



Validity expires on 15.09.2022

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

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

Sub: SEIAA- Environmental clearance for the proposed quarry project in Sy. No. 1116 (P), 1117(P), 1118(P) & 1119(P) in Meloor village, Chalakkudy Taluk, Thrissur District, Kerala on the application of Sri. Ashokan, M. V.- EC granted – Orders issued.

**STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA**

**No. 574/SEIAA/EC1/ 4330/2014**

***Dated, Thiruvananthapuram, 16.09.2017***

- Ref: 1. Application received dated 02-09-2014 from Shri. M.V. Ashokan, Manakkatumpady House, Kunnappilly P.O., Adichili, Thrissur district, Kerala- 680311  
2. Minutes of the 60<sup>th</sup> meeting of SEAC held on 28<sup>th</sup> & 29<sup>th</sup> July 2016  
3. Minutes of the 61<sup>st</sup> meeting of SEAC held on 11<sup>th</sup> August 2016.  
4. Minutes of the in the 73<sup>rd</sup> meeting of SEAC held on 30<sup>th</sup> and 31<sup>st</sup> May 2017  
5. Minutes of the 71<sup>st</sup> Meeting of SEIAA held on 20.07.2017  
6. Affidavit received dated 09.08.2017 from Sri. Ashokan, M. V

**ENVIRONMENTAL CLEARANCE NO. 67 /2017**

Sri. Ashokan, M. V., was having a quarrying permit for granite building stone over an extent of 0.1417 Ha at Survey No. 1116 (P) in Meloor village, Chalakkudy Taluk, Thrissur District, Kerala. This quarry permit was obtained from Department of Mining and Geology, Thrissur District, Kerala vide letter no. 33/2014-15/CRPS/GS/2383/C2/TDO/2014 dated 26.09.2014 and its validity expired on 25.09.2015. Initially, an application was submitted seeking Environmental Clearance for operating granite building stone over an extent of 5.0190 Ha at Survey Nos. of 1116(P), 1117(P), 1118(P) and 1119(P) in Meloor village, Chalakkudy Taluk, Thrissur District, for a production capacity of 800 TPD. Subsequently, the extent was revised to 3.7415 Ha at Survey Nos. 1116(P), 1117(P), 1118(P) and 1119(P) at the instance of Geology Department while getting letter of Intent. The letter of Intent was obtained for 3.7415 Ha vide No. 8217/M3/2015 dated 18.8.2015 from Department of Mining & Geology, Thiruvananthapuram.

The lease area falls between latitude from N 10° 17' 23.01" to 10° 17' 34. 29" and longitude from E 76° 24' 49.33" to 76° 24' 55.28". The mining plan for the lease area of 3.7415 Ha as per Kerala Minor Mineral Concession (Amendment) Rules, 2015 is approved from Department of Mining & Geology, Thrissur District, vide letter no. 2652/C2/TDO/2015, dated on 16.10.2015 for the production capacity of 250 TPD. The entire lease area is patta

land and belongs to St. Thomas Appostholic Seminary and Paurstya Vidyapitham and letter in this regard is also obtained from Village officer. NOC to conduct quarry activity by Sri. Ashokan, M.V. from Rector and Finance Officer (Procurator) of St. Thomas Appostholic Seminary and President of Paurstya Vidyapitham is obtained.

There are no other quarry leases/short term permits falling within 500 m radius of this project site. In this regard, certificate is obtained from Department of Mining & Geology, Thrissur vide letter no. 2652/C2/TDO/2015 dated on 16.10.2015. Thus, the total extent of lease within the 500m radius of this lease is <25 Ha only and as such it can be treated as B2 category.

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

### BASIC INFORMATION OF QUARRY

Project details		
1.	File No	574/SEIAA/EC1/4330/2014
2.	Name /Title of the project	Granite building stone quarry of Shri.M.V.Ashokan
3.	Name and address of project proponent.	Shri. M.V. Ashokan - Proprietor Manakkatumpady House, Kunnappilly P.O., Adichili, Thrissur district, Kerala. 680311 Mobile: 9447834189
4.	Owner of the land	The entire area is a private patta land which belongs to St. Thomas Appostholic Seminary and Paurstya Vidyapitham for which NOC has been obtained.
5.	Survey No. District/Taluk/ and Village etc.	Survey Nos.1116(P), 1117(P), 1118(P), 1119(P), Meloor village, Chalakkudy Taluk, Thrissur district, Kerala
6.	Details of period of lease or permit with number including the beginning and expiry date of lease/permit period(Copy to be attached)	Quarry Permit from Department of Mining and Geology, Thrissur District, Kerala vide letter No.49/2015-16/CRPS/GS/932/C2/TDO/15 dated 02.12.2015 valid till 01.12.2016
7.	Present Status of the project a. Date & Year of starting the work of the quarry project. b. whether the	a. 30.03.2005  b. No

	quarry is working at present or not ? c. If stopped working since when?	c. 31.03.2016
8.	Date of submission of Application	22.08.2014
9.	Brief description of the project.	Given as <b>Annexure - 1</b>
10.	Details of Authorized Signatory and address for correspondence	Shri. M.V. Ashokan - Proprietor Manakkatumpady House, Kunnappilly P.O., Adichilli, Thrissur district, Kerala. 680311 Mobile: 9447834189
<b>Land Details</b>		
11.	a) Extent of area in hectares	3.7415 Ha
12.	b) Is the property forest land/Govt. land/own land/patta land	Non-forest private land belonging to St. Thomas Appostholic Seminary and Paurstya Vidyapitham for which NOC has been obtained.
13.	Quantity of top soil/over burden produced and managed	Total waste - 47014 m <sup>3</sup> (Top soil- 7052 m <sup>3</sup> , Overburden - 39962 m <sup>3</sup> )
14.	Latitude and Longitude	N - 10°17'23.01" to 10°17'34.29" E - 76°24'49.33" to 76°24'55.28"
15.	Topography of land and elevation	Granite deposits occur in a sloping terrain ranging from +22m AMSL to +70m AMSL sloping from South to North
16.	Slope analysis	The bench height will be pruned to 5 m, width will be greater than bench height & pit slope will be maintained at 45° as per direction of DGMS
17.	Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	This is an opencast mine and hence 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.
18.	Access road to the site width and condition	The project site is approachable from Meloor - Poolany to Adichilly - Ezhattumughampanchayat road which is connected to Chalakkudi - Angamali (NH-47) road. The width of the access road is 5.0 m.
19.	Will there be any adverse impact on the aesthetics of the proposal site	No. During the mine closure stage, Water body will be formed up to +20m AMSL in the mined out void till the floor level of +5m AMSL and remaining area above +20m AMSL will be reclaimed with bench plantation/ Plantation which improves

		the aesthetics of the area
<b>Mining details</b>		
20.	Minimum and Maximum height of excavation.	+22m AMSL to +70m AMSL
21.	Life of mine proposed.	About 23 years
22.	Underground mining if any proposed	Not Applicable
23.	Method of Mining	Semi –Mechanized open cast mining
24.	Distance from the adjacent quarry	There are no other quarry leases/short term permits falling within 500 m radius of this project site. In this regard, certificate is obtained from Department of Mining & Geology, Thrissur vide letter no. 2652/C2/TDO/2015 dated 16.10.2015.
25.	Cluster condition if any	Not Applicable
26.	Has “No cluster certificate” submitted?	There are no other quarry leases/short term permits falling within 500 m radius of this project site. In this regard, certificate is obtained from Department of Mining & Geology, Thrissur vide letter no. 2652/C2/TDO/2015 dated 16.10.2015.
27.	Distance from nearby habitation	More than 160m away
28.	Distance from nearby forest, if applicable	Malayattur R.F- 2 km (E), Kodasserikumpam RF- 6 km (N), Kodasseri RF – 5.6 km (NE), KumbadanMudi – 1.8 km (NE), InchaKundu RF – 470 m (N).
29.	Distance from protected area, Wildlife Sanctuary, National Park etc.	Nil within the study area
30.	Distance from nearby streams/rivers/National Highway and Roads	River: Chalakkudy river – 150m (N) (Aerial) Highway: Chalakkudy - Angamaly– NH-47–7.6km – W (Aerial)
31.	Is ESA applicable? If so distance from ESA limit	Not Applicable
32.	Has approved mining plan, prepared by RQP submitted?	Yes.
33.	Capacity of production in TPA	Peak production - 50173 TPA(250 TPD)
34.	Details of mining process	The mining operation comprises of drilling using jack hammer and compressors, blasting, removal of blasted material using excavator and transportation of material directly to the outside

		crusher unit.
<b>Details of Project cost</b>		
35.	Land cost	Land owned by St. Thomas Appostholic Seminary and Paurstya Vidyapitham for which NOC has been obtained.
36.	Plant and Machinery	Equipment cost – 20lakhs, Other cost – 5lakhs
37.	Total Cost	Total - 25 lakhs
38.	Financial Statement including funding source and details of insurance etc.	Made by the proponent on his own
39.	Management Plan	<p><b>AIR POLLUTION</b></p> <p><b>PROPOSED MANAGEMENT PLAN:</b></p> <p>a) Drilling by jack hammer  Covering of drill holes with wet cloth  Usage of sharp drill bits for drilling of holes.  Provision of dust filters / mask to workers working at highly dust prone and affected areas.</p> <p>b) Blasting operation  Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.  Use of appropriate explosives for blasting and avoiding overcharging of blast holes.  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 with milli second delay detonators to keep the dust generation, noise as well as vibration level within the prescribed limits.</p> <p>c) Excavation and Hauling  Proper maintenance of machineries 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 equipment.</p> <p>d) Transportation  Regular wetting of transport road using water tanker cum sprinkler of 5 Kl capacity.  Avoiding overloading of tippers  Covering of loaded tippers with tarpaulins during transportation.  Development of green belt / barriers where ever possible.</p>

		<b>WATER POLLUTION</b>	<p>Sewage generated is properly discharged into septic tanks with soak pits.</p> <p>It is suggested to construct a settling pond with silt trap on the north eastern side of the lease area around +20m AMSL so that the water can be diverted into this pond. Clear supernatant water after settling can be let out of this pond after passing through settling traps.</p>
		<b>NOISE POLLUTION &amp; VIBRATION</b>	<p>Providing in-built mechanism for reducing sound emissions</p> <p>Sound proof operator's cabin for equipment's like dumpers, shovel, tippers, etc.</p> <p>Providing earplugs, earmuffs to workers exposed to higher noise level</p> <p>Proper and regular maintenance of equipment's.</p> <p>Planting of trees where ever possible to act as acoustic barriers.</p> <p>Conducting regular health check-up of workers including audiometry test for the workers engaged in noise prone area.</p> <p>Ground vibration is controlled through optimum design for burden &amp; spacing, inclined drilling practice, using ordinary milli second delay detonators, in combination with detonating fuse etc.,</p>
		<b>Solid waste Management</b>	<p>A small portion of area on the South western side of lease area is mined and the remaining unmined area has top soil layer as well as overburden/ waste with thickness of about 0.6 m to 2.0 m. The total waste to be generated from the mine area is expected to be 47014m<sup>3</sup> comprising 7052m<sup>3</sup> of top soil and 39962m<sup>3</sup> of overburden / waste.</p> <p>The top soil will be used for reclamation purpose. The overburden/ waste will be used for road formation, filling of low lying areas and backfilling of old mined out void outside the present lease area on the western side</p>

		<b>Eco restoration</b>	In the mine closure stage, Water body will be formed up to +20m AMSL in the mined out void till the floor level of +5m AMSL and remaining area above +20m AMSL will be reclaimed with bench plantation/ Plantation. Ultimately, out of 2.9101 Ha of mined out area, 1.6222 Ha of void up to +20m AMSL will left as water body and the remaining area of 1.2879 Ha above +20m AMSL reclaimed with bench plantation/plantation. The mined area will be properly fenced all around. Plantation will be planted in all possible vacant places within the lease area, periphery of the lease area and in excavated mine benches. Local species in consultation with the state forest department can be chosen for this purpose. In the mine closure stage around 1.940 Ha will be covered under bench vegetation/Plantation in the lease area.
40.	Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes	
41.	Does it suggest mitigation measures for each activity	Yes	
42.	If Pre-Feasibility Report (PFR) satisfactory	Yes	
43.	Does it need public hearing	No.	
44.	Details of litigation and Court verdict if any	No	
45.	Details of public complaint, if any	No	
46.	Details of statutory sanction required	Environmental clearance yet to be obtained. Applied on 01.09.2014.	
47.	If CRZ recommendation applicable?	No	
<b>PART B</b>			
<b>Environment Impact Assessment and Mitigation Measures</b>			
<b>Impact on water</b>			
48.	Details of water requirement per day in KLD	The water requirement for the quarry is as follows: For domestic sanitary needs - 1.0 KLD For dust suppression and Green belt development etc. - } 5.0 KLD	

		Total - 6.0 KLD
49.	Water source/sources.	The entire water requirement for domestic purpose and industrial activities such as Dust suppression and greenbelt development is met from mine pit water/ well water or procured from outside if necessary.
50.	Expected water use per day in KLD.	A total of 6.0KLD is expected to be consumed per day.
51.	Details of water requirements met from water harvesting.	A settling pond with silt trap will be constructed on the north eastern side of the lease area around +20m AMSL so that the water can be diverted into this pond. Clear supernatant water after settling can be let out of this pond after passing through settling traps. Rainwater will be collected in the sump and will be advantageously utilized for dust suppression, afforestation etc.
52.	What are the impact of the proposal on the ground water?	The entire water requirement for domestic purpose and industrial activities such as Dust suppression and greenbelt development is met from mine pit water/ well water or procured from outside if necessary. Moreover, mining operation require very less quantity of water and as such its impact on water environment is negligible.
53.	How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	There will not be any effluent generated from this mine. Rainwater will be collected in the sump and will be advantageously utilized for dust suppression, afforestation etc.
54.	What is the incremental pollution load from waste water generated from the proposed activities?	There will not be any effluent generated from this mine. Hence, not applicable.
55.	How is the storm water from within the site managed?	Rainwater falling in the quarry will be collected in the sump and will be advantageously utilized for dust suppression, afforestation etc.
<b>Impact on Biodiversity and Eco restoration Programmes</b>		
56.	Will the project involve extensive clearing or modification of vegetation (Provide details)	Part of the mine lease area is already mined. Plantation in the nearby area has to be cleared. However, necessary afforestation and reclamation measures will be made.
57.	a) What are the measures proposed to minimize the likely impact on vegetation	In the mine closure stage, 1.2879 Ha above +20m AMSL reclaimed with bench plantation/plantation. The mined area will be properly fenced all around. Plantation / Green belt will



	(details of proposal for tree plantation/ landscaping)	be developed in the safety zone.
58.	<p>b) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures?</p> <p>c) Presence of any endangered species or red listed category (in detail)</p>	<p>No. Domestic animals like Cows, Buffalos, Dogs, Cats etc., are commonly found near the area. There are no endemic or endangered species in and around the project area. There are no schedule – 1 Fauna in the species in and around the project area.</p>
<b>Impact on Air Environment</b>		
59.	a) What are the mitigation measures on generation of dust, smoke and air quality	<p>Air pollution in mines is mainly due to:</p> <ul style="list-style-type: none"> <li>▪ Drilling &amp; Blasting.</li> <li>▪ Movement of HEMM.</li> <li>▪ Loading &amp; Unloading.</li> <li>▪ Transportation of Material.</li> <li>▪ Drilling &amp; Blasting.</li> <li>▪ Movement of HEMM.</li> <li>▪ Loading &amp; Unloading.</li> <li>▪ Transportation of Material.</li> </ul> <p>The following mitigation measures are and will be adopted:</p> <ul style="list-style-type: none"> <li>• Covering of drill holes with wet cloth for controlling dust emission</li> <li>• Usage of sharp drill bits for drilling of holes.</li> <li>• Regular wetting of transport road using water tanker to suppress the dust.</li> <li>• Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.</li> <li>• Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.</li> <li>• Use of controlled blasting techniques to keep the dust generation, noise as well as vibration level within the prescribed limits.</li> <li>• Proper maintenance of HEMM which avoids excessive noise and vibration</li> <li>• Acoustic enclosures for operator cabin.</li> <li>• Imparting sufficient training to operators on safety and environmental parameters</li> <li>• Proper maintenance of hauling equipment's</li> <li>• Regular maintenance of the transport vehicles.</li> <li>• Avoiding of overloading of tippers and covering of loaded tippers with tarpaulins during transportation.</li> <li>• Development of Greenbelt.</li> <li>• Periodical monitoring of air quality to take steps to control the pollutants.</li> </ul>

60.	Details of internal traffic management of the site.	Only few tippers will be engaged for transporting granite to outside crusher plant. No internal traffic management in the site is needed.																				
61.	Details of noise from traffic, machines and vibrator and mitigation measures	Noise/Vibration generation in mining operations are mainly due to: <ul style="list-style-type: none"><li>• Mechanization adopted.</li><li>• Drilling &amp; Blasting Operation.</li><li>• Movement of Vehicles, etc.</li><li>• Ground Vibration</li></ul> The mitigation measures are given below: <ul style="list-style-type: none"><li>• Planting of trees wherever possible to act as acoustic barriers.</li><li>• Sound proof operator's cabin for equipment like dumpers, shovel, tippers, etc.</li><li>• Proper and regular maintenance of equipment may lead to less noise generation.</li><li>• Providing in-built mechanism for reducing sound emissions.</li><li>• Providing earplugs, earmuffs to workers exposed to higher noise level.</li><li>• Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise/vibration prone area.</li></ul> The following mitigation measures will be adopted for noise control: <ul style="list-style-type: none"><li>• Optimum design for burden and spacing.</li><li>• Inclined drilling practice, whenever necessary.</li><li>• Reducing explosive charge to minimum.</li><li>• Proper deck charging practices, looking to consolidation and hardness of strata conditions.</li><li>• Using ordinary electric milli second delay detonators, in combination with denoting fuse etc. This sequence of blasting reduces vibration to a large extent, thereby minimizing propagation of shock waves.</li><li>• Avoiding blasting in unfavorable weather condition.</li></ul>																				
62.	Impact of DG sets and other equipment on noise and vibration and ambient air quality around the project site and mitigation measures																					
63.	Air quality monitoring in detail	<p>AAQ monitoring were studied in 4 locations.</p> <table><tr><th rowspan="3">Para meter (in µg/m<sup>3</sup>)</th><th colspan="4">Sample Code &amp; Location</th><th rowspan="3">*Permissible Limits</th></tr><tr><th>MV A1</th><th>MV A2</th><th>MVA 3</th><th>MVA4</th></tr><tr><th>M.L. ARE A</th><th>AD IC HI LL I</th><th>KAY YAN I KAD AYU</th><th>MUNOOR PULLY</th></tr><tr><td>PM<sub>10</sub></td><td>63.5</td><td>58. 7</td><td>52.1</td><td>49.3</td><td>100</td></tr></table>	Para meter (in µg/m <sup>3</sup> )	Sample Code & Location				*Permissible Limits	MV A1	MV A2	MVA 3	MVA4	M.L. ARE A	AD IC HI LL I	KAY YAN I KAD AYU	MUNOOR PULLY	PM <sub>10</sub>	63.5	58. 7	52.1	49.3	100
Para meter (in µg/m <sup>3</sup> )	Sample Code & Location				*Permissible Limits																	
	MV A1	MV A2		MVA 3		MVA4																
	M.L. ARE A	AD IC HI LL I	KAY YAN I KAD AYU	MUNOOR PULLY																		
PM <sub>10</sub>	63.5	58. 7	52.1	49.3	100																	

		PM <sub>2.5</sub>	26.0	24.3	23.5	21.0	60
		SO <sub>2</sub>	4.6	3.5	3.5	3.1	80
		NO <sub>2</sub>	80	7.4	6.9	5.7	80
		CO	BDL(DL-1144)	BDL(DL-1144)	BDL(DL-1144)	BDL(DL-1144)	4000
*National Ambient Air Quality Standards from CPCB Remarks: BDL- Below detectable limit, DL- Detectable Limit.							
All monitored values were found to be well within the prescribed NAAQ Limits							
Energy Conservation							
64.	Details of power requirement and source of supply.	No electricity is needed for quarry operations as only diesel operated mining machinery including jack hammer are used for quarrying. Hence the negligible power requirement of the administrative buildings etc., are met from state grid					
65.	Details of renewable energy (non – conventional) used.	Not applicable					
Risk Management							
66.	Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	<ul style="list-style-type: none"><li>• Yes. Bench height, width and slope will be maintained as per direction of DGMS.</li><li>• The mined area will be properly fenced all around to prevent fall of animals.</li><li>• License to store and usage of explosives obtained from Dy.Chief Controller of Explosives, Ernakulam, license No. E/SC/KL/22/1331/E(64036) valid up to 31.03.2021.</li><li>• The top soil will be used for reclamation purpose. The overburden/ waste will be used for road formation, filling of low lying areas and backfilling of old mined out void outside the present lease area on the western side.</li></ul>					
67.	Are proposals for fencing around the quarry satisfactory? Storage of explosives/hazardous substance in detail Facility for solid waste management						
Socio Economic Impacts							
68.	Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	Not Applicable					
69.	Will the proposal result in any changes to the	No					

	demographic structure of local population. If so, provide details.				
70. Are the CSR proposals satisfactory. Give details	The proponent has spent Rs. 1.0 lakh for various CSR activities. For future CSR activities, the lessee has planned to spend Rs. 17.50 lakh for the next 5 years with an annual budget of Rs. 3.50 lakh per annum. The future CSR budget is given below:				
	S. No	Particulars	Capital Cost in Lakhs	Recurring Cost in Lakhs	
	1. EDUCATION FACILITIES:				
	a.	SNUPS Kunnappilly school in Melur & nearby schools	Providing Note books, Bags, Uniforms, Stationery items for Students (Avg of Rs. 1500 * 25 Students * 5Yrs)	-	1.87
			Infrastructure development:		
			Renovation works like compound wall maintenance, roof repairing, toilets etc., in schools	2.00	-
			Providing Tables, Chairs, Library, Paintings & other facilities	-	0.50
	2. MEDICAL FACILITIES:				
	a.	Providing free medicines, Conducting free medical camps, Donation for surgeries to poor people, Health awareness programmes to poor and needy people in nearby villages (Avg of Rs. 1,00,000 * 5Yrs)	-	5.00	
	b.	Medicine, medical Aids like spectacles, walking stick etc., for needy locals (Rs. 20,000 * 5Yrs)	-	1.00	
	3. OLD AGE HOMES - Bagavatham Village Trust				
	a.	Providing beds and pillows	0.33	-	
	b.	Supplying fans, Chairs, Dining table etc.,	0.45	-	
	c.	Dress materials	0.15	-	
	d.	Construction of toilets	0.70	-	
	4. AREA DEVELOPMENT:				
	a.	Kunnappilly & KarukuttyP	Extending services in form of financial	-	1.50

			anchayat contributions to religious institutes like church, Annadhanams to temples, Road maintenance etc.,		
			Construction of bus shelter	1.50	-
		5.	Providing monetary help for marriages to poor people, their living improvement	1.00	1.50
			Total Cost	6.13	11.37
			Total Cost (Capital and Recurring)	17.50	
71.	What are the projects benefits in terms of employment potential?	This project provides direct employment to about 13 persons and indirect employment to about 50 persons			
PART C					
72.	Details of NABET approved EIA Consultant engaged- Their name, address and accreditation details	Creative Engineers & Consultants Address: 9 B/4, Bharathwajar Street, East Tambaram, Chennai – 600059 E-mail: <a href="mailto:cecgiri@yahoo.com">cecgiri@yahoo.com</a> Tel.: 044- 22395170 Mob: 09444133619 Listed in S.No 28 in NABET list of Accredited Consultants			
Summary and Conclusion					
73.	Overall justification for implementation of the project.	<p>The Granite Building stone from this quarry will be dispatched to the consumers directly.</p> <p>There is a good demand for the aggregates in the region in construction industry. Regionally, it also will provide good employment opportunities directly and indirectly as mentioned earlier. Besides, the proponent will also be carrying out various CSR activities towards improvement in infrastructure, living conditions of local community, etc., Monetary gains will also accrue to state and central Governments through receipt of royalties, Taxes, etc.,</p> <p>Under their CSR initiatives, proponent has already carried out excellent activities. About Rs .1.0 lakh is spent so far for this purpose. These programmes will continue in future vigorously. Rs. 3.5 lakh per year will be spent for future CSR activities. Future planned social outreach programmes will further enhance the life style, income levels educational and medical services and infrastructural services of the local area and local community.</p>			
74.	Explanation of how adverse impact have	The mitigation measures to control the adverse impact due to this project on various environmental factors are explained in			

	been mitigated.	Part B above.
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2. The proposal was placed in the 60<sup>th</sup> meeting of SEAC held on 28<sup>th</sup> & 29<sup>th</sup> July 2016. The proponent did not turn up for the meeting. Hence, the Committee decided to defer the item.

3. The proposal was again placed in the 61<sup>st</sup> meeting of SEAC held on 11<sup>th</sup> August 2016. Further to the intimation of SEAC, the proponent along with the RQP was present in the meeting and RQP made a power point presentation of the salient features of the project. The committee appraised the proposal based on the mining plan, pre-feasibility report and all other documents submitted along with the Form I application. The committee asked the proponent to submit a Certificate from Village Officer certifying that the land is not assigned for any other purpose. The Committee decided to DEFER the item for field visit.

The proponent agreed to spend 5 lakhs/annum towards community welfare activities for a period of next 5 years in consultation with the local body.

Subsequently, site visit was conducted on 08.04.2017 by Subcommittee consisting of Sri.P. Sreekumaran Nair, Dr.K.G.Padmakumar & Dr.E.A.Jayson. The representatives of the proponent were present at the site at the time of site visit. The report is as follows;

*Proponent is Sri. Ashokan, M. V. possessing a quarrying permit for an extent of 0.1417 Ha at Survey No. 1116 (P) in Meloor village, Chalakkudy Taluk, Thrissur District, Kerala has sought Environmental Clearance for operating granite building stone over an extent of 5.0190 Ha vide File no. 574/SEIAA/EC1/4330/2014. Production capacity was indicated at 800 TPD, originally. Subsequently, the extent was revised to 3.7415 Ha. The entire lease area is patta land and belongs to St. Thomas Appostholic Seminary and Paurstya Vidyapitham and letter in this regard is also obtained from Village officer*

*There are no other quarry operated with in 500 m radius of this project site. The Chalakkudy River is 150 m (Aerial) away. No important eco sensitive areas or forests is present within 100m. There is an abandoned quarry nearby which exist as a water source for the present site. On field visit, it is suggested that since the Chalakkudy river is nearby, it is necessary that enough precaution is to be taken to avoid effluent waters entering the river. This calls for establishing scientifically laid garland drains and settling tanks for settlement of debris. Only filtered water after sedimentation be allowed to flow out of the site. There are no houses within 100 m distance. However a building is seen nearby, owned by the seminary who own this leased land. It was intimated to be the occasional residence of the visiting seminary inmates. It is to be decided whether this calls for getting any NOC of the property owners to this effect as they have leased the land and a quarry has been in operation for long.*

4. The proposal was considered in the 73<sup>rd</sup> meeting of SEAC held on 30<sup>th</sup> and 31<sup>st</sup> May 2017. The Committee verified the additional documents submitted by the proponent and found satisfactory. Based on the Mining plan, Form.1, all other documents submitted with the proposal and the field visit report, the committee decided to **Recommend for issuance of EC** subject to general conditions in addition to the following specific condition.

*1. If any plant species endemic to Western Ghats are noticed in the area they shall be properly protected in situ or by transplanting to an appropriate location inside the lease area.*

*2. No mining shall be constructed within the distance of 100 m from the building owned by St. Thomas Appostholic Seminary*

The proponent agreed to spend 5 lakhs/annum towards community welfare activities in consultation with the local body.

5. The proposal was considered in the 71<sup>st</sup> Meeting of SEIAA held on 20.07.2017. The Authority accepted the recommendation of SEAC and decided to issue EC subject to general condition in addition to the following specific conditions.

*1. If any plant species endemic to Western Ghats are noticed in the area they shall be properly protected in situ or by transplanting to an appropriate location inside the lease area.*

*2. No mining shall be constructed within the distance of 100 m from the building owned by St. Thomas Appostholic Seminary.*

The proponent should spend 5 lakhs/annum towards community welfare activities in consultation with the local body. A notarised affidavit for the commitment of CSR activities and agreeing all the general and specific conditions should be submitted before the issuance of EC. The proponent has submitted an affidavit vide reference 6<sup>th</sup> cited, satisfying all the above conditions.

6. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed quarry project in Sy. No. 1116 (P), 1117(P), 1118(P) & 1119(P) in Meloor village, Chalakkudy Taluk, Thrissur District, Kerala of Sri. Ashokan, M. V, Manakkatumpady House, Kunnapilly P.O., Adichili, Thrissur district, Kerala- 680311 for an area of 3.7415 hectares, subject to the specific conditions as recommended by SEAC in para 4 above, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I, EMP, PFR and Mining plan submitted to SEIAA. The assurances and clarifications given by the proponent will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining (items 1 to 61), appended hereto will be applicable and have to be strictly adhered to.

7. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and the undertakings in Chapter 4 (Mining), Chapter 5 (Blasting), Chapter 6 (Mine Drainage), Chapter 7 (Stacking of Mineral rejects and Disposal of waste) Chapter 11 (EMP) Chapter 12 (Progressive Mine Closure Plan) of the Mining Plan as submitted will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

8. Validity of the Environmental Clearance will be five years from the date of this clearance, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry.

9. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its authorised offices and also by the regional office of the Ministry of Environment & Forests, Govt. of India, Bangalore.

- i. Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.
- ii. Instances of violation if any shall be reported to the District Collector, Thrissur 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. Ashokan, M. V, Manakkatumpady House, Kunnappilly P.O., Adichili, Thrissur district, Kerala- 680311

Sd/-

**JAMES VARGHESE.I.A.S,**  
**Member Secretary (SEIAA)**



To

Sri. Ashokan, M. V,  
Manakkatumpady House,  
Kunnappilly P.O.,  
Adichili, Thrissur - 680311

Copy to

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



Forwarded/By Order

Administrator, SEIAA



# STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

## GENERAL CONDITIONS (for mining projects)

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.
29. 100 m buffer distance should be maintained from forest boundaries.

30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.
31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
32. In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponents shall apply and get the approval of this Authority.
33. The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at [www.seiaakerala.org](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

