

PUBLIC HEARING SUMMARY

FOR

M/S. TAAMAESEK ENGINEERING CONSORTIUM ROUGH STONE AND GRAVEL QUARRY

Extent	6.61.35 Ha
SF.Nos.	13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
Location	SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU
Land Type	PATTA LAND
Production	15,23,080M3 OF ROUGH STONE AND 2,15,216M3 OF GRAVEL UP TO 59M DEPTH FOR 10 YEARS LEASE PERIOD.

- Terms Identification No – TO26B0108TN5722346N dated 05/03/2026
- Baseline Monitoring– Winter Season(December -2025 to February 2026)

PROJECT PROPONENT

**M/S. TAAMAESEK ENGINEERING CONSORTIUM,
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CONSULTANT

CREATIVE ENGINEERS & CONSULTANTS

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ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

SUMMARY

1.1 INTRODUCTION:

. M/s. Taamaesek Engineering Consortium proposes to operate a **Rough Stone and Gravel Quarry** over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu and has initiated action towards obtaining environmental clearance.

Proposed Production is 2,15,216m³ (4,30,432MT) of gravel and 15,23,080m³ (41,88,470MT) of rough stone up to an ultimate depth of 59m (4m Gravel + 55m Rough stone) for 10 years lease period. (Peak production capacity is 72,240m³ (1,44,480 MT) of gravel in year1 and 1,94,440m³ (5,34,710 MT) of rough stone in Year 10). Entire lease area is patta land in the applicant companies name.

Since the lease area is >5 Ha, this proposal is considered under Category – B1 and as per MoEF& CC notification necessitates preparation of EIA/EMP report and public hearing..

This EIA/EMP report is prepared based on standard and additional Terms of Reference issued by SEIAA, Tamil Nadu and is in conformance of the generic structure prescribed by MOEF&CC in their notification of September 2006 and the approved mining plan.

Salient details of the EIA/ EMP report prepared for this project is provided below

Table 1: Salient Details of the Project

Details	Particulars
A. Statutory Clearances	
Precise Area Communication	• Issued by Department of Geology & Mining vide Rc.No. B/G&M/409/2025 dated 29.12.2025
Mining Plan Approval	Issued by Department of Geology & Mining vide Rc.No. B/G&M/409/2025 dated 08.01.2026
Details of Quarries within 500m radius	Obtained from Assistant Director, Dep. of Geology & Mining vide Rc.No. B/G&M/409/2025 dated 08.01.2026
B. Site Details	
Location	Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu
Survey No.	13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
Coordinates	Latitude :12° 05' 54.68" N to 12° 06' 05.26" N Longitude :79° 40' 03.26" E to 79° 40' 19.79" E



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Mining Lease Area	6.61.35Ha
Type of Land	Own patta land
Accessibility	There is an existing road from the lease area leads to Karasanur – Adanappattu road on the east & Perumbakkam- Parikkalpattu road on the west which is further connected to SH-136 Kutteripattu to Puducherry Road located about 2.5 Km on the Southern side of the lease applied area.
Topography & Drainage	Plain topography. There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west & south side in the village map and FMB. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow.
Nearest Village	Perumbakkam- 600m – W
Nearest Town	Tindivanam – 13km - N
Nearest Highway	SH-136 – 2.6Km–SW, NH-32 – 7.0Km– E
Nearest Railway Station	Perani - 13.0km - W
C. Environmental Setting of the Study Area	
Water Bodies	➤ Kondamur Ar – 4.6km – NE ➤ Tondi Ar– 8.9km – W ➤ Varaha Nadi– 8.4km – S ➤ Vidur Branch Canal– 4.5km – SW
Nearest Reserve Forests	Nil within 10km radius
Notified Archaeologically important places, Monuments	Nil within 10km radius
Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972*	Nil within 10km radius Kaliveli Bird Sanctuary – 16.6 km – E.

1.2 Technical Description:

A. Technical Description					
Geological Reserves	36,75,485(101,07,584 MT). Roughstone & 2,67,308(5,34,616 MT) Gravel				
Mineable Reserves	15,23,080(41,88,470 MT) Roughstone & 2,15,216(4,30,432 MT) Gravel				
Mining Method	Open cast mechanized mining method with drilling, blasting, excavation, loading and transportation of material to needy buyers.				
Production	Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)

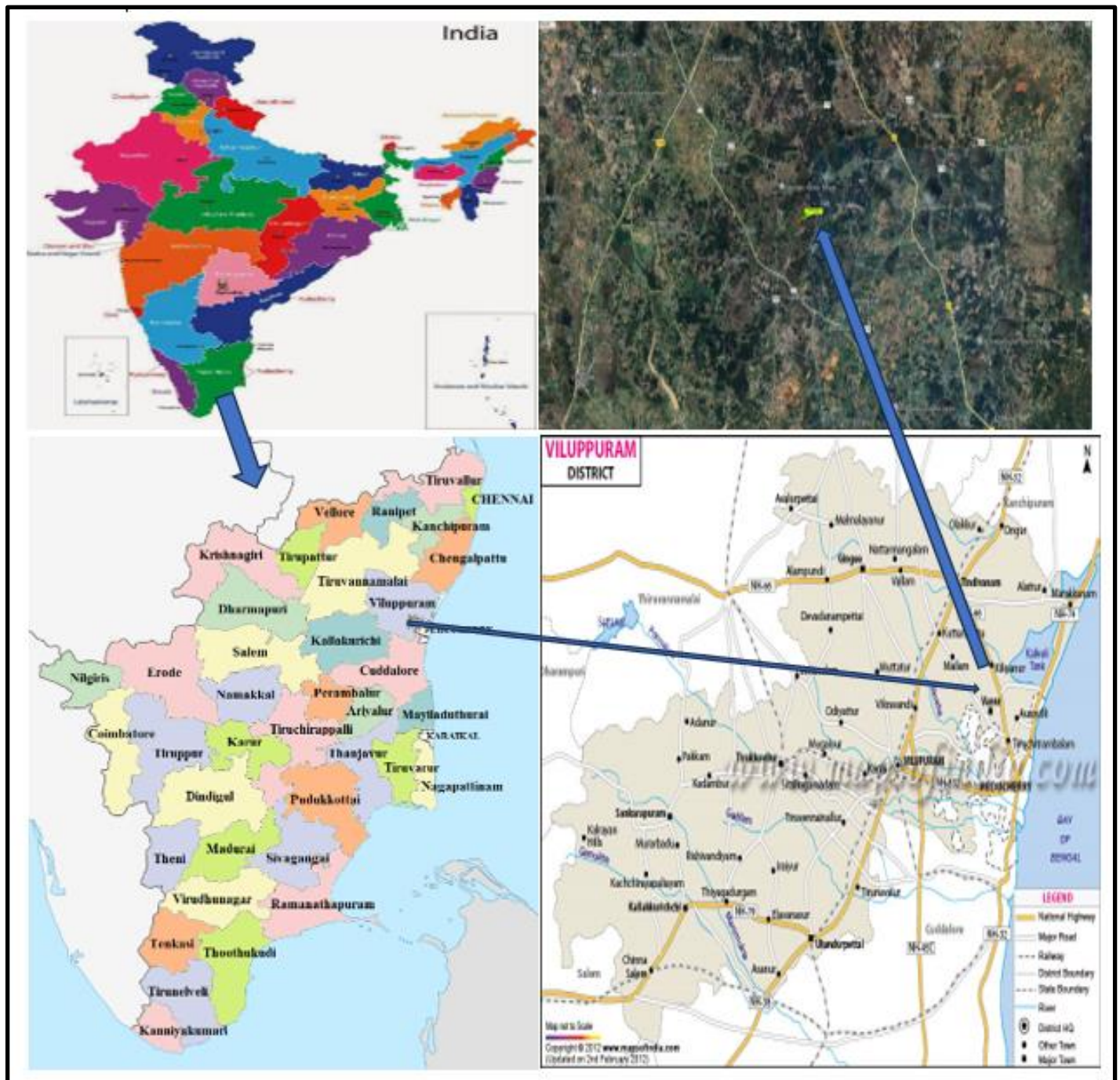


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	I	1,38,460	72,240	380765	144480
	II	1,47,340	72,224	405185	144448
	III	1,54,400	70,752	424600	141504
	IV	1,61,140	---	443135	-
	V	1,72,240	---	473660	-
	Sub Total (1 to 5)	7,73,580	2,15,216	21,27,345	4,30,432
	Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)
	VI	1,15,900	-	318725	-
	VII	1,06,400	-	292600	-
	VIII	1,84,300	-	506825	-
	IX	1,48,460	-	408265	-
	X	1,94,440	-	534710	-
	Sub Total (6 to 10)	7,49,500	-	20,61,125	-
	Total	15,23,080	2,15,216	41,88,470	4,30,432
Waste Generation and Management	There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized.				
Ultimate Depth	59m (4m Gravel + 55m Rough stone) for 10 years lease period				
B. Project Requirements					
Manpower	48 people persons directly and indirectly.				
Water requirement & Source	Requirement – 12.0 KLD, Initially will be procured from outside agency and later rain water collected in the mine sump will be used.				
Power Requirement	All the equipment will be diesel operated. No electricity is needed for mining operation. The minimum power requirement for office, etc will be met from state grid.				
Site services	Mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.				
Project cost	Rs.88,30,000/-				

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Figure 1: Location Map



ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

Figure 3: Study Area Map



ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

1.3 EXISTING ENVIRONMENTAL SCENARIO:

The studies and data collection have been carried out systematically and meticulously as per relevant IS codes, CPCB and MoEF&CC guidelines and as per approved ToR during **Winter Season (December 2025 – February 2026)** for the purpose of this study, the area has been divided into two zones, namely, core and buffer zones. Core zone is considered as the total lease area, while buffer zone encompasses an area of 10 km radius distance from the periphery of core zone.

The proposed Roughstone and gravel quarry is located in Sirunavur Village, Vanur Taluk, Viluppuram District. Tamil Nadu. The details of the 10Km radius study area has been provided below:

Table 2: Social, Economic and Demographic Profile of the Study Area

Details	Population	Percentage
A. Gender-wise distribution		
Male Population	71332	50.51
Female Population	69904	49.49
Total	141236	100
B. Caste-wise population distribution		
Scheduled Caste	58578	41.48
Scheduled Tribes	2501	1.77
Other	80157	56.75
Total	141236	100
C. Literate and Illiterate population		
Literate Males	51972	36.80
Literate Females	40278	28.52
Total Literate Population	92250	65.32
Others Males	19360	13.71
Others Females	29626	20.98
Others Population	48986	34.68
Total	141236	100
D. Occupational structure		
Main workers	51165	36.23
Marginal workers	19406	13.74
Total Workers	70571	49.97
Total Non-workers	70665	50.03
Total	141236	100

Further developments in this area with respect to these various facilities has occurred over the years.

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1.3.1 EXISTING ENVIRONMENTAL QUALITY:

Table Error! No text of specified style in document..3: Baseline Data

A) AMBIENT AIR QUALITY		Monitoring Location – 5 locations	
PARAMETER	RESULT (µg/m3)		*LIMIT (µg/m3)
Location	Core Zone	Buffer Zone	
Particulate Matter (Size <10 µm)	56.3 – 69.1	45.6 – 60.2	100
Particulate Matter (Size <2.5 µm)	27.0 – 33.2	22.1– 28.7	60
Sulphur Dioxide (as SO ₂)	6.6 – 8.3	5.4– 8.0	80
Nitrogen Dioxide (as NO ₂)	9.1 -12.4	7.8 – 11.4	80
Conclusion: The existing Ambient Air Quality levels for PM10, PM2.5, SO2 and NO2, are within the NAAQ standards prescribed CPCB limits of 100 µg/m3, 60 µg/m3, 80 µg/m3 & 80 µg/m3. The CO values in all the locations were found to be below detectable limit (DL – 1144 µg/m³). Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m3)			
B) WATER QUALITY		Monitoring Location – 5 locations	
PARAMETER	Result	*LIMIT (µg/m3)	
pH at 25 °C	6.91 – 7.72	6.5-8.5	
Total Dissolved Solids, mg/L	240 – 1090	2000	
Chloride as Cl-, mg/L	46.20 – 348	1000	
Total Hardness (as CaCO3), mg/L	86.0 – 518.76	600	
Total Alkalinity (as CaCO3), mg/L	148– 530	600	
Sulphates as SO42-, mg/L	19.30 – 244	400	
Iron as Fe, mg/L	0.05 – 0.11	0.3	
Nitrate as NO3, mg/L	1.56 – 3.86	45	
Conclusion: The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications.			
C) NOISE LEVELS		Monitoring Location – 5 locations	
PARAMETER	RESULT dB(A)		*LIMIT (µg/m3)
	Day Equivalent	Night Equivalent	
Core Zone	50.4	42.5	90
Buffer Zone	48.2 - 52.5	42.1 – 43.0	Day Equivalent - 55dB(A), Night Equivalent - 45dB(A)
*Permissible noise for industrial workers as laid down by CPCB (at 8 hrs Exposure Time). While comparing with the MoEF&CC Norms, the monitored ambient noise levels are generally within the limit values.			
D) SOIL QUALITY		Monitoring Location – 5 locations	
PARAMETER	Range of values		
pH	6.56 to 8.12		
Electrical Conductivity (µmho/cm)	136.20 – 290.80		
Organic matter (%)	0.45 – 0.71		
Total Nitrogen (mg/kg)	172 - 398		
Phosphorus (mg/kg)	0.45 – 1.25		
Sodium (mg/kg)	99. - 1010		
Potassium (mg/kg)	103 -649.09		
Soil is of Sandy type.			

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1.3.2 A) LAND ENVIRONMENT:

Land use pattern study carried out through remote sensing satellite data around the 10km buffer zone shows that 50.24 % of the buffer area is classified under Plantation, 11.40 % of Agriculture/ Fallow land, 20.48 % constitutes land without scrub, 6.92 % constitutes land with scrub, 7.07 % constitutes water bodies and the balance falls under other land use categories. . Plantation of casurina is dominant in the study area.

1.3.3 B) BIOLOGICAL ENVIRONMENT:

Flora: The proposed lease area is a non forest, private land. The lease area is almost barren with few grasses & shrubs. The Dominated species in the buffer zone are casurina farms , Borassus flabellifer, Prosopis juliflora, Sygygium cumuni, Albizia lebbeck, Acacia auriculiformis,Azadirachta indica, etc.

Fauna: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals are commonly found. No wild mammalian species was directly sighted during the field survey..

1.3.4 C) HYDROLOGICAL STUDY:

There are localized drainage channels in the area formed mostly due to elevation difference which carry rainwater into nearby tanks which is further connected to the river. These are mostly rainwater drains and It remains dry for most of the year..

From the study it is observed that post monsoon, the phreatic water level occurs at shallow depth. However ,during summer , it reaches to bottom of the well or dry in case of some wells. The bore well inventory within the study area indicates only few are productive with moderate yield, while the remaining bore wells are of poor yield. The groundwater occurrence is discontinuous and controlled by fractures at deeper levels. The overall hydrogeological condition indicates moderate groundwater potential with localized dry zones. The proposed quarrying operation up to an ultimate depth of 59 m does not intersect the identified groundwater-bearing fractured zone, which occurs at depths of around 70–75 m. Hence, no significant adverse impact on the groundwater regime is anticipated.

1.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES:

This is a proposed project and Mechanized Open Cast mining will be carried out to quarry out Rough Stone & Gravel. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc.

1.4.1 AIR ENVIRONMENT:

The principal sources of air pollution in the area due to mining and allied activities are dust generation in the mine due to various activities such as excavation of material, movement of HEMM, loading, unloading and transportation operations.. Besides, Gas emission also occur as a result of emission of SO₂, NO_x, CO etc., from diesel driven mining equipment, compressors, generator sets, etc. The following measures will be adopted to control impact on the air quality due to mining operations in the lease area:

- Regular wetting of transport road using mobile water tanker.
- Wet drilling / Covering of drill holes with wet clothes
- Use of controlled blasting techniques with Nonel to keep the dust generation within the prescribed limits.
- Proper maintenance of roads.
- Avoiding overloading of tippers
- Transportation of material by tarpaulin covered trucks
- Proper maintenance of HEMM to minimize gaseous emission
- Setting up of tyre washing facility in the lease area exit.
- Vehicular emission tests with digital smoke meter.
- Provision of green netting around the lease periphery on all sides.
- Development of green belt/ plantation in various areas within the mine lease area etc.

By adoption of all these measures, no adverse impact on air quality is envisaged due to this proposed opencast mining operation.

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The impact on air quality due to the proposed project operations is estimated using AERMOD dispersion models show that the resultant added concentrations with baseline figures even at worst scenario, the values of ambient air quality with respect to PM10 are in the range of 54.8 $\mu\text{g}/\text{m}^3$ to 73.9 $\mu\text{g}/\text{m}^3$ and with respect to PM2.5 are in the range of 27.1 $\mu\text{g}/\text{m}^3$ to 35.7 $\mu\text{g}/\text{m}^3$ which are within the statutory limits in each case.

For preservation of environment in this mine strict enforcement of management schemes will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.

1.4.2 WATER ENVIRONMENT:

Water Requirement: The total water requirement for this project will be 12.0 KLD. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose.

The domestic effluent to be generated from the project will be collected in septic tank with soak pits arrangements. There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow.

This being a mining project, there will not be any generation of process effluent or discharge any effluent into the water bodies. No major impact is envisaged on the nearby water bodies due to project operations.. Towards surface runoff management, garland drain of 3000m length will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users.

Study of the area shows that the sub-surface formations are compact with less intergranular porosity and fractures leading to less permeability and transmissivity values and as such the ground water level in this area is deep from surface. Subsequently hard and massive formations of rock are found. The ultimate pit depth of mining is 59m. The ground water table in this area is

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below this level. Hence, ground water intersection is not envisaged and ground water will not be affected appreciably due to the quarrying operation

Good rainwater harvesting measures for augmenting the ground water level in the region will be implemented.

1.4.3 NOISE ENVIRONMENT:

During mining operation there will be noise generation due to working of excavators, movement of vehicles, etc. However, it will be felt near the active working area only and at away from its source it will get reduced. There will also be attenuation due to vegetation, tin sheet/ green netting to be erected by the proponent all around the lease and as such there will not be any adverse noise propagation outside the lease boundary. Due to natural attenuation effects, by proper green belt development, design / maintenance of machines, etc., the impact on noise levels will be negligible and are expected to be well within the prescribed limits.

1.4.4 VIBRATION:

In the proposed mine workings, blasting & vibration effects will be controlled by adopting following measures.

- Carrying out controlled blasting using Nonel delay detonator.
- Optimum design for burden and spacing.
- Reducing explosive charge per delay to minimum.
- The peak particle velocity (PPV) of ground vibration will be kept very low through optimally controlled blasting techniques, after necessary field trials.
- Muffled blasting, as needed to stop fly rocks propagation.
- Blasting will be done during midday time.
- Proper care and supervision during blasting by a competent and experienced person to be carried out.
- Blasting at different times across leases in the cluster.

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By adoption of above measures, it will be ensured that ground vibrational levels due to blasting will be maintained within the prescribed DGMS conditions of 10 mm/s for the domestic houses/structures.

1.4.5 IMPACT ON LAND ENVIRONMENT:

The lease area of 6.61.35 Ha. In the post mining stage, the mine pit area of 5.43.90 Ha will be left as a water body. Plantation will be carried out over 0.02.00Ha and 0.06.75Ha will be left as road and infrastructure. 01.08.70 Ha will be covered with vegetation. Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined out void shall be utilized.

Effective post closure monitoring will be done to ensure that there will be no adverse impact due to mining operations

1.4.6 BIOLOGICAL ENVIRONMENT:

Since the lease area contains only grasses and free from trees in the area to be utilized, no clearance of major vegetation is involved. Additionally, necessary mitigative measures like dust suppression, proper maintenance of equipment's, greenbelt and plantation etc., will be carried out to prevent dust generation & any further impact on the vegetation. In the safety zone within the lease area and in the nearby areas including mineral transport road plantation of local trees will be carried out about 1000 trees will be planted in and around the lease area.

1.4.7 SOCIO ECONOMIC ENVIRONMENT:

The entire lease area is a private patta land owned by the applicant company. There are no habitations or hutments in the core zone area and as such no rehabilitation or resettlement is involved. The mining operations in the proposed quarry will employ about 48 people. Besides through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and standards of living in the area through various service related activities connected with the project operations.

Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5.0 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in the nearby Government school. In consultation with the locals based on the need & priority it will be implemented.



ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

1.4.8 OCCUPATIONAL HEALTH AND SAFETY ASPECTS:

In order to ensure minimisation of occupational health and safety problems in the project operation, the following preventive remedial measures will be effectively exercised in the project operations, so as to comply with applicable standards.

- Medical examination of workers at pre-entry level stage of workers, etc., by qualified doctors, with periodical examination of all workers/staff at least once a year, as per DGMS circulars.
- Regular awareness campaigns amongst staff and workers
- Staff will be provided with PPE to guard against excess noise levels, Dust generation and inhalation, etc., as per standards prescribed by DGMS.

1.4.9 IMPACT ON LOCAL LOGISTICAL SYSTEM DUE TO PROJECT:

From this proposed quarry the entire output will be transported to the consumers . There will be just 9 trip per hour of additional truck traffic. The transport route can easily absorb this negligible traffic due to this project. The following mitigative measures are suggested for mitigation of adverse impacts on the logistical aspect of the project:

- ❖ Water sprinkling on Rough stone in the transport vehicles before transporting, so that no dust nuisance during transport will arise.
- ❖ Proper maintenance of transport roads
- ❖ Proper maintenance of transport vehicles.
- ❖ Avoiding overloading of material
- ❖ Covering of loaded vehicles with tarpaulins sheet if warranted.

1.4.10 WASTE MANAGEMENT:

There is no process effluent generation from this mine. Hence no liquid waste is generated. Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

1.5 ENVIRONMENTAL MONITORING PROGRAMME:

Regular, systematic and sustained programme schedules for implementation and monitoring of various control measures are devised with clear cut guidelines of various concerned plans for keeping a continuous surveillance on the various environmental quality parameters in the area. The Mines Manager in the mine project site will be directly responsible for various environmental activities in the mine and will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. Towards implementation of environmental control measures,, Rs. 34.48 Lakhs is allocated under capital cost. Besides, Rs. 37.27 Lakhs per annum will be spent under recurring cost..

1.6 ADDITIONAL STUDIES:

The lease area is >5 Ha . The total lease within the 500m radius (Existing + Proposed) works out 11.47.30 ha which is greater than 5Ha. Hence this is a **Category-B1 Project**. As such cluster situation applicable and this EMP is prepared.. The baseline monitoring carried out for this project reflects the impact of the existing quarries

1.7 CONCLUSION:

Systematic mining and ensuring adoption of various mitigative measures given in the report will ensure that the future environmental quality in the area will be maintained within statutory limits. The environmental management strategy as explained above will prove that industrial growth, if properly planned with all environmental concerns and appropriate remedial measures can benefit this region in the fields of potential employment opportunities, improved per capita income for local people, improved social welfare facilities etc. in its own way and also revenue to Government through royalty, taxes etc. Besides, it will meet the raw material requirement of the construction industry also.

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