin	12° 33'22.0" N	78° 13'27.18"E
54	Kalluk urukki	701 (Part-3)	83.60.5 Hecta.	2.00.0	Malai	Virgin	12° 32'45.9" N	78° 13'34.98"E
55	Kalluk urukki	399/1 (Part-3)	13.62.0 Hecta.	1.00.0	Kallan kuthu	Virgin	12° 33'51.4" N	78° 13'03.13"E
56	Kalluk urukki	255 (Part)	2.48.0 Hecta.	1.00.0	Podugal Kumharan Malai	Virgin	12° 34'21.8" N	78° 12'59.60"E
57	Karyas agaram Thalav	50 (Part)	4.51.5	2.76.0	Kalyettu Kuzhi	Virgin	12° 44'57.6" N	78° 06'15.44"E
58	Krishn agiri Town	Ward-B Block-5/1(Part-1)	49.67.0	2.50.0	Baira Malai Porambokk u	Virgin	12° 32' 9" N	78° 13'32.91"E
59	Krishn agiri Town	Ward-B Block-5/1(Part-2)	49.67.0	2.50.0	Baira Malai Porambokk u	Virgin	12° 32' 38.12" N	78° 13'41.17"E

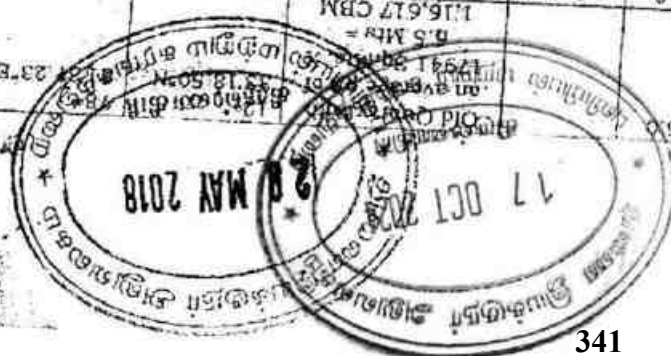
Bargur Taluk

Sl. No.	Village	S.F.No.	Total Extent	Extent proposed for quarry lease	Classification	Virgin or Old quarry	Coordinates	
							Latitude	Longitude
60	Siganala palli	366 (Part-1)	10.05.5	2.00.0	Malai	Virgin	12° 30'37.60"N	78° 24'53.24"E
61	Siganala palli	366 (Part-2)	10.05.5	2.00.0	Malai	Virgin	12° 30'34.97"N	78° 24'50.08"E

சென்னை நகராட்சி நிர்வாகப் பேரவை, சென்னை

[illegible]

62	Bargur	62 (Part B)	10.78.5	4.95.0	Old Quarry an average pit of 17941 sq. Mts = 6.5 Mts = 116.617 CBM Virgin	12° 30'43.0485" N 78° 15'33.9304" E
63	Soolanallu	54 (Part)	16.45.0	2.00.0	Pathai	12° 30'43.0485" N 78° 15'33.9304" E
64	Nallappa di	552 (Part)	12.60.5	2.00.0	Badharu	12° 30'41.4854" N 78° 20'13.5666" E
65	B. R. G. Madhupathi	271 (Part)	3.56.0	3.00.0	Poduzal	12° 33'07.07" N 78° 19'56.06" E





Shoolagiri Taluk

Sl No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classification	Virgin or Old quarry	GPS Coordinates Latitude/ Longitude
3	Venkatesapuram	215	4.37.0	4.37.0	UAW - Karadu	Already leased are granted to Thiru Kumar and old pit having an average dimension of 40x20x 17.61 = 715318 CBM. is observed in the area.	12° 43' 42.92" N 77° 55' 26.90" E
4	Athimangun	374/1	7.38.5	3.00.0	UAW - Patal	Old quarry with a pit having an average dimension of 26x26Sq.m.x9.5Mus.= 24947CBM	12° 44' 16.5337" N 77° 57' 38.9077" E
5	Mattupalli	53/1 (Part-1)	17.07.0	3.00.0	Karadu	Virgin	12° 41' 33.32" N 78° 3' 51.50" E
6	Mattupalli	53/1 (Part-2)	17.07.0	2.00.0	Karadu	Virgin	12° 41' 30.73" N 78° 3' 51.73" E
7	Berigan	314 (Part)	7.62.0	2.60.0	UAW - Patal	Virgin	12° 47' 19.0183" N 77° 57' 31.9787" E
8	Berigan	316/1 (Part)	3.35.5	2.20.0	UAW - Patal	Virgin	12° 47' 24.01" N 77° 57' 36.06" E
9	Bukkasegaram	176/3 176/6	0.76.5 0.61.0 1.37.5	1.37.5	Anathoopuram	Virgin	12° 43' 11.0009" N 77° 54' 57.7434" E
10	Pandhalupalli	131 (Part-1)	22.84.0	4.30.0	Karadu	Virgin	12° 40' 08.96" N 78° 04' 42.46" E

தமிழக அரசு, கனம் அமைச்சர், கனம் உறுப்பினர், 14/11/24

Sl. No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classi fication	Virgin or Old quarry	GPS Coordinates Longitude/ Latitude
13	Kandamangalam	63 (Part)	1,90.0	1,50.0	Karelu	Virgin	12°40'28.58"N 78°07'51.90"E

Krishnagiri Taluk

Sl. No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classi fication	Virgin or Old quarry	GPS Coordinates Longitude/ Latitude
12	Kandamangalam	1185 (Part-1)	11,50.0	3,86.0	UAW-Karelu	Virgin	12°32'26.98"N 77°54'19.12"E
13	Kandamangalam	1186 (Part-2)	31,50.0	2,71.0	UAW-Karelu	Virgin	12°32'26.98"N 77°54'19.12"E

Deunkankottai Taluk

Sl. No.	Village	S.F. No.	Total Extent	Extent proposed for quarry lease	Classi fication	Virgin or Old quarry	GPS Coordinates Longitude/ Latitude
11	Kandamangalam	131 (Part-2)	22,84.0	4,00.0	Karelu	Virgin	12°39'59.74"N 78°04'53.05"E
12	Kandamangalam	131 (Part-3)	22,84.0	2,20.0	Karelu	Virgin	12°39'59.74"N 78°04'53.05"E

17 OCT 2024
 12 MAY 2018
 கிழக்குத் திருவாரூர் மாவட்டம் அலுவலகம்
 கிழக்குத் திருவாரூர் மாவட்டம் அலுவலகம்



தமிழ்நாடு தமிலநாடு TAMIL NADU 7.9.2021/8.20

Vishnu Explosives
krishnagiri

92AB/563631
G. MAHESHWARI. S.V
L.No. 9/SLM (E) 2008
MALLUR (P.O). SALEM (DI)
TAMILNADU PIN - 636 203



Deed of Agreement

=====

This agreement entered into at Kammondoddi Village on day of 8th September- 2021

Between M/s. VISHNU EXPLOSIVES, Door No.273-A, Keel paiyur, Paiyur Village, Kaveripattinam, Krishnagiri Taluk & District, Pin-635112, TamilNadu. (GST NO:33AANFV9328D1ZY)

Herein after referred to as party of the first part. And
Thiru S.Madhu, S/o .Srinivasan
Lessee and Proprietor of
Mahalakshmi Blue Metal
Sf No-138/182, Punagaram,
Athimugam Post Hosur Taluk,
Krishnagiri District, Tamilnadu-635109.
GST NO:33AFLPM0649H1ZG

Site Address:
Lessee, Thiru S.Madhu
S/o .Srinivasan, Sf No-1151, 1155, 1212,
1219, 1222, 1225, 1226/A (Part-5)
Kammondoddi Village,
Shoolagiri Taluk, Krishnagiri District,
Tamilnadu.

Herein after referred to as party of the second part.

For VISHNU EXPLOSIVES

PARTNER

Mines Owner

S.MADHU ROUGH STONE QUARRY



Whereas, the above terms First Party and Second Party shall mean and include wherever the context so permits their Legal heir, successors, representatives, administrators and assigns, etc

Whereas the Party of the second Part has obtained quarry Lease for carrying out quarrying and carrying away of Minor Minerals in lands, referred in the Survey Nos.Sf.No-1151, 1155, 1212, 1219,1222,1225,1226/A(Part-5)Extent in 1.27.0 hectares, in Kammondoddi Village,Shoolagiri Tk,Krishnagiri Dt in the Sub Registration District of Shoolagiri ,Krishnagiri Dt from Government of TN, under lease agreement registered with the sub- registrar in Shoolagiri Krishnagiri Dt as Lease Holder S.Madhu,S/o Srinivasan is contractor for rough stone and jelly

Whereas the party of the Second part having his own mines Manager, Foreman and Mining Mate requires explosive Materials for doing blasting in the said quarry. for possession of the Explosives Materials , a license under the Indian Explosives Act and Indian Explosives Rules 2008, issued by the competent Authority is necessary and the First Party is having a valid Explosives License bearing.No.E/HQ/TN/22/335(E64278)& E/SC/TN/22/463(E37227), Issued by the Joint Chief Controller of Explosives Chennai and Magazines at keel Paiyur Paiyur Village,kaveripattinam Post,Krishnagiri Dt,TamilNadu-635112 and they are authorized and entitled to make Supply and use of Explosives for blasting rocks in Quarries .

The party of the Second Part approached the Party of First part to assist him in extraction of minor minerals from the said Leased Quarry providing required explosive materials as & when required under the license issued to him by the competent authority and the party of the first part having agreed to do so.

The lease period of Ten years starts from 6th day of December 2019 and ends on the 5th day of December 2029.

Now this agreement witnesses as follows:

1. It is agreed that the party of the first part shall Supply the explosives to the party of the second part, under his license for the blasting of rocks in the aforesaid licensed quarry, as per the provisions of Mines Act 1952.
2. The Second party shall place the requirement of Explosives and accessories, depending on the Site requirement, Holes drilled, etc and the Explosives will be used by Competent Mining personnel's / authority Like Mine Mangers, Mines Foreman, Mining Mates etc, appointed by the Mine Owner, as per the provisions of Mines Act of 1952. After Completion of the blasting operations by the competent personnels, leftout or

FOR VISHNU EXPLOSIVES

[Signature]
PARTNER

[Signature]
Mines Owner

S.MADHU ROUGH STONE QUARRY
Kamandoddi Vill & Post
Shoolagiri Taluk, Krishnagiri - 635 117.

unused Explosives will be returned to the Magazine on the same day, from where the explosives were affected.



3. The Party of the second part is solely responsible for using the Explosives and accessories in the Leased areas and survey Nos., where mining lease has been obtained. The Responsibility of the First party ceases once the Explosives are delivered at the site, The Mine owner shall appoint competent Mining personnel for carrying out mining & quarrying operations include blasting operations in the quarry as per the provisions of mines Act 1952. The explosives will be used and handled by Mine Mate, Mine Foreman, Mine Manager appointed by the Mine Owner and all safety aspects will be scrupulously followed by the competent persons as per the Provisions of Mines Act 1952 and Explosives Rules 2008.
4. The Party of First will Charge GST, as per the GST act and the second party will pay the GST amount, as per the bills. The bills will be settled promptly on Fortnight Basis by Cheque, NEFT / RTGS, by the Party of second, part as mutually agreed.
5. This agreement shall be in force until the expiry of the license of the first party from the date of his agreement and is subjected to renewal of such terms and conditions, as may be mutually agreed upon.

In witnesses the parties herein have set their hands to this agreement on this day month and year first mentioned above in the presence of the following.

Place: Kammondoddi Village

For **VISHNU EXPLOSIVES**
[Signature]
PARTNER

Date : 08/09/2021.

[Signature]
Party of First
Mine Owner
S.MADHU ROUGH STONE QUAR
Kamandoddi Vill & Post
Shoolagiri Taluk, Krishnagiri - 635

Witness:

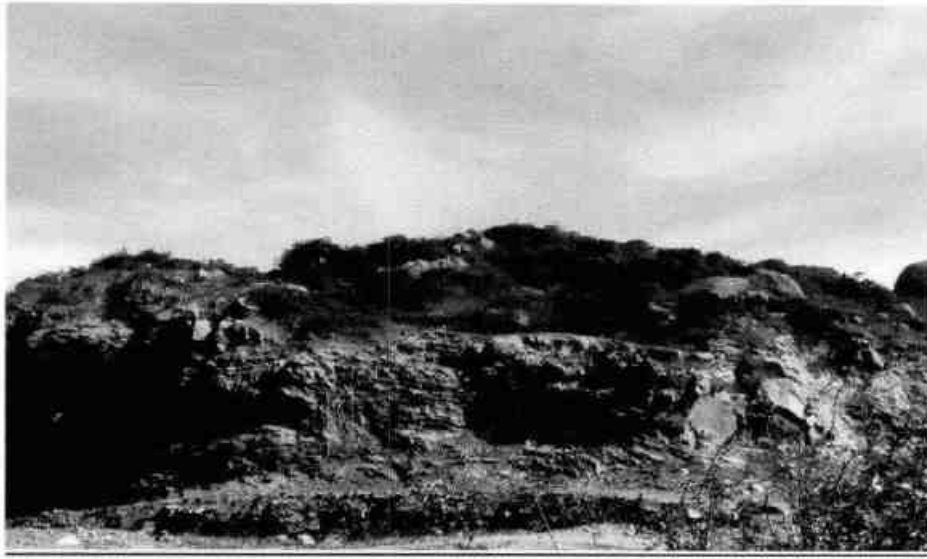
① *[Signature]* Shankar S/o Nagaratnam
HOSUR
② *[Signature]* Prashanthan
HOSUR

Party of Second:



PHOTOCOPY OF THE LEASE AREA

Field photos in respect of rough stone quarry lease, Govt Poramboke land, over an extent of 1.27.00hectare in S.F.No's: 1151, 1155, 1212 to 1219, 1222, 1225 & 1226/A (Part-5) of Kamandoddi Village, Shoolagiri Taluk, Krishnagiri District, TamilNadu State belongs to Mr. S.Madhu.





இந்திய அரசாங்கம்

Unique Identification Authority of India
Government of India

மதிவு அட்டைப்பாடம் / Enrollment No. : 2007/13216/44408

To
Madhu Srinivasan
மது ச்ரீனிவாசன்
S/O Srinivasan
O NO 12
EDEN GARDEN
THALLY ROAD
Hosur
Hosur Krishnagiri
Tamil Nadu - 635108
9159777770



KL274525037PT

27452503



உங்கள் ஆதார் எண் / Your Aadhaar No. :

3259 0527 8468

ஆதார் - சாதாரண மனிதனின் அதிகாரம்



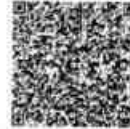
இந்திய அரசாங்கம்
Government of India



மது ச்ரீனிவாசன்
Madhu Srinivasan

DOB: 01/05/1977
ஆயுசு: Male

3259 0527 8468



ஆதார் - சாதாரண மனிதனின் அதிகாரம்

आयकर विभाग
INCOME TAX DEPARTMENT



भारत सरकार
GOVT. OF INDIA



रवासी लेखा संख्या कार्ड
Permanent Account Number Card

AFLPM0649H

नाम/ Name

MACHU SRINIVASAN

पिता का नाम/ Father's Name
SRINIVASAN

जन्म की तारीख / Date of Birth
01/05/1977

हस्ताक्षर/ Signature



27062018

इस कार्ड के खोने / पाए जाने के विषय में तुरंत आयकर विभाग की सूचना दी जाए।
आयकर देन लेना इकाई, एन एस डी सी (एन एस डी सी) में
5 वीं मंजिल, नवी स्टडींग, एन एस डी सी, माउंट स्टर्लिंग, पुणे - 411 016.
संकेत कोड: 016, टीन कोड: 016.

पुणे - 411 016.

*If this card is lost / someone's lost card is found,
please inform / return to:*

Income Tax PAN Services Unit, NSDL

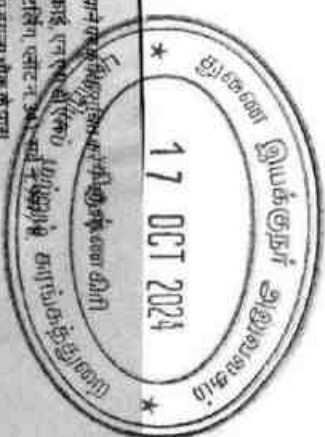
5th Floor, Mount Sterling,

Plot No. 341, Survey No. 997/8,

Model Colony, Near Deep Bungalow Chowk,

Pune - 411 016.

Tel: 91-20-2721 8080, Fax: 91-20-2721 8081
e-mail: tininfo@nsdl.co.in





[Signature]

अर्हता प्राप्त व्यक्ति के रूप में मान्यता प्रमाण पत्र
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)
CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एस. करुपण्णन, मोंगनीकाडू, मुत्तमंपट्टी पोस्ट, बोम्मीडी वर्यो, ओमलूर तालुक, सेलम डीस्टीक्ट, तमिलनाडू - 635 301, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोष जनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हता प्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है।

Shri S. Karuppannan, Manganikadu, Muthampatty (Post), Bommidi (Via), Omalur Taluk, Salem District, Tamilnadu - 635 301, whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

उनकीपंजीयन संख्या है
His registration number is

RQP /MAS/263/2014/A

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 15.12.2024 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 15.12.2024.

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिति में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।

This certificate will liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान/ Place : Chennai
दिनांक/ Date : 16.12.2014.

[Signature]
क्षेत्रीय खाननियंत्रक / Regional Controller of Mines
भारतीय खानब्यूरो/ Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region

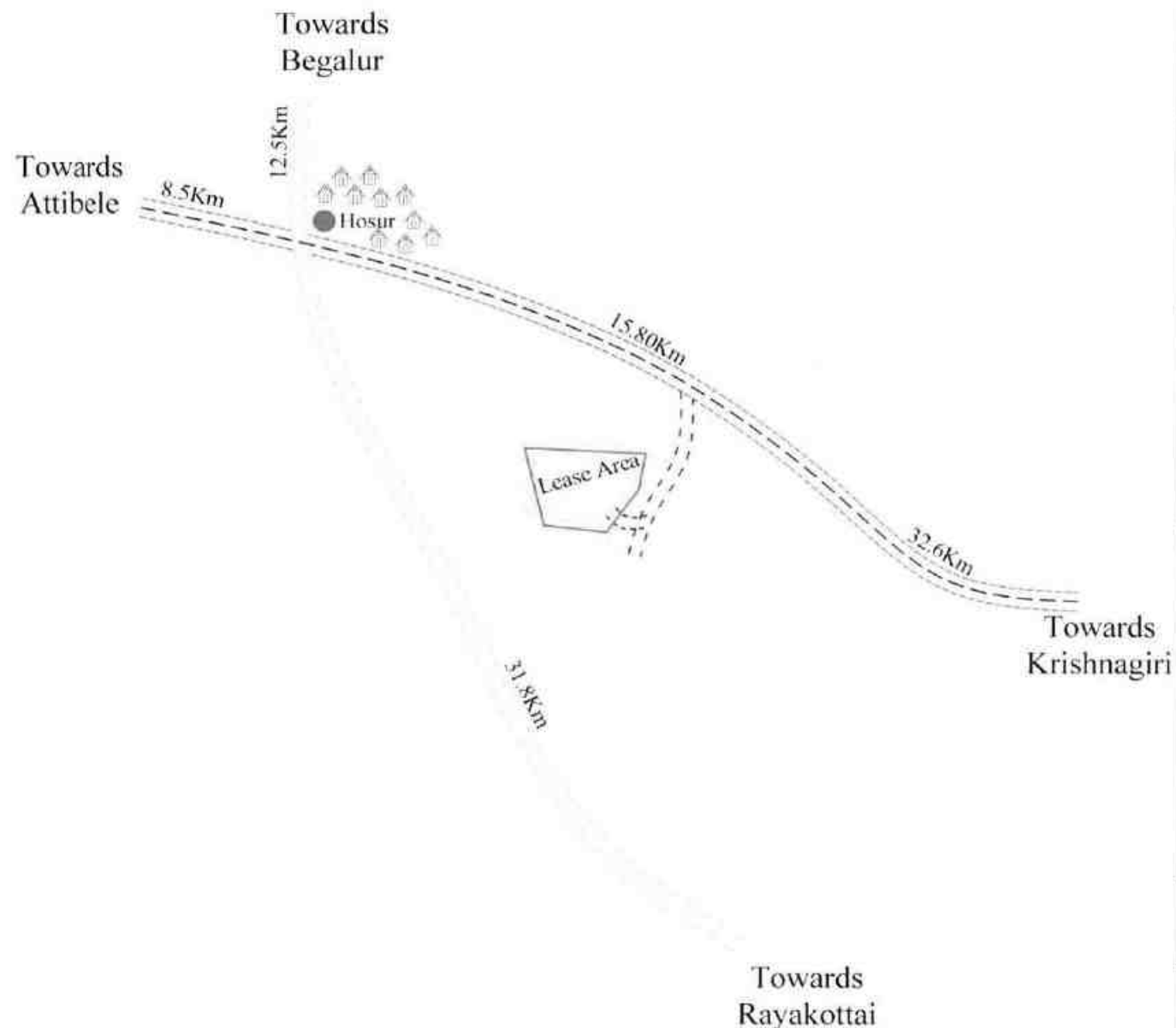


PLATE NO-I

APPLICANT:
Mr.S.MADHU,
 S/o. SRINIVASAN,
 NO.12, EDEN GARDEN,
 THALLY ROAD, HOSUR TALUK,
 KRISHNAGIRI DISTRICT -635109.

LEASE APPLIED AREA:

S.F.NO : 1151, 1155, 1212 to 1219, 1222,
 1225 & 1226/A (Part-5)

EXTENT : 1.27.0 HECT

VILLAGE : KAMANDODDI

TALUK : SHOOLAGIRI

DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE AREA



APPROACH ROAD



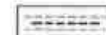
VILLAGE ROAD



SH- 844 ROAD



NH-44 ROAD



HABITATION



KEY MAP

Not to Scale

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE
 HAS BEEN CHECKED BY ME AND IS CORRECT
 TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN M.Sc., Ph.D.
 RECOGNIZED QUALIFIED PERSON
 RQP/MAS/263/2014/A

12°39'29.82"N

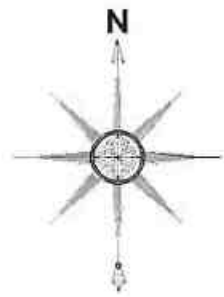
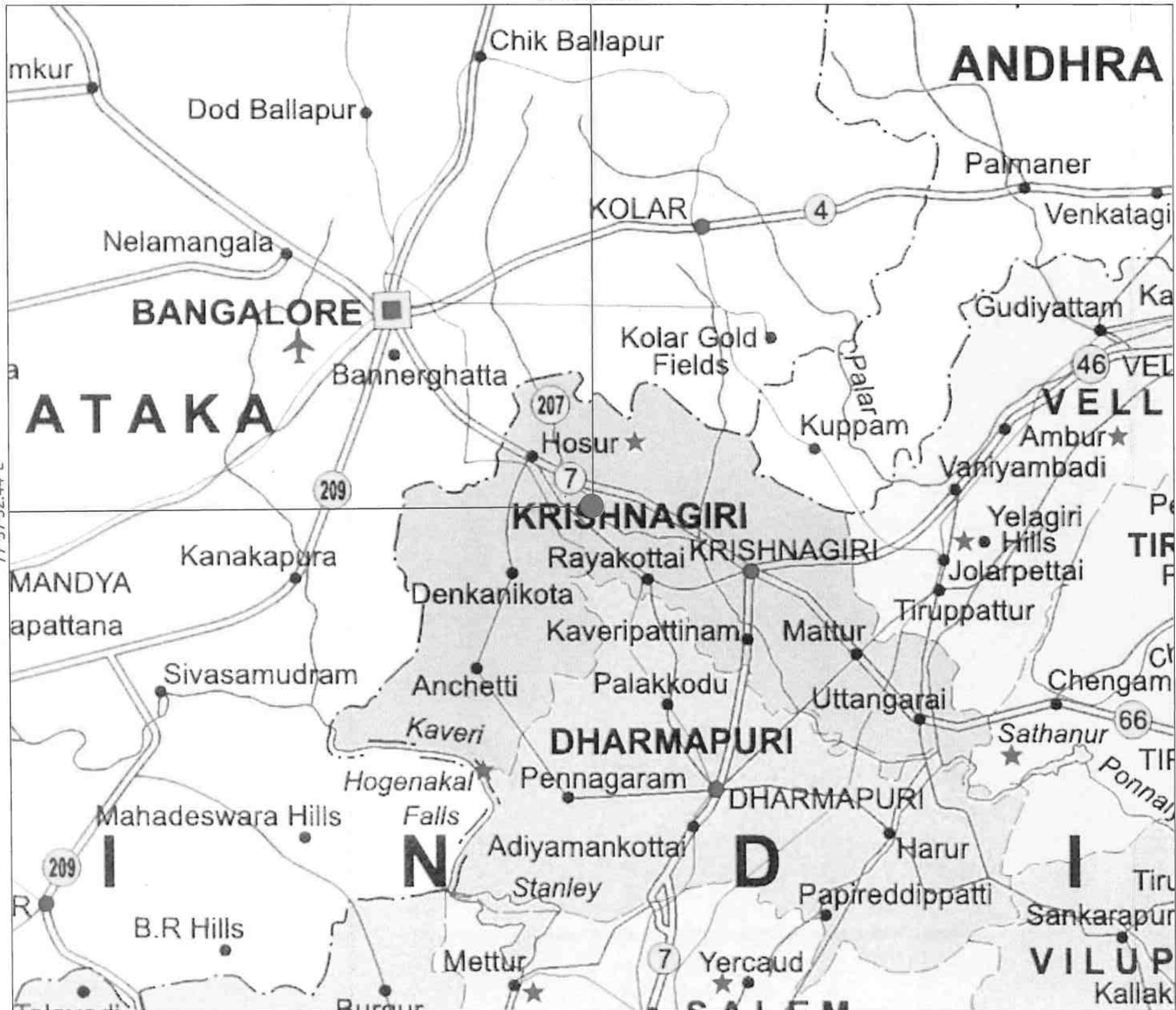


PLATE NO-IA

APPLICANT:
Mr.S.MADHU,
S/o. SRINIVASAN,
NO.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT -635109.

LEASE APPLIED AREA:
S.F.NO : 1151, 1155, 1212 to 1219, 1222,
1225 & 1226/A (Part-5)
EXTENT : 1.27.0 HECT
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE AREA : ●
TOPO SHEET NO : 57-H/14
LATITUDE : 12°39'26.21"N to 12°39'29.82"N
LONGITUDE : 77°57'52.44"E to 77°57'57.57"E

LOCATION PLAN
NOT TO SCALE

Prepared By:
I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE


Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

This is a detailed black and white topographic map of a region in India, likely in the state of Karnataka. The map shows a network of roads, rivers, and numerous small settlements. A prominent road runs diagonally from the top left towards the bottom right. A specific location is marked with a black dot and labeled 'Sulagiri'. The map includes various geographical features such as hills, valleys, and water bodies. The text 'Sulagiri' is clearly visible near the marked location. The map is oriented with North at the top.

77°57'52.44"E



APPLICANT:
Mr.S.MADHU,
S/o. SRINIVASAN.
NO.12, EDEN GARDEN.
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT -635109.

S.F.NO : 1151, 1155, 1212 to 1219, 1222, 1225
& 1226/A (Part-5)

VILLAGE : KAMANDODDI

DISTRICT : KRISHNAGIRI

LATITUDE : 12°39'26.21"N to 12°39'29.82"N

LONGITUDE : 77°57'52.44"E to 77°57'57.57"E



CONVENTIONAL SYMBOLS

Circle containing an 'X' for anchorage, see anchorage note			
Circle containing alphanumeric reference			
Circle around column section, see column note			
Shifting, with line to steel structure, note			
Circle, indicates in steel heat treatment, note			
Star, with alphanumeric reference, see column note			
Circle around column section, bearing note			
Circle around column section, bearing note, note			
Circle around column section, bearing note, note, note			
Circle around column section, bearing note, note, note, note			
Circle around column section, bearing note, note, note, note, note			
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Circle around column section, bearing note, note, note, note, note, note, note, note, note, note, note, note			

Prepared By:



Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

12°39'29.82"N

Towards
Nallaganakothapalli

Towards
Suppadi

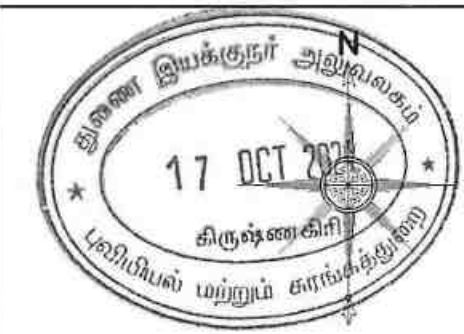


PLATE No-IC

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE AREA	
APPROACH ROAD	
CART ROAD	
100m RADIUS	
200m RADIUS	
300m RADIUS	
400m RADIUS	
500m RADIUS	
EXISTING PIT	

TOPO SHEET NO : 57-H/14

LATITUDE : 12°39'26.21"N to 12°39'29.82"N

LONGITUDE : 77°57'52.44"E to 77°57'57.57"E

SATELITE IMAGERY MAP
SCALE- 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS
BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN, M.Sc., Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

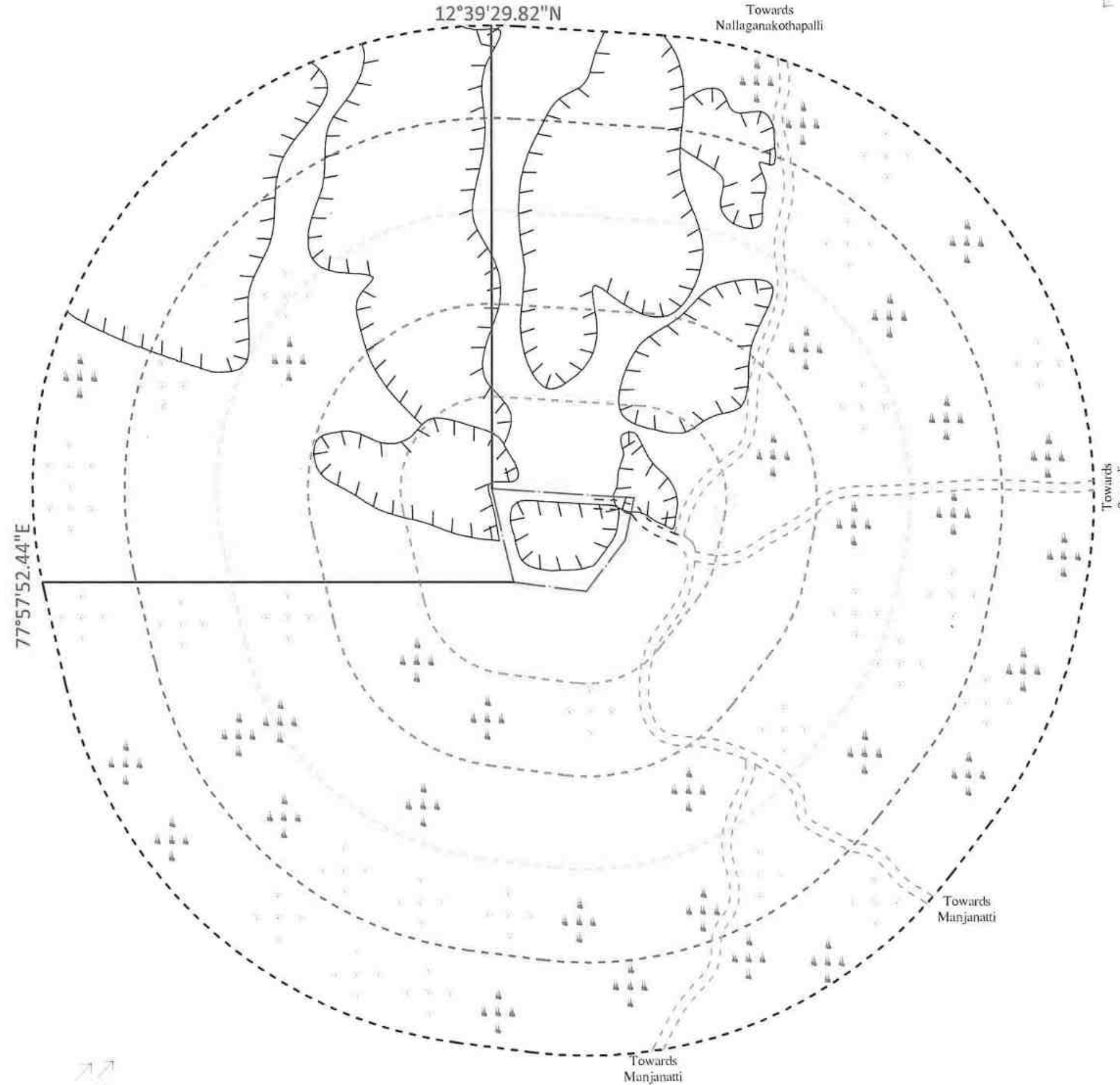
77°57'52.44"E

Towards
Suppadi

Towards
Manjanatti

Towards
Manjanatti

OCTOBER TO DECEMBER



JULY TO SEPTEMBER



PLATE NO-10

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE AREA	
APPROACH ROAD	
CART ROAD	
100m RADIUS	
200m RADIUS	
300m RADIUS	
400m RADIUS	
500m RADIUS	
SHRUBS & TREES	
WIND DIRECTION	
EXISTING PIT	

TOPO SHEET NO : 57-H/14

LATITUDE : 12°39'26.21"N to 12°39'29.82"N

LONGITUDE : 77°57'52.44"E to 77°57'57.57"E

ENVIRONMENTAL PLAN

SCALE- 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS
BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

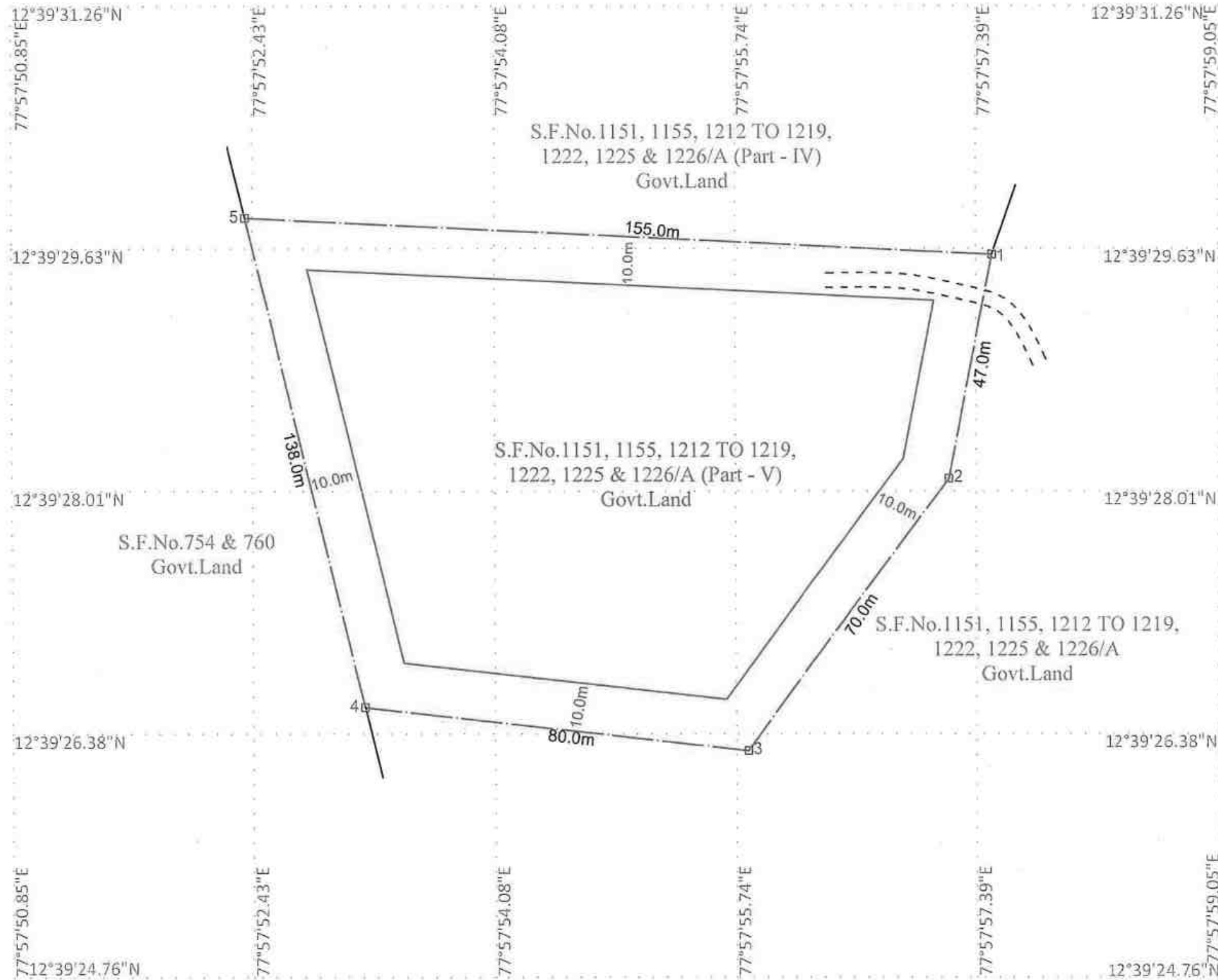


PLATE No- II

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)
EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

PILLAR ID	LATITUDE	LONGITUDE
1	12°39'29.52"N	77°57'57.57"E
2	12°39'28.02"N	77°57'57.27"E
3	12°39'26.21"N	77°57'55.86"E
4	12°39'26.53"N	77°57'53.23"E
5	12°39'29.82"N	77°57'52.44"E

INDEX

MINE LEASE BOUNDARY	☐
SAFETY DISTANCE	☐
APPROACH ROAD	☐
BOUNDARY PILLAR STONES	☐ 01 ☐ 02

MINE LEASE PLAN SCALE 1 : 1000

Prepared By:

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Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

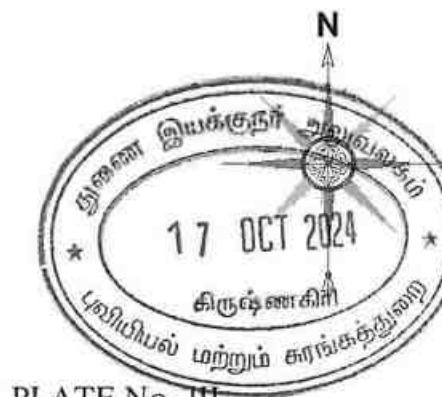
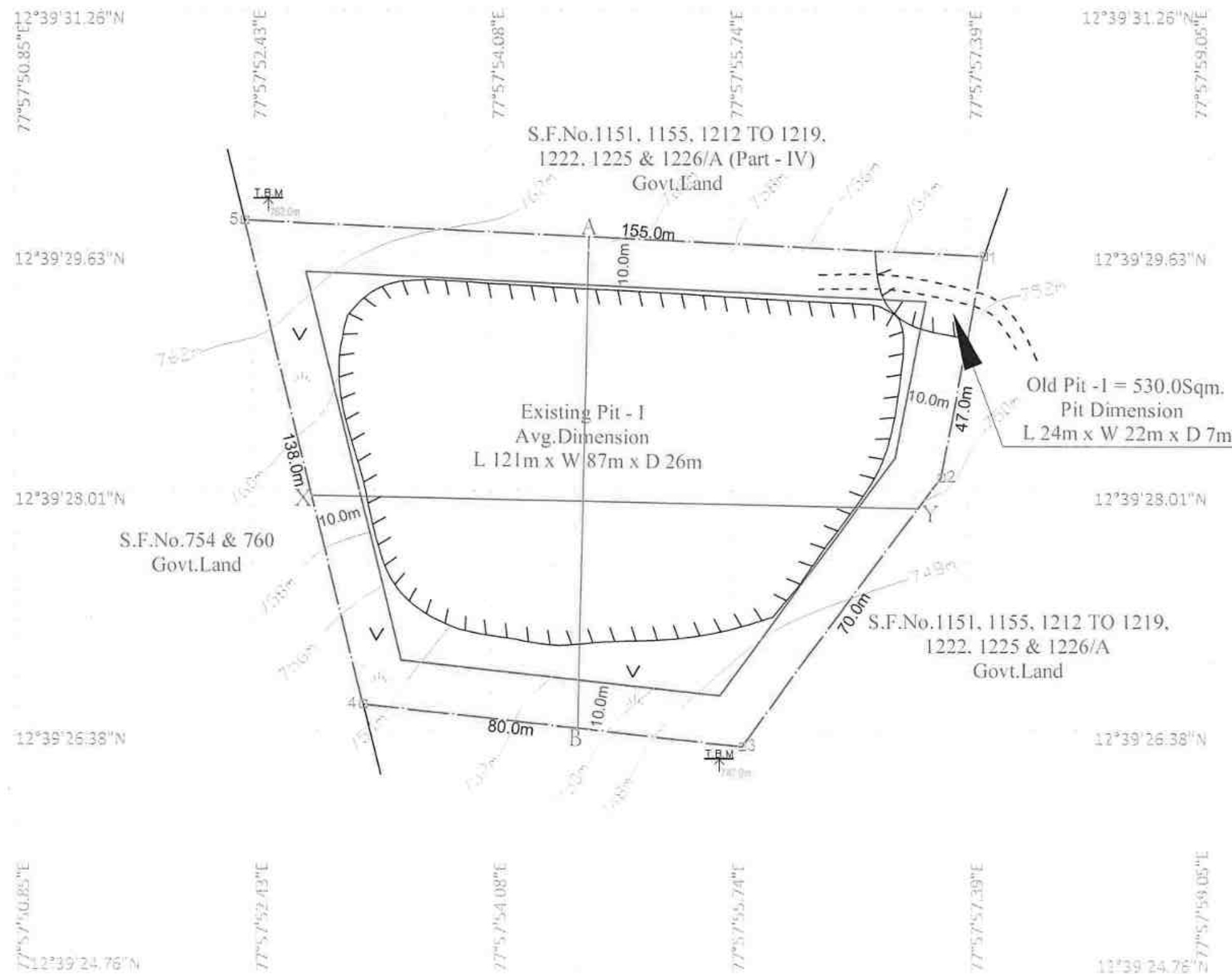


PLATE No- III

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE BOUNDARY	
SAFETY DISTANCE	
APPROACH ROAD	
BOUNDARY PILLAR STONES	
CONTOUR LINES	
TEMPORARY BENCH MARK	
EXISTING PIT	
ROUGH STONE	
TOPSOIL & SHRUBS	

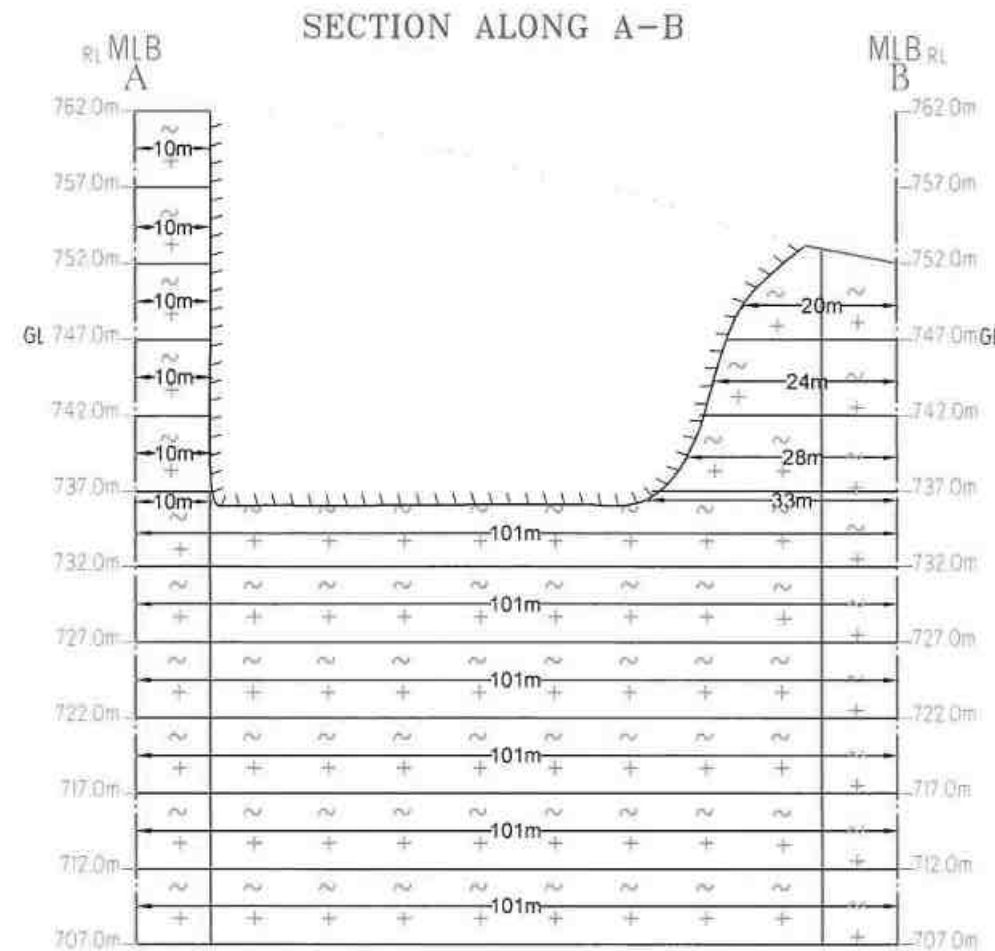
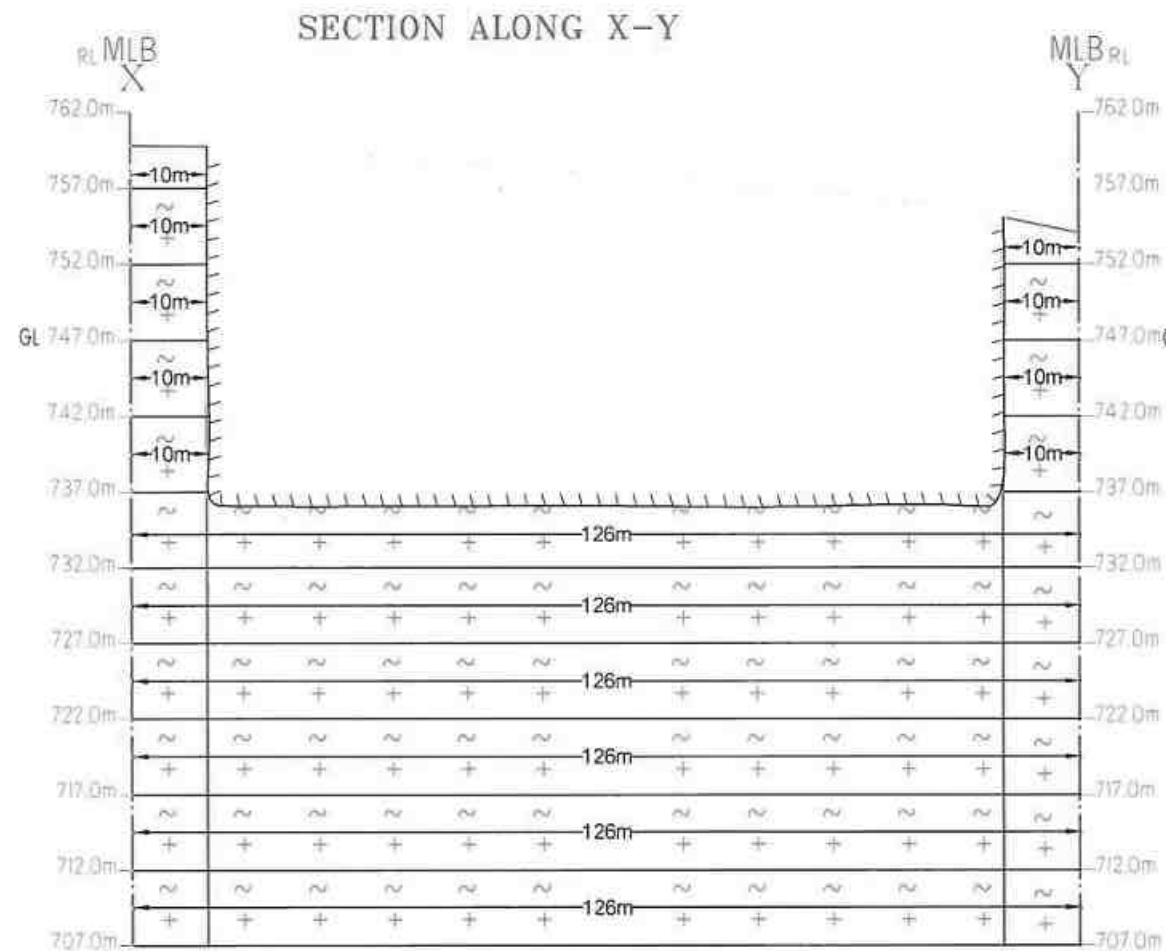
SURFACE AND GEOLOGICAL PLAN

SCALE 1 : 1000

Prepared By:

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TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



GEOLOGICAL RESOURCES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m ³	Rough Stone in m ³	Residual Topsoil in M ³
XY-AB	Hill Slope	20	30	1	600	.....	600
	I	20	30	5	3000	3000	.....
	II	20	30	5	3000	3000	.....
	III	20	30	5	3000	3000	.....
	IV	20	34	5	3400	3400	.....
	V	20	38	5	3800	3800	.....
	VI	126	43	1	5418	5418	.....
	VI	126	101	4	50904	50904	.....
	VII	126	101	5	63630	63630	.....
	VIII	126	101	5	63630	63630	.....
	IX	126	101	5	63630	63630	.....
	X	126	101	5	63630	63630	.....
XI	126	101	5	63630	63630	.....	
TOTAL					391272	390672	600

GL - GROUND LEVEL

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

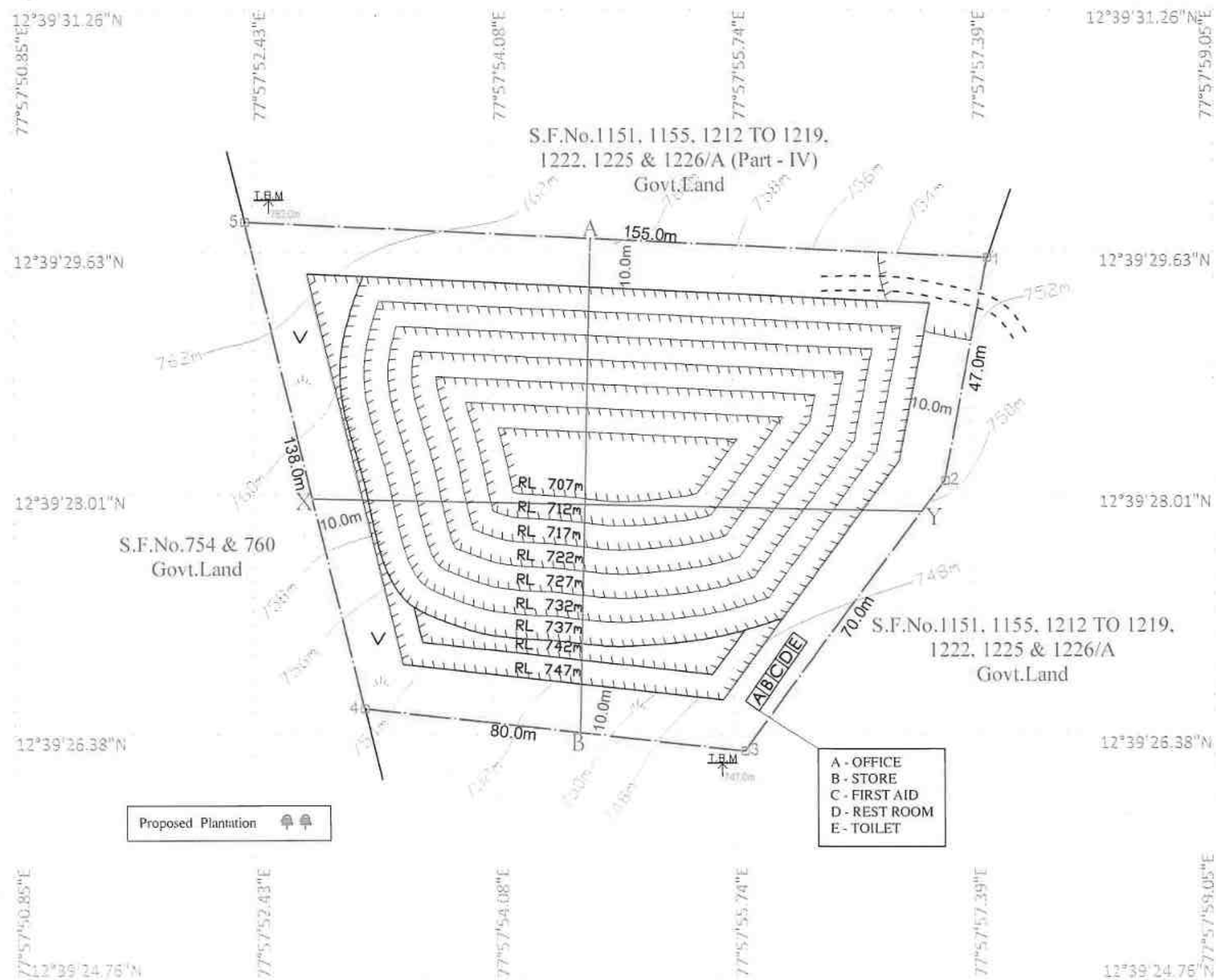


PLATE No- IV

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

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MINE LEASE BOUNDARY	
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APPROACH ROAD	
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CONTOUR LINES	
TEMPORARY BENCH MARK	
EXISTING PIT	
ROUGH STONE	
TOPSOIL & SHRUBS	
ULTIMATE BENCH	

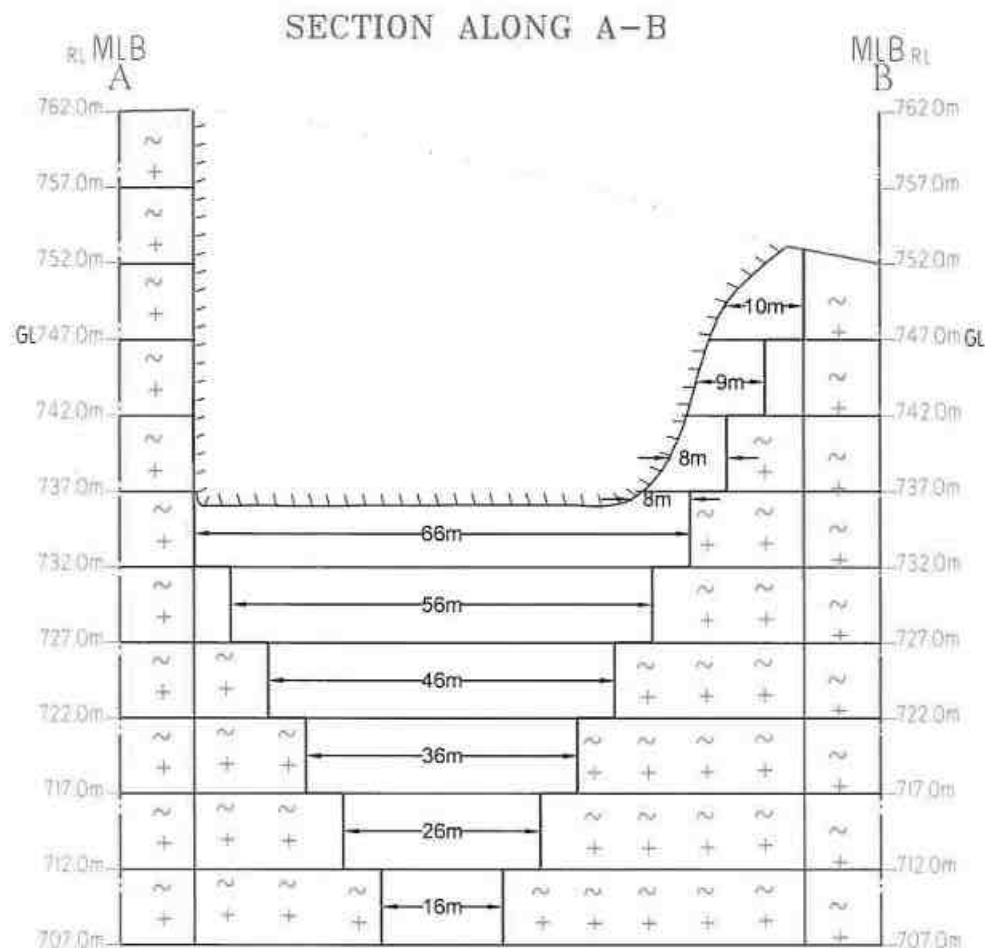
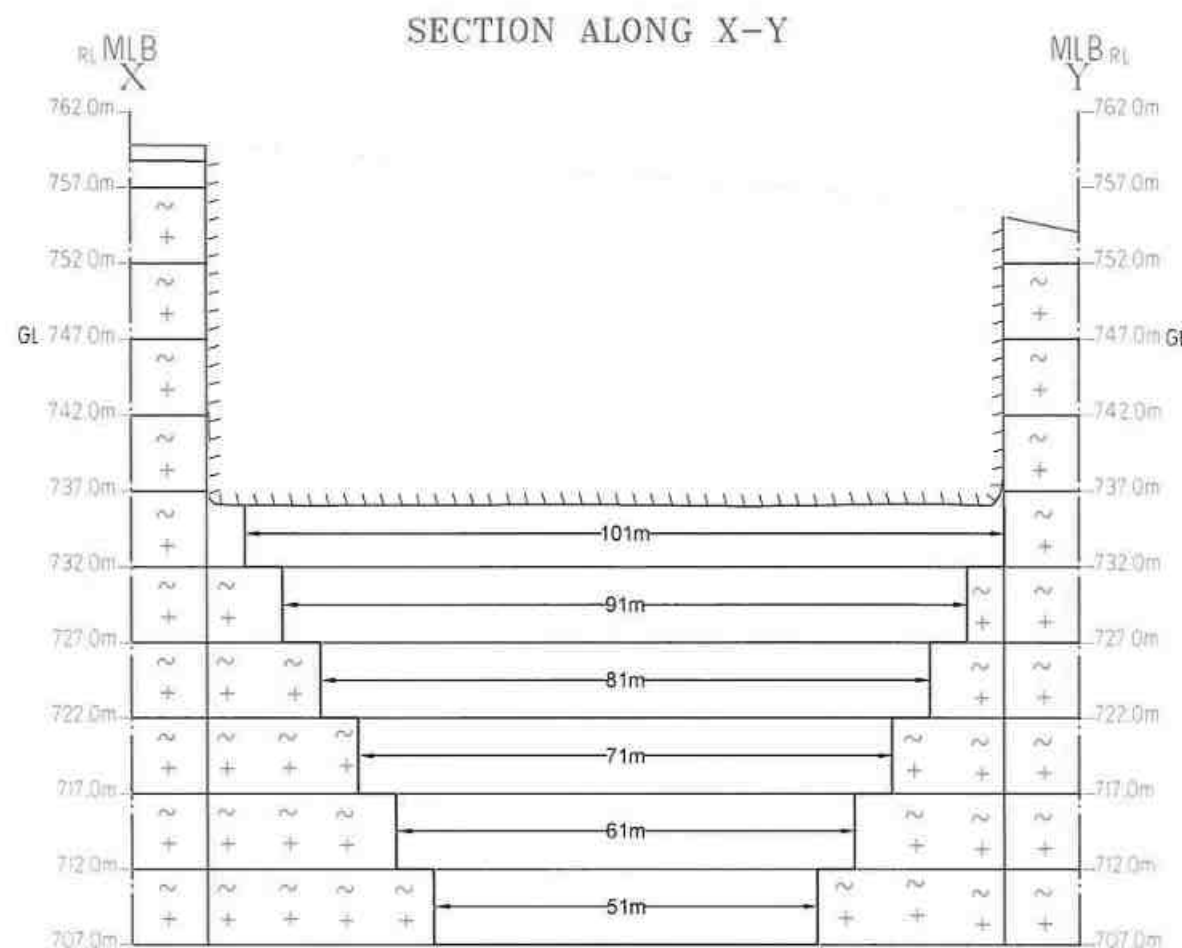
CONCEPTUAL PLAN

SCALE 1:1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS
BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Rough Stone in m ³	Residual Topsoil in M ³
XY-AB	III	91	10	5	4550	4550	.....
	IV	81	9	5	3645	3645	.....
	V	71	8	5	2840	2840	.....
	VI	61	8	1	488	488	.....
	VI	101	66	4	26664	26664	.....
	VII	91	56	5	25480	25480	.....
	VIII	81	46	5	18630	18630	.....
	IX	71	36	5	12780	12780	.....
	X	61	26	5	7930	7930	.....
	XI	51	16	5	4080	4080	.....
TOTAL					107087	107087	0

PLATE No- IVA

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE BOUNDARY	
SAFETY DISTANCE	
TOPSOIL	
ROUGH STONE	
ULTIMATE BENCH	

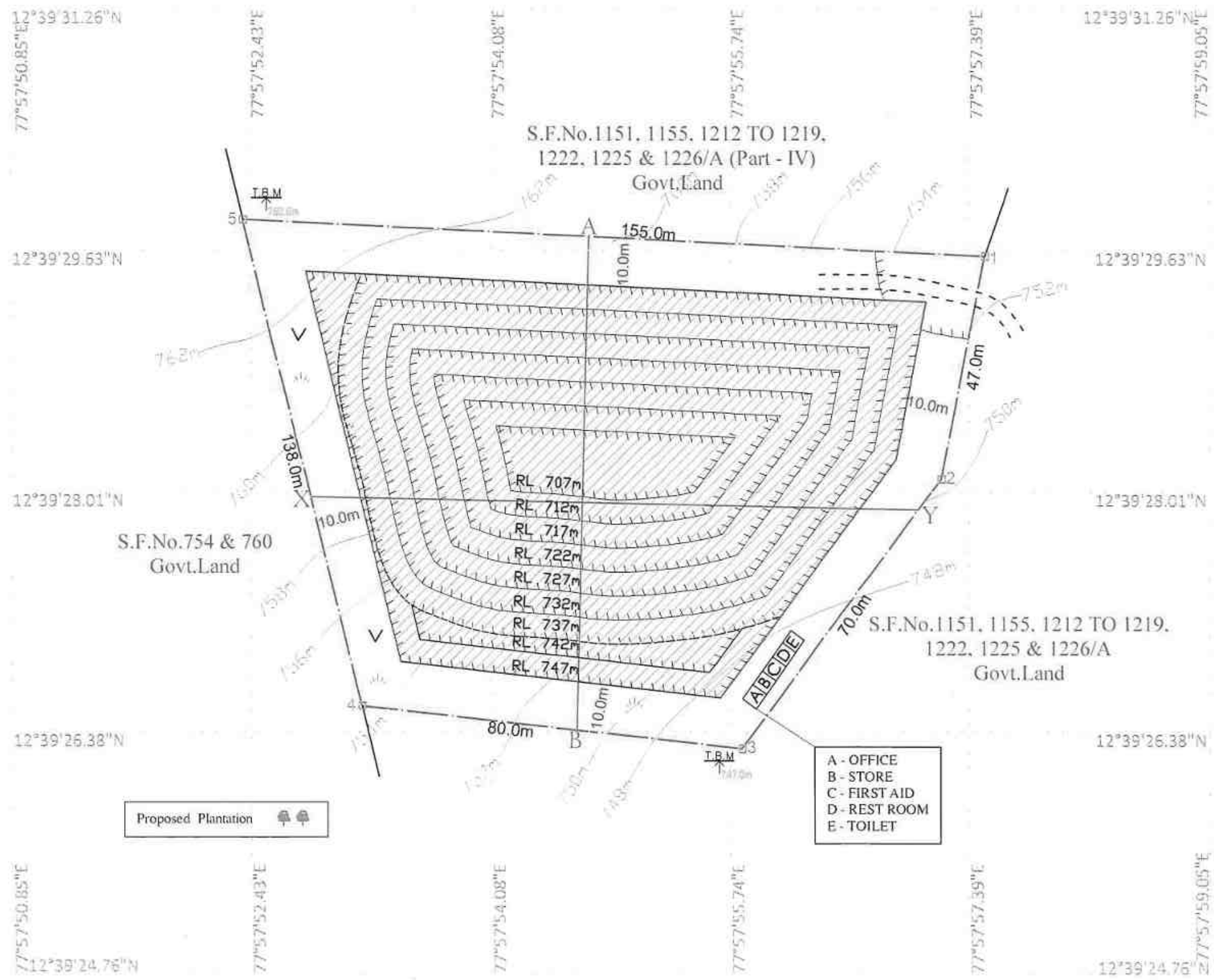
CONCEPTUAL SECTIONS

SCALE - HOR 1 : 1000 & VER 1 : 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS
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TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



MINE LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Hect)	AREA IN USE DURING THE QUARRYING PERIOD(Hect)	COLOR CODE
AREA UNDER QUARRYING	1.05.27	0.41.25	
INFRASTRUCTURE	NIL	0.02.0	
ROADS	0.03.0	0.05.0	
UN-UTILIZED AREA	0.11.03	0.60.0	
GREEN BELT	0.07.70	0.18.75	
GRAND TOTAL	1.27.0	1.27.0	

17 OCT 2024

PLATE No. V

APPLICANT:
Mr. S.MADHU,
 S/o.SRINIVASAN,
 No.12, EDEN GARDEN,
 THALLY ROAD, HOSUR TALUK,
 KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:
 S.F.No : 1151, 1155, 1212 TO 1219, 1222,
 1225 & 1226/A (PART - 5)
EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

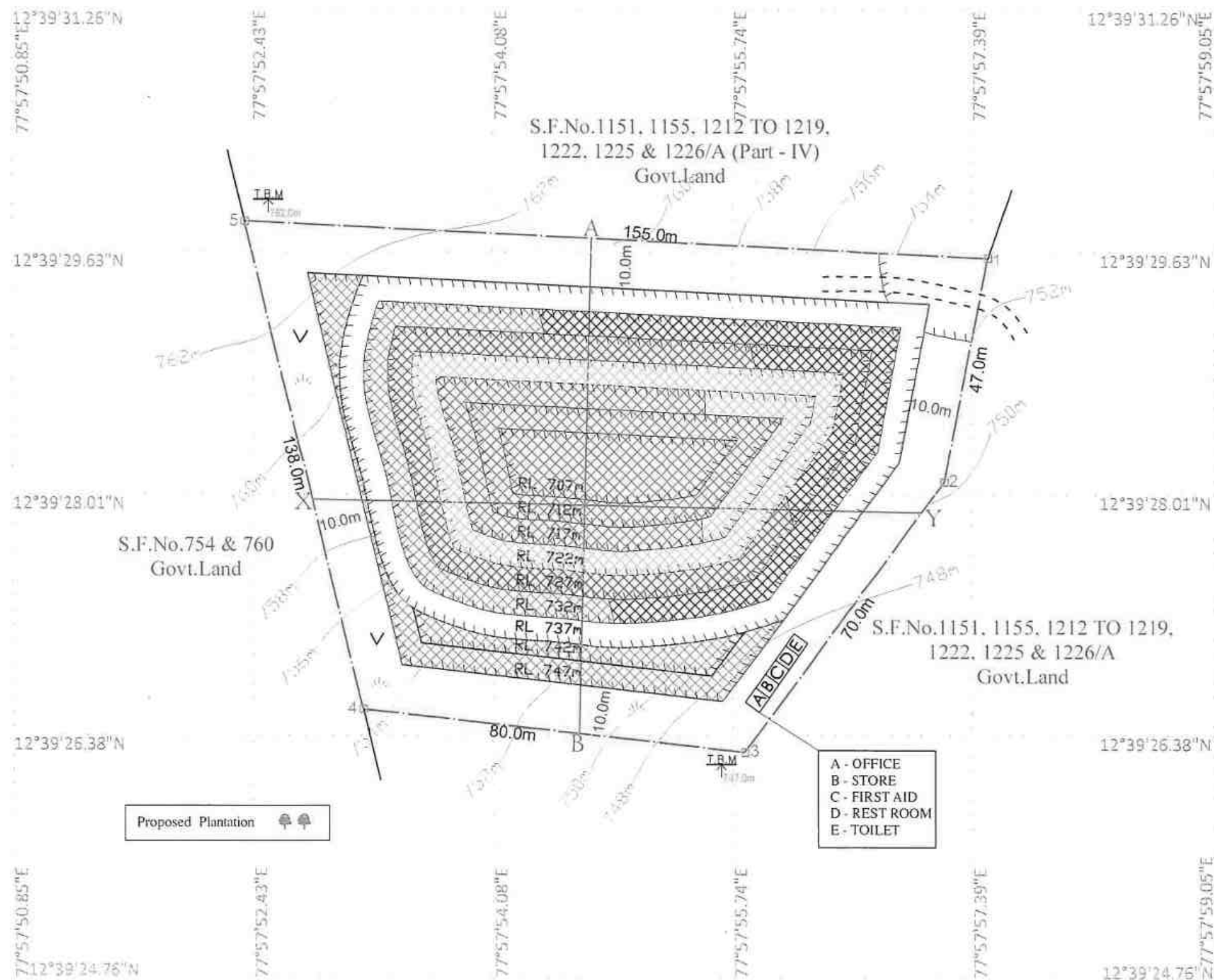
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BOUNDARY PILLAR STONES	
CONTOUR LINES	
TEMPORARY BENCH MARK	
EXISTING PIT	
ROUGH STONE	
TOPSOIL & SHRUBS	
PROPOSED BENCH	

MINE LAYOUT PLAN & LAND USE PATTERN
 SCALE 1 : 1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
 RECOGNIZED QUALIFIED PERSON
 RQP/MAS/263/2014/A



Proposed Plantation

- VI - Year Proposed area to be Quarried
- VII - Year Proposed area to be Quarried
- VIII - Year Proposed area to be Quarried
- IX - Year Proposed area to be Quarried
- X - Year Proposed area to be Quarried



APPLICANT:
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 S/o.SRINIVASAN,
 No.12, EDEN GARDEN,
 THALLY ROAD, HOSUR TALUK,
 KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:
 S.F.No : 1151, 1155, 1212 TO 1219, 1222, 1225 & 1226/A (PART - 5)
 EXTENT : 1.27.0 Hectares
 VILLAGE : KAMANDODDI
 TALUK : SHOOLAGIRI
 DISTRICT : KRISHNAGIRI

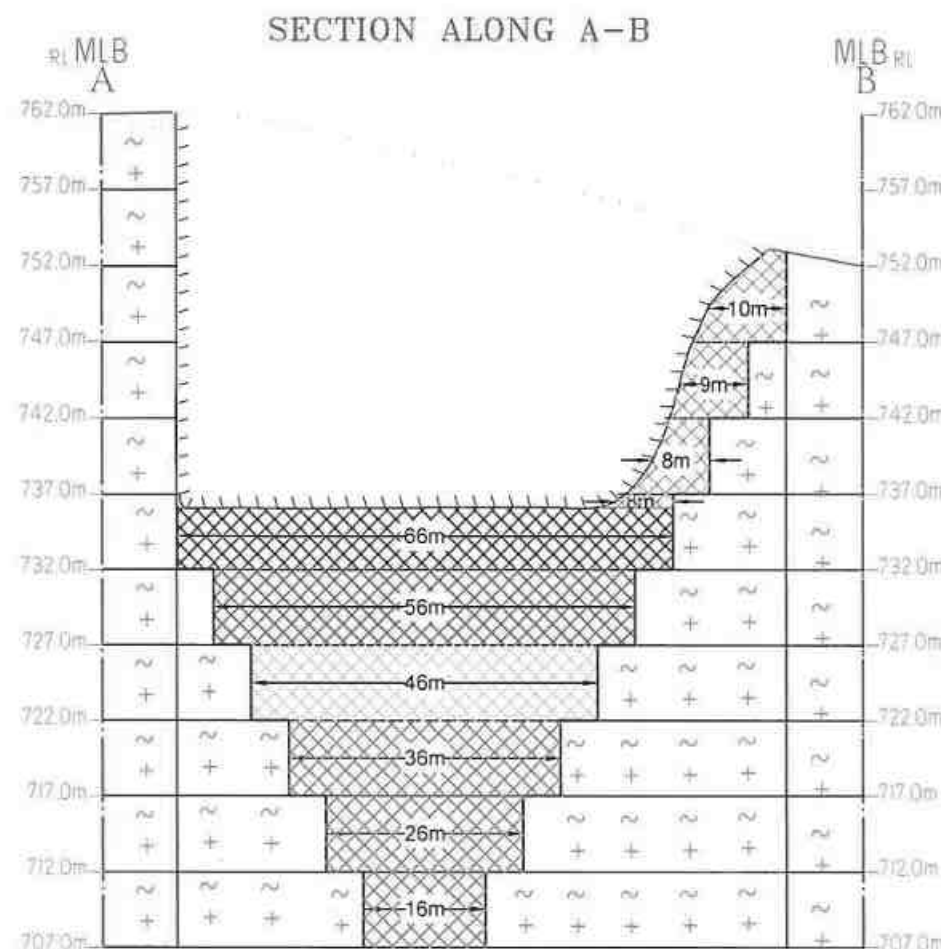
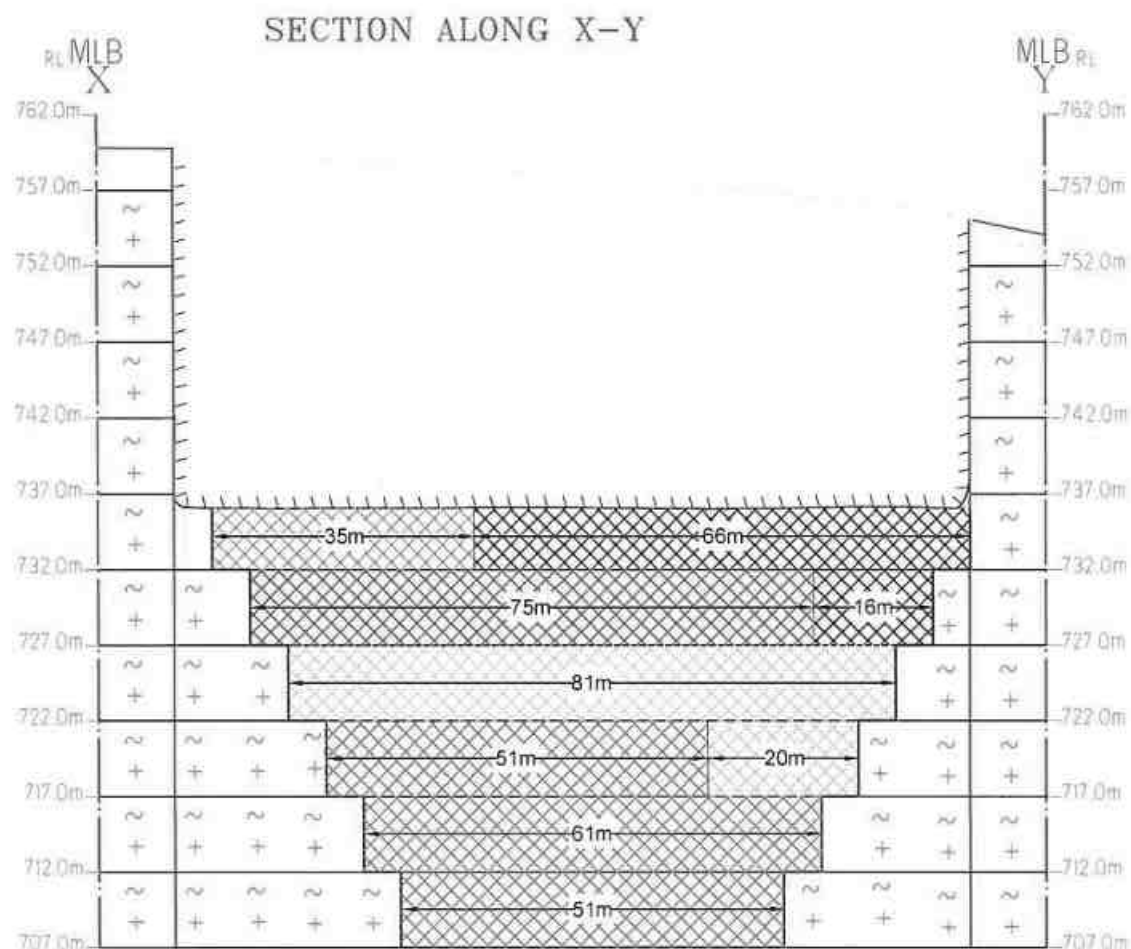
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MINE LEASE BOUNDARY	
SAFETY DISTANCE	
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BOUNDARY PILLAR STONES	
CONTOUR LINES	
TEMPORARY BENCH MARK	
EXISTING PIT	
ROUGH STONE	
TOPSOIL & SHRUBS	
PROPOSED BENCH	

YEARWISE DEVELOPMENT & PRODUCTION PLAN
 SCALE 1 : 1000

Prepared By:
 I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
 RECOGNIZED QUALIFIED PERSON
 RQP/MAS/263/2014/A



YEARWISE PRODUCTION								
Section	Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M ³	Rough Stone in m ³	Residual Topsoil in M ³
XY-AB	VI-YEAR	III	91	10	5	4550	4550	.....
		IV	81	9	5	3645	3645	.....
		V	71	8	5	2840	2840	.....
		VI	61	8	1	488	488	.....
		VI	35	66	4	9240	9240	.....
TOTAL						20763	20763	0
XY-AB	VII-YEAR	VI	66	66	4	17424	17424	.....
		VII	16	56	5	4480	4480	.....
TOTAL						21904	21904	0
XY-AB	VIII-YEAR	VII	75	56	5	21000	21000	.....
TOTAL						21000	21000	0
XY-AB	IX-YEAR	VIII	81	46	5	18630	18630	.....
		IX	20	36	5	3600	3600	.....
TOTAL						22230	22230	0
XY-AB	X-YEAR	IX	51	36	5	9180	9180	.....
		X	61	26	5	7930	7930	.....
		XI	51	16	5	4080	4080	.....
TOTAL						21190	21190	0
GRAND TOTAL						107087	107087	0

VI - Year Proposed area to be Quarried	XXXX
VII - Year Proposed area to be Quarried	XXXX
VIII - Year Proposed area to be Quarried	XXXX
IX - Year Proposed area to be Quarried	XXXX
X - Year Proposed area to be Quarried	XXXX

PLATE No- VIA

APPLICANT:

Mr. S.MADHU,
S/o.SRINIVASAN,
No.12, EDEN GARDEN,
THALLY ROAD, HOSUR TALUK,
KRISHNAGIRI DISTRICT - 635109.

LEASE AREA:

S.F.No : 1151, 1155, 1212 TO 1219, 1222,
1225 & 1226/A (PART - 5)

EXTENT : 1.27.0 Hectares
VILLAGE : KAMANDODDI
TALUK : SHOOLAGIRI
DISTRICT : KRISHNAGIRI

INDEX

MINE LEASE BOUNDARY	=====
SAFETY DISTANCE	=====
TOPSOIL	V V V
ROUGH STONE	+++++
PROPOSED BENCH	=====

YEARWISE DEVELOPMENT & PRODUCTION SECTIONS

SECTION HOR 1 : 1000 & VER 1 : 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS
BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

கிராம நிர்வாக அலுவலர் சான்று

கிருஷ்ணகிரி மாவட்டம், சூலகிரி வட்டம், காமன்தொட்டி கிராமத்தில் உள்ள சர்வே எண் 1151, 1155, 1212 முதல் 1219, 1222, 1255, 1226/எ (பகுதி-5)ல் பரப்பு 1.27.0 ஹெக்டேர் இடத்தில் அமைந்துள்ள திரு.எஸ்.மது சாதாரண கல் குவாரியை சுற்றி 300 மீட்டர் சுற்றளவில் குடியிருப்புகள் அங்கிகரிக்கப்பட்ட குடியிருப்புகள், மனைகள், பள்ளிகள், கோவில்கள், வழிபாட்டுத்தளங்கள் புராதன சின்னங்கள் போன்றவை ஏதும் இல்லை. மேலும் பிற்படுத்தப்பட்டோர், ஆதிதிராவிடர் நத்தம் மனைகள் எதுவுமில்லை. உயர் அழுத்த மின் கோபுரங்கள் ஏதும் செல்லவில்லை என புலத்தணிக்கை மற்றும் பொதுமக்கள் விசாரணையில் தெரியவருகிறது என்பதனை தெரிவித்துக் கொள்கிறேன்.

25/10/24
கிராம நிர்வாக அலுவலர்
Village Administrative Officer
126, Kamanoddi,
Uddanapalli Firka, Shoolagiri Taluk,
Krishnagiri Dist.



National Accreditation Board for Education and Training

Certificate of Accreditation

Geo Technical Mining Solutions, Dharmapuri

5/1485-3, Salem Main Road, Elakkiyampatty, Dharmapuri, Tamil Nadu

The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA/EMP reports in the following Sectors.

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals - including opencast and underground mining	1	1 (a) (i)	A

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated January 24, 2024, posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/24/3142 dated Feb 19, 2024. The accreditation needs to be renewed before the expiry date by Geo Technical Mining Solutions, Dharmapuri following due process of assessment.

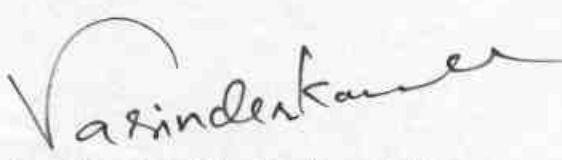
Issue Date
Feb 19, 2024

Valid up to
Dec 31, 2026




Mr. Ajay Kumar Jha
Sr. Director, NABET

Certificate No.
NABET/EIA/23-26/RA 0319


Prof (Dr) Varinder S Kanwar
(CEO NABET)

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.