Sep

2021

Executive Summary for Conducting Public Hearing

FOR

"Thiru. P. Varadharaj Rough Stone and Gravel Quarry over a total extent of 1.23.0 Ha"

At

S.No. 91/1A in Karunchamigoundenpalayam village, Madhukarai Taluk, Coimbatore District, Tamilnadu

Project Proponent:

Thiru. P. Varadharaj,
S/O. Palanisamy,
No.6/21, Karunchamigoundenpalayam,
Palathurai Post,
Madhukarai Taluk,
Coimbatore District - 641 105.

Project termed under schedule 1(a) Category B_1

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 1.23.0 Ha, Own patta land in Karunchamigoundenpalayam Village of Madhukarai Taluk, Coimbatore District. The category of project is B1, It is a new Rough stone quarry in Karunchamigoundenpalayam village. The area is situated on Plain terrain sloping towards Western 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 5.0 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 22 m below ground surface level. The Total Geological reserve is about 4,58,640 m^3 of Rough Stone and 22,932 m^3 of Gravel. The Mineable Reserves of Rough stone is 1,27,340 m^3 and Gravel is 14,110 m^3. The proposed production scheduled for the five years about 98,270 m^3 of Rough stone and 14,110 m^3 of Gravel.

Mining Plan was approved by The Assistant Geologist, Dept. of Geology & Mining, Coimbatore vide letter no. Rc.No.681/Mines/2018 dated 03.02.2021. 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 New Rough Stone and Gravel Quarry over an extent of 1.23.0 Hectares land is located Karunchamigoundenpalayam Village of Madhukarai Taluk, Coimbatore District.

Mineral intends to quarry : Rough stone and Gravel
District : Coimbatore
Taluk : Madhukarai
Village : Karunchamigoundenpalayam
S. F. Nos. : 91/1A
Extent : 1.23.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	10° 16' 21.88"N to 10° 16' 23.65"N
2	Longitude	78° 43' 00.31"E to 78° 43' 02.21"E
3	Site Elevation above MSL	277 m from MSL
4	Topography	Plain terrain
5	Land use of the site	Patta Land.
6	Extent of lease area	1.23.0 Ha
7	Nearest highway	NH 47(Salem – Kochi - Kanyakumari Highway) – 3.14 km- NW
8	Nearest railway station	Madhukarai Railway station - 4.43 Km -NE
9	Nearest airport	Coimbatore International Air Port - 22.03 Km-NE
10	Nearest town / city	Town - Madhukarai - 6.06 Km -NE City - Coimbatore - 17.30 Km - NE District – Coimbatore - 17.30 Km - NE
11	Rivers / Canal	Kumittipathi River – 0.31 km, S Walayar River – 9 km, SW
12	Lake	Kulam – 2.51 km, NW JCT College Lake – 6.30 km, SW Walayar lake – 8.48 km, SW Sengulam – 10.08 km, NE Vellachikulam Lake 2 – 10.98 km, SW Vellachikulam Lake – 11.15 km, SW Nedunkkattuchalla Lake – 11.42 km, SW Ayyakkavundan Challa Lake – 11.48 km, SW Kurichi kulam – 11.89 km, NE Perur Lake -11.90 km, NE

		Sayathurai lake – 11.93 km, SW Poteri – 12.31 km, SW Chettipalayam lake - 12.36 km, N Santha Lake – 14.27 km, SW
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	Ettimadai R.F – 4.18 km, NW Solakarai R.F – 8.52 km, W
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 Coimbatore.
- 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.

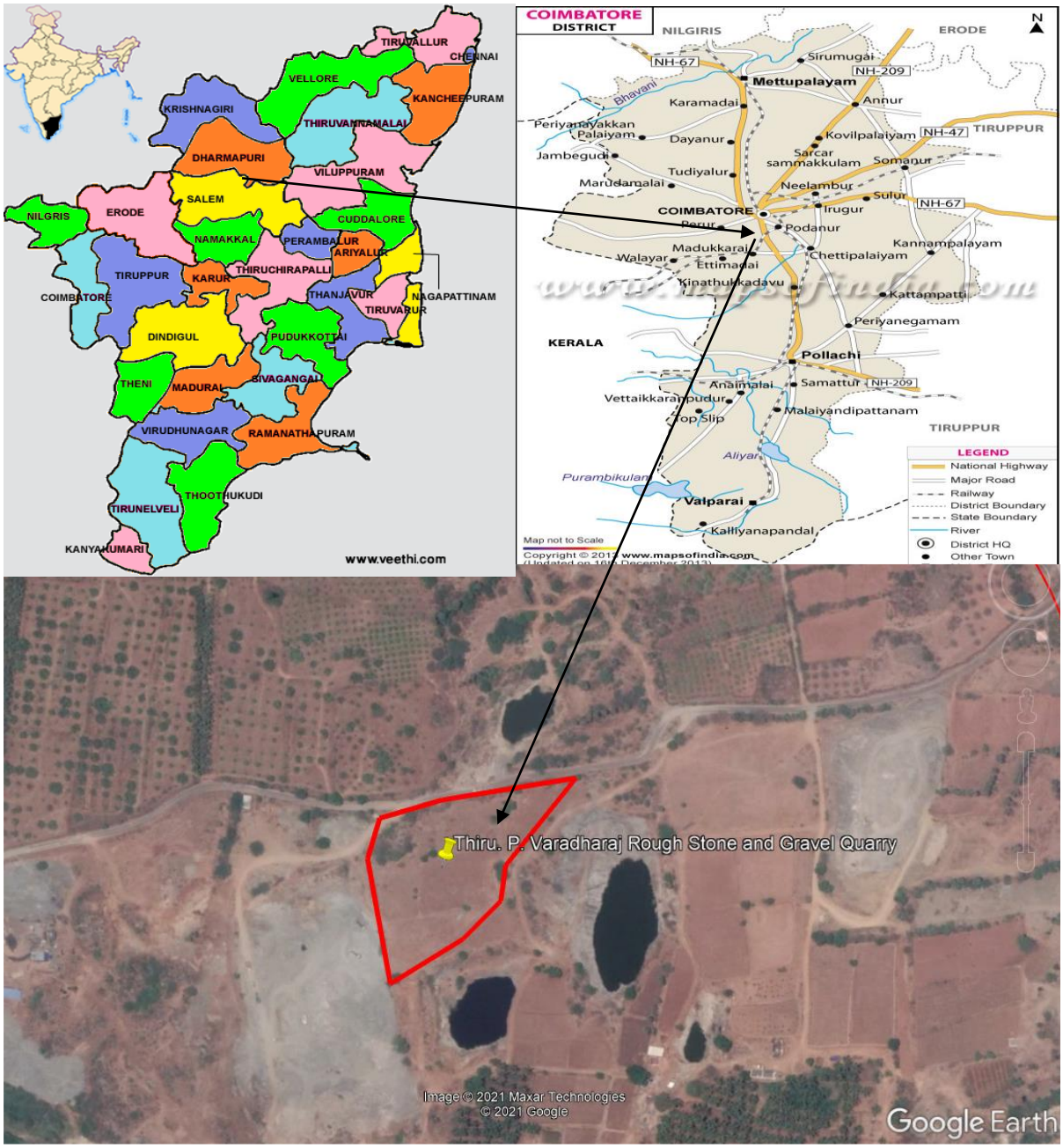

Figure 1: Location Map of the Project Site

Figure 2: Google Image of the Project Site

4. Charnockite

Geologically, the district is occupied by Charnockite Group of rocks consisting of Charnockite, pyroxene granulites and associated magnetite quartzite, the Knodalite Group comprising gametiferous – sillimanite gneiss, calc-granulite, crystalline limestone, sillimanite quartzites and associated migmatitic gneisses. The rocks are restricted to the central and southern portions of the district, especially around Palladam, Udumalaippettai and Pollachi taluks. The fissile homblende gneisses (Peninsular gneiss – younger phase) of Bhavani Group with enclaves of schistose, micaceous and amphibolitic rocks, fuchsitge – kyanite quartzites, ferruginous quartzite (Satyamangalam Group) intruded by a number of ultramafic and basic rocks and granites are seen in the Northern portions of the district especially around Mettupalayam, Avinashi and Northern areas of Coimbatore. The granites are Proterozoic age and occupy the Western end and Eastern Part of the District as separate bodies and are recognized as Maruthamalai Granite and Punjapuliyampatti Granites respectively. The quaternary alluvium is seen in the West and Northwestern areas of Udumalaippettai and Western areas of Coimbatore town. The alluvium is more than 30m thick in the Chinnathadagam valley northwest of Coimbatore and in the Siruvani valley west of Coimbatore. In the Udumalaippettai taluk area, it overlies the kankar deposit.

5. Geological Resources

The geological reserves have been calculated based on the cross section method

Table 2. Geological resources

Section	Bench	L (m)	W (m)	D (m)	Volume In M3	Recoverable Reserve in m3 @ 100%	Gravel in m3
XY-AB	I	117	98	2			22932
	II	117	98	5	57330	57330	
	III	117	98	5	57330	57330	
	IV	117	98	5	57330	57330	
	V	117	98	5	57330	57330	
	VI	117	98	5	57330	57330	
	VII	117	98	5	57330	57330	
	VIII	117	98	5	57330	57330	
	IX	117	98	5	57330	57330	
	Total=				**458640**	**458640**	**22932**

Table 3. Year wise Production Plan

Year	Section	Bench	L(m)	W (m)	D (m)	Volume In M3	Recoverable Reserve in m3 @ 100%	Gravel in m3
I YEAR	XY-AB	I	41	83	2			6806
		II	41	81	5	16605	16605	
II YEAR	XY-AB	I	44	83	2			7304
		II	40	81	5	16200	16200	
III YEAR	XY-AB	III	71	76	5	26980	26980	
IV YEAR	XY-AB	IV	61	71	5	21655	21655	
V YEAR	XY-AB	V	51	66	5	16830	16830	
Total=						**98270**	**98270**	**14110**

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter. 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 by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 25.5mm Dia.
- Minimum Blasting With Class 3 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 2 KLD. Domestic water will be sourced from nearby Muthukkarai Pachapalayam Village and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	1 KLD	Packaged Drinking water vendors available in Muthukkarai Pachapalayam village which is about 1.11 km 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 KLD**	

8. Man Power

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

Table 5. Man Power

S.No.	Name of the Employment	No. of Employees
1.	Skilled	
	Operator	2 No.
	Mechanic	1 No.
	Blaster/Mat	1 No.
2.	Semi – skilled	
	Driver	2 Nos
3.	Unskilled	
	Musdoor / Labors	5 Nos
	Cleaners	3 Nos
	Office Boy	1 No
4.	Management & Supervisory Staff	3 No
	Total	18 Nos

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

9. Solid Waste Management

Table 6 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 7 500m Radius Cluster Mine

1) Existing other quarries:

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Lease Period
1.	K.Ramasamy	Karunchamigoundenpalayam Village 94, 95/1A2, 95/1B2	1.40.5	01.06.2016 to 31.05.2021

2) Expired Quarries:

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Lease Period
1.	Thiru. Vazhaithottathu Gounder	Karunchamigoundenpalayam Village 80/2B(P), 81/2(P)	3.18.0	22.12.2015 to 21.12.2020

3) Abandoned Quarries:

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Lease Period
1.	Thiru.k.Mayilsamy	Karunchamigoundenpalayam Village 91/2	0.64.0	12.10.2009 to 11.10.2014
2.	Thiru. P.Padmanaban	Karunchamigoundenpalayam Village 91/1B, 91/1C, 91/1D, 92/1B, 92/1C	1.26.0	12.10.2009 to 11.10.2014
3.	Thiru.R. Krishnasamy	Karunchamigoundenpalayam Village 87/2, 88/1	3.40.0	27.02.2009 to 26.02.2014

4) Proposed Quarries

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Remarks
1.	Thiru.P.Varadharaj	Karunchamigoundenpalayam Village 91/1A	1.23.0	Subject Area Precise area communicated

5) Future Proposed Quarries

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Remarks
1.	Nil			

The Total extent of the Existing / Lease expired / Proposed quarries are 5.81.5 Ha

10. Land Requirement

The total extent area of the project is 1.23.0 Ha, Own Patta land in Karunchamigoundenpalayam Village of Madhukarai Taluk, Coimbatore District.

Table 8 Land Use Breakup

Sl. No.	Land Use	Present Area (Hect)	Area In Use During The Quarrying Period (Hect)
1.	Area under Quarrying	Nil	0.71.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt & Dump	0.01.0	0.20.0
5.	Unutilized Area	1.22.0	0.30.0
	Total	**1.23.0Ha**	**1.23.0Ha**

11. Human Settlement

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

Table 9 Habitation

S.No	Direction	Village	Distance	Population
1	North	Thirumalayampalayam	1.5 Kms	600
2	East	Kumarapalayam	1.7 Kms	200
3	South	Karumbukadai	3.0 kms	260
4	West	KG Chavadi	4.8 Kms	300

12. Power Requirement

The Rough Stone Quarry project does not require huge water and electricity for the project.

16 Litre diesel per hour for excavator for mining and loading for Rough stone 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 6 ^{0}C

ii) Average Maximum Temperature. : 3 8 ^{0}C

iii) Average Annual Rainfall of the area : 928 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), Nitrogen Dioxide (NO2) were monitored and the results are summarized below.

The baseline levels of PM10 (62-40 µg/m³), PM2.5 (30-18 µg/m³), SO2 (18-2µg/m³), NO2 (28-2 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from June to August 2021.

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 55 dB(A) and 44 dB(A) respectively in Canara Bank - Nachipalayam. The minimum Day Noise and Night noise were 39 dB(A) and 33 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.65 – 8.34.
- TDS value varied from 485 mg/l to 2540 mg/l
- Hardness varied from 204 to 660 mg/l
- Chloride varied from 41.1 to 435 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 6.01 to 7.35 with organic matter 1.24 to 3.02 %. 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 private patta 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 Neem, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 80 trees per annum with interval 5m.
4. The rate of survival expected to be 70% in this area

Table.10 Plantation/ Afforestation Program

Year	Name of species	Place of planted	No of species	Spacing	Survival
2021	Neem/Pungam	North	80	5m	70%
2022	Naval	South	80	5m	70%

2023	Poovarasu/Pungam	East	80	5m	70%
2024	Naval/Pungam	South	80	5m	70%
2025	Neem	West	80	5m	70%
Total			**400**		

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 48,60,000** 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 .11 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	15,70,000
2	Operational Cost	30,00,000
3	EMP Cost	2,90,000
	Total	**48,60,000**

20. Corporate Environmental Responsibility

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

Table 12 CER Cost

S.No.	CER Activity	CER 2% of the project cost (Rs.)
1.	Provision of basic amenities such as safe drinking water, Hygienic toilet facilities, furniture's, Solar lights to Pichanur Govt. higher Sec. School. Providing Projectors with internet facilities for enabling the government school children at higher secondary level for online classes and smart classes	**97,200**

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.