



***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 No. 1982 at Vellikulangara Village, Mattathur Panchayath, Chalakkudy Taluk, Thrissur District by Sri. Mathew P Pathrose, Managing Partner, M/s Blue Mountain Granites -Granted- Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. 626/SEIAA/EC1/4809/2014

dated, Thiruvananthapuram 05-02-2016

- Read:-* 1. Application dated 30-09-2014 submitted by Sri. Mathew P Pathrose, Managing Partner, M/s Blue Mountain Granites, Vellikulangara P.O., Chalakkudy, Thrissur – 680699
2. Minutes of the 45th meeting of SEIAA held on 04- 12- 2015.
 3. Minutes of the 46th meeting of SEAC held on 29/30-09-2015.
 4. Minutes of the 48th meeting of SEAC held on 06/07-11-2015.
 5. Minutes of the 47th meeting of SEIAA held on 07-01-2016.

Environmental Clearance No. /2/2016.

Sri. Mathew P Pathrose, Managing Partner, M/s Blue Mountain Granites, Vellikulangara P.O., Chalakkudy, Thrissur – 680699 vide his application received on 09/10/2014 has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No. 1982 at Vellikulangara Village, Mattathur Panchayath, Chalakkudy Taluk, Thrissur District for an area of 3.0352 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) dtd. 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 in 10°21'57.69" N to 10°21'49.02" N Latitude and 76°25'09.87"E to 76°25'04.05"E Longitude. The land use classification as per revenue records is private own land with rocky area consists of 3.0352 hectares. Main rock type in the area is charnockite visible at some places and covered with soil of 0.15 m to 0.20 m. The area is undulated and slope towards southern side with highest elevation of the area is at 90m MSL and lowest is at 45 m MSL. The present land use is some native trees, shrubs, herbs etc. The proposed project is for quarrying of 120,000 MTA of building stone from an area of 3.0352 hectares of land. Domestic effluent will be discharged in septic tank and soak pit system. 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 thick. The mineral exploitation is being done from 90 m MSL to 40 m MSL for the expected life of thirteen years. At the end of life of mine, excavated area will be converted into water pond and plantation. The daily water requirement is 17.0 KLD. Well water will be used to meet the drinking and domestic purposes. A storm water collection pond is proposed for meeting the water requirements of crusher/M-sand unit, other dust separation system and plantation. Negligible quantity of used oil will be generated which will be disposed to the local recyclers.

3. There are no protected areas like ecological landscape, cultural area, tourist, pilgrim areas etc. identified within the 15 Km radius. There is religious places like church (1 km., W), temple (7 km., W), mosque (1.5 km., SE) etc. within 7 km of the quarry. There is no prohibited area like defence establishments, electrical installation etc. in the vicinity of the proposed area. There is no Eco-sensitive area (ESZ) within the radius of 15 km from the proposed area. As per WGEEP report the proposed area is categorized as 'protected area'. There is no protected sensitive species are identified within the 15km radius. Nearest river is Chalakudy River which is situated at a distance of 6.5 Km SW and Chiminy Dam is situated at a distance of 8 km., NE of the project site. There are reserve forests within 0.51m and Muply forest is situated at a distance of 2.5 km., N. There is a stone crusher associated 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 total cost of the project is Rs. 90, 00,000/-. It is proposed to spend Rs 9.6 Lakhs/annum for various local development activities. Other details of the proposal are as under:

4. BASIC INFORMATION OF THE PROJECT

Environmental parameters considered	
WATER	
Facilities for liquid waste treatment	<p>Mining activities may cause adverse impacts due to discharge of domestic wastewater, siltation and soil erosion due to runoff/storm water. Control measures includes:</p> <ul style="list-style-type: none"> • 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. • 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. • The storm water after treated in holding/ siltation pond will be used for dust suppression in the crusher unit. The effluent generated from this unit carries lot of mine dust particles which will be treated in sand filter followed by sedimentation tank and the clear water will be recycled/reused in the same process.
Water quality meeting requirements	<ul style="list-style-type: none"> • Regular monitoring and analysis will be carried out to meet the stipulated standards from time to time.
LAND	
Access road and width to the plot	<ul style="list-style-type: none"> • 10 m, tarred road, S. For the purpose of mining activities, existing roads are sufficient. However, haul road will be developed within the proposed area.
Land use change	<p>There will be changes in land use pattern of the area due to mining activities. The following control measures are adopted to minimize the adverse effects:</p> <ul style="list-style-type: none"> • Construction of check dams and collecting channel all around at the foot

	<p>of the hill to prevent soil erosion during the monsoon season and also to collect the storm water for various use within the mine lease area.</p> <ul style="list-style-type: none"> • Green belt development along the boundary of the lease area. • It is proposed to reclaim the pit area and this area will be suitably planted with local species for eco-restoration in all possible means. • Proper barricading and monitoring of the water stored area will be taken up to prevent accidents.
Storage of explosives /hazardous substances	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • A total quantity of 4,553 m³ of top soil and 6,070 m³ over burden will be removed during the mining operations. The 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. OB will be utilized for laying internal haul road and will form base in reclamation/plantation.
Significant land disturbance resulting in erosion, subsidence & instability	<ul style="list-style-type: none"> • As per BMTPC, Vulnerability Atlas Seismic Zone of India IS: 1893-2002, the proposed area comes under Zone-III, moderate damage risk zone. 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.	<ul style="list-style-type: none"> • Around 4, 553 m³ 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. • Around 6,070 m³ of over burden will be generated which will be utilized in developing internal roads and at the end use the same will be used as soil base for reclamation.
NOISE	
Noise pollution control measures	<p>The major noise generating source from the proposed activity is due to drilling, blasting, compressors, plying of vehicles.</p> <p>Control Measures:</p> <ul style="list-style-type: none"> • Proper maintenance of machinery, equipments and improvement on design of machines. • Use of personal protective devices such as earmuffs and earplugs by workers, working in high noise areas. • Creation of wide green belt of dense foliage between mine areas and residential colonies. • The proposed mine operates only 10 hours a day. • Conducting periodical medical check-up of all workers for any noise related health problems. 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	<ul style="list-style-type: none"> • Periodic air quality monitoring will be carried out in mining area and nearby villages to ensure ambient air quality with in permissible limits.
AIR	
Likely emissions affecting environment	<ul style="list-style-type: none"> • During operation phase there will be dust emissions mainly from drilling, loading, blasting, loading and transportation.

and Air pollution control measures: By deposition of pollutants emitted to air into the land or into water	<ul style="list-style-type: none"> • Negligible quantities of CO, HC and NOx will also be emitted. The transportation on unpaved area results in fugitive emissions to the tune of 1.261 kg/VkmT for PM₁₀ and 0.126 kg/VkmT for PM_{2.5}. The proposed control measures are the following: • Laying of haul road as per the standards, black topping of permanent haul road to avoid or eliminate air borne dust. • Wet drilling method will be adopted to avoid dust generation. • Drill machines will be equipped with dust collectors. • Use of appropriate explosives and avoiding overcharging of blast holes. • Controlled blasting. • Covered transportation. • Limiting the speed of vehicles. • Watering of haul road at regular intervals. • Provision of dust filters and mask to workers. • Provision of green belt along the periphery of the lease area. • Periodical monitoring of Ambient Air Quality. • Adopting latest green technology. • Use of bag filters at all traverses points. • Closed conveyor system with water sprinkling arrangements. • The crusher unit will be based on the latest green technology and the entire unit is closed loop with proper control strategies.
Air quality monitoring	<ul style="list-style-type: none"> • 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. Mist Water spraying will be carried out to suppress dust.
ENERGY	
Energy requirement	<ul style="list-style-type: none"> • The total power requirement of proposed Building stone quarry is 75kW for the compressors which will be operated by diesel engine.
BIODIVERSITY	
Presence of any endangered species or red listed category	<ul style="list-style-type: none"> • There is no endangered, endemic or scheduled flora species existing at proposed mine lease 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	<ul style="list-style-type: none"> • There will not be loss of some native species and vegetation. However, some of these species will be planted at the end use for eco-restoration.
SOCIAL ASPECTS	
Proximity to nearest human settlement	<ul style="list-style-type: none"> • 173m towards North-West
CSR related to the project	In the following sectors: <ol style="list-style-type: none"> 1. Education 2. Public Health 3. Community Development and also as per Chapter 4.7.
GENERAL	
Details of Authorised Signatory	Sri. Mathew P. Pathrose, Managing Partner, M/s Blue Mountain Granites, Vellikulangara P.O., Chalakkudy, Thrissur – 680699

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 th Aug., 2014.
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5. The proposal was appraised in the 45th meeting of SEAC held on 11th & 12th September 2015 and the Committee deferred the item for field visit and submission of revised mining plan and letter of intent.

6. Field visit was conducted 18.09.2015 by the sub-committee of SEAC. The Proponent with his representatives was also present at the site. The report is as follows:

"The project is an active quarry located at about one km north east of Vellikulangara. This quarry area of 3.0352 ha falling in own land falls on the southerly sloping flanks of a hill ridge partly exposing hard rock. The elevation ranges from 90 m to 60 m. The rock type is mostly fractured charnockite suite of rocks. Major faults are not observed in the site. Quarry is in operation with benches. Pockets of weathered rock with less than 1 m thick over burden (OB) and top soil is seen in the upper part. The removed OB is stocked in the land of the proponent at a lower level. The entire drainage from the elevated land including the quarry flows into the lower quarry pit from where it is channelised into a desiltation/clarification structure on the western side. It is further clarified and let out from where it flows out through a narrow first order ephemeral stream. The area in general supports patches of rubber plantation. Teak plantation forming part of forest is seen on the eastern side. 50 m buffer distance is provided from the quarry as a no development zone. Floral biodiversity is not observed as the quarry area is mostly cleared of vegetation. Haulage road to the upper level is formed. Dwelling units are not in the immediate vicinity of 100 m. 100 m set back distance is also provided from the road on the northern side and HT line on the western side. The unit does have an associated crusher unit. Accommodation to workers and canteen facilities are provided. Based on an overall evaluation of the site, the quarry operations may be recommended with following conditions:

1. *Fencing should be provided all around the lease area. The mandatory buffer distance must be left by the side of forest teak plantation, road and HT line.*
2. *Over burden must be stored in the designated places and provided with protective support walls.*
3. *The RWH structure and water clarification mechanism provided must be maintained throughout. Periodic desiltation is mandatory*
4. *Considering the topography, garland drains need not be insisted upon.*
5. *In the absence of perennial streams in the vicinity, ultimate depth of mine will depend on the possible benches of 5m width and 5m height in the lease area.*
6. *Other items from general conditions like a) Appropriate sign boards should be displayed, b) The blasting time must be displayed and strictly adhered to, c) The PPV values must be less than 10 mm/sec, d) Steps to be taken to limit fly rock to within the lease area. Rock fragments should not fall anywhere outside the lease area, e) Dust suppression mechanism must be in place f) A belt of trees (Vegetation belt) should be maintained all around the quarry but must be maintained till the entire life of quarry, g) A separate small plot to be maintained in the premise to preserve rare and endemic species, if any, listed in the biodiversity assessment and the promised activity under CSR may be added".*

7. 46th meeting of SEAC held on 29th-30th September 2015 considered the proposal and

verified the field inspection report and *deferred* the item again for submission of revised mining plan and letter of intent as per KMMC Rule 2015.

8. On submission of the revised mining plan as per the KMMCR 2015 the proposal was again considered by SEAC in its 48th meeting held on 6th and 7th November, 2015 and 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.

1. Fencing should be provided all around the lease area. The mandatory buffer distance must be left by the side of forest teak plantation, road and HT line.
2. Over burden must be stored in the designated places and provided with protective support walls.
3. The RWH structure and water clarification mechanism provided must be maintained throughout. Periodic desiltation is mandatory.
4. Steps should be taken to limit fly rock within the lease area.

9. The proposal was considered by SEIAA in its 47th meeting held on 07.01.2016. The Authority examined the recommendations and decided that Environmental Clearance be given to the quarry project subject to the specific recommendations of SEAC and the above site specific conditions in addition to the general conditions stipulated for mining projects and the mitigation measures undertaken in the EMP in the PFR. Considering proximity to forest land a buffer distance of 100 meters shall be maintained from the boundary of the land possessed by the proponent. If it is not maintained always, the E.C shall be liable to be withdrawn.

10. Validity will be five years 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. Environmental Clearance is therefore granted to the quarry project of Sri. Mathew P. Pathrose, Managing Partner, M/s Blue Mountain Granites, Vellikulangara P.O., Chalakkudy, Thrissur District, Kerala subject to the specific conditions in para 7 above and the general conditions annexed hereto.

11. 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 and undertakings in chapter 2 of EMP (Mining), Chapter 4.9 (EMP) of the Mining Plan, Chapter 4 (Blasting), Chapter 4.10 (Disaster Management), and the entire 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.

12. Compliance of the conditions herein will be monitored by the Directorate 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.
- iii) The given address for correspondence with the authorised signatory of the project is Sri. Mathew P. Pathrose, Managing Partner, M/s Blue Mountain Granites, Vellikulangara P.O., Chalakkudy, Thrissur, Kerala-680699.

Sd/
P. Mara Pandiyan., I.A.S
Member Secretary (SEIAA)
&
Additional Chief Secretary to Government
Environment & Forest Department
Government of Kerala.

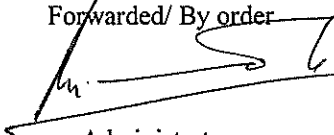
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To,

Sri. Mathew P. Pathrose,
Managing Partner,
M/s Blue Mountain Granites,
Vellikulangara P.O.,
Chalakkudy,
Thrissur, Kerala-680699.

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, Thrissur
4. The Director, Department of Environment & Climate Change.
5. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
6. The Secretary, Mattathur Grama Panchayat, Mattathur P.O., Chalakkudy, Thrissur, Kerala-680699.
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)

- (i) Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
- (ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
- (iii) 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.
- (iv) Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
- (v) Sprinklers shall be installed and used in the project site to contain dust emissions.
- (vi) Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
- (vii) 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 dumpings and overburden and planted with indigenous plant species that are eco-friendly.
- (viii) Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
- (ix) ***The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mine.***
- (x) Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
- (xi) Control measures on noise and vibration prescribed by KSPCB should be implemented.
- (xii) Quarrying activities should be limited to day time as per KSPCB guidelines.
- (xiii) Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
- (xiv) A licensed person should supervise/ control the blasting operations.
- (xv) Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
- (xvi) Overburden materials should be managed within the site and the old quarries, if any, should be reclaimed and restored.
- (xvii) Height of benches should not exceed 5 m and width should not be less than 5 m.
- (xviii) Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
- (xix) ***Maximum depth of mining from general ground level at site shall not exceed 10m***
- (xx) No mining operations should be carried out at places having a slope greater than 45°.
- (xxi) 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.
- (xxii) The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
- (xxiii) Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
- (xxiv) The transportation of minerals should be done in covered trucks to contain dust emissions.
- (xxv) The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
- (xxvi) Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
- (xxvii) Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
- (xxviii) ***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***
- (xxix) 200 m buffer distance should be maintained from forest boundaries.

- (xxx) Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.
- (xxxii) 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.
- (xxxiii) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.
- (xxxiiii) 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.
- (xxxv) 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.
- (xxxvi) 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 Department of Environment and Climate Change, Govt. of Kerala 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.
- (xxxvii) 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.
- (xxxviii) 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 Directorate of Environment and Climate Change, Govt. of Kerala.
- (xxxix) 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.*
- (xl) 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.
- (xl) 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.

Forwarded/ By order


Administrator,
SEIAA