



सत्यमेव जयते

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 granite building stone quarry project in Survey Nos. 253/2, 253/4-1, 253/4-2, 253/4-3, 253/4-4, 254/2, 255/7, 252/5, 252/6 and 252/7 at Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District, Kerala by M/s Pavan Quarry and Aggregates Pvt. Ltd. -Granted- Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. 470/SEIAA/EC3/3214/2014

dated, Thiruvananthapuram 01-06-2016

- Read:-**
1. Application dated 04.07.2014 submitted by Sri.K.T.Paul, Managing Director, M/s Pavan Quarry and Aggregates Pvt. Ltd, Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District
 2. Minutes of the 33rd meeting of SEAC held on 2/3-09- 2014.
 3. Minutes of the 35th meeting of SEAC held on 17/18-09- 2014.
 4. Minutes of the 35th meeting of SEIAA held on 09/04/2015
 5. Minutes of the 53rd meeting of SEAC held on 25/26-02-2016.
 6. Minutes of the 52nd meeting of SEIAA held on 29.04.2016.

Environmental Clearance No 94 /2016/6

Sri. K.T. Paul, Managing Director of M/s Pavan Quarry and Aggregates Pvt. Ltd., vide his application received on 04.07.2014, has sought Environmental Clearance under EIA Notification, 2006 for the granite building stone quarry project in Survey Nos. 253/2, 253/4-1, 253/4-2, 253/4-3, 253/4-4, 254/2, 255/7, 252/5, 252/6 and 252/7 at Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District, Kerala for an area of 2.91.90 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 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.

Basic information

Name of project		M/S. PAVAN QUARRY & AGGREGATES (P) LTD	
Category/Subcategory & Schedule		Schedule No. - 1(a) Category - B, Sub-category - B2	
Location Syno/ district, Taluk/ village etc.		Survey No's: 253/2, 253/4-1, 253/4-2, 253/4-3, 253/4-4, 254/2, 255/7, 252/5, 252/6, 252/7 Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District, Kerala State.	
GPS co-ordinates		Latitude N - 10° 05' 23.24" to 10° 05' 31.59" Longitude E - 76° 32' 37.99" to 76° 32' 45.53"	
for Mining projects	Extent of area (in hectares)	2.9190 Ha.	
	Minimum and maximum height of excavation (MSL)	+51m AMSL to +78m AMSL	
	Life of mine proposed	7 years	
	Ultimate depth of mining (in MSL)	up to +20m AMSL to +40m AMSL (Minimum - 11 m & Maximum - 58 m)	
	Distance from the adjacent quarry	Old pit - about 200 m	
	Capacity of production	300 TPD	
	Details of project cost	Rs. 49 lakhs	
	Financial statement including funding source and details of insurance	Proponent is financially sound to muster capital through his own equity	
	CRZ recommendations	The proposed project does not require approval or clearances under CRZ Notification (1991), The Forest Conservation Act (1980) and Wild Life Protection Act (1972). since there is no declared Biosphere, Wild Life Sanctuaries, or Tiger sanctuary or migrating corridor or Coastal zone etc.	
	Forest clearances		
Does it attract violation proceedings		No	
Env't Management plan/ Eco restoration plan (brief details)		AIR POLLUTION	MANAGEMENT PLAN a) <u>Drilling</u> ❖ Usage of Drill bits of good condition ❖ Covering of drill holes with wet cloth for controlling dust emission b) <u>Blasting operation</u>

	<ul style="list-style-type: none"> ❖ Well-designed blast by effective stemming and optimum blasting geometry. ❖ Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality. ❖ Use of controlled blasting techniques to keep the noise as well as vibration level within the prescribed limits. <p>c) <u>Excavation & hauling</u></p> <ul style="list-style-type: none"> ❖ Proper maintenance of HEMM which avoids excessive noise and vibration ❖ Acoustic enclosures for operator cabin. ❖ Imparting sufficient training to operators on safety and environmental parameters ❖ Proper maintenance of hauling equipments. <p>d) <u>Transportation</u></p> <ul style="list-style-type: none"> ❖ Proper maintenance of haul road and other roads ❖ Water sprinkling through mobile tankers system at permanent haul road. ❖ Covering of material dispatched with tarpaulin cover. ❖ Development of green belt / barriers wherever possible.
	<p>WATER POLLUTION</p> <ul style="list-style-type: none"> ➤ Construction of garland drain around the active working mine areas which will be connected to a settling pond. ➤ Silted water if any will be collected in the garland drain which in turn will flow into settling pond. Supernatant clear water will be let out of the area after passing through silt traps. ➤ Rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet etc. ➤ Mine sump water can also be utilised. ➤ Roof top Rainwater Harvesting

		proposed in the office/ administrative building area, crusher roof tops.
	NOISE POLLUTION	<ul style="list-style-type: none"> ➤ Providing in-built mechanism for reducing sound emissions. ➤ Sound proof operator's cabin for equipments like dumpers, shovel, tippers, etc. ➤ Providing earplugs, earmuffs to workers exposed to higher noise level ➤ Proper and regular maintenance of equipments. ➤ Planting of trees wherever possible to act as acoustic barriers. ➤ Conducting regular health check-up of workers including audiometry test for the workers engaged in noise prone area.
	Solid waste Management	<p>The total waste to be generated from the selected mine area is expected to be just 0.81 lakh tonnes comprising 0.08 lakh tonnes of top soil and 0.73 lakh tonnes of overburden.</p> <p>The top soil will be stacked separately and later used for reclamation purpose. Small quantity of waste generated will be stacked separately in the temporary dump in the north western part of the lease area and used for filling of the low lying areas.</p>
	Eco restoration	<p>Green belt will be developed in all possible locations in the lease area. In the mine closure stage, there will be some water body up to the general RL of +52m AMSL above which the benches will be reclaimed with bench plantation. Out of 1.3518 Ha of mined out area, 0.6229 Ha will be left as water body and the remaining 0.7289 Ha of land will be reclaimed back with bench plantation. The water body will help to recharge ground water potential in the area and can also meet needs of nearly by plantations, etc.,</p>
ABOUT THE PROJECT		

<i>Environmental parameters considered</i>	<i>Description</i>
WATER	
Water requirement & sources	The total water requirement for the mining operation is about 7.0 KLD comprising 1.0 KLD for Domestic & sanitary needs, 6.0 KLD for Dust suppression, plantation etc. The entire water requirement for industrial activities such as Dust suppression and greenbelt development will be met from the bore well.
RWH units proposed	The rain water falling in the quarry will be harvested up to +52m AMSL. This pit will act as a settling pond to prevent solids escaping along with discharge, before outlet etc., Most of the mine water will be used for green belt, dust suppression, etc. Clear supernatant water after settling can be let out of this pond after passing through settling traps.
Facilities for liquid waste treatment	The only effluent to be generated from project is domestic waste to the tune of about 0.4 KLD. This will be disposed into septic tanks with soak pits.
Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	Not Applicable
Water quality meeting requirements	Rainwater from the higher benches is made to drain into the sump and the mine pit bottom. Supernatant settled water will pass through the drain and settlement cum harvesting pond and after further settling, clear water can be let out of this pond after passing through settling traps.
Does it have provisions for use of recycled water	Rain water collected in the sump will be used for industrial purpose.
LAND	
Proximity to forest lands	Mazhuvannur RF- 8.5 km -S
Access road to the site –Width & Condition	The quarry is having two way accesses from Odakkali as well as cherukunnam which are connected to the Aluva – Munnar road (SH-16). The nearest railway station is Angamaly about 12 kms (by road) away and nearest airport- Cochin International Airport (Nedumbassery) about 14 Kms away. The access road to the site is about 7m wide.
Storage of explosives /hazardous	Magazine is available in the lease area. Necessary

substances	permission from Dy Chief Controller of explosives, Chennai vide letter no E/SC/KL/22/998(E44804) dated 22.03.2013 valid up to 31.3.2018
Facility for solid waste management	The total waste to be generated from the selected mine area is expected to be just 0.81 lakh tonnes comprising 0.08 lakh tonnes of top soil and 0.73 lakh tonnes of overburden. The top soil will be stacked separately and later used for reclamation purpose. Small quantity of waste generated will be stacked separately in the temporary dump in the north western part of the lease area and used for filling of the low lying areas.
Topographic features/ slope	The granite occurs in gently sloping from east to west and elevation level in the range of +78m above MSL and +51m above MSL in the lease area
Proneness of the area for landslides	Granite occur here as a hard massive rock which can withstand steep slopes. Hence not prone to landslides.
Significant land disturbance resulting in erosion, subsidence & instability	This being an opencast mine there will not be any subsidence. The bench slopes will be maintained as per DGMS rules and requirement and hence there cannot be any instable slopes. There will be land disturbance due to mining activity.
Top soil, overburden etc.	Top Soil - 0.08 lakh tonnes OB/ Waste - 0.73 lakh tonnes Total - 0.81 lakh tonnes.
AIR	
Air quality meeting requirements	The result of Ambient Air Quality carried out at 4 locations for PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ were found to be well within the prescribed NAAQ limits.
Noise level meeting requirements	Noise level monitored in 4 locations show that the value are within the prescribed standards.
Likely emissions affecting environment	There will be some dust emission due to mining and allied activities which will be controlled by following measures. <ul style="list-style-type: none"> • Frequent water sprinkling • Regular maintenance of vehicles • Greenbelt development etc.,
ENERGY	
Energy requirement	No electricity is needed for quarry operations as only diesel operated mining machinery including jack hammer will be used for quarrying. Hence the negligible power requirement of the administrative buildings etc., will be met from state grid. The peak power demand is expected to be about 2 to 3 KVA only. For crusher 300 KVA is required which is also met from the state grid. A 630 KVA

	DG is also available for emergency purpose.
Energy sources	KSEB
Extent of usage of alternative energy resources	Not applicable
BIODIVERSITY	
Presence of any endangered species or red listed category	If any, should be properly conserved.
Loss of native species and genetic diversity	If any, should be revegetated.
Likely displacement of fauna	Nil as stated by proponent
Any introduction of alien / invasive species	Nil
SOCIAL ASPECTS	
Proximity to nearest habitation	107 m from the selected mine boundary
<p>CSR related to the project/ allocation/ time frame (details mandatory)</p> <p>Based on the needs of the local people, in future the following social welfare activities will be undertaken by project proponent to improve the physical and social infrastructures of the local community. For such activities, annual outlay of about Rs. 3.0 lakh will be yearmarked by lessee. Its tentative breakup is as follows:</p>	
GENERAL	
Biomedical waste management	Not Applicable
E-waste management	Not Applicable
Sufficiency of parking spaces/ traffic management	Available
Litigation/ court cases, if any, against the project (Provide details)	No litigation is pending against the project as stated by proponent.
Right & nature of ownership of land	Private Patta land possessed by proponent
Is the property forest land/govt.land/own land	Private Patta land, NOC from other Land Owner's within the lease area is obtained
Details of Authorised Signatory	<p>Shri. K.T. Paul - Managing Director, M/s. Pavan Quarry & Aggregates (P) Ltd, Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District, Kerala State. Mobile: 09847107200 Phone- 2252460</p>

Details of NABET approved ELA consultant organisation	Email. ktpaul67@gmail.com Creative Engineers & Consultants, 9/4b, Barathwajar Street, East Tambaram, Chennai - 600 059. Phone - 044 - 22395170 Mobile : 9444133619 Email - cec.giri@yahoo.com
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SEAL

2. The proposal was considered in the 33rd SEAC meeting held on 2nd and 3rd September 2014. The Committee deferred the item for site visit. Subsequently, field visit to the quarry site was carried out on 24.09.2014, Dr. N.G.K. Pillai, then Chairman SEAC and Sri. John Mathai, Member SEAC. The representatives of the Proponent were present at the site.

The details of the Field Inspection Report are given below:

"The proposal for quarrying in an area adjacent to two abandoned quarries. The area is moderately undulating with slope to southwest. Charnockite is the dominant rock type. Area presently under rubber has limited soil thickness with occasional rock outcrops. A seasonal stream is seen on the western side beyond the lease area. The main activity at present is a crushing of rocks for aggregates and sand. Piles of rock is seen in the stock yard.

KMP Engg college is >250 m from the unit with a road in between. The operation of the lorries is through a newly laid road to the east causing least disturbance to the College. Settlements are not seen within 100 m of the quarry. A temple with infrequent worship is 190 m away. A poultry farm is 75 m from the lease area. Considering the presence of good deposit of rock at shallow level, lower slope, presence of old quarries and absence of settlement in the vicinity recommend for EC. The stream flowing on the western side shall not be disturbed. The dust and other matter that make the water turbid shall be filtered by providing check dam or such mechanism. Blasting limited to 30 minutes duration once a day. Sprinkler to be provided for the crusher unit. The abandoned quarry must be retained as RWI pit directing the clarified storm water into it for use in summer. Other general conditions to be followed".

"The project is an active quarry located at Kadayirippu, Kolanchery, Kunnathunadu Taluk & Ernakulam District, Kerala. The method of operation is reported as through controlled blasting. This is an old quarry in operation for the last 40 years. The working faces are being modified by the formation of benches. This quarry area falling in own land is moderately sloping to West, exposing hard rock. Being an elevated land, streams are not seen in the site. However fairly good seepage of water is seen at the base of the quarry and the storm water is collected in a pond on northern side. The excess storm water is pumped to another canal and let out. The water leaving the quarry has to be clean and without any dust and this has to be strictly followed by the proponent. Houses are not seen in the immediate vicinity of 100 m. The workers are provided with limited accommodation and canteen facilities. Crusher is situated in the same compound and the quarry site is 3km away from Kolanchery town.

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

1. Protection wall is needed all along the quarry wherever deep cuttings are

present.

2. *Benches are not seen in the mining operations and this has to be strictly adhered.*
3. *Over burden is to be stored in the designated place and no compromise should be made on this point.*
4. *The whole area needs planting of trees to convert the area into a more acceptable landscape. For this indigenous species of trees need to be planted all around the quarry in the vacant spaces. This will also help in reducing the dust and sound pollution.*
5. *The drainage from the quarry is currently directed to the North corner and let out. The deposited silt must also be cleaned periodically.*
6. *Considering the topography, garland drains need not be insisted upon.*
7. *The approach road to the quarry from the main road is not maintained at all. This road must be maintained in good condition by the proponent. Buffer distance from the road near the quarry may not be required as it ends at the quarry.*
8. *The blasting time must be displayed and strictly adhered to. The PPV values must be less than 10 mm/sec. Steps to be taken to limit fly rock to the quarry area.*
9. *Dust suppression mechanism must be in place.*
10. *In the absence of perennial streams in the vicinity, ultimate depth of mine will depend on the possible benches in the lease area.*

Other items from general conditions and CSR may be added".

3. The proposal was again considered in the 35th meeting of SEAC as item no. 35.45. in which the committee recommended the proposal for Environmental Clearance subject to the following conditions.

1. The stream flowing on the western side shall not be disturbed.
2. The dust and other matter that make the water turbid shall be filtered by providing check dam or such mechanism.
3. Blasting limited to 30 minutes duration once a day.
4. Sprinkler to be provided for the crusher unit.
5. The abandoned quarry must be protected by fencing and retained as RWH pit directing the clarified storm water into it for use in summer
6. The ultimate depth of mining shall not exceed 55m AMSL

4. The SEIAA in its 35th meeting held on 09.04.2015 decided to call for production of mining plan as per KMMC Rule, 2015. The proponent has accordingly submitted the mining plan.

5. The proposal was placed before 53rd SEAC for appraisal. The Committee after examining the mining plan, prefeasibility report, field inspection report and all other documents submitted decided to recommend for issuance of EC subject to general conditions in addition to the following specific conditions for mining.

1. The stream flowing on the western side shall not be disturbed.

2. The dust and other matter that make the water turbid shall be filtered by providing check dam or such mechanism.

3. Sprinkler shall be provided for the crusher unit.

4. The abandoned quarry must be protected by fencing and retained as RWH pit directing the clarified storm water into it for use in summer

The ultimate depth of mining shall not exceed 55m AMSL.

6. The 52nd SEIAA accepted the recommendations of 53rd SEAC recommendations stated in the para 5 and decided to grant EC.

7. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed quarry project, of M/s Pavan Quarry and Aggregates Pvt. Ltd. in Sy No. 253/2, 253/4-1, 253/4-2, 253/4-3, 253/4-4, 254/2, 255/7, 252/5, 252/6 and 252/7 at Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District, subject to the specific conditions stipulated in para 5, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I and other documents submitted to SEIAA, and the mitigation measures proposed in the table in para 1 above. 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, appended hereto will be applicable and have to be strictly adhered to.

8. 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 undertakings in chapter 4 of Mining plan (Mining), Chapter 5 of Mining plan (Blasting), Chapter 11 (EMP) of the Mining Plan and Chapter 12 for Progressive Mine Closure Plan as submitted will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

9. Validity will be 5 years subject to inspection by SEIAA on annual basis and compliance of the conditions and also 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. Environmental Clearance is therefore granted to the quarry project of Sri.K.T.Paul, Manging Director, M/s Pavan Quarry and Aggregates Pvt. Ltd, Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District Kerala subject to the general conditions annexed hereto.

10. Compliance of the conditions herein will be monitored by Authority 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, Ernakulam to take legal action under the Environment (Protection) Act 1986.
- iii) The given address for correspondence with the authorised signatory of the project is Sri.K.T.Paul, Managing Director, M/s Pavan Quarry and Aggregates Pvt. Ltd, Rayamangalam Village, Kunnathunadu Taluk, Ernakulam District.

Sd/

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

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

To,

Sri.K.T.Paul, Managing Director,
M/s Pavan Quarry and Aggregates Pvt. Ltd,
Rayamangalam Village,
Kunnathunadu Taluk,
Ernakulam District.

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Principal Secretary to Government, Environment Department.
3. The District Collector, Ernakulam.
4. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
5. The Secretary, Rayamangalam Grama Panchayath, Ernakulam.
6. Chairman, SEIAA
7. E.C File
8. ✓ Stock File
9. O/C.



Forwarded/ By order

Administrator, SEIAA

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

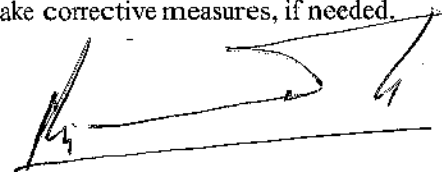
GENERAL CONDITIONS (for mining projects)

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. 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 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 activities 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 or 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 up stream and down stream 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.



Member Secretary, SEIAA Kerala



