



सत्यमेव जयते

Validity expires on 29/11/2022

Proceedings of the State Environment Impact Assessment Authority Kerala

*Present: Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and
Sri. James Varghese, I.A.S., Member Secretary.*

Sub: SEIAA- Environmental Clearance for the quarry project of Sri. M. K. Biju, M/s. Karthika Granite Quarry in Sy. No. 158/3, 158/5, 158/6, 158/7-2, 158/8, 158/10, 158/11, 158/12-2 at Ittiva village, Kottarakara Taluk, Kollam District, Kerala for an area of 1.0905 hectares-
Granted Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

No. 637/SEIAA/KL/4908/2014

Dated, Thiruvananthapuram 30/11/2017

- Ref:
1. Application No. KMQ/EC/01 dated 10/10/2014 from Shri.M.K.Biju, M/s Karthika Granite Quarry, Karthika, Kadakkal, Kollam – 691 536.
 2. Minutes of the 53rd meeting of SEAC held on 25th & 26th February 2016.
 3. Minutes of the 76th meeting of SEAC held on 25th & 26th July, 2017.
 4. Minutes of the 78th meeting SEAC held on 23rd August 2017.
 5. Minutes of the 74th SEIAA meeting held on 9th October 2017.
 6. Affidavit received on 25/11/2017 and 30/11/2017 from Sri.M.K.Biju, M/s.Karthika Granite

ENVIRONMENTAL CLEARANCE NO .90 /2017

Shri. M. K. Biju, M/s Karthika Granite Quarry, Karthika, Kuttikkad P.O, Kadakkal, Kollam – 691 536 vide his application dated 10/10/2014, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No. 158/3, 158/5, 158/6, 158/7-2, 158/8, 158/10, 158/11, 158/12-2 of Ittiva village, Kottarakara Taluk, Kollam District, Kerala for an area of 1.0905 Hectares. The project comes under Category B, Activity

1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M. No. L-11011/47/2011-IA.II(M) dated 18th May 2012 of Ministry of Environment and Forests. It is further categorised as Category B2 as per Notification No.S.O.141 (E) dt.15.01.2016 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

Details of the project as furnished by the applicant are as follows:

BASIC INFORMATION OF QUARRY
(To be filled in by the Project Proponent)
PART A

I. Project details	
File No.	637/SEIAA/KL/4908/2014
Name /Title of the project	The building Stone Quarry (Minor Mineral) project of M/s Karthika Granite Quarry is situated at Sy. Nos. 158/3, 158/5, 158/6, 158/7-2, 158/8, 158/10, 158/11, 158/12-2, Ittiva Village, Kottarakara Taluk, Kollam District, Kerala.
Name and address of project proponent.	M/s KARTHIKA GRANITE QUARRY Mr. M.K. Biju (Proprietor) Karthika, Kuttikkadu P.O., Kadakkal, Kollam, Kerala-691536. Mobile No. 09447141900 E-mail : karthikamkbiju@gmail.com
Owner of the land	1.0905 ha. (0.9505 ha. private own land + 0.1400 ha. Govt. land)
Survey No. District/Taluk/ and Village etc.	Sy. Nos. 158/3, 158/5, 158/6, 158/7-2, 158/8, 158/10, 158/11, 158/12-2, Ittiva Village, Kottarakara Taluk, Kollam District, Kerala.
Details of period of lease or permit with number including the beginning and expiry date of lease/permit period (Copy to be attached)	There is no quarry operation at site.
Present Status of the project a. Date & Year of starting the work of the quarry project.	There is no quarry operation at site.
b. whether the quarry is working at present or not ?	There is no quarry operation at site.
c. If stopped working since when?	There is no quarry operation at site.
Date of submission of Application	10.10.2014

Brief description of the project.	The land for the proposed quarry is partially private owned land and partially Govt. land. The proposed quarry developed by M/s Karthika Granite Quarry. As per the approved mining plan, the targeted production of mine will be 51,065 MTA. The estimated project cost will be about Rs. 1.5 Crores. The expected life of mine will be about 5 years. The working will be carried out by opencast semi-mechanized method.		
Details of Authorized Signatory and address for correspondence	M/s KARTHIKA GRANITE QUARRY Mr. M.K. Biju (Proprietor) Karthika, Kuttikkadu P.O., Kadakkal, Kollam, Kerala-691536. Mobile No. 09447141900 E-mail : karthikamkbiju@gmail.com		
II. Land Details			
a) Extent of area in hectares	1.0905 ha.		
b) Is the property forest land/Govt. land/own land/patta land	1.0905 ha. (0.9505 ha. private own land + 0.1400 ha. Govt. land)		
c) Quantity of top soil/overburden produced and managed	A total estimated quantity of 950 cu.m. of topsoil is proposed to be removed during the mining operations. The topsoil excavated from the quarry will be dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation. Precautions will be taken to limit the height of the topsoil dump to 5 to 6 meters in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage. About 1,475 cu.m. of overburden will be generated throughout the mine life. This waste will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.		
d) Latitude and Longitude	Latitude (N)	08° 51'45.20" to 08° 51'38.73" N	
	Longitude (E)	76° 54'22.35" to 76° 54'18.48" E	
e) Topography of land and elevation	Part of the proposed land exposed rock and there is no vegetation and remaining part of the proposed land is covered with native trees, shrubs, herbs, grass, climbers, bushes etc. The highest elevation of the mine area is 170 m. MSL and lowest is 150 m MSL		
f) Slope analysis	Towards north east side.		
g) Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	Due care will be taken to provide channel all around the foot of the hill to collect run off and also to avoid soil erosion. There is no danger of flood or inundation as the proposed working is above the normal ground level. The area is not susceptible to floods.		
h) Access road to the site width and condition	7 m. wide tarred road.		
i) Will there be any adverse impact on the aesthetics of the proposal site	The land used will be fully reclaimed and rehabilitated by backfilling the pits and plantation. Plantation and afforestation will add to the improvement in environment and aesthetic beauty of the area.		

III. Mining details		
a) Minimum and Maximum height of excavation.	The exploitation of mineral is being done from 170 m. MSL to 140 m. MSL in conceptual phase.	
b) Life of mine proposed.	About 5 years	
c) Underground mining if any proposed	Not applicable	
d) Method of Mining	The working will be carried out by opencast semi-mechanized method as per the approved Mining Plan.	
e) Distance from the adjacent quarry	There is no quarry in operation within 500 m. of the proposed quarry.	
f) Cluster condition if any	Not applicable.	
g) Has "No cluster certificate" submitted?	There is no quarry in operation within 500 m. of the proposed quarry.	
h) Distance from nearby habitation	124 m. (NE direction)	
i) Distance from nearby forest, if applicable	. Manjapara, Anchal range (forest) – about 15 km	
j) Distance from protected area, Wildlife Sanctuary, National Park etc.	None within the study area	
k) Distance from nearby streams/rivers/National Highway and Roads	Water body – Ithikkara River, about 8 km, NW Highway – Thiruvnathapuram – Angamaly SH – about 9 km	
l) Is ESA applicable? If so distance from ESA limit	Not falling in ESA	
m) Has approved mining plan, prepared by RQP submitted?	Yes, the approved mining plan prepared by RQP is already submitted.	
n) Capacity of production in TPA	51,065 MTA	
The mining will be done by open cast semi-mechanized method of mining. The bench height and width will be maintained 5 m. Excavated material is transported to the crusher unit available outside the complex for further processing. The ultimate depth of the mine workings is estimated to reach upto 140 m MSL.		
o) Details of mining process		
a) Land cost	About Rs. 1.5 Crores (All inclusive)	
b) Plant and Machinery	About Rs. 1.5 Crores (All inclusive)	
c) Total Cost	About Rs. 1.5 Crores (All inclusive)	
V. Financial Statement including funding source and details of insurance etc.	Project Cost = About Rs. 1.5 Crores	
	Insurance = Insurance to the quarry workers would provide through insurance company.	
	Funding = Own source & bank loan	
Management Plan	Air Pollution	Mining activities will generate certain quantities of dust during drilling, blasting, loading and transportation operations. The following measures will be taken to mitigate the fugitive dust from different operations. <ul style="list-style-type: none">Laying of haul road as per the standards, black topping of permanent haul road and service road to avoid or eliminate air – borne

		<p>dust.</p> <ul style="list-style-type: none"> • To avoid the dust generation from the drilling operations, wet drilling method will be adopted. • Drill machines will be equipped with dust collectors. • Use of appropriate explosives for blasting and avoiding overcharging of blast holes. • Controlled blasting techniques will be adopted. • Watering of haul road and other road at regular intervals. • Provision of dust filters/ mask to workers working at highly dust prone and affected areas. • Provision of green belt all along the periphery of the lease area. • Periodical monitoring of ambient air quality in and around the lease area. <p>The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.</p> <ul style="list-style-type: none"> • In case of long transportation the trucks after loading will be covered with tarpaulin sheets. • Speed of the vehicles will be maintained within the prescribed limits. • Trucks will not be over loaded and will be maintained to the body level
	Water Pollution	Provision of storm water collection pond with an appropriate capacity. The water requirement for sprinkling on sources of dust emission, on roads, landscaping etc. Can be met from the stored rainwater in the pond/tank.
	Noise	<p>The major noise generating source from the proposed activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are to be undertaken to bring down the noise levels:-</p> <ul style="list-style-type: none"> • Proper maintenance of machinery, equipments and improvement on design of machines. • Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Creation of wide green belt of dense

		<p>foliage between mine areas and residential colonies.</p> <ul style="list-style-type: none"> • Proper training to personnel to create awareness about adverse noise level effects. • Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions.
	Solid Waste Management	<p>Topsoil Management</p> <p>The topsoil excavated from the quarry will be dumped / stacked separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation as part of eco-restoration. Precautions will be taken to limit the height of the topsoil dump / stacked to 5 to 6 meters in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage.</p> <p>Overburden Management</p> <p>This waste will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.</p>
	Eco-restoration	<p>The year wise programme of eco-restoration for life of mine will be made and about 710 trees will be planted in an area of 0.7114 ha.</p>
VI. Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes.	
VII. Does it suggest mitigation measures for each activity	Details already provided at EMP section at Sr. No. 39 above.	
VIII. If Pre-Feasibility Report (PFR) satisfactory	Yes	
IX. Does it need public hearing	Not Applicable	
X. Details of litigation and Court verdict if any	No litigation pending.	
XI. Details of public complaint, if any	None	
XII. Details of statutory sanction required	<p>The following statutory sanction required :-</p> <ul style="list-style-type: none"> ➤ Consents from the Kerala State Pollution Control Board. ➤ Permission from Mining & Geology Department. 	

	<ul style="list-style-type: none"> ➤ Permission from Explosive Department ➤ Permission from Panchayat Office
XIII. If CRZ recommendation applicable?	Not Applicable
a) Details of water requirement per day in KLD	The total water requirement is about 5 KLD.
b) Water source/sources.	The total water requirement is about 5 KLD in which 1 KLD is for domestic which would be sourced from open well, 2 KLD for dust suppression system in mine and 2 KLD for plantation purposes and will be sourced from storm water pond/tank.
c) Expected water use per day in KLD.	5 KLD.
d) Details of water requirements met from water harvesting.	1 KLD is for domestic which would be sourced from open well, 2 KLD for dust suppression system in mine and 2 KLD for plantation purposes and will be sourced from storm water pond/tank.
e) What are the impact of the proposal on the ground water?	No significant impact envisaged on ground water due to the mining project.
f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	No.
g) What is the incremental pollution load from waste water generated from the proposed activities?	The sewage to a tune of 0.8 KLD generated from the mine office will be diverted to the septic tank followed by soak pit.
	<ul style="list-style-type: none"> ➤ Storm water drains with silt traps will be suitably constructed all along the periphery of the pit area to collect the run-off from the lease area and divert into the storm water pond/tanks proposed within the complex. ➤ All measures will be taken not to disturb the existing drainage pattern adjacent to the other property. ➤ De-siltation traps and storm water collection pond proposed for silt removal. ➤ The storm water collected from the lease area will be utilized for dust suppression on haul roads, plantation within the premises etc.
Impact on Biodiversity and Eco restoration Programmes	
a) Will the project involve extensive clearing or modification of vegetation (Provide details)	Due to the mining activities, there will be loss of some native species and vegetation. However, some of these species will be planted at the end use for eco-restoration.
b) What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	The year wise programme of eco-restoration for the life of mine will be made and about 710 trees will be planted in an area of 0.7114 ha. Ecological restoration for the mined area by plantation of the species as per the time schedule suggested below: -

	<p>First Six months -- Herbs & grass</p> <p>Next Six months -- Shrubs</p> <p>Next Six months onwards -- Trees</p> <p>Selection of species is based on High Dust Capturing, Soil Holding Capacity, ground water recharge capacity etc. More focus is given for medicinal plants.</p>
<p>c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ?</p> <p>d) Presence of any endangered species or red listed category (in detail)</p>	<p>No</p> <p>No endangered species found at site</p>
a) What are the mitigation measures on generation of dust, smoke and air quality	Details already provided at EMP section at Sr. No. 39 above.
b) Details of internal traffic management of the site.	<p>Designated space will be provided for parking of truck/tipper within the site.</p> <p>For the purposes of mining activities, existing roads are sufficient. However, haul road will be suitably developed within the proposed area.</p> <p>Speed of the vehicles will be maintained within the prescribed limits (Speed Governor fitted).</p>
c) Details of noise from traffic, machines and vibrator and mitigation measures	Details already provided at EMP section at Sr. No. 39 above
d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	Details already provided at EMP section at Sr. No. 39 above.
e) Air quality monitoring in detail	Details already provided at EMP section at Sr. No. 39 above.
Energy Conservation	
a) Details of power requirement and source of supply.	The total power requirement will be 75 kW, which will be drawn from diesel engine.
b) Details of renewable energy (non – conventional) used.	We will promote renewable energy resources.
a) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	Yes.
b) Are proposals for fencing around the quarry satisfactory?	Barbed wire fencing will be done all around the quarry site.
c) Storage of explosives /	The stone quarry mine will result in increase in frequency of blasting for mining the mineral. However, controlled blasting with optimum charge of holes will be carried out to loosen the rock. Explosion hazards are

hazardous substance in detail	<p>envisaged due to mishandling of explosives. Explosives will be handled with utmost care in compliance of conditions imposed by Chief Controller of Explosive & Metalliferous Mines Regulation, 1961.</p> <p>Top soil and over burden generated from the site will be stored separately on earmarked place and will be used for eco-restoration and internal road development.</p>																			
d) Facility for solid waste management																				
a) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	No																			
b) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	<p>The proposed project will directly / indirectly develop the area by providing employment opportunities. With the proposed development in and around the area there will be many supporting facilities/ infrastructure eventually leading to the development of the area.</p>																			
c) Are the CSR proposals satisfactory. Give details	<p>Yes.</p> <p>A detailed study on social status of the project site surroundings & need base study on proposed CSR activities were carried out. The summary of the report is given below :-</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Particulars</th> <th>Rs in lakhs (approx.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Promotion of Education</td> <td>Recurring = Rs. 0.50 lakhs Non-recurring = Rs. 0.50 lakhs</td> </tr> <tr> <td>2</td> <td>Environment Sustainability</td> <td>Recurring = Rs. 2.0 lakhs Non-recurring = Nil</td> </tr> <tr> <td>3</td> <td>Development of Infrastructure</td> <td>Recurring = Nil Non-recurring = Rs. 2.55 lakhs</td> </tr> <tr> <td>4</td> <td>Healthcare</td> <td>Recurring = Rs. 0.50 lakhs Non-recurring = Nil</td> </tr> <tr> <td></td> <td>Total</td> <td>Recurring = About Rs. 3.0 lakhs Non-recurring = About Rs. 3.05 lakhs</td> </tr> </tbody> </table>		Sl. No.	Particulars	Rs in lakhs (approx.)	1	Promotion of Education	Recurring = Rs. 0.50 lakhs Non-recurring = Rs. 0.50 lakhs	2	Environment Sustainability	Recurring = Rs. 2.0 lakhs Non-recurring = Nil	3	Development of Infrastructure	Recurring = Nil Non-recurring = Rs. 2.55 lakhs	4	Healthcare	Recurring = Rs. 0.50 lakhs Non-recurring = Nil		Total	Recurring = About Rs. 3.0 lakhs Non-recurring = About Rs. 3.05 lakhs
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d) What are the projects benefits in terms of employment potential?	<p>Due to the mining activity, there will be workers attracted to the project area. It is proposed to employ 20 persons in the project.</p>																			
PART C																				
Details of NABET approved EIA Consultant engaged-Their name, address and accreditation details	<p>M/s Environmental Engineers & Consultants Pvt. Ltd. (NABET Accredited Consultant Organization) Head Office :- A1-198, Janak Puri, New Delhi. Branch Office:- C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala.</p>																			
a) Overall justification for	It is predicted that socio-economic impact due to this project will																			

implementation of the project.	positively increase the chance of more employment opportunities for local inhabitants. There are no Resettlement and Rehabilitation issues involved in this project. The project infrastructures will be of use to people of the area. The revenue of the State Govt. will be definitely increasing due to the proposed activity. The entire project area is devoid of any endangered flora and fauna. It is proposed to reclaim the land and develop green cover for eco-restoration with native species to a maximum possible extent. Additionally, an area is earmarked outside the proposed mining area for compensatory mass plantation. Also, a storm water pond/tank is proposed outside the mining area for storage of rain water and for its subsequent use so as to conserve fresh water consumption. Thus the proposed project is not likely to affect the environment or adjacent ecosystem adversely.
Explanation of how adverse impact have been mitigated.	Details already provided at EMP section at Sr. No. 39 above.

2. The proposal was placed in the 53rd meeting of SEAC held on 25th & 26th February 2016. The Committee directed the proponent to submit realistic CSR plan and also a copy of the LOI. The proponent has submitted the documents sought by 53rd SEAC meeting.
3. The proposal was placed in the 76th meeting of SEAC held on 25th & 26th July, 2017. The Committee appraised the proposal based on the Mining Plan, Pre-feasibility Report and all other documents submitted along with Form1 and decided to defer the item for field inspection and submission of a realistic CSR commitment.

Subsequently, site visit was conducted on 17.08.2017 by Subcommittee consisting of Dr. Harikrishnan K and Sri. John Mathai. The representatives of the proponent were present at the site at the time of site visit. They reported that, *based on an overall evaluation of the site it can be recommended after considering the following:-*

1. *Fencing to be provided all around. Boundary pillars should be fixed to the ground permanently*
2. *The OB and top soil is to be stored in a dedicated place at lower elevation and provided with retaining walls.*
3. *The present method of unplanned stocking of finished products – aggregates of different sizes-in the elevated part should be discontinued.*
4. *Catch water drains should be provided so as to channelize storm water and dispose it safely. The water that flows out of the property should be clarified.*
5. *The deep pit in the existing quarry on the eastern side should be converted in to a RWH structure to enhance water availability.*
6. *A dense tree belt is to be provided along the boundary.*
7. *A separate plot may be set apart to relocate and protect shrubs and plants in the area that are rare to the locality.*

The proponent has submitted a CSR for Rs.3 lakhs each as recurring and non-recurring. The change in area and Sy No may be noted in all future correspondence.

On perusal of a few complaints received in SELAA office on the functioning of the quarry, it can be seen that the operational part of the quarry- regarding the time and duration of operation of quarry, blasting at designated times, warning signs before blasting, dust and sound control mechanisms etc. are already controlled by the existing laws. Strict compliance of them can be enforced. Considering the facts that there are no dwelling units within 150 m of the quarry, public road is beyond 300 m and the quarry is confined to the elevated part; other grievances like fly rock falling on road, health hazard to public, wells drying, dust from the crusher units hampering agriculture are all irrational statements mostly fuelled by figment of imagination. Moreover, the quarry and the crusher units were in operation for many years while the complaints have emanated only recently.

The proponent was asked to explain the status of pending litigation before Munsiff court. It was informed that the Court had appointed an Advocate Commission for local inspection. The Commission inspected the site on two occasions- May and June 2017- and filed the report which contradicts the claims of the plaintiffs.

4. *The proposal was considered in the 78th meeting SEAC held on 23rd August 2017. The Committee appraised the proposal based on Form I, Pre-feasibility Report, Mining Plan, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee decided to Recommend for issuance of EC subject to general conditions in addition to the following specific condition.*
 1. *Fencing to be provided all around. Boundary pillars should be fixed to the ground permanently*
 2. *The OB and top soil is to be stored in a dedicated place at lower elevation and provided with retaining walls*
 3. *The present method of unplanned stocking of finished products – aggregates of different sizes-in the elevated part should be discontinued.*
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 8. *If any rare, endemic and threatened plant species are noticed, they shall be properly protected insitu or transplanted to a suitable site inside the lease area.*
 9. *All the general conditions shall be strictly adhered to.*

The proponent agreed to set apart Rs.3 lakh (non-recurring) and Rs.3 lakh per annum (recurring) for CSR activities. The proponent also agreed to spend this amount in consultation with the local Panchayat for the welfare of the local community

5. The proposal was considered in the 74th SEIAA meeting held on 9th October 2017. The Authority examined the complaints received and noticed that no fresh issues are raised against the quarry before SEIAA and as the existing complaints are considered by SEAC in its appraisal itself, Authority decided to accept the recommendation of SEAC and decided to issue EC with strict implementation of general conditions in addition to the following specific conditions.
1. *Fencing to be provided all around. Boundary pillars should be fixed to the ground permanently*
 2. *The OB and top soil is to be stored in a dedicated place at lower elevation and provided with retaining walls.*
 3. *The present method of unplanned stocking of finished products – aggregates of different sizes-in the elevated part should be discontinued.*
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 9. *All the general conditions shall be strictly adhered to.*

The proponent should set apart an amount of Rs.3 lakhs (non-recurring) and 3 lakhs (recurring) per year for CSR activities for the welfare of the local community in consultation with the local Panchayat. EC will be issued only after fulfilling all the pre-mining conditions in the project site. A notarised affidavit to this effect, for the commitment of CSR activities and also agreeing all the general and specific conditions should be submitted before the issuance of EC. A notarised affidavit has been submitted by the proponent vide reference 6th cited, agreeing all the specific and general conditions and also for the commitment of CSR activities imposed by SEIAA and has agreed to enhance CSR amount of Rs.5 Lakh (Rupees Five Lakhs) Recurring and Rs. 5 Lakh non-recurring for the welfare of the local community in consultation with the local body.

6. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed building stone quarry project of Mr.M.K.Biju, M/s Karthika Granite Quarry, Karthika, Kuttikkadu.P.O., Kadakkal, Kollam, Kerala – 691 536 for an area of 1.0905 Ha, in Sy No. 158/3, 158/5, 158/6, 158/7-2, 158/8, 158/10, 158/11,158/12-2 at Ittiva Village, Kottarakara Taluk, Kollam District subject to the specific conditions as recommended by SEIAA in para 5 above, all the environmental impact mitigation and management measures undertaken by the project proponent in the all the

environmental impact mitigation and management measures undertaken by the project proponent in the Form I, EMP, PFR and Mining plan submitted to SEIAA. The assurances and clarifications given by the proponent will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining (items 1 to 61), appended hereto will be applicable and have to be strictly adhered to.

7. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and the undertakings in Chapter 10 (Mining), Chapter 10.c (Blasting), Chapter 18 (EMP) Chapter 19 (Progressive Mine Closure Plan) of the Mining Plan as submitted will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.
8. Validity of the Environmental Clearance will be five years from the date of this clearance, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry.
9. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its authorised offices and also by the regional office of the Ministry of Environment & Forests, Govt. of India, Bangalore.
 - i. Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring
 - ii. Instances of violation if any shall be reported to the District Collector, Kollam to take legal action under the Environment (Protection) Act 1986.
 - iii. The given address for correspondence with the authorised signatory of the project is Mr.M.K.Biju (Proprietor), M/s Karthika Granites Quarry, Karthika, Kuttikadu.P.O., Kadakkal, Kollam – 691 536.

Sd/-
JAMES VARGHESE.I.A.S,
Member Secretary (SEIAA)

To,
Mr. Mr.M.K.Biju (Proprietor),
M/s Karthika Granites Quarry,
Karthika,
Kuttikadu.P.O.,
Kadakkal, Kollam – 691 536

Copy to,

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034.
2. The Additional Chief Secretary to Government, Environment Department, Government of Kerala.
3. The Director, Mining & Geology, Thiruvananthapuram -4.
4. The Member Secretary, Kerala State Pollution Control Board
5. The District Collector, Kollam
6. The District Geologist, Kollam
7. The Tehsildhar, Kottarakara Taluk.
8. Chairman, SEIAA.
- ✓ 9. Website.
10. S/f
11. O/c



Forwarded /By Order

Administrator(SEIAA)

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY
KERALA

GENERAL CONDITIONS (for mining projects)

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.

16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.

29. 100 m buffer distance should be maintained from forest boundaries.
30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.
31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
32. In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponents shall apply and get the approval of this Authority.
33. The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
36. A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/ Corporation/ Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.
37. The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.
38. The details of Environmental Clearance should be prominently displayed in a metallic board of 2 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public
39. The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.
40. No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.
41. The Project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.
42. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.

44. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5} such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
47. Measures should be taken for control of noise levels below 85 dBA in the work environment.
48. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.
50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
51. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
52. Concealing the factual data or submission of false/fabricated data and 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.
53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or thisimplementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
54. The above conditions shall prevail notwithstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license on consent given by any other authority for the same project.
55. ~~This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Government of Kerala, whichever is earlier.~~
56. The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.
57. The mining operation shall be restricted to above ground water table and it should not intersect ground water table.
58. All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area'
59. Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface water and ground water for the project.
60. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly reports to SEIAA.
61. Occupational health surveillance program of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.



For Member Secretary, SEIAA Kerala

