November

2022

Executive Summary

Thiru.S.M.Harish Rough Stone quarry- 2.00.0 Ha

For

PUBLIC HEARING

At

S.F.No. 755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu

PROJECT PROPONENT

Thiru.S.M.Harish,
S/o.Muniraj,
D.No.2/159, H-Settipalli Village,
J.Karupalli Post,
Denkanikottai Taluk
Krishnagiri District.

EIA Notification 2006 Schedule 1(a) Category B1 (Cluster)

Prepared By:

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NABET

NABET Accreditated EIA Consultant
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Pallikaranai, Chennai-600100

EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 2.00.0 Ha, Government land in S.F.No.755 (Part) of Panchakshipuram Village of Hosur Taluk, Krishnagiri District. The category of project is B1, It is a Rough stone quarry in Panchakshipuram village. The area is situated on undulated terrain sloping towards Eastern covered with Rough stone which does not sustain any type of vegetation.

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth for 50 m below ground level. The Total Geological resources is about 1003534 m^3 of Rough stone. The Mineable Reserves of Rough stone is 552891 m^3. The year wise production of Rough stone for 5 years is 509227 m^3.

Mining plan was approved by the Assistant Director (Addl.Charge) Dept. of Geology and Mining, Krishnagiri District vide letter Rc.No.214/2019/Mines dated 11.11.2019. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

2. Nature & Size of the Project

The proposed Rough Stone Quarry over an extent of 2.00.0 Hectares, Government land is located at Panchakshipuram Village of Hosur Taluk, Krishnagiri District.

Mineral intends to quarry	: Rough Stone
District	: Krishnagiri
Taluk	: Hosur
Village	: Panchakshipuram
S. F. Nos.	: 755 (Part)
Extent	: 2.00.0 Hectares

Table 1: Brief Description of the Project

S. No.	Particulars	Details
1	Latitude	12° 35' 17.41" N to 12° 35' 14.55" N
2	Longitude	77° 47' 45.28" E to 77° 47' 40.35" E
3	Site Elevation above MSL	877 m
4	Topography	Undulated terrain
5	Land use of the site	Government Poramboke land
6	Extent of lease area	2.00.0 Ha
7	Nearest highway	SH 17A – Hosur – Denkanikottai – 1.57 km, W
8	Nearest railway station	Kelamangalam Railway Station – 8.15 km, ENE
9	Nearest airport	Hosur Airport – 9.17 km, NNW Kempegowda International Airport – 68.16 km, N
10	Nearest town / city	Town - Denkanikottai (6.57 km, S) City – Hosur (17.15 km, N) District – Krishnagiri (46.01 km, ESE)
11	Rivers / Canal	Nil
12	Lake	Devaganapalli Lake, 5.87 km, N Denkanikottai Lake, 6.62 km, S Pattlamma Cheruvu Lake, 6.85 km, ENE Pattalamman Lake, 7.24 m, S Nagandahally Lake, 8.56 km, N Achettapalli Lake, 11.13 km, NNE Vannama Lake, 12.04 km, SW Navadhi Lake, 13.11 km, NNE Duglipuram Lake, 13.86 km, S NB Agraharam Lake, 14.25 km, NNE Karapalli Lake, 14.41 km, NNE Thally Lake, 14.81 km, W Nanjareddy Lake, 14.91 km, W
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius

15	National parks / Wildlife Sanctuaries	Nil in 15 Km radius
16	Reserved / Protected Forests	Sanamavu R.F., 12.57km, ENE Denkanikottai R.F., 9.92 km, SSE Udedurgam R.F., 12.37km, SE
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

- The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The Rough stone extracted will be transported to be Stone crusher of district Krishnagiri.
- The raw Rough stone as well as the crushed material of stone is in high demand in real estate, construction projects as well as in building construction projects.
- Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- No damage to the land is caused, no reclamation or back filling is required.

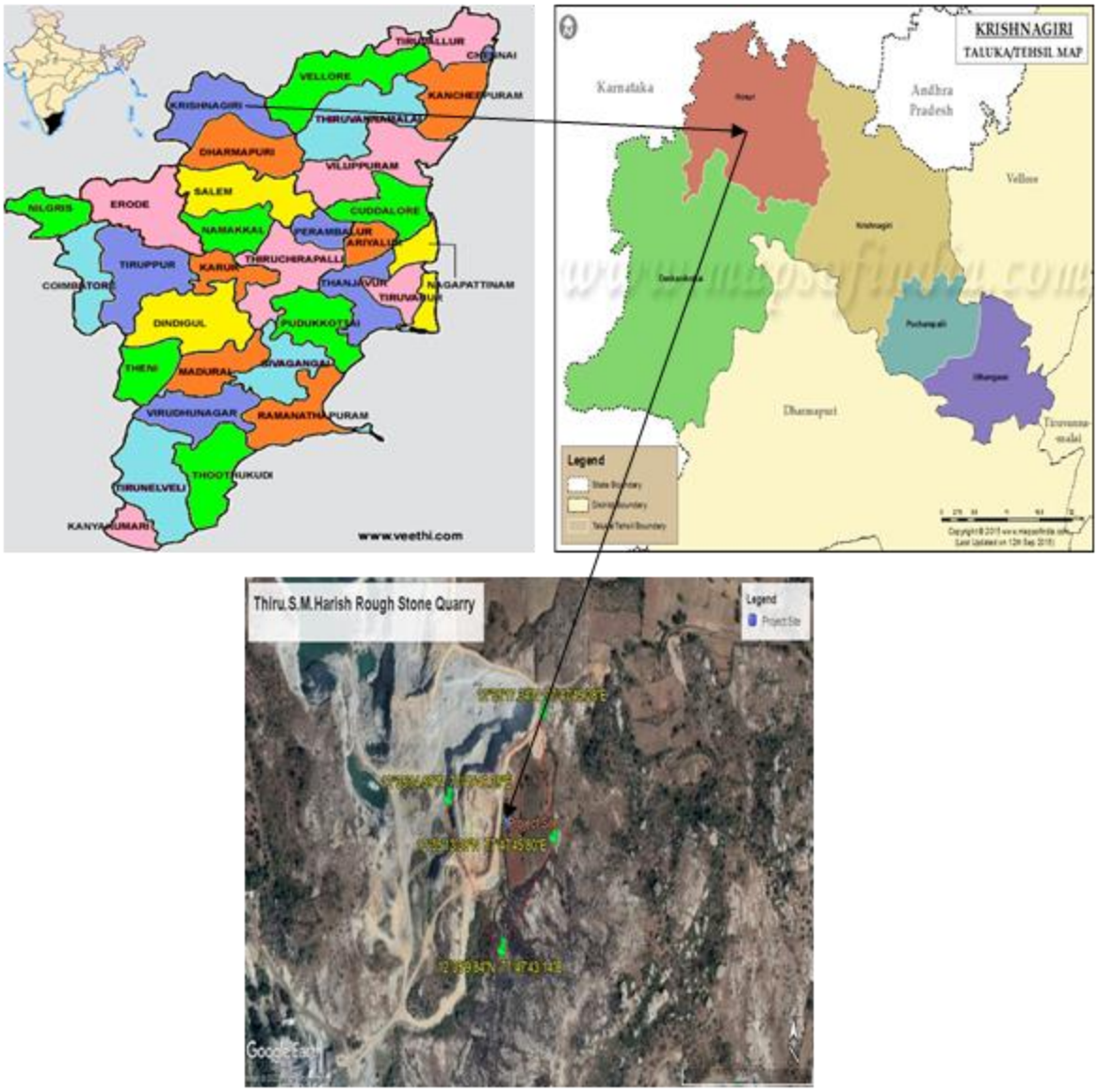

Figure 1: Location Map of the Project Site

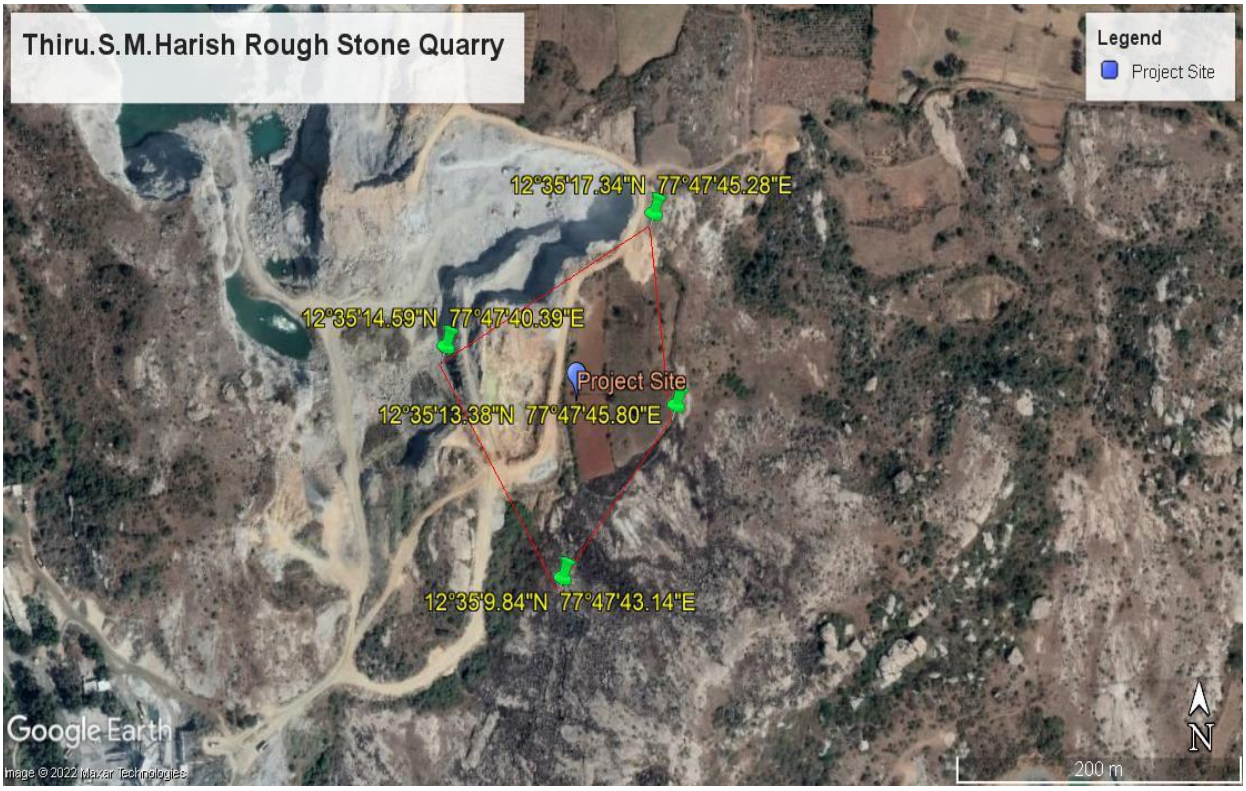

Figure 2: Google Image of the Project Site

4. Charnockite

Charnockite and granitic gneisses are extensively quarried as Rough stone which is used as aggregates for construction of building, laying of roads and for preparation of value added products like hollow blocks, pillar stones, M-sand etc. Charnockite occurs as massive bodies, greyish colour, medium to coarse grained, composed quartz, feldspar and orthopyroxene. At places, metamorphic gneissic banding (alternate dark and black colour) in charnockite is noticed. Top portion, it gives gneissic appearance but 1-5m depth below it is typical charnockite of grey colour.

5. Geological Resources

The Geological Reserve is estimated as 1003534 m^3 respectively. The Geological reserve of Rough stone and Top soil is calculated upto a depth of 57m (1m top soil + 56m Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 48m.

Table 2. Geological resources

GEOLOGICAL RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume (m^3)**	**Reserves in m3 @ 95%**	**Mine waste in m3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	157	7	76930	73084	3846	
	IV	70	157	7	76930	73084	3846	
	V	70	157	7	76930	73084	3846	
	VI	70	157	7	76930	73084	3846	
	VII	70	157	7	76930	73084	3846	
	VIII	70	157	7	76930	73084	3846	
	IX	70	157	7	76930	73084	3846	
TOTAL					**558670**	**530740**	**27930**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	64	131	7	58688	55754	2934	
	IV	64	131	7	58688	55754	2934	
	V	64	131	7	58688	55754	2934	
	VI	64	131	7	58688	55754	2934	
	VII	64	131	7	58688	55754	2934	
	VIII	64	131	7	58688	55754	2934	
	IX	64	131	7	58688	55754	2934	
TOTAL					**444864**	**422624**	**22240**	**8384**
GRAND TOTAL					**1003534**	**953364**	**50170**	**19374**

Table 3. Mineable Reserves

MINEABLE RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Recoverable Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990

	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	IV	70	127	7	62230	59119	3111	
	V	70	117	7	57330	54464	2866	
	VI	70	107	7	52430	49809	2621	
	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	IX	70	77	7	37730	35844	1886	
TOTAL					**387170**	**367815**	**19355**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
	IV	49	99	7	33957	32259	1698	
	V	44	89	7	27412	26041	1371	
	VI	39	79	7	21567	20489	1078	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
	IX	24	49	7	8232	7820	412	
TOTAL					**194817**	**185076**	**9741**	**8384**
GRAND TOTAL					**581987**	**552891**	**29096**	**19374**

Table 4. Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Rough stone Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
I YEAR	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	

	III	54	109	7	41202	39142	2060	
TOTAL					**162540**	**154414**	**8126**	**19374**
II YEAR	IV	70	127	7	62230	59119	3111	
	IV	49	99	7	33957	32259	1698	
TOTAL					**96187**	**91378**	**4809**	
III YEAR	V	70	117	7	57330	54464	2866	
	V	44	89	7	27412	26041	1371	
TOTAL					**84742**	**80505**	**4237**	
IV YEAR	VI	70	107	7	52430	49809	2621	
	VI	39	79	7	21567	20489	1078	
TOTAL					**73997**	**70298**	**3699**	
V YEAR	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
TOTAL					**118559**	**112632**	**5927**	
GRAND TOTAL					**536025**	**509227**	**26798**	**19374**

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

Process Description

- The reserves and resource are arrived based upon the Geological investigation
- Removal of Topsoil by Excavators and directly Loaded Into Tippers.
- Removal of Rough stone & Gravel by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 32mm Dia.
- Minimum Blasting With Class 2 Explosives.
- Loading of Rough stone & Gravel By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 2.0 KLD. Domestic water will be sourced from nearby Panchakshipuram Village and other water will be source from nearby road tankers supply.

Table 5 Water Balance

Purpose	Quantity	Source
Drinking Water	1.0 KLD	Packaged Drinking water vendors available in Panchakshipuram village which is about 2.48 Km NW from the project site.
Green belt	0.5 KLD	Other domestic activities through road tankers supply.
Dust suppression	0.5 KLD	From road tankers supply.
Total	**2.0 KLD**	

8. Man Power

Total manpower required for the project is approximately 18 persons. Workers will be from nearby villages.

Table 6 Man Power

1.	Skilled	Operator	2 Nos
		Mechanic	1 No.
		Blaster/Mat	1 No.
2.	Semi – skilled	Driver	2 Nos
3.	Unskilled	Musdoor / Labours	5 Nos
		Cleaners	3 Nos
		Office Boy	1 No

4	Management & Supervisory Staff	3 Nos
	Total	18 Nos

No child less than 18 years will be entertained during quarrying operations.

9. Solid Waste Management

Table 7 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 kg/day	TNPCB authorized recyclers

As per CPCB guidelines: MSW per capita/day =0.45 kg/day

Table 8 500m Radius Cluster Mine

1) Existing quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Tvl.M.M.Blue Metals	Panchakshipuram & Hosur	755 (Part 2)	4.80.0	22.08.2016 to 21.08.2026

2) Abandoned/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
Nil				

3) Details of Proposed quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status

1	Thiur.S.M.Harish	Panchakshipuram & Hosur	755 (Part)	2.00.0	Precise area given (Instant Proposal)

4) Details of other proposed/applied area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
Nil					

The Total extent of the Existing / Lease expired / Proposed quarries are 6.80.0 Ha

10. Land Requirement

The total extent area of the project is 2.00.0 Ha, Government Poramboke land in Panchakshipuram Village of Hosur Taluk, Krishnagiri District.

Table 9 Land Use Breakup

SL. NO.	LAND USE	PRESENT AREA (HECT)	AREA IN USE DURING THE QUARRYING PERIOD (HECT)
1.	Area under Quarrying	Nil	1.60.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt	Nil	0.38.0
5.	Unutilized	1.99.0	Nil
	Total	**2.00.0Ha**	**2.00.0Ha**

11. Human Settlement

There are no habitations within 500m radius. There are villages located in this area within 5km radius of the quarry.

Table 10 Habitation

S. No.	Direction	Name of the Village	Approximate Distance	Approximate population
1	North	Nagappan Agraharam	350	1.8 Km
2	East	Anekollu	300	3.0 Km
3	South	Samy puram	250	3.3 km
4	West	Panchakshipuram	300	2.0 km

12. Power Requirement

The proposed rough stone quarrying does not required any power supply for the quarrying operation.16 Litres diesel per hour required for excavator whenever needed.

13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

1. Micro – Meteorology
2. Water Environment
3. Air Environment
4. Noise Environment
5. Soil / Land Environment
6. Biological Environment
7. Socio-economic Environment

13.1 Micro – Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

i) Average Minimum Temperature : 2 8 ^{0}C

ii) Average Maximum Temperature. : 3 6 ^{0}C

iii) Average Annual Rainfall of the area : 2 7 4 . 7 mm

13.2 Air Environment

Ambient air monitoring was carried out on monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambient air quality at a larger distance i.e. in the study area of 5 km. radius, air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO2), and Nitrogen Dioxide (NO2) were monitored and the results are summarized below.

The baseline levels of PM10 (63-39 μg/m³), PM2.5 (30-17 μg/m³), SO2 (13-4μg/m³), NO2 (29-10 μg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from July 2022 to September 2022.

13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 61 dB(A) and 49 dB(A) respectively in Alenatham Govt. School. The minimum Day Noise and Night noise were 38 dB(A) and 30 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.12-7.96
- TDS value varied from 651 mg/l to 830 mg/l
- Hardness varied from 374.2 to 479.2 mg/l
- Chloride varied from 64.6 to 127.2 mg/l

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 7.26 to 8.14 with organic matter 3.6 % to 5.2 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

- The overall land of the mine is Government Poramboke land. There are no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.
- The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like Casuarina & Tamarind etc. will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 100 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

Table 11 Plantation/ Afforestation Program

Year	Name of species	No of species	Spacing	Survival
2023	Casuarina & Tamarind	100	5m	80%
2024	Casuarina & Tamarind	100	5m	80%
2025	Casuarina & Tamarind	100	5m	80%
2026	Casuarina & Tamarind	100	5m	80%
2027	Casuarina & Tamarind	100	5m	80%
	Total	**500**		

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.
2. No other equipment except the transportation vehicles and excavator for loading will be allowed.
3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

i. Environmental Monitoring of the surrounding area
ii. Developing the green belt/Plantation
iii. Ensuring minimal use of water
iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is **Rs.1,86,45,000** for deployment of machinery and creation of infrastructural facilities like approach road, Mine office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table 12 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	1,53,20,000
2	Operational Cost	30,00,000
3	EMP Cost	3,25,000
	Total	**1,86,45,000**

20. Corporate Environmental Responsibility

The Corporate Environment Responsibility (CER) fund will be provided to the below activity.

Table 13 CER Cost

S.No.	CER Activity	CER (Rs.)
1.	Providing Solar powered smart classroom, Computer, Plumbing work for school, providing wash basins for school, Greenbelt development, Toilet rooms for students in Panchayat Union Middle School, Karupalli Village, Krishnagiri District.	**5,00,000**

21. Benefits of the Project

- There is positive impact on socio-economics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.