



सत्यमेव जयते

**File No: 10696**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(Issued by the State Environment Impact Assessment**  
**Authority(SEIAA), TAMIL NADU)**

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Dated 14/05/2024



To,

MANGADU BALASUNDHARAM  
MANGADU BALASUNDHARAM  
Thiru.M.N.Balasundram, S/o. Natarajan, No.72, Main Road, Mangadu, Kundrathur Taluk,  
Kancheepuram District. , Tiruvannamalai , TIRUVANNAMALAI, TAMIL NADU, Tiruvannamalai ,  
600122  
balasundaramn87@gmail.com

**Subject:** Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

**Sir/Madam,**

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Rough Stone and Gravel Quarry of over an extent of 3.87.5 Ha in S.F.Nos. 8/1A, 8/1B, 8/1C, 8/1D, 8/1E, 8/1F, 8/1G, 8/1H, 8/1I, 8/1J, 8/1K, 8/1L, 8/1M, 8/3A and 8/3B, of Sithalapakkam Village, Vembakkam Taluk, Tiruvannamalai District by Thiru.M.N.Balasundram submitted to Ministry vide proposal number SIA/TN/MIN/459416/2024 dated 02/04/2024.

**Ref:**

1. Online proposal No. SIA/TN/MIN/459416/2024, dt: 22/01/2024.
2. Your application submitted for Terms of Reference dated: 13.02.2024.

2. The particulars of the proposal are as below :

<b>(i) TOR Identification No.</b>	TO24B0108TN5397062N
<b>(ii) File No.</b>	10696
<b>(iii) Clearance Type</b>	TOR
<b>(iv) Category</b>	B1
<b>(v) Project/Activity Included Schedule No.</b>	1(a) Mining of minerals
<b>(vii) Name of Project</b>	Rough Stone and Gravel Quarry of Thiru.M.N.Balasundram
<b>(viii) Name of Company/Organization</b>	MANGADU BALASUNDHARAM
<b>(ix) Location of Project (District, State)</b>	TIRUVANNAMALAI, TAMIL NADU
<b>(x) Issuing Authority</b>	SEIAA
<b>(xii) Applicability of General Conditions</b>	no

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA-TN for an appraisal by the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee (SEIAA) in the SEIAA under the provision of EIA notification 2006 and its subsequent amendments.
4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) in the meeting held on 03/05/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
5. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
6. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of M/s. MANGADU BALASUNDHARAM under the provisions of EIA Notification, 2006 and as amended thereof.
7. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
8. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
9. This issues with the approval of the Competent Authority.
10. The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

**Copy To**

1. The Additional Chief Secretary to Government, Environment, Climate Change and Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi - 110 003.
6. The District Collector, Tiruvannamalai District.
7. Stock File.

**Annexure 1**

**Specific Terms of Reference for (Mining Of Minerals)**

**1. Seac Conditions - Site Specific**

S. No	Terms of Reference
1.1	<p>1. For the existing quarry, the PP shall obtain a letter from the concerned AD (Mines) which shall also stipulate the following information:</p> <ol style="list-style-type: none"> <li>i. Original pit dimension of the existing quarry</li> <li><b>ii. Quantity achieved Vs EC Approved Quantity</b></li> <li>iii. Balance Quantity as per Mineable Reserve calculated.</li> <li>iv. Month wise Production details</li> <li>v. Mined out Depth as on date Vs EC Permitted depth</li> <li>vi. Details of illegal/illicit mining carried out, if any</li> <li>vii. Non-compliance/Violation in the quarry during the past working.</li> <li>viii. Quantity of material mined out outside the mine lease area (or) in the adjacent quarry/land.</li> <li>ix. Existing condition of Safety zone/benches</li> <li>x. Details of any penalties levied on the PP for any violation in the quarry operation by the Department of Geology and Mining.</li> </ol> <p>2. The PP shall submit the Certified Compliance Report (CCR) obtained from IRO(SZ), MoEF&amp;CC with <b>the status of non-compliance</b>, and to furnish <b>mitigation measures/remedial action plan with the budget allocation</b> for the non-compliance stated in the CCR.</p> <p>3. The PP shall complete the fencing, tree plantation and photographs, videos of the same shall be furnished.</p> <p>4. The PP shall mark the DGPS reference pillars painted with blue &amp; white colour indicating the safety barrier of 7.5 m to be left under the Rule 13 (1) of MCDR, 1988 within the lease boundary and protective bunds, and provide the details during the EIA appraisal.</p> <p>5. The Proponent shall complete the garland drainage around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.</p> <p>6. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc located within 1 km of the proposed quarry.</p> <p>7. The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation &amp; production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.</p> <p>8. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, Schools/Colleges industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.</p> <p>9. The proponent shall furnish photographs and video showing the adequate fencing, green belt along the periphery including replantation of existing trees &amp; safety distance between the adjacent quarries &amp; water bodies nearby provided as per the approved mining plan.</p> <p>10. During the EIA appraisal, the PP shall furnish the affidavit stating that he will not employ any external agency for carrying out the blasting operation in the proposed quarry and he shall also install the temporary (or) permanent magazine approved by the concerned licensing authority <b>before the execution of the lease</b>, for storing the authorized explosives &amp; detonators separately in accordance with the Explosive Rules, 2008.</p> <p>11. During the EIA appraisal, the PP shall furnish the affidavit stating that he will appoint a First Class/Second Class Mine Manager for managing the quarrying operations before obtaining the CTO from the TNPCB. Further, the PP will also send the 'Notice of Opening' indicating the appointment of such Statutory officials and the proposed usage of HEMM shall be sent to the Director of Mines Safety, Chennai Region of the Mine under the provisions of MMR 1961 atleast 30 days before the commencement of the mining operation after the execution of lease, if the EC is granted.</p> <p>12. <b>Since the structures including the houses are situated within a radial distance of 500 m,</b></p>

S. No	Terms of Reference
	<p>the PP shall carry out the scientific studies <b>to design the controlled blast parameters</b> for reducing the cumulative blast-induced ground/air- vibrations and eliminating the fly rock from the blasting operations carried out in the cluster of quarries located in the region, and <b>subsequently with proper validation of the design through trial blasts</b> in any of the existing &amp; operating quarries to monitor the PPV produced from the blasting near the houses (280m) and village (520 m), after obtaining the prior permission from the DMS / Chennai Region in accordance with DGMS Circular No. 7 of 1997, by involving anyone of these reputed Research and Academic Institution such as CSIR-Central Institute of Mining &amp; Fuel Research / Dhanbad, NIRM/Bangalore, IIT (ISM)/Dhanbad, IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF as a part of EIA study during the appraisal and to the DMS/DGMS-Chennai Region while submitting the ‘Notice of Opening’, without any deviation.</p> <p>13. Since the quarrying operations are proposed in an existing pit possessing the quarry wall of 27 m depth without adequate bench formations in accordance with the provisions of MMR, 1961, the PP shall carry out the scientific studies to assess the slope stability of the existing quarry wall and working benches for spelling out the stabilization measures to ensure the safety of the persons to be employed in the proposed quarry, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining &amp; Fuel Research / Dhanbad, NIRM/Bangalore, IIT (ISM)/Dhanbad, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF as a part of EIA study during the appraisal and to the DMS/DGMS-Chennai Region while submitting the ‘Notice of Opening’, without any deviation.</p> <p>14. The PP shall carry out a comprehensive study indicating the Travelling route as proposed pertaining to the traffic surveys and Axle load surveys and demand forecasting for the next 10 years in the cluster area including the Traffic Volume, Identification of possible improvements in the existing alignment and bypassing congested locations with alternatives, investigation of required sub-grade and sub-soil characteristics and strength for road and embankment design and sub soil investigation, identification of sources of construction material, etc. Further, the study shall also consider the local and slow traffic which may need segregation from the main traffic and provision of service roads (or) physical barrier including fencing, wherever necessary to improve efficiency and safety, particularly the trucks plying through the schools/hospitals/villages.</p> <p>15. The PP shall prepare the Standard Operating Procedures (SoP) for carrying out the ‘Best Mining Practices’ in the areas of drilling, blasting excavation, transportation and green belt development and provide the same during the EIA appraisal.</p> <p>16. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.</p>

**2. Seiaa Specific Condition:**

S. No	Terms of Reference
2.1	1. The Annual peak RoM production not exceeding <b>43440 cu.m</b> of Rough stone and <b>15912 cu.m</b> of Gravel to an ultimate depth of <b>47m BGL</b> .

**Standard Terms of Reference for (Mining of minerals)**

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report shall be prepared for peak capacity (.....MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of mineral production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
1.3	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

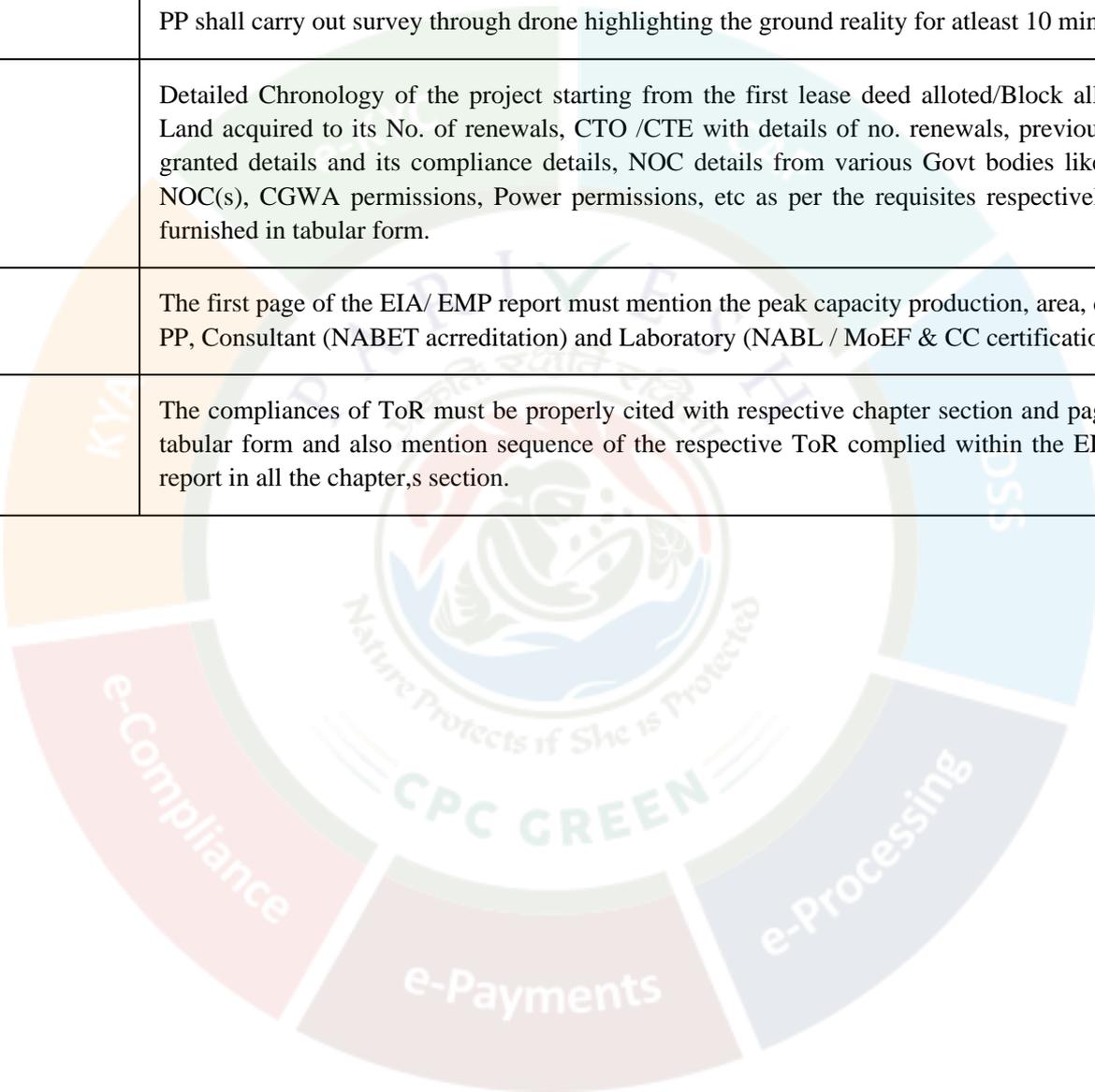
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1.11	<p>A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.</p>																																																						
1.12	<p>Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights</p> <table border="1" data-bbox="379 689 1469 795"> <thead> <tr> <th>S.N</th> <th>ML/Project use</th> <th>Land</th> <th>Area under Surface Rights(ha)</th> <th>Area under Mining Rights(ha)</th> <th>Area under Both</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Agricultural land</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Forest Land</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>Grazing Land</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>Settlements</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>Others (specify)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1" data-bbox="379 1070 1235 1301"> <thead> <tr> <th>S.N.</th> <th>Details</th> <th>Area (ha)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Buildings</td> <td></td> </tr> <tr> <td>2</td> <td>Infrastructure</td> <td></td> </tr> <tr> <td>3</td> <td>Roads</td> <td></td> </tr> <tr> <td>4</td> <td>Others (specify)</td> <td></td> </tr> <tr> <td></td> <td>Total</td> <td></td> </tr> </tbody> </table>	S.N	ML/Project use	Land	Area under Surface Rights(ha)	Area under Mining Rights(ha)	Area under Both	1	Agricultural land					2	Forest Land					3	Grazing Land					4	Settlements					5	Others (specify)					S.N.	Details	Area (ha)	1	Buildings		2	Infrastructure		3	Roads		4	Others (specify)			Total	
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1.13	<p>Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.</p>																																																						
1.14	<p>One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&amp;CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.</p>																																																						
1.15	<p>Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting</p>																																																						

S. No	Terms of Reference
	sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
1.16	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided
1.17	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.
1.18	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.

S. No	Terms of Reference
1.24	Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored
1.27	PP to evaluate the green house emission gases from the mine operation and corresponding carbon absorption plan.
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.

S. No	Terms of Reference																																																
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.																																																
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.																																																
1.38	Corporate Environment Responsibility:																																																
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.																																																
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.																																																
1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.																																																
1.42	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.																																																
1.43	e) Environment Managment Cell and its responsibilities to be clearly spleel out in EIA/ EMP report																																																
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.																																																
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.																																																
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.																																																
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.																																																
1.48	<p>Details on the Forest Clearance should be given as per the format given:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%;">Total ML Total</td> <td style="width: 15%;"></td> <td style="width: 15%;">Date</td> <td style="width: 15%;">Extent</td> <td style="width: 15%;">ofBalance</td> <td style="width: 15%;">area</td> <td style="width: 15%;">forStatus of appl For</td> </tr> <tr> <td></td> <td>Project Area Forest</td> <td></td> <td>of FC</td> <td>Forest</td> <td>which FC is yet to</td> <td>be diversion</td> <td>of forest</td> </tr> <tr> <td></td> <td>(ha)</td> <td>land (ha)</td> <td></td> <td>Land</td> <td>obtained</td> <td>land</td> <td></td> </tr> <tr> <td></td> <td></td> <td>If more than one</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>provide details of</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>each FC</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Total ML Total		Date	Extent	ofBalance	area	forStatus of appl For		Project Area Forest		of FC	Forest	which FC is yet to	be diversion	of forest		(ha)	land (ha)		Land	obtained	land				If more than one								provide details of								each FC					
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S. No	Terms of Reference
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
1.51	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.
1.53	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)
1.54	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.



**SEAC SPECIFIC CONDITIONS:**

1. The PP shall furnish the letter obtained from the AD (Mines) indicating the existing pit dimensions and pit conditions showing the details on mine having worked during the earlier lease period.
2. The PP shall furnish DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
3. The PP shall provide individual notice regarding the Public Hearing to the nearby house owners located in the vicinity of the project site.
4. The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation & production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.
5. The PP shall also justify the selection of mining methodology (conventional or non-conventional) adopting blasting techniques/non-explosive techniques with proper ground reality & laboratory testing.
6. The proponent shall submit the “Blast Design Parameters for controlling the vibration and fly rock from the quarry blasting” considering the existence of sensitive structures including habitations within 500 m from the lease boundary.
7. The PP shall justify the estimation of HEMM population for excavation and transportation in the proposed quarries with proper calculation methodology adopted.
8. The PP shall enumerate the environmental settings situated within a radial distance of 1 km such rivers/water bodies/reserve forests/ grazing land/existence of the hospitals and educational institutions/structures.
9. The PP shall provide the details of the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.
10. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.

11. The PP shall submit a 'Slope Stability Action Plan' for the proposed quarry where the proposed depth exceeds 30 m and it shall cover the aspects of stability of quarry walls including the access ramp keeping the benches intact.
12. If the blasting operation is to be carried out, the PP shall present a conceptual design for carrying out the NONEL initiation based controlled blasting operation including the line drilling & muffle blasting techniques and a Simulation Model indicating the anticipated Blast-induced Ground Vibration levels in the proposed quarry as stipulated by the DGMS Circular No.7 of 1997, during the EIA Proposal.
13. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
14. The PP shall give an affidavit stating that no contractual persons provided by the explosive suppliers will be employed for carrying out the blasting operations in the proposed quarry.s
15. The PP shall also give an affidavit that no highly sensitive structure such as fire-cracker manufacturing units, Gas godown/explosive Magazine, LPG Bottling Units, etc are located within a radial distance of 300 m from the lease boundary of the proposed quarry.
16. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 20 m from the blast site.
17. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.
18. The PP shall provide the environmental mitigation measures implemented for the crusher(s) located within the mining lease.
19. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
  - a. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
  - b. Quantity of minerals mined out.

- c. Highest production achieved in any one year
  - d. Detail of approved depth of mining.
  - e. Actual depth of the mining achieved earlier.
  - f. Name of the person already mined in that leases area.
  - g. If EC and CTO already obtained, the copy of the same shall be submitted.
  - h. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
20. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
21. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
22. The PP shall carry out Drone video survey covering the cluster, Green belt, fencing etc.,
23. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
24. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
25. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.

26. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.
27. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
28. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
29. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
30. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
31. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
32. If the Village road/State highway/National highway are located within a radial distance of 500 m from the lease boundary of the quarry proposal, the PP shall carry out traffic studies to indicate impact on local transport infrastructure due to the Project and mitigation measures.
33. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
34. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
35. Public Hearing points raised and commitments of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same

should be provided and also incorporated in the final EIA/EMP Report of the Project and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.

36. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
37. The PP shall produce/display the EIA report, Executive summary and other related information with respect to public hearing in Tamil Language also.
38. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.
39. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the **appendix-I** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
40. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site-specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
41. A Disaster Management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
42. A Risk Assessment and Management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
43. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
44. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures

should be detailed along with budgetary allocations.

45. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
46. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
47. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
48. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
49. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
50. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

**In addition to the above, the following shall be furnished:-**

**The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:**

1. Project name and location (Village, District, State, Industrial Estate (if applicable)).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.

7. Details of village map, “A” register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest , eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through

intuitions/NABET Accredited agencies.

27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2<sup>nd</sup> December, 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29<sup>th</sup> August, 2017.

