



## ***Proceedings of the State Environment Impact Assessment Authority Kerala***

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

**Sub:** SEIAA- Environmental Clearance for the proposed building stone quarry project in Survey Nos. 1450/1, 1457/1, 1461/1, 1462/1,2, 1463/1,2, 1464/1 and 1465/1 at Madakkathara Village and Panchayath, Thrissur Taluk, Thrissur District by Sri. Jose John, Managing Director of M/s Mridhul Granites and Crusher Pvt. Ltd. -Granted- Orders issued.

### **STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY**

**No. 451/SEIAA/EC1/3125/2014**

*dated, Thiruvananthapuram 23-04-2016*

- Read:-**
1. Application dated 24-05-2014 submitted by Sri. Jose John, Managing Director, M/s Mridhul Granites and Crusher Pvt. Ltd., Kothara, P.O., Madakkathara, Thrissur-680651.
  2. Minutes of the 33<sup>rd</sup> meeting of SEAC held on 02/03-08-2014.
  3. Minutes of the 41<sup>st</sup> meeting of SEAC held on 16/17-06-2015
  4. Minutes of the 43<sup>rd</sup> meeting of SEAC held on 15-07-2015.
  5. Minutes of the 48<sup>th</sup> meeting of SEAC held on 06/07-11-2015.
  6. Minutes of the 47<sup>th</sup> meeting of SEIAA held on 07-01-2016.
  7. Minutes of the 51<sup>st</sup> meeting of SEIAA held on 29-03-2016.

#### **Environmental Clearance No.41 /2016.**

Sri. Jose John, Managing Director of M/s Mridhul Granites and Crusher Pvt. Ltd., vide his application received on 28.06.2014, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Survey Nos. 1450/1, 1457/1, 1461/1, 1462/1,2, 1463/1,2, 1464/1 and 1465/1 at Madakkathara Village and Panchayath, Thrissur Taluk, Thrissur District, Kerala for an area of 5.8362 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 18<sup>th</sup> May 2012 of Ministry of Environment and Forests. It is further categorized as Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dated 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

2. The proposed project site falls between 10° 34' 05.73" N to 10° 33' 54.28" N Latitude and 76° 16' 58.46" E to 76° 16' 42.84" E Longitude. Categorization as per WGEEP Report, the proposed area falling under ESZ-2. The lease area consists of 5.8362 hectares and as per revenue records which is private own land. The main rock type in the area is massive charnockite, covered with soil with an approximate thickness of 0.25m to 0.60 m with slope towards south and south east with highest

elevation of the area is at 110 MSL. The proposed land is covered with native trees, climbers, grass, shrubs, herbs etc. The proposed project is for quarrying of 240,000 MTA of building stone from an area of 5.8362 hectares of land. The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter. Mining will be carried out from the top to bottom by slicing of 2.5 m thickness up to the ultimate pit depth of 75 m with an ultimate pit slope of 45° for the expected life of Ten years. At the end of life of mine, excavated area will be converted into water pond and plantation. The total water requirement is 17.0 KLD, which will be met from storm water pond.

3. There will be fugitive emissions generated during material handling, transportation, loading, unloading etc. that are proposed to be managed by regular water sprinkling on haul road, quarry benches and internal roads and covered transportation, green belt development etc. as explained in PFR 4.3. Negligible quantity of hazardous waste such as used oil which will be disposed to the local recyclers.

4. There are no protected areas like ecological landscape, cultural area, tourist, pilgrim areas etc. identified within the 15 Km radius. There is a church (4 km SE), temple (1.5 km SW) and mosque (2 km SE) within the core zone. There is prohibited area like defence establishment (BSF, 15 km, SE), electrical installation (HT Line-1 km, LT Line-500m) etc. in the vicinity of the proposed area. There is Eco-sensitive area (ESZ), Peechi Wildlife Sanctuary within the radius of 15 km from the proposed area. The endemic tree species *Taberbaemontana alternifolia* are lost during quarry operations and for which compensatory plantation of 1:15 would be carried out in the reserved area. Nearest river is Thanikkudam River which is situated at a distance of 2.5 Km, W of the project site. The nearest human settlement is located at 146 m NE from the proposed quarry. The proposed area is comes under Zone III, Moderate damage risk zone as per BMTPC, vulnerability atlas seismic zone of India, IS: 1893-2002. There is a crusher unit is interlinked with the quarry unit and the proponent stated that, there is no litigation pending against the lease area/applicant of the lease area in any court of law, CRZ recommendations are not applicable. The proponent is stated that there is no litigation is pending against the lease area/applicant of this lease area in any court of law. The total cost of the project is Rs. 90,000,000/-. It is proposed to spend Rs 9.72 Lakhs/annum for various local development activities. Other details of the proposal are as under:

#### Environmental parameters considered

##### WATER

Facilities for liquid waste treatment	The sewage to a tune of 1.6 KLD generated from the mine office will be diverted to the septic tank followed by soak pit.
Water quality meeting requirements	Regular monitoring and analysis will be carried out to meet the stipulated standards from time to time.
Water Management	Construction of check dams and collecting channel all around the foot of the hill to prevent soil erosion during monsoon season and also to collect the storm water for various uses. The storm water will be used for dust suppression, green belt development etc. All measures will be taken not to disturb the existing drainage pattern adjacent to the other property.

##### LAND

Access road to the site -Width & Condition	The road from the quarry to main road is a public road is already in existence (tarred road, N, 8m distance); the same road will be maintained and utilized for transportation. However, haul road will be suitably developed within the proposed area.
Storage of explosives /hazardous substances	Explosive shall be procured by License vender and transported to the site at the time of blasting and used in accordance with Explosive Rules 2008, MSIHC Rules 1989 Mines Act 1952 and MMR 1961 and with necessary permission for blasting from DGMS. Small Dia. 25 mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of building stone. No deep hole drilling or primary blasting is proposed.

	Blasting will be carried out by competent qualified blaster under the supervision of qualified statutory mine manager. Sufficient caution will be given to the public by Siren and red flags.
Facility for solid waste management	A total quantity of 35, 002 m <sup>3</sup> of top soil and 14, 584 m <sup>3</sup> of overburden will be removed during the mining operations. Top soil excavated from the quarry will be dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation. Overburden will be utilized for laying internal haul road and will form base in reclamation/plantation. The sludge generated from the septic tank will be dried on a periodical basis and used as manure for plantation.
Significant land disturbance resulting in erosion, subsidence & instability	BMTPC, vulnerability atlas seismic zone of India, IS: 1893-2002, the proposed area comes under Zone-III. The proponent stated that the project area is not prone to earthquake, landslide and flooding. There are no incidents of cloudburst and landslide reported so far.
Top soil, overburden etc.	It is estimated that around 35, 002 m <sup>3</sup> of top soil will be generated from the proposed pit, which will be properly stacked and will be utilized for plantation over the reclaimed areas. It is also estimated that around 14, 584 m <sup>3</sup> of overburden is generated which will be utilized in developing internal roads and at the end use the same will be used as soil base for reclamation.
<b>NOISE</b>	
Noise pollution control measures	The major noise generating source from the proposed activity is due to drilling, blasting, loading and unloading of minerals and vehicular movement. <b>Control Measures:</b> The greenbelt, which is being provided, will act as noise attenuator. The proposed mine operates only ten hours a day. Proper and regular maintenance of machinery, earmuffs and earplugs will be provided to the persons exposed to noise levels and periodical medical check-up will be conducted to all workers for any noise related health problems. Development of thick wide green belt of dense foliage between mine areas and residential colonies. Periodic maintenance of machinery and equipments. Proper training to personnel to create awareness about adverse noise level effects. Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficacy of adopted control measures.
Noise level monitoring	Periodic air quality monitoring will be carried out in mining area and nearby villages to ensure ambient air quality within permissible limits.
<b>AIR</b>	
Likely emissions affecting environment	Movement of vehicles like dumpers, trucks, tankers etc. will generate dust. The transportation activities on unpaved area results in fugitive emissions to the tune of 1.261 kg/VkmT for PM <sub>10</sub> and 0.126 kg/VkmT for PM <sub>2.5</sub> .
Air pollution control measures: By deposition of pollutants emitted to air into the land or into water	During mining operation there will be dust emissions mainly from excavation, loading, unloading, mineral handling, transportation and mobile sources. The following measures will be taken: <ul style="list-style-type: none"> <li>• Laying of haul road as per the standards, black topping of permanent haul road to avoid or eliminate air borne dust.</li> <li>• Wet drilling method will be adopted to avoid dust generation.</li> <li>• Drill machines will be equipped with dust collectors.</li> <li>• Use of appropriate explosives and avoiding overcharging of blast holes.</li> <li>• Controlled blasting.</li> <li>• Covered transportation.</li> <li>• Limiting the speed of vehicles.</li> <li>• Watering of haul road at regular intervals.</li> <li>• Provision of dust filters and mask to workers.</li> <li>• Provision of green belt along the periphery of the lease area.</li> </ul>

	<ul style="list-style-type: none"> <li>• Periodical monitoring of Ambient Air Quality.</li> <li>• Adopting latest green technology.</li> <li>• Use of bag filters at all traverses points.</li> <li>• Closed conveyor system with water sprinkling arrangements.</li> </ul>
Air quality monitoring	Air quality will be monitored periodically as per Norms and Mitigation Measures will be carried out to prevent dust and Air propagation in to air.
<b>ENERGY</b>	
Energy requirement	The total power requirement of proposed Building stone quarry is 75 kW for compressors which will be operated by Diesel Engine.
<b>BIODIVERSITY</b>	
Presence of any endangered species or red listed category	The endemic tree species <i>Tabernaemontana alternifolia</i> are lost during quarry operations and for which compensatory plantation of 1:15 would be carried out in the reserved area. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN.
Loss of native species and genetic diversity	For the quarrying activity all of native tree species, shrubs, herbs, climber etc. existing at site will be cleared. The year wise programme of eco-restoration for the life of mine, herbs, grass, shrubs and about 5,500 trees will be planted in an area of 5.8362 ha.
<b>SOCIAL ASPECTS</b>	
Proximity to nearest human settlement	146.0 m, NE from the proposed quarry
CSR related to the project	In the following sectors: 1. Education 2. Health 3. Women Empowerment and also as per Chapter 4.7.
<b>GENERAL</b>	
Details of Authorised Signatory	Sri. Jose John, Managing Director, M/s Mridhul Granites and Crusher Pvt. Ltd., Kothara, P.O., Madakkathara, Thrissur-680651
Details of NABET approved EIA consultant Organisation	M/s Enkay Enviro Services Pvt. Ltd., 24-B, Dadu Marg, Gopal Bari, Ajmer Road, Jaipur, Rajasthan-302001. QCI List at Sr. No. 43 as per NABET list of accredited consultant organizations, Rev. 21A on 19 <sup>th</sup> Aug., 2014.
<p>6. The proposal was placed in the 33rd meeting of SEAC and the committee observed that there is another quarry adjacent to this project under the partnership of the Project Proponent. This present project is in an undisturbed land and is a new quarry. A road was constructed to the project site before getting EC. The Project Proponent informed that it is for the purpose of rubber plantation. The life of mine is 10 yrs. The natural vegetation should be kept undisturbed. Copy of the title deed and Thandapper Register should be provided. Cadastral map of the area should also be provided, and hence the item is deferred for field visit.</p> <p>7. The proponent has submitted the approved mining plan as per KMMC rule 2015. The item was placed in the 41<sup>st</sup> SEAC and is deferred for site visit. The proponent was instructed for production of copies of patta of the proposed area or a copy of the certificate as mentioned in 27 (2) (f) of KMMC rule 2015 (certificate from the Village Officer concerned to the effect that the land applied for quarrying lease is not assigned for any special purpose by the department of Land Revenue) to verify whether the land can be utilized for quarrying. The Committee also suggested that if the proposed area is within 10Km of protected area, the proponent shall submit copy of the application preferred seeking clearance from Standing</p>	

Committee of National Board of Wild Life.

The site inspection report is as follows;

*"Field visit to the Quarry project site of M/s Mridul Granites and Crusher Pvt. Ltd, located in Survey Nos. 1450/1, 1457/1, 1462/1, 1463/1,2, 1464/1 and 1465/1 of Madakkathara Village, Thrissur Taluk, Thrissur District, Kerala was carried out on 03.07.2015 by the sub-committee of SEAC, Kerala. The Proponent and other officials of the quarry were also present at the site.*

*The project is a virgin land sharing a common boundary with an active quarry, located at about 2 km northwest of Chirakkakod and more than 0.5 km NE of Madakkathara Power station. The proposed quarry area falling in own land lies on a hillock with moderate slopes to the east and west. The rock type is charnockite and its variants with dipping foliation in folded attitude. Major faults are not observed. The crystal portions are covered with humus rich top soil and limited overburden. Pockets of weathered rock with rock out crops are seen in the central part. An old abandoned quarry is also noted in this area. Being an elevated land, streams are not seen in the site. However the low lying land on the western side with a valley section receives most of the storm water from this area. The main RB canal of the Peechi irrigation project is seen on the lower elevation around this hillock. The area in general supports rubber plantation and in places with limited soil cover teak and natural shrubs are seen. Dwelling units are not seen in the immediate vicinity of 100 m. The Kachitodu dam that is presently used as a source reservoir for the Rural water supply scheme under Jalanidhi is ~ 800 m NE of the quarry. The stream conducting the overflow from the reservoir flows on the eastern side of the road with no connection to the proposed quarry. The certificate from the Revenue officials that this land has not been assigned for any other purposes has not been verified."*

Based on an overall evaluation of the site, following points may be considered:

- i. The lease area being a fresh land, the quarry must be developed in a planned way following the top to bottom approach.
- ii. Being a quarry zone, it may be undesirable to leave a zone of 15 m width along the common boundary with the existing quarry as a no development as it will add to the quantity of blocked reserves. It is better to exploit the material without leaving a buffer distance as undeveloped zone.
- iii. Over burden is to be stored in the designated places and provided with protective support walls.
- iv. The drainage from the proposed quarry must be channelized in such a way that the RBC canal of Peechi is not influenced in any adverse manner. It is necessary to provide catchwater drains at the lower levels of the lease area to safely dispose the storm water.
- v. Proper desiltation and clarification mechanism must be provided.
- vi. The approach road to the quarry from the main road must be maintained in good motorable condition by the proponent.
- vii. The blasting time must be displayed and strictly adhered to. Considering the proximity to the road it is better to restrict blasting to two times a day when the traffic in the road is least. The PPV values must be less than 10 mm/sec. Steps to be taken to limit fly rock to the quarry area.
- viii. Vegetation is seen all around the quarry but must be maintained till the entire life quarry. Other items from general condition and CSR may be added.

8. On submission of the Certificate from Village officer the proposal was again considered in the 43<sup>rd</sup> meeting of SEAC held on 15/7/2015 and the Committee appraised the proposal based on the Mining Plan, Prefeasibility Report, all other documents submitted along with the Form I application and field investigation report submitted by the subcommittee. The subcommittee has reported that the proposed area falls within 10KM from protected area (Peechi – Vazhani Wild life Sanctuary) and hence the item was

deferred and decided to direct the proponent to provide a copy of the application preferred seeking wildlife clearance from NBWL. The Committee also found that the copy of the certificate as mentioned in 27 (2) (f) of KMMC rule 2015 submitted by the proponent was ambiguous. Hence the item is deferred for resubmission of the certificate.

9. On submission of the details sought by SEAC the proposal was again considered by its 48<sup>th</sup> meeting held on 6<sup>th</sup> and 7<sup>th</sup> November, 2015 and the Committee verified the certificate issued by the Village Officer as per sec 27(2) (f) of KMM Rule 2015 and details of application submitted for wildlife clearance and found satisfactory. The Committee appraised the proposal based on the Mining Plan, Prefeasibility Report, field inspection report and all other documents submitted along with the Form I application and decided to recommend for issuance of Environmental Clearance with the following specific conditions, in addition to the general conditions stipulated for mining projects.

- a. The lease area being a fresh land, the quarry must be developed in a planned way following the top to bottom approach.
- b. Over burden is to be stored in the designated places and provided with protective support walls.
- c. The drainage from the proposed quarry must be channelized in such a way that the right bank canal of Peechi is not affected in any adverse manner. It is necessary to provide catch water drains at the lower levels of the lease area to safely dispose the storm water.
- d. Proper de-siltation and clarification mechanism must be provided.
- e. The approach road to the quarry from the main road must be maintained in good motorable condition by the proponent.
- f. The blasting time must be displayed and strictly adhered to. Considering the proximity to the road it is better to restrict blasting to two times a day when the traffic in the road is least. The PPV values must be less than 10 mm/sec. Steps to be taken to limit fly rock to the quarry area.
- g. Vegetation seen all around the quarry must be maintained till the entire life of quarry.

10. The proposal was considered by SEIAA in its 47<sup>th</sup> meeting held on 07.01. 2016. Authority decided to grant E.C subject to the production of cluster condition certificate from M& G Department authorities and certificate from the revenue authorities that the land involved is not assigned for other purpose. Copy of the lease order from Government may also be produced since the recommendation of SEAC is not clear whether it is a lease land with condition against quarrying.

11. The proponent has submitted the certificates. The 51<sup>st</sup> meeting of SEIAA held on 29-03-2016 examined the cluster condition certificate issued by district Geologist and the Certificate from the revenue authority (No.192/2013/13 & 193/2013/13 from Village Officer, Madakkathara) that the land involved is not assigned for other purpose. As per the decision of SEIAA in the 47<sup>th</sup> meeting held on 07-01-2016, Environmental Clearance may be given to the quarry project subject to the specific recommendations recommended by SEAC in addition to the general conditions stipulated for mining projects and the mitigation measures undertaken in the EMP in the PFR. Environmental Clearance is therefore granted to the quarry project of Sri. Jose John, Managing Director, M/s Mridhul Granites and Crusher Pvt. Ltd., Kothara, P.O., Madakkathara, Thrissur, Kerala in Sy. Nos. 1450/1, 1457/1, 1461/1, 1462/1,2, 1463/1,2, 1464/1 and 1465/1 at Madakkathara Village subject to the specific conditions in para 9 above and the general conditions annexed hereto.

12. 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 Chapter 4 of 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 in chapter 4 of the Mining Plan (Mining), Chapter 5 of the Mining Plan (Blasting), Chapter 6 of Mining Plan (mine Drainage), chapter 7 (stacking of mineral rejects and disposal of water, chapter 11 (EMP) and chapter 11, the entire Progressive Mine Closure Plan as submitted will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

13. Validity of the environmental clearance will be five years form the date of this clearance, subject to earlier review in the event of violation or non- compliance of any of the conditions stipulated herein or genuine complaints from residents within the security area of the quarry.

14. Compliance of the conditions herein will be monitored by the Authority of Environment and Climate Change or its agencies 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, Malappuram to take legal action under the Environment (Protection) Act 1986.

15. The given address for correspondence with the authorised signatory of the project is Sri. Jose John, Managing Director, M/s Mridhul Granites and Crusher Pvt. Ltd., Kothara, P.O., Madakkathara, Thrissur-680651.

Sd/

P. Mara Pandiyan., I.A.S  
Member Secretary (SEIAA)

&

Additional Chief Secretary to Government  
Environment & Forest Department  
Government of Kerala.

To,

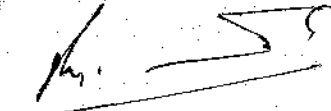
Sri. Jose John,  
Managing Director,  
M/s Mridhul Granites and Crusher Pvt. Ltd.,  
Kothara, P.O., Madakkathara,  
Thrissur-680651.



Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4<sup>th</sup> Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Principal Secretary to Government, Environment Department.
3. The District Collector, Thrissur
4. The Director, Department of Environment & Climate Change.
5. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4.
6. The Secretary, Madakkathara Grama Panchayat, Madakkathara P.O., Thrissur- 680651.
7. Chairman, SEIAA
8. Website
9. Stock File
10. O/C.

Forwarded/ By order



Administrator  
SEIAA



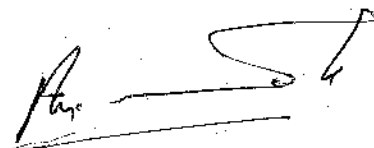
# STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

## 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 proponent 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](http://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 3 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 PM<sub>10</sub> and PM<sub>2.5</sub> 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 this implementation 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

**G. RAJEEV**  
Administrator  
State Environment Impact Assessment Authority  
Pallimukku, Pettah  
Thiruvananthapuram-695024  
Phone: 0471-2742264

