EXECUTIVE SUMMARY OF
DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT
AND
ENVIRONMENT MANAGEMENT PLAN

FOR OBTAINING

Environmental Clearance under EIA Notification – 2006
Schedule Sl. No. 1 (a) (i): Mining Project

"B1" CATEGORY – MINOR MINERAL – CLUSTER – NON-FOREST LAND
CLUSTER EXTENT = 9.67.50 hectares

Tmt.P. Amaravathi Rough Stone Quarry

At

Kuppam Village, Pugalur Taluk, Karur District

ToR issued vide Letter No. SEIAA-TN/F.No. 9306/SEAC/ToR-1295/2022 dated 27.10.2022

Name and Address	Extent & S.F.No.
Tmt.P. Amaravathi W/o. Mr. Palanisamy D.No. 5/18, Ponniyagoundanpudur Punnamchatram Post Pugalur Karur - 639 136	2.84.0 ha & S. F. No. 513/2C & 595/2 (Part)

ENVIRONMENTAL CONSULTANT

GEO TECHNICAL MINING SOLUTIONS

No: 1/213-B, Ground Floor, Natesan Complex
Oddapatti, Collectorate Post office,
Dharmapuri - 636 705. Tamil Nadu.
Mob. : +91 9443937841, +91 7010076633
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

NABET ACC. NO: NABET/EIA/2124/SA 0184

Valid till : 31 Dec.2023

ENVIRONMENTAL LAB

EXCELLENCE LABORATORY

Baseline Study Period – October 2022 to December 2022

CHAPTER I

INTRODUCTION

As the proposed rough stone and gravel mining project, known as P1 falls within the 500 m radius cluster of quarries with the total extent of >5 ha (**i.e.,9.67.50 ha**), it is classified under category "B1" and requires submission of EIA report for grant of Environmental Clearance (EC) after conducting public hearing. The cluster contains only two proposed projects, known as P1 and P2, three existing projects known as E1, E2 and E3, as shown in Table 1.2. All the projects mentioned above have been taken for cluster extent calculation as per MoEF & CC Notification S.O. 2269 (E) Dated 1st July 2016, as shown in Figure 1.1. This EIA draft discusses the cumulative Impacts of 2 proposed projects in a cluster on the environment and provides a detailed Environmental Management Plan (EMP) to minimize the adverse impacts of those projects situated in the cluster falling in Kuppam Village, Pugalur Taluk, Karur District and Tamil Nadu State. It has been prepared in compliance with ToR issued vide Lr.No. SEIAA-TN/F.No.9306/ToR-1295/2022 dated 27.10.2022 for the proposed project by conducting baseline study during the period of October to December 2022. Details of the project proponent and the list of quarries within the cluster of 500 m radius have been provided in Tables 1.1 and 1.2, respectively.

Table 1.1 Details of Project Proponent

Name of the Project Proponent	**Tmt.P.Amaravathi**
Address	W/o. Mr.Palanisamy D.No. 5/18, Ponnaiyagoundanpudur Punnamchatram Post Pugalur Karur – 639 136
Status	Proprietor

Table 1.2 Details of Quarries within the cluster area of 500 m radius

Proposed Quarries				
Code	**Name of the Owner**	**S.F. No and Village**	**Extent (ha)**	**Status**
P1	Tmt. P. Amaravathi	513/2C,595/2B Kuppam	2.84.0	Proposed Area
P2	Tvl. NTC Infra Projects Private Limited.	494/2 (part) Kuppam	2.24.5	Applied Area
Existing Quarries				
E1	Tmt.P.Mallika	509/1(part) Kuppam	1.88.0	07.02.2018 To 06.02.2023
E2	Tmt.P.Amaravathi	509/2A(Part) Kuppam	0.89.5	18.08.2017 To 17.08.2022
E3	Thiru.S.Jeevanantham	524/3A2,524/3B Kuppam	1.81.5	05.07.2017 To 04.07.2022
Expired Quarries				
---Nil---				
	Total Cluster Extent		**9.67.5**	**---**

Source:

DD Letter – Rc.No.266/Mines/2020, Dated: 27.05.2022.

Note: *Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016.*

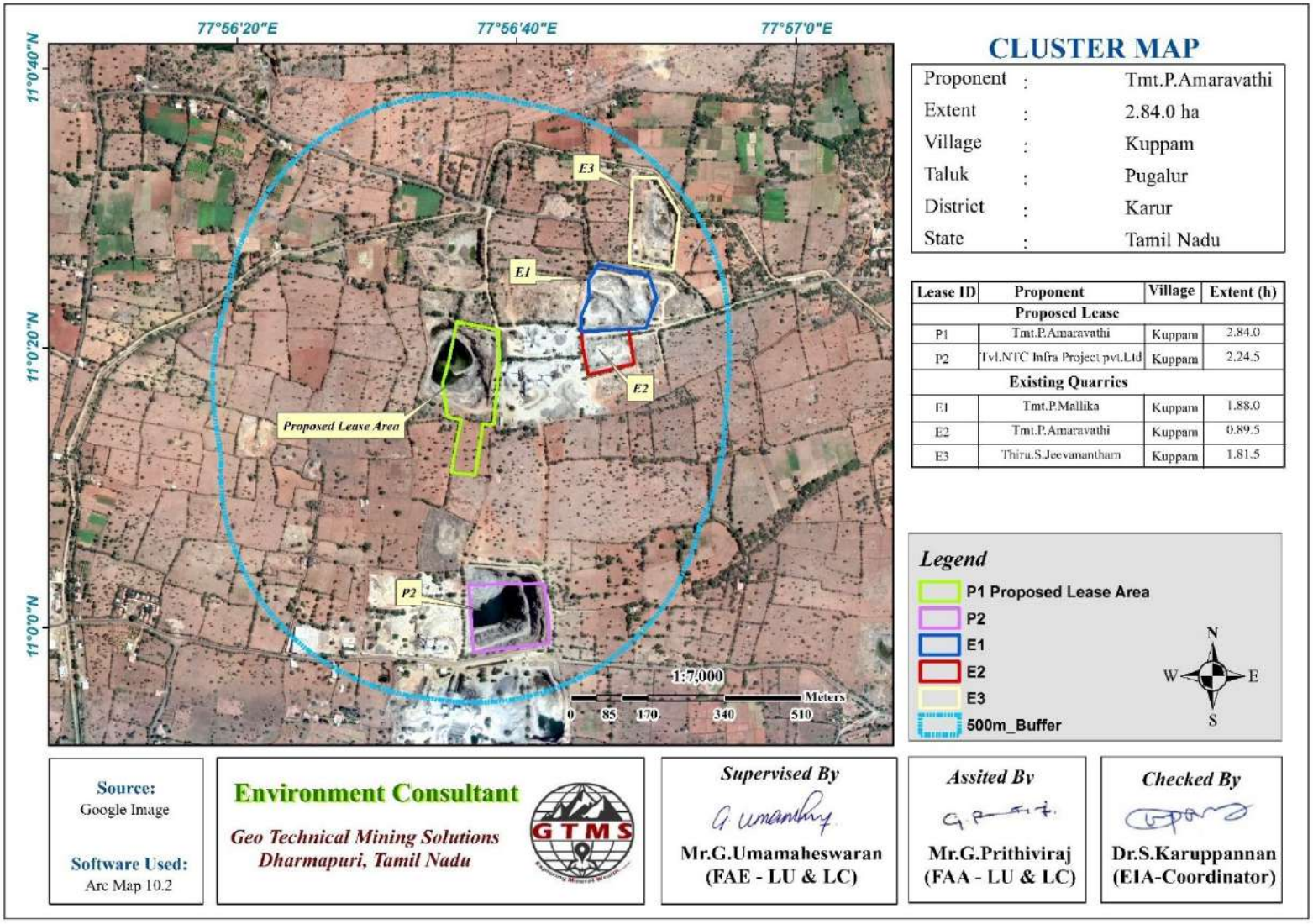


Figure 1.1 Google Earth Image Showing 500m Radius Limit and the Proposed Project and Existing Quarries within the Limit

CHAPTER II

PROJECT DESCRIPTION

The proposed project deals with excavation of rough stone and gravel which is primarily used in construction projects. The method adopted for rough stone and gravel excavation is an open cast semi-mechanized mining method involving drilling, blasting and formation of benches with 5 m height and 5 m width and secondary blasting. The proposed project area is located between latitudes from Latitudes from 11°0'10.90"N to 11°0'21.89"N and Longitudes from 77°56'34.71"E to 77°56'38.75"E. in Kuppam Village, Pugalur Tluk, and Karur District. The project site is a Patta land with the extent of 2.84.0 ha owned by the project proponent. The proponent had applied for quarry lease on 16.06.2020 to extract rough stone and gravel and obtained the precise area communication letter issued by Department of Geology and Mining, Karur vide Rc.No.266/Mines/2020 dated 21.10.2021. Based on the precise area communication letter, mining plan was prepared. The mining plan thus prepared was approved by Deputy Director of Geology and Mining, Karur (Rc. No.266/Mines/2020 dated 25.01.2022).

According to the approved mining plan, about 272149 m^3 of rough stone and about 8506 m^3 of top soil will be mined up to the depth of 45 m BGL in the first five years. To achieve the estimated production, 4 jack hammers, 1 compressor, 1 excavator with bucket/rock breaker, and 6 tippers will be deployed. To operate the machineries and to break the rough stone to preferred dimension, about 32 persons will be employed. At the end of the quarry life, the dimension of the ultimate pit will be 173 m*70 m*45 m and about 2.84.0 ha of land would have been quarried; about 0.77.5 ha of land is allocated for quarrying; about 0.02.0 ha of land is allocated for quarrying for roads; and about 1.99.0 ha of land is designated as unutilized area. Whereas, at the end of the mine life, about 2.26.0 ha of land would have been quarried; about 0.01.0 ha of land would have been used for establishing infrastructures; about 0.03.0 ha of land would have been used for road development; about 0.26.5 ha of land would have been used for green belt development and about 0.27.5 ha of land would have been unutilized. The final mine closure plan shows that about Rs.965600 with the annual recurring cost of Rs.85200 will be spent towards mine closure. Boundary coordinates of corner pillars of the project site and accessibility details to the location of the project site are given in Tables 2.1 & 2.2, respectively. The lease area of the project site overlaid on Google earth image is shown in Figure 2.1.

Table 2.1 Corner Geographic Coordinates of Proposed Project

Pillar ID	Latitude	Longitude	Pillar ID	Latitude	Longitude
1	11°0'21.29"N	77°56'38.69"E	7	11°0'11.12"N	77°56'35.31"E
2	11°0'19.38"N	77°56'38.75"E	8	11°0'14.88"N	77°56'36.03"E
3	11°0'14.57"N	77°56'38.37"E	9	11°0'15.06"N	77°56'35.06"E
4	11°0'14.50"N	77°56'38.06"E	10	11°0'17.48"N	77°56'34.71"E
5	11°0'14.59"N	77°56'37.58"E	11	11°0'18.85"N	77°56'35.10"E
6	11°0'10.90"N	77°56'37.03"E	12	11°0'21.89"N	77°56'35.73"E

Table 2.2 Site Connectivity to the Project Area

Type of Features	Name/Location	Distance (km)	Direction
Nearest Roadways	(SH-332) K. Paramathi-Noyyal	2.4 km	W
	(SH-84) Karur-Noyyal	3.33 km	E
Nearest Town	Pugalur	9.5 km	NE
Nearest Railway Station	Pugalur	9.5 km	NE
Nearest Airport	Coimbatore	70 km	NW
Nearest Seaport	Thuthookudi	208 km	S

2.3 DETAILS OF RESERVES

Reserves were calculated using cross-section method after leaving the safety distance as shown in Figure 2.2. Details of resources and reserves of the project are given in Table 2.3.

Table 2.3 Estimated Resources and Reserves of the Project

Resource Type	Rough Stone in m^3	Top Soil in m^3
Geological Resource in m^3	986352	13668
Mineable Reserves in m^3	272149	8506
Proposed production for 5 years m^3	272149	8506

Based on the year wise development and production plan and sections, as shown in Figures 2.3 & 2.3a, the year wise production results are given in Table 2.4.

Table 2.4 Year-Wise Production Details

Year	Rough Stone (m^3)	Top Soil (m^3)
I	57399	8506
II	56950	-
III	58700	-
IV	50850	-
V	48250	-
Total	**272149**	**8506**

2.3 LAND USE PATTERN

Land use and land cover information for the proposed project site has been given in Table 2.5.

Table 2.5 Land use data at present, during scheme of mining, and at the end of mine life

Description	Present Area (ha)	Area at the end of life of quarry (ha)
Area under quarry	0.77.5	2.26.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.03.0
Green Belt	0.05.5	0.26.5
Drainage & Settling tank	Nil	Nil
Unutilized area	1.99.0	0.27.5
Total	**2.84.0**	**2.84.0**

Source: Approved mining plan

2.4 METHOD OF MINING

The quarrying operation is proposed to be carried out by opencast semi mechanized mining method involving drilling, blasting, and formation of benches. Machineries, blasting design and fuel requirement and capital proposed for this project have been given in Tables 2.6- 2.8.

Table 2.6 Proposed Machinery Deployments

S. No.	Type	No. of Unit	Size/Capacity	Make/Dia of Hole (mm)	Motive Power
1	Jack Hammers	4	Hand Held	32 mm	Diesel Drive
2	Compressor	1	Air	Atlas Copco	Diesel Drive
3	Excavator	1	-	Hitachi	Diesel Drive
Haulage & Transport Equipment					
4	Tipper	6	15 M. T	Bharath Benz	Diesel Drive

Table 2.7 Conceptual Blasting Design

Blasthole Diameter (D) in mm	32
Burden (B) in m	**1**
Spacing (S) in m	0.97
Subdrill in m	0.3
Charge length (C) in m	0.64
Stemming	1
Hole Length (L) in m	1.9
Bench Height (BH) in m	1.6
Mass of explosive/hole in g	400
Stemming material size in mm	3.2
Burden stiffness ratio	1.64
Blast volume/hole in m3	1.59
Production of rough stone/day in m3	**202**
Number of blastholes/day	**127**
Blasthole pattern	Staggered/Rectangular
Mass of explosive /day in kg	**51**
Powder factor in kg/m3	0.25
Loading density	0.63
Type of explosives	Slurry
Diameter of packaging in mm	25
Initiation system	NONEL
Fly rock distance in m	**23**

Source: Explosives Engineers' Guide and blast manual (Chapter8 (nps.gov))

Table 2.8 Fuel Requirement Details

Fuel Requirement for Excavator			
Details	**Rough Stone (272149 m^3)**	**Top Soil (8506 m^3)**	**Total Diesel in litters**
Average Rate of Fuel Consumption (l/hr)	16	10	---
Working Capacity (m^3/hr)	20	60	---
Time Required (hours)	13607	142	---
Total Diesel Consumption for 5 years (litre)	217719	1418	**219137**
Fuel Requirement for Compressor			
Average Rate of Fuel Consumption/hole (litre)	0.4	---	---
Number of Drillholes/day	127	---	---
Total Diesel Consumption for 5 years (litre)	68580	---	**68580**
Fuel Requirement for Tipper			
Average Rate of Fuel Consumption/Trip (litre)	20	20	---
Carrying Capacity in m^3	6	6	---
Number of Trips / days	34	0	---
Number of Trips / 5 years	45358	0	---
Total Diesel Consumption for 5 years (litre)	907163	0	**907163**
Total Diesel Consumption by Excavator, Compressor and Tipper			**1194880**

Table 2.9 Capital Requirement Details

S. No.	**Description**	**Cost (Rs.)**
1	Fixed Asset Cost	31,00,000
2	Machinery Cost	15,00,000
3	EMP Cost	5,25,000
4	Expenditure Cost	4,25,000
Total Project Cost		**55,50,000/-**

Source: Approved Mining Plan

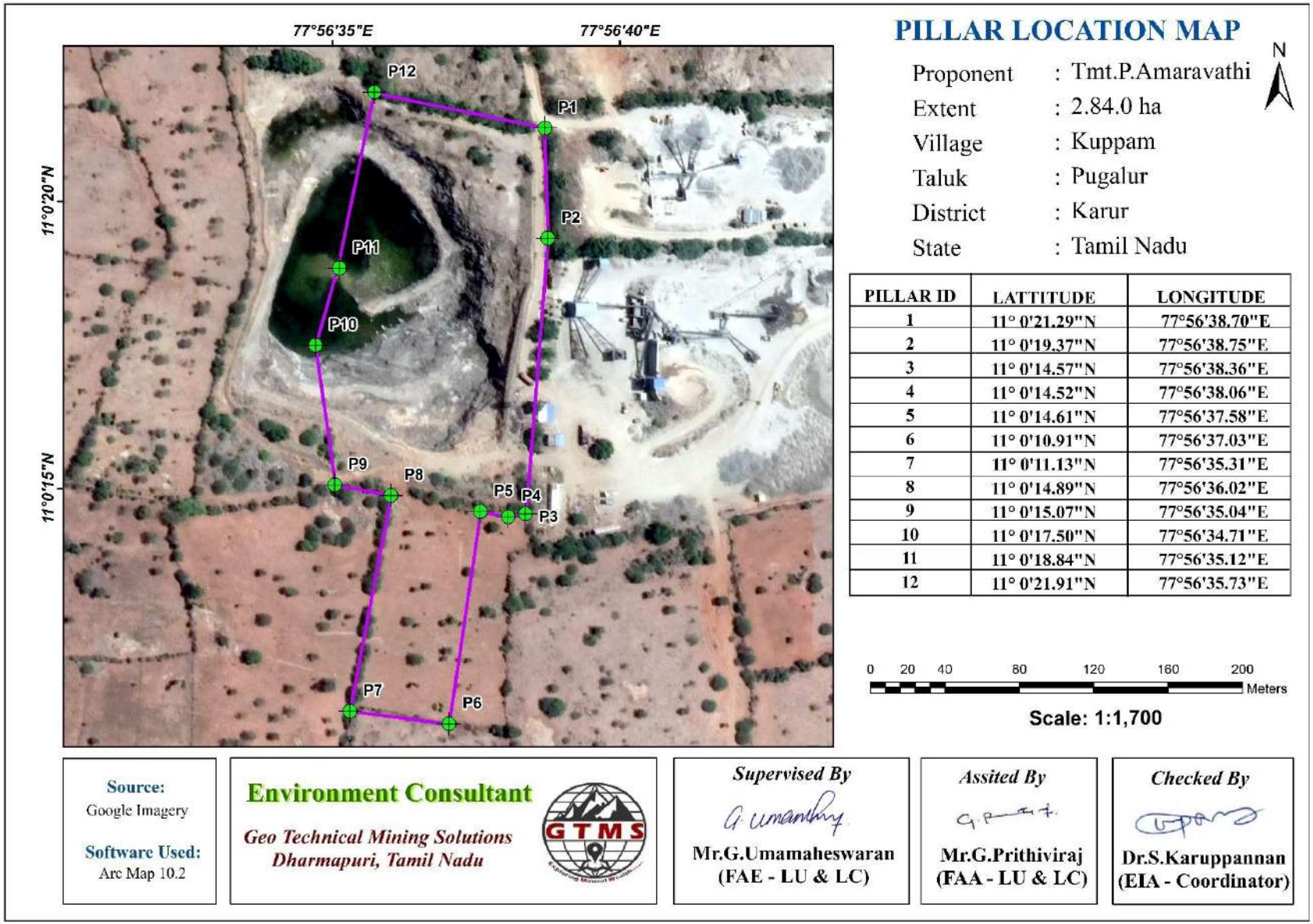


Figure 2.1 Google Earth Image Showing Lease Area with Pillars

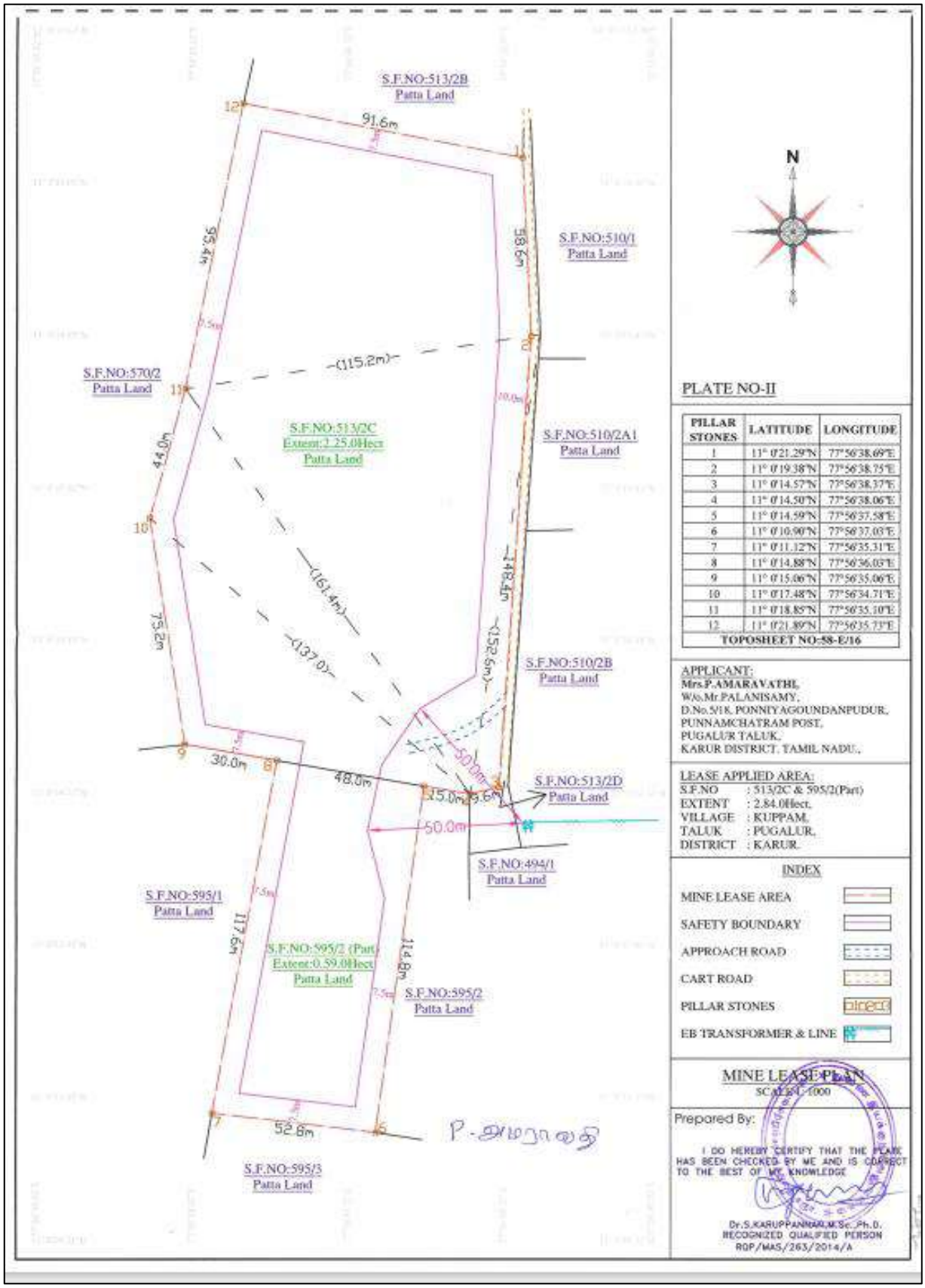


Figure 2.2 Mine Lease Plan

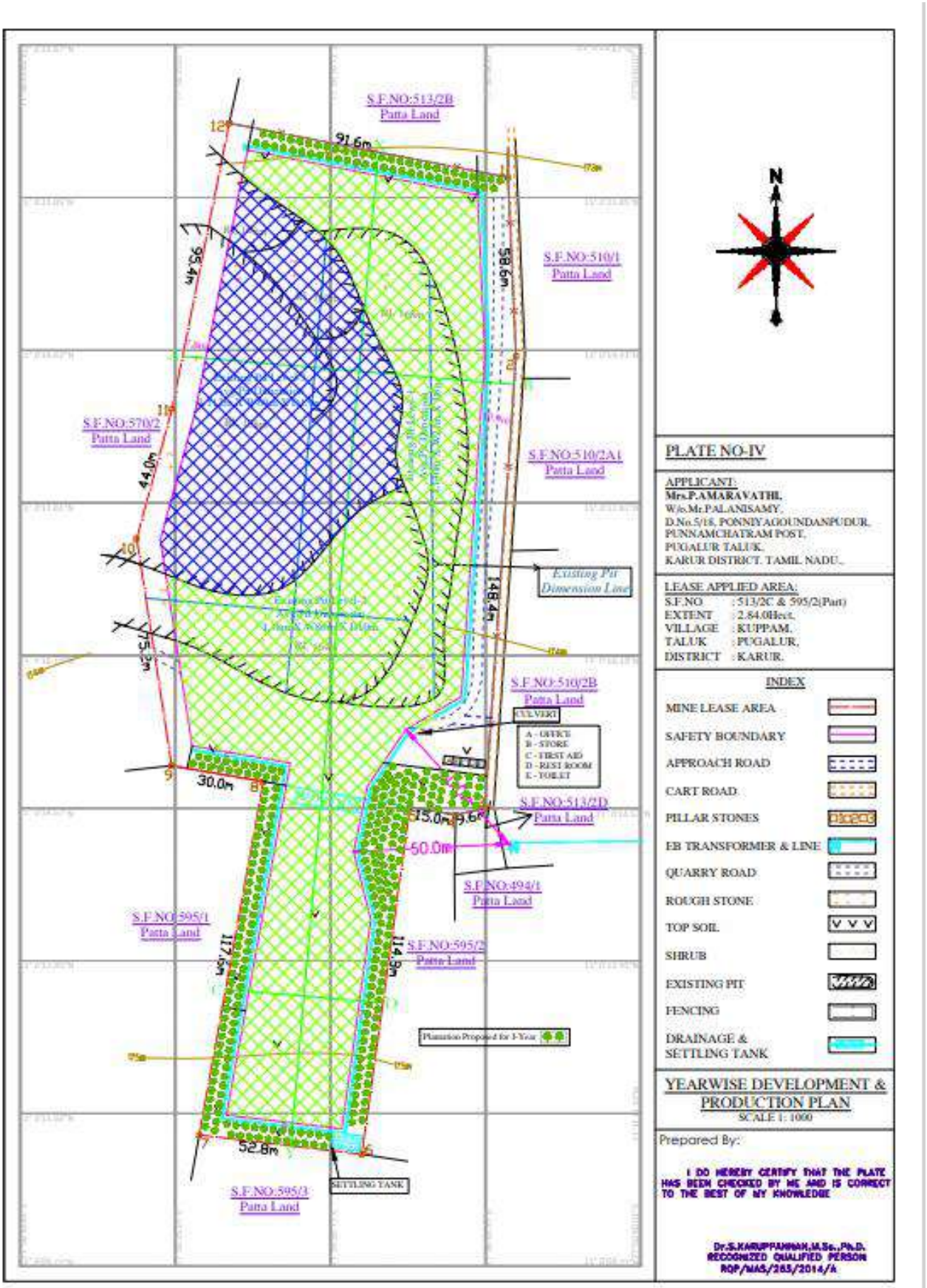


Figure 2.3 Yearwise Development and Production Plan and Sections

2.5 CONCEPTUAL MINE CLOSURE PLAN

- Mine closure is a process of returning a disturbed site to its natural state for other productive uses to minimize adverse effects on the environment or threats to humans' health and safety.
- The objective of the mine closure plan is to transform quarries to be physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting, and non-contaminating.
- At the end of mining life, the mine pit will act as an artificial reservoir for collecting rain water and will help to meet the water demand during drought season.
- After mine closure, the greenbelt will be developed along the safety barrier and over top benches. Water from the pit will be used to the greenbelt development and maintenance. Budgetary provision for mine closure is provided in Table 2.7.

Table 2.7 Mine Closure Budget

Activity	Capital Cost	Recurring Cost/Annum
568 plants inside the lease area	113600	17040
852 plants outside the lease area	255600	25560
Wire Fencing	568000	28400
Renovation of Garland Drain	28400	14200
Total	**965600**	**85200**

Source: Environment Management Plan

CHAPTER III

DESCRIPTION OF THE ENVIRONMENT

3.0 INTRODUCTION

Field monitoring studies were carried out to evaluate the existing environmental condition of the project site during October through December, 2022 as per CPCB guidelines. Environmental baseline data were collected by an NABL accredited and MoEF notified Excellence Laboratory for the environmental attributes including soil, water, noise, air and by FAEs for ecology and biodiversity, traffic, and socio-economy.

3.1 LAND ENVIRONMENT

Land use pattern of the area of 5 km radius was studied using Sentinel II imagery. LULC types and their extent are given in Table 3.1.

Table 3.1 Land Use / Land Cover Statistics for the Area of 5 km Radius

S. No.	Classification	Area (ha)	Area (%)
1	Crop Land	6758.00	87.03
2	Dense Forest	96.49	1.24
3	Land with or without scrub	60.84	0.78
4	Mining/Industrial wastelands	180.31	2.32
5	Plantations	661.91	8.52
6	Settlements	5.29	0.07
7	Water Bodies	2.51	0.03
Total		**7765.35**	**100**

Source: Sentinel II Imagery

3.1.1 SOIL ENVIRONMENT

Eight locations were selected for soil sampling based on soil types, vegetative cover, and industrial & residential activities including infrastructure facilities. The physical and chemical characteristic results of soil samples are provided below.

Physical Characteristics

The soil samples in the study area show loamy textures varying between sandy loam and sandy clay loam. PH of the soil varies from 6.5 to 7.7 indicating slightly acidic to slightly alkaline nature. Electrical conductivity of the soil varies from 143 to 247 µs/cm. Bulk density ranges between 1.2 and 3.8.

Chemical Characteristics

Nitrogen ranges between 0.04 and 1.1 %. Phosphate ranges between 0.14 and 3.8 %. Potassium ranges between 0.12 and 0.26 %. Calcium ranges between 161 and 513 mg/kg. Organic matter content ranges between 0.35 and 2.0 %.

3.2 WATER ENVIRONMENT

Surface Water

Noyyal River is the prominent surface water resources present in the study area. This river was ephemeral in nature, which convey water only after rainfall events. The proposed project area is located 4.48 km NW of Noyyal River. One surface water sample, known as SW1 were collected from the Noyyal River to assess the baseline water quality. Result for surface water sample indicate that the physical, chemical and biological parameters, and heavy metals are within permissible limits in comparison with standards of IS10500:2012.

Ground Water Resources

Groundwater in the study area occurs in the crystalline rocks of Archaean age and recent alluvium. The movement of the groundwater is controlled by the intensity of weathering and fracturing of crystalline rocks. Dug wells and bore wells are the most common ground water abstraction structures in the area. However, in dry season, people in the study area heavily rely on bore wells for their domestic and agriculture purpose.

Nine groundwater samples, known as BW01, BW02, BW03, BW04, BW05, BW06, BW07, OW01 and OW02 collected from bore wells and open wells were analysed for physico-chemical conditions, heavy metals and bacteriological contents in order to assess baseline quality of ground water. Results for ground water samples indicate that the physical, chemical and biological parameters, and heavy metals are within permissible limits in comparison with standards of IS10500:2012.

Groundwater Levels and Flow Direction

Data regarding groundwater elevations were collected from 9 open wells and 9 bore wells at various locations within 2 km radius around the proposed project sites for the period from March through May, 2022 (Pre-Monsoon Season) and from October through December, 2022 (Post Monsoon Season). Average depths to the static water table in open wells range from 11.3 to 14.7 m BGL in pre monsoon and from 10.3 to 12.5 m BGL in post monsoon. The average depths to static potentiometric surface in bore wells for the period of March through May, 2022 (Pre-Monsoon Season) vary from 63.5 to 70.8 m and from 61.8 to 65.7 m for the period of October through December, 2022 (Post-Monsoon Season). The groundwater flow studies indicate that in the two monsoon seasons groundwater flows towards the bore well number 1 located in southern direction of the proposed project site.

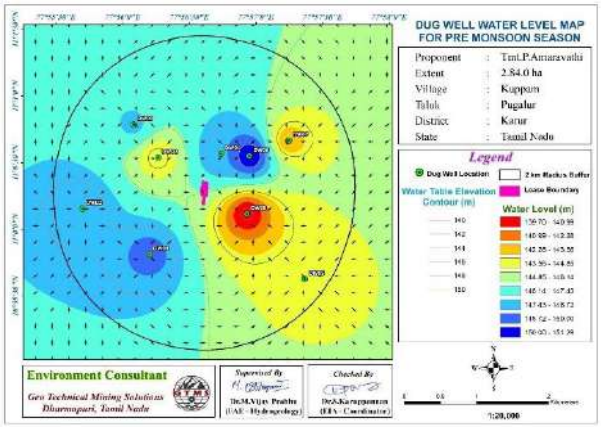


Figure 3.1 Open Well Static Groundwater Elevation Map Showing the Direction of Groundwater Flow During Pre-Monsoon Season

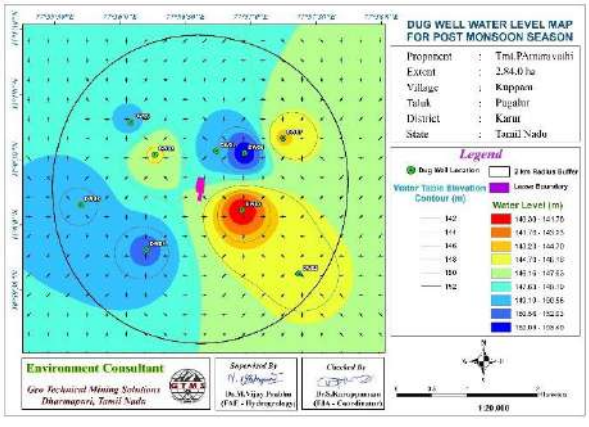


Figure 3.2 Open Well Static Groundwater Elevation Map Showing the Direction of Groundwater Flow During Post-Monsoon Season

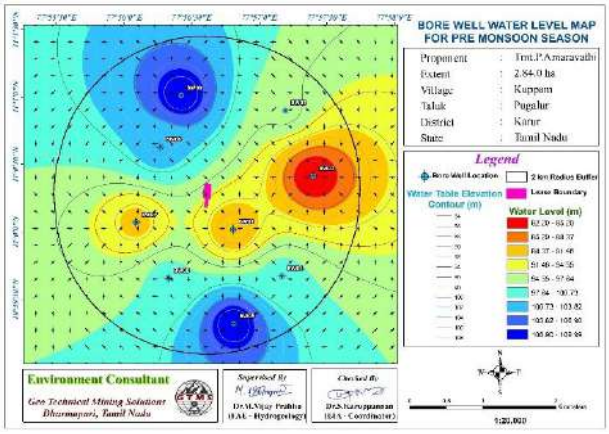


Figure 3.3 Borewell Static Groundwater Elevation Map Showing the Direction of Groundwater Flow During Pre-Monsoon Season

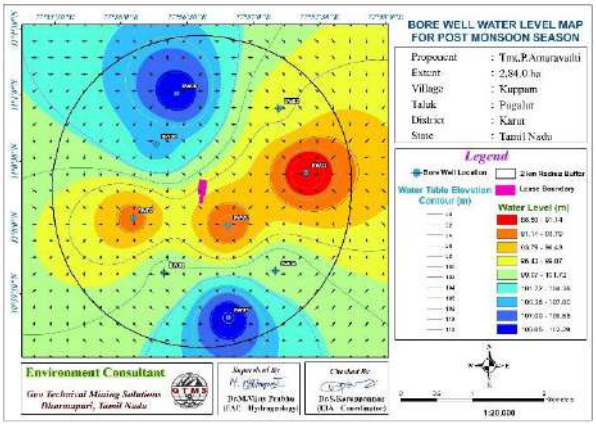


Figure 3.4 Borewell Static Groundwater Elevation Map Showing the Direction of Groundwater Flow During Post-Monsoon Season

3.3 AIR ENVIRONMENT

As per the monitoring data, PM_{10} ranges from 32.9 µg/m^3 to 37.9µg/m^3; $PM_{2.5}$ from 16.1 µg/m^3 to 20.2 µg/m^3; SO_2 from 6.7 µg/m^3 to 11 µg/m^3; NO_2 from 13.9 µg/m^3 to 20.3 g/m^3. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

3.4 NOISE ENVIRONMENT

The noise level in core zone was 40.0 dB (A) Leq during day time and 33.9 dB (A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 32.6 to 42.2dB (A) Leq and during night time from 29.8 to 37.4dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB.

3.5 BIOLOGICAL ENVIRONMENT

The main objective of biological study is to collect the baseline data regarding flora and fauna in the study area and identify ecologically sensitive areas and whether there are any rare, endangered, endemic or threatened (REET) species of flora and fauna in the core zone as well as buffer zone. In core zone, a total of 16 trees belonging to 4 species such as Prosophis juliflora, Azadirachta indica, Vachelia leucoploea, and Albizia amara are present in the mining lease area, whereas in buffer zone, 75 species belonging to 38 families were recorded from the buffer zone. The floral (75) varieties are 35 Trees (46%), 20 Shrubs (15%) Herbs and 25 Climbers, Creeper, Grass & Cactus (33%). From the study of biological environment, it is concluded that there was no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species were found in vulnerable, endangered or

threatened category as per IUCN and that there is no endangered red list species found in the study area.

3.6 SOCIO ECONOMIC ENVIRONMENT

Socio-economic study is an essential part of environmental study. It is a measure of an individual's or family's or group of people's economic and social position based on education, income, health, and occupation. Socio-economic most important determinant of livelihoods as levels of knowledge, skill and income conditions which mean for their living. The study found that a part of population is suffering from lack of permanent job to run their day-to-day life. Their expectation is to earn some income for their sustainability on a long-term basis. The proposed project will aim to provide preferential employment to the local people there by improving the employment opportunity in the area, which will in turn improve the social standards.

3.7 TRAFFIC ENVIRONMENT

Table 3.2 Traffic Survey Locations

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Village Road	1.13 Km-SE	Village Road
TS2	Paramathi to Noyyal (SH)	2.8 Km-NW	Paramathi to Noyyal (SH)
TS3	Paramathi to Karur Road (NH-67)	5.95 km-SSW	Paramathi to Karur Road (NH67)

Source: On-site monitoring by GTMS FAE & TM

Table 3.3 Existing Traffic Volume

Station code	HMV		LMV		2/3 Wheelers		Total PCU
	No	PCU	No	PCU	No	PCU	
TS1	38	114	32	32	61	31	177
TS2	105	315	41	41	104	52	408
TS3	175	525	50	50	117	59	634

Source: On-site monitoring by GTMS FAE & TM

* PCU conversion factor: HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 2/3 Wheelers = 0.5

3.8 SITE SPECIFIC FEATURES

Table 3.4 Details of Environmentally Sensitive Ecological Features in the Study Area

SI. No	Sensitive Ecological Features	Name	Areal Distance in km from cluster
1	National Park / Wild life Sanctuaries	None	Nil within 10km radius
		None	Nil within 10km radius
2	Reserve Forest	Thampalayam R. F	9.33 km SE
3	Lakes/Reservoirs/ Dams/Streams/Rivers	Topur canal	3.35 km NW
		Noyyal River	5.93 km NW
		Kavari River	6.37km NW
4	Tiger Reserve/Elephant Reserve/ Biosphere Reserve	None	Nil within 10km radius
5	Critically Polluted Areas	None	Nil within 10km radius
6	Mangroves	None	Nil within 10km radius
7	Mountains/Hills	None	Nil within 10km radius
8	Notified Archaeological Sites	None	Nil within 10km radius
9	Industries/ Thermal Power Plants	TNPL Paper mill	7.81 NE
10	Defence Installation	None	Nil within 10km radius

Source: Survey of India Toposheet

CHAPTER IV

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 INTRODUCTION

In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans for sustainable resource extraction.

4.1 LAND ENVIRONMENT

Anticipated Impact

The proposed project would result in:

- Permanent impact on mineral resources due to removal of 272149 m^3 of rough stone and 8506 m^3 of topsoil in the five years.
- Substantial change to topographic features or significant change in surface relief
- Permanent or temporary change on land use and land cover.
- Problems to agricultural land and human habitations due to dust, and noise caused by movement of heavy vehicles
- Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season
- Siltation of water course due to wash off from the exposed working area

Mitigation Measures

The mining activity will be progressively implemented along with other mitigative measures as discussed below:

- Garland drains will be constructed all around the quarry pit and a check dam will be constructed at the suitable location in lower elevations to prevent erosion due to surface runoff during heavy rainfall and to collect the storm water for various uses.
- Green belt will be developed in safety zone. The water stored in the quarry will be used for greenbelt.
- Thick plantation will be done on unutilized area, top benches, safety barrier, etc.,
- At conceptual stage, the land use pattern of the quarry will be changed into greenbelt area and temporary reservoir.
- Natural vegetation surrounding the quarry will be retained to minimize dust emissions.
- Proper fencing will be established at the conceptual stage and security will be posted round the clock to prevent inherent entry of the public and cattle.

4.2 SOIL ENVIRONMENT

Anticipated Impact

This project will remove about 8506 m^3 of topsoil and preserve it in the safety margin area. Therefore, some of the common mitigation measures have been discussed in the following sections to protect the immediate soil environment surrounding the lease area.

Mitigation Measures

- The top soil will be preserved in the safety barrier and kept in moisture condition. The preserved topsoil will be utilized for greenbelt development in the safety barrier and utilized for plantation on the top bench

- Garland drains will be constructed around the project area to arrest any soil from the quarry area being carried away by the rainwater. This will also avoid the soil erosion and siltation in the mining pits and maintaining the stability of the benches
- Retaining wall with weep hole, garland drain will be provided around the dump areas.
- Grasses will be grown over the dump areas for stability.

4.3 WATER ENVIRONMENT

Anticipated Impact

- As the water required for the mining operations, as given in Table 2.11 is obtained from the approved water supplying agency, the project does not develop any abstraction structures in the lease area. Therefore, no impact responsible for the water table declination is anticipated.
- Surface and ground water resources may be contaminated due to mine pit water discharge, domestic sewage, waste water from vehicle washing, washouts from surface exposure or working areas, discharge of oil & grease, and suspended solids due to waste from washing of machineries. To address this impact, some of the important mitigation measures is provided as below.

Mitigation Measures

- Garland drainage system and settling tank will be constructed along the proposed mining lease area. The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage
- Rainwater from the mining pits will be collected in sump and will be allowed to store and pumped out to surface settling tank of 15 m x 10 m x 3 m to remove suspended solids if any. This collected water will be judiciously used for dust suppression and such sites where dust likely to be generated and for developing green belt. The proponent will collect and judicially utilize the rainwater as part of rainwater harvesting system.
- Benches will be provided with inner slopes and through a system of drains and channels, rain water will be allowed to descent into surrounding drains to minimize the effects of erosion and water logging arising out of uncontrolled descent of water.
- The water collected will be reused during storm for dust suppression and greenbelt development within the mines.

- ❖ Interceptor traps/oil separators will be installed to remove oils and greases. Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse.
- ❖ Flocculating or coagulating agents will be used to assist in the settling of suspended solids during monsoon seasons.
- ❖ Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted.
- ❖ Domestic sewage from site office and urinals/latrines provided in ML is discharged in septic tank followed by soak pits.
- ❖ Waste water discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes.
- ❖ De-silting will be carried out before and immediately after the monsoon season.
- ❖ Regular monitoring (once every 6 months) and analysing the quality of water in open well, bore wells and surface water.

4.4 AIR ENVIRONMENT

Anticipated Impact

Table 4.1 Incremental and Resultant $PM_{2.5}$

	Distance to core area (km)	**Direction**	**PM2.5concentrations (µg/m³)**			**Comparison against standard (60 µg/m³)**	**Magnitude of change (%)**	**Significance**
			Baseline	**Predicted**	**Total**			
AAQ1	0.42	W	21.1	5	26.1	Below standard	23.70	Not significant
AAQ2	---	---	21.6	5	26.6		23.15	
AAQ3	0.83	S	20.4	6.61	27.01		32.40	
AAQ4	1.58	SW	16.0	0.5	16.5		3.13	
AAQ5	4.65	W	18.0	0	18		0.00	
AAQ6	5.03	W	19.1	0	19.1		0.00	
AAQ7	4.69	SW	18.0	0	18		0.00	
AAQ8	3.75	E	25.3	0.5	25.8		1.98	
AAQ9	4.75	S	21.0	0.5	21.5		2.38	
AAQ10	1.87	N	21.2	1	22.2		4.72	

Table 4.2 Incremental & Resultant GLC of PM_{10}

Station ID	Distance to core area (km)	Direction	PM_{10} concentrations ($\mu g/m^3$)			Comparison against standard (100 $\mu g/m^3$)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.42	W	42.6	10	52.6	Below standard	23.47	Not significant
AAQ2	---	---	39.5	5	44.5		12.66	
AAQ3	0.83	S	39.8	13.2	53		33.17	
AAQ4	1.58	SW	37.0	0.5	37.5		1.35	
AAQ5	4.65	W	34.9	0	34.9		0.00	
AAQ6	5.03	W	37.0	0.5	37.5		1.35	
AAQ7	4.69	SW	39.7	0	39.7		0.00	
AAQ8	3.75	E	46.8	5	51.8		10.68	
AAQ9	4.75	S	39.3	1	40.3		2.54	
AAQ10	1.87	N	39.8	5	44.8		12.56	

Table 4.3 Incremental & Resultant GLC of SO_2

Station ID	Distance to core area (km)	Direction	SO_2 concentrations ($\mu g/m^3$)			Comparison against standard (80 $\mu g/m^3$)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.42	W	8.4	5	13.4	Below standard	59.52	Not significant
AAQ2	---	---	8.9	5	13.9		56.18	
AAQ3	0.83	S	9.5	5.3	14.8		55.79	
AAQ4	1.58	SW	7.4	0.5	7.9		6.76	
AAQ5	4.65	W	8.4	0	8.4		0.00	
AAQ6	5.03	W	10.0	0	10		0.00	
AAQ7	4.69	SW	7.7	0	7.7		0.00	
AAQ8	3.75	E	9.1	1	10.1		10.99	
AAQ9	4.75	S	9.2	0.5	9.7		5.43	
AAQ10	1.87	N	8.9	1	9.9		11.24	

Table 4.4 Incremental & Resultant GLC of NOx

Station ID	Distance to core area (km)	Direction	NOx concentrations (µg/m^3)			Comparison against standard (80 µg/m^3)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.42	W	16.3	5	21.3	Below standard	30.67	Not significant
AAQ2	---	---	16.9	5	21.9		29.59	
AAQ3	0.83	S	16.6	5.56	22.16		33.49	
AAQ4	1.58	SW	11.0	0.5	11.5		4.55	
AAQ5	4.65	W	17.0	0	17		0.00	
AAQ6	5.03	W	19.1	0	19.1		0.00	
AAQ7	4.69	SW	14.0	0	14		0.00	
AAQ8	3.75	E	26.6	1	27.6		3.76	
AAQ9	4.75	S	18.2	0.5	18.7		2.75	
AAQ10	1.87	N	16.0	1	17		6.25	

The values of cumulative concentration i.e., background + incremental concentration of pollutant in all the receptor locations are still within the prescribed NAAQ limits without effective mitigation measures. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be controlled further.

Mitigation Measures

- Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation
- Transportation of material will be carried out during day time and material will be covered with tarpaulin
- The speed of tippers plying on the haul road will be limited to <20 km/hr to avoid generation of dust
- Water sprinkling on haul roads and loading points will be carried out twice a day
- Main source of gaseous pollution will be from vehicle used for transportation of mineral; therefore, weekly maintenance of machines improves combustion process and reduces pollution. The un-metaled haul roads will be compacted weekly before being put into use
- Overloading of tippers will be avoided to prevent spillage
- It will be ensured that all transportation vehicles carry a valid PUC certificate
- Haul roads and service roads will be graded to clear accumulation of loose materials

4.5 NOISE ENVIRONMENT

Anticipated Impact

Table 4.5 Predicted Noise Incremental Values

Noise Monitoring Location	Distance From Project Site(m)	Baseline Noise Level (dBA)m During Day Time	Predicted Noise Level(dBA)	Total(dBA)
Between NTC and Rani Leases	650	41.7	40.9	44.3
Core	660	40.3	40.8	43.6
Amaravathi Lease	100	40.0	57.2	57.2
Kuppam	1900	35.4	31.6	36.9
Puthurpatti	880	32.6	38.3	39.3
Andisangilipalayam	890	36.2	38.2	40.3
Velampalayam	4420	40.3	24.3	40.4
Athipalayam	4990	40.8	23.2	40.9
Munnur	3930	40.8	25.3	40.9
Punna chatram	3990	42.2	25.1	42.3
Karudayampalayam	3960	41.2	25.2	41.3
Kunthanipalayam	2680	41.7	28.6	41.9
NAAQ Standards	Industrial Day Time - 75 dB (A) & Night Time- 70 dB (A) Residential Day Time -55 dB (A) & Night Time- 45 dB (A)			

Total noise level in all the sampling areas is well below the CPCB standards for industrial and residential areas. By adopting suitable mitigation measures, the noise levels due to the project can be controlled further.

Table 4.6 Predicted PPV Values due to Blasting

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in mm/s	Fly rock distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	51	880	0.22	23	0.11	135

Table 4.7 Predicted PPV Values due to Blasting at 100-500m radius

Location ID	Maximum Charge in kgs	Radial Distance in m	PPV in mm/s	Fly rock Distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	51	100	7.32	23	1.46	157
		200	2.41		0.63	150
		300	1.26		0.39	146
		400	0.79		0.28	143
		500	0.55		0.21	140

The peak particle velocity produced by the charge of 51 kg is well below that of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

Mitigation Measures

- The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations
- Proper quantity of explosives, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting
- Adequate safe distance from blasting will be maintained as per DGMS guidelines
- Blasting shelter will be provided as per DGMS guidelines
- Blasting operations will be carried out only during day time
- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts
- During blasting, other activities in the immediate vicinity will be temporarily stopped
- Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed
- A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating procedures that will be followed to ensure that shot firing operations on site take place without endangering the workforce or public
- Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire

- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used
- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects
- Appropriate blasting techniques shall be adopted in such a way that the predicted peak particle velocity shall not exceed 1.09mm/s
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

4.6 BIOLOGICAL ENVIRONMENT

Anticipated Impact

- None of the plants will be cut during operational phase of the projects.
- There shall be negligible air emissions or effluents from the project sites. Dust generation during loading will be a temporary effect and is not anticipated to affect the surrounding vegetation significantly.
- Most of the land in the buffer area consists of crop lands, grass patches and small shrubs. Hence, there will be no effect on the flora.
- Wildlife except few domestic animals, reptiles, hares and some common birds is not found in the cluster and its immediate surrounds because of lack of vegetal cover and surface water.

Mitigation Measures

The proposed projects will develop the green belt within the lease area, along roads and other vacant areas to provide a barrier between the source of pollution and the surrounding areas. Although the project will not lead to any tree cutting, it is proposed to improve the greenery of the locality by plantation. During green belt development, about 1420 saplings will be planted by the project proponent both inside and outside the lease area in about three months. For this program, Rs.369200 will be invested as capital and Rs.42600 excluding 5% inflation will be spent annually for green belt maintenance.

4.7 SOCIO ECONOMIC ENVIRONMENT

Anticipated Impact

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area.
- Approach roads can be damaged by the movement of tippers

- ❖ Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region.

Mitigation Measures

- ❖ Good maintenance practices will be adopted for all machinery and equipment, which will help to avert potential noise problems.
- ❖ Green belt will be developed in and around the project site as per Central Pollution Control Board (CPCB) guidelines.
- ❖ Air pollution control measure will be taken to minimize the environmental impact within the core zone.
- ❖ For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules.
- ❖ Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc.., from this project directly and indirectly.
- ❖ From above details, the quarry operations will have highly beneficial positive impact in the area

4.8 OCCUPATIONAL HEALTH MEASURES

All the persons will undergo pre-employment and periodic medical examination. Employees will be monitored for occupational diseases by conducting the following tests

- ❖ General physical tests
- ❖ Audiometric tests
- ❖ Full chest, X-ray, Lung function tests, Spiro metric tests
- ❖ Periodic medical examination – yearly
- ❖ Lung function test – yearly, those who are exposed to dust
- ❖ Eye test

Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

CHAPTER V

ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

The mineral deposits are site specific in nature; hence question of seeking alternate sites do not arise for the projects.

CHAPTER VI

ENVIRONMENT MONITORING PROGRAM

Regular monitoring program of environmental components is essential to take into account the changes in the environmental components as shown in Table 6.1. The Objectives of monitoring is:

- To check or assess the efficiency of the controlling measures;
- To establish a data base for future impact assessment studies.

Table 6.1 Post Environmental Clearance Monitoring Schedule

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, $PM_{2.5}$, PM_{10}, SO_2 and NO_x.
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in m BGL
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night

6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Peak particle velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and chemical characteristics
8	Greenbelt	Within the project area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

6.2 BUDGETARY PROVISION FOR EMP

The cost in respect of monitoring of environmental components has been shown in Table 6.2.

Table 6.2 Environment Monitoring Budget

S. No.	Parameter	Capital Cost	Recurring Cost per annum
1	Air Quality	-	Rs. 60,000/-
2	Meteorology	-	Rs. 15,000/-
3	Water Quality	-	Rs. 20,000/-
4	Water Level Monitoring		Rs. 10,000/-
5	Soil Quality	-	Rs.20,000/-
6	Noise Quality	-	Rs.10,000/-
7	Vibration Study	-	Rs.1,50,000/-
8	Greenbelt	-	Rs.10,000/-
Total		**-**	**Rs.2,95,000 /-**

Source: Field Data

CHAPTER VII
ADDITIONAL STUDIES

7.1 RISK ASSESSMENT

Risk assessment is all about prevention of accidents and to take necessary steps to prevent it from happening. The methodology for the risk assessment is based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad vide circular no.13 of 2002 dated 31st December 2002. The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and assess the risk levels of those hazards in order to prioritize those that need an immediate attention. Further, mechanisms responsible for these hazards are identified and control measures are recorded along with pinpointed responsibilities. The whole quarry operation will be carried out under the direction of a qualified competent mine manager certified by the DGMS, Dhanbad.

7.2 DISASTER MANAGEMENT PLAN

The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to:

- ❖ Rescue and treat casualties;
- ❖ Safeguard other people;
- ❖ Minimize damage to property and the environment;
- ❖ Initially contain and ultimately bring the incident under control;
- ❖ Secure the safe rehabilitation of affected area; and
- ❖ Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

7.3 CUMULATIVE IMPACT STUDY

- ❖ The results on the cumulative impact of the 2 proposed projects on air environment of the cluster do not exceed the permissible limits set by CPCB for air pollutants.
- ❖ The cumulative results of noise for the habitation in consideration do not exceed the limit set by CPCB for residential areas for day time.
- ❖ PPV resulting from 2 proposed projects is well below the permissible limit of Peak Particle Velocity of 8 mm/s.
- ❖ The 2 proposed projects will allocate Rs.10,00,000/- towards CER as recommended by SEAC.
- ❖ The 2 proposed projects will directly provide jobs to about 62 local people.
- ❖ The proposed projects will plant about 2542 saplings in and around the lease area.
- ❖ The proposed projects will add an average of 189 PCU per day to the nearby roads.

7.4 PLASTIC WASTE MANAGEMENT PLAN

The Project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (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.

Objective

- ❖ To investigate the actual supply chain network of plastic waste.
- ❖ To identify and propose a sustainable plastic waste management by installing bins for collection of recyclables with all the plastic waste
- ❖ Preparation of a system design layout, and necessary modalities for implementation and monitoring.

S. No.	Activity	Responsibility
1	Framing of Layout Design by incorporating provision of the Rules, user fee to be charged from waste generators for plastic waste management, penalties/fines for littering, burning plastic waste or committing any other acts of public nuisance	Mines Manager
2	Enforcing waste generators to practice segregation of bio-degradable, recyclable and domestic hazardous waste	Mines Manager
3	Collection of plastic waste	Mines Foreman
4	Setting up of Material Recovery Facilities	Mines Manager
5	Segregation of Recyclable and Non-Recyclable plastic waste at Material Recovery Facilities	Mines Foreman
6	Channelization of Recyclable Plastic Waste to registered recyclers	Mines Foreman
7	Channelization of Non-Recyclable Plastic Waste for use either in Cement kilns, in Road Construction	Mines Foreman
8	Creating awareness among all the stakeholders about their responsibility	Mines Manager
9	Surprise checking's of littering, open burning of plastic waste or committing any other acts of public nuisance	Mine Owner

CHAPTER VIII
PROJECT BENEFITS

Various benefits are envisaged due to the proposed mine and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole are:

- Direct employment to 32 local people
- Rain water harvesting structures to augment the water availability for irrigation and plantation and ground water recharge
- Creation of community assets (infrastructure) like school buildings, village roads/ linked roads, dispensary & health Centre, community Centre, market place etc.,
- Strengthening of existing community facilities through the Community Development Program
- Skill development & capacity building like vocational training
- Awareness program and community activities, like health camps, medical aids, sports & cultural activities, plantation etc.,

- CSR activities mainly contributing to education, health, training of women self-help groups and infrastructure etc., will be taken up in the Kuppam Village. CSR budget is allocated as 2.5% of the profit.
- Rs. 5,00,000 will be allocated for CER.

CHAPTER IX
ENVIRONMENTAL COST BENEFIT ANALYSIS

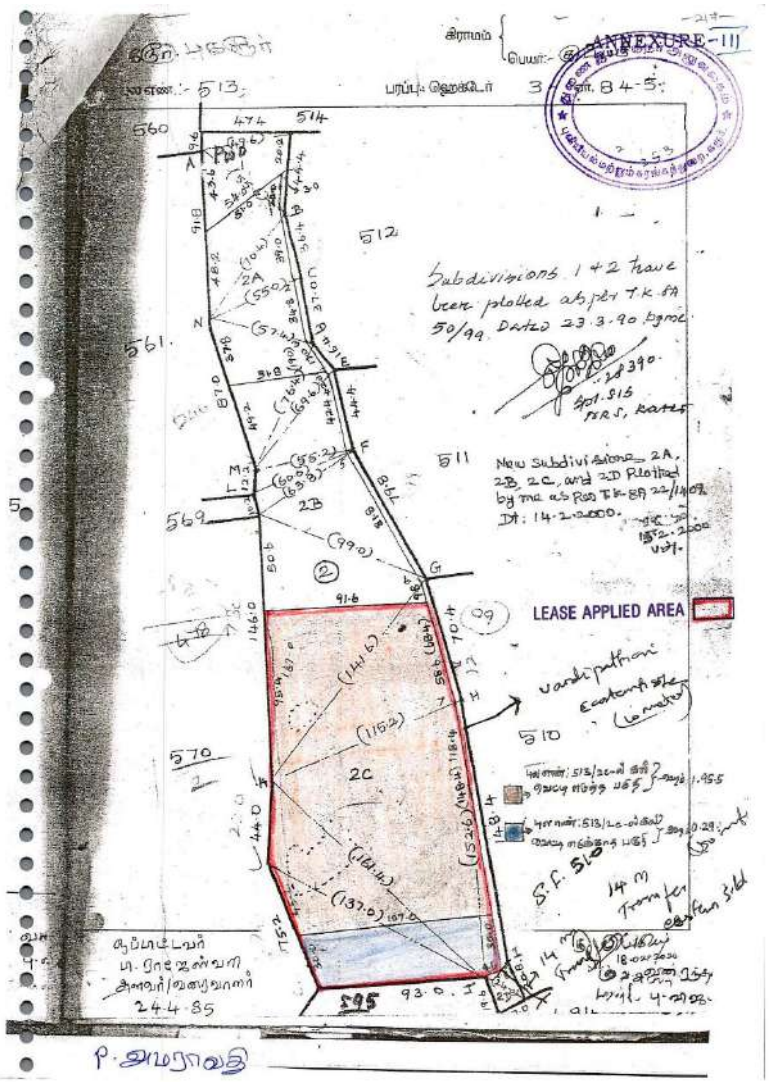
Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

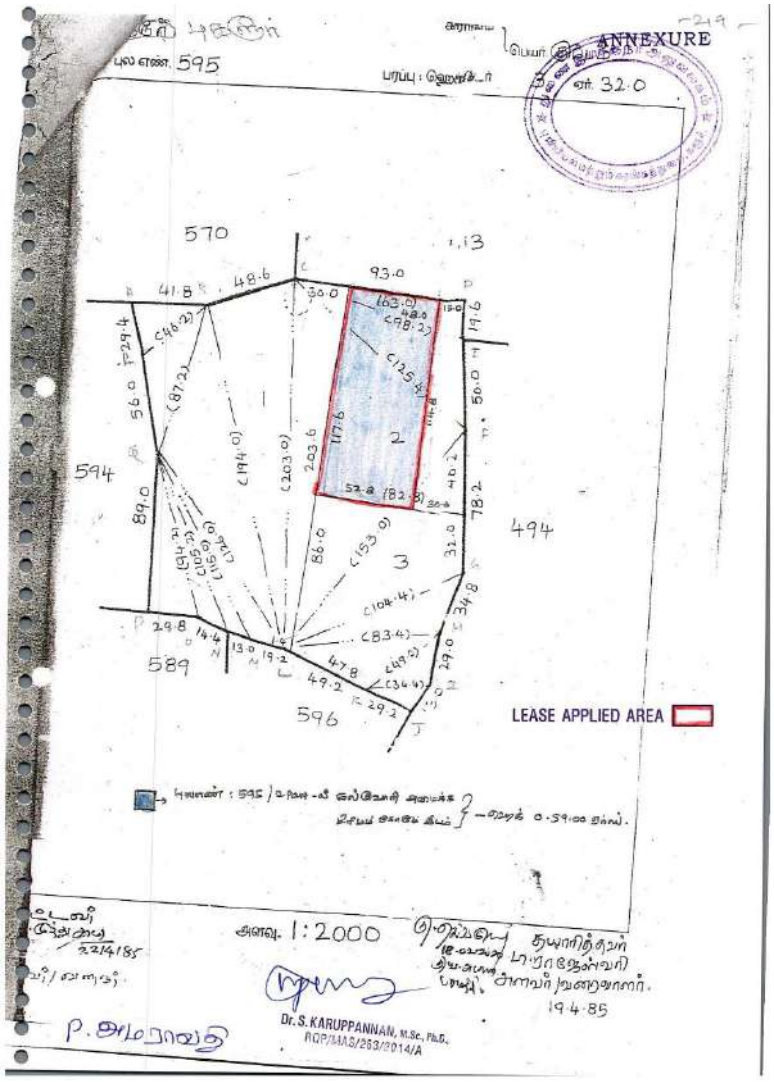
CHAPTER X
ENVIRONMENT MANAGEMENT PLAN

In order to implement the environmental protection measures, an amount of Rs. 23,74,000 as capital cost and recurring cost as Rs. 19,41,662 as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be Rs. 1,31,02,910.

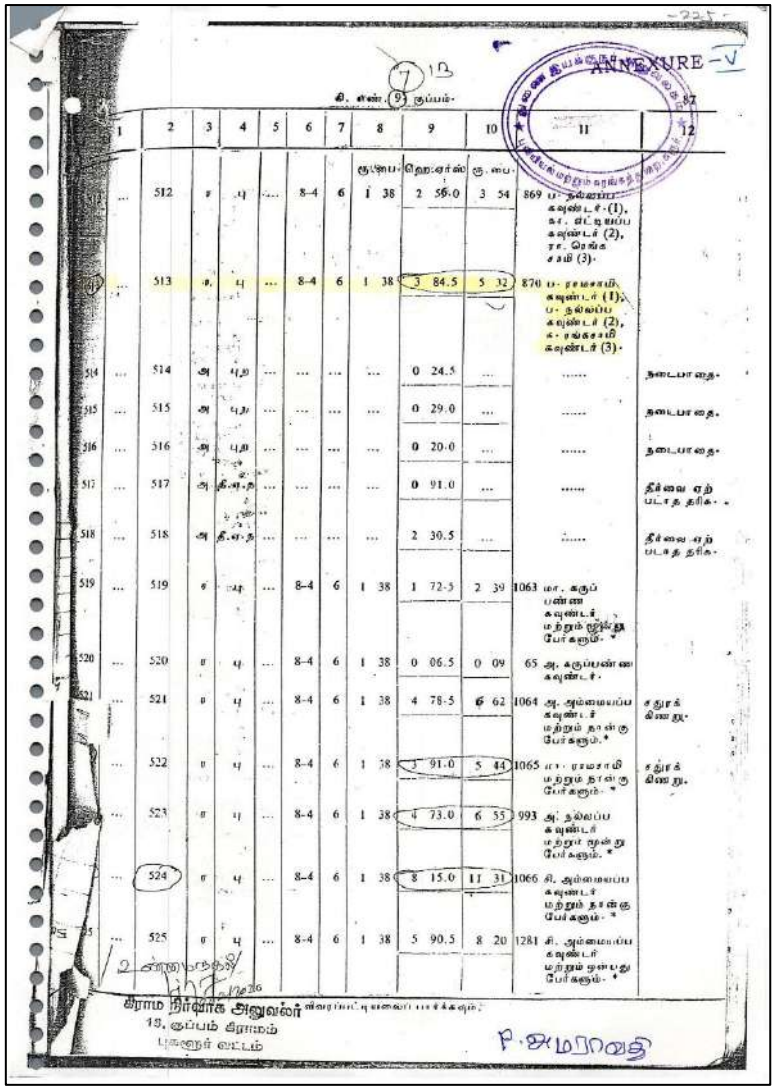
LAND DOCUMENTS

Some of the important land related documents are shown in below.





An FMP sketch showing proposed lease area in red colour



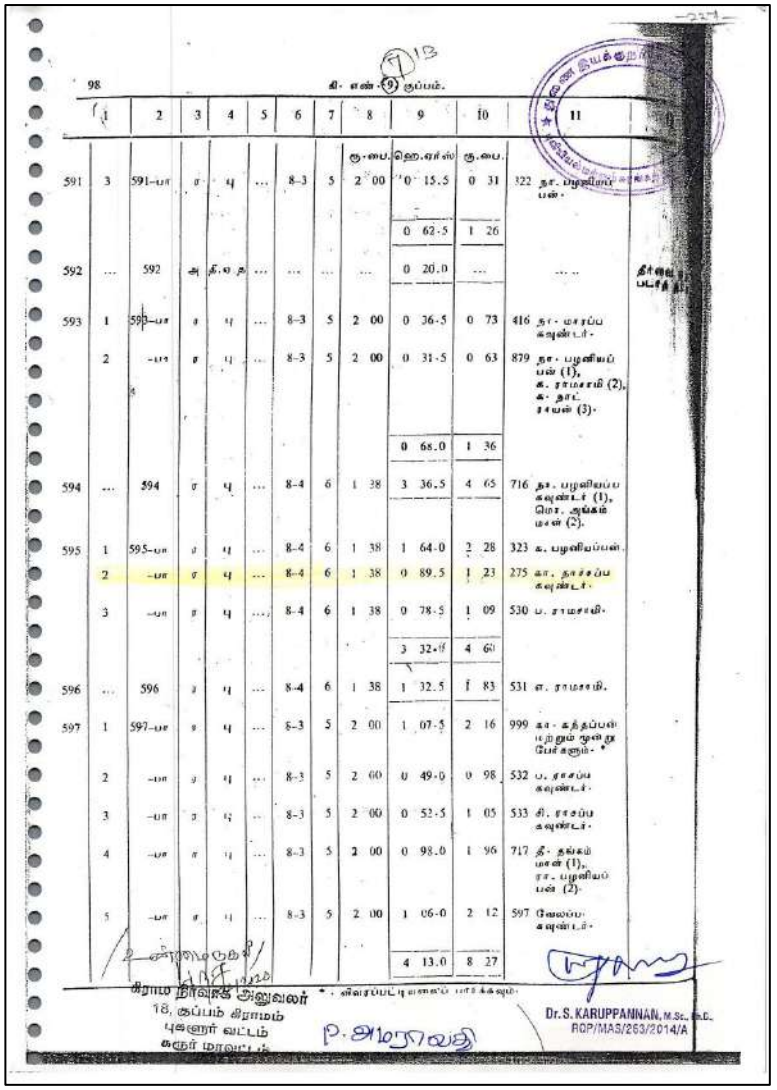
ANNEXURE -V

கி. எண் (9) கூப்பம்.

1	2	3	4	5	6	7	8	9	10	11	12
								சூ.பை. தொ.ஏர்ஸ்	சூ.பை.		
...	512	ச	பு	...	8-4	6	1 38	2 56.0	3 54	869 ப. தங்கவேல் கவுண்டர் (1), ச. வீட்டுவேப்ப கவுண்டர் (2), ர. செங்க சாமி (3).	
...	513	ச	பு	...	8-4	6	1 38	3 84.5	5 32	870 ப. ரமசாமி கவுண்டர் (1), ப. தங்கவேப்ப கவுண்டர் (2), க. ரங்கசாமி கவுண்டர் (3).	
514 ...	514	அ	பு	...	...	...	...	0 24.5	...	.....	நடைபாதை.
515 ...	515	அ	பு	...	...	...	...	0 29.0	...	.....	நடைபாதை.
516 ...	516	அ	பு	...	...	...	...	0 20.0	...	.....	நடைபாதை.
517 ...	517	அ	தி.ஏ.த	...	...	...	...	0 91.0	...	.....	தீர்வை ஏற் படாத தரிசு.
518 ...	518	அ	தி.ஏ.த	...	...	...	...	2 30.5	...	.....	தீர்வை ஏற் படாத தரிசு.
519 ...	519	ச	பு	...	8-4	6	1 38	1 72-5	2 39	1063 மா. கரும் பண்ண கவுண்டர் மற்றும் மூன்று பேர்களும். *	
520 ...	520	ச	பு	...	8-4	6	1 38	0 06.5	0 09	65 அ. கருப்பண்ண கவுண்டர்.	
521 ...	521	ச	பு	...	8-4	6	1 38	4 78-5	6 62	1064 அ. அம்மையப்ப கவுண்டர் மற்றும் நான்கு பேர்களும். *	சதுரக் கிணறு.
...	522	ச	பு	...	8-4	6	1 38	3 91.0	5 44	1065 மா. ரமசாமி மற்றும் நான்கு பேர்களும். *	சதுரக் கிணறு.
...	523	ச	பு	...	8-4	6	1 38	4 73.0	6 55	993 அ. தங்கவேப்ப கவுண்டர் மற்றும் மூன்று பேர்களும். *	
...	524	ச	பு	...	8-4	6	1 38	8 15.0	11 31	1066 சி. அம்மையப்ப கவுண்டர் மற்றும் நான்கு பேர்களும். *	
525 ...	525	ச	பு	...	8-4	6	1 38	5 90.5	8 20	1281 சி. அம்மையப்ப கவுண்டர் மற்றும் ஒன்பது பேர்களும். *	

கிராம நிர்வாக அலுவலர்
18, குப்பம் கிராமம்
புலவர் வட்டம்

P. அமராவதி



98

கி. எண் (9) கூப்பம்.

1	2	3	4	5	6	7	8	9	10	11
								சூ.பை. தொ.ஏர்ஸ்	சூ.பை.	
591	3	591-பா	ச	பு	...	8-3	5	2 00	0 15.5	0 31	322 நா. பழனியப்பன்.
									0 62-5	1 26	
592	...	592	அ	தி.ஏ.த	...	...	...	...	0 20.0	...	..... தீர்வை ஏற் படாத தரிசு.
593	1	593-பா	ச	பு	...	8-3	5	2 00	0 36.5	0 73	416 நா. மாரப்ப கவுண்டர்.
	2	-பா	ச	பு	...	8-3	5	2 00	0 31-5	0 63	879 நா. பழனியப்பன் (1), க. ரமசாமி (2), க. நாட்ட ராயன் (3).
									0 68.0	1 36	
594	...	594	ச	பு	...	8-4	6	1 38	3 36.5	4 65	716 நா. பழனியப்ப கவுண்டர் (1), மொ. ஆங்கி மன் (2).
595	1	595-பா	ச	பு	...	8-4	6	1 38	1 64.0	2 28	323 க. பழனியப்பன்.
	2	-பா	ச	பு	...	8-4	6	1 38	0 89.5	1 23	275 கா. நாச்சப்ப கவுண்டர்.
	3	-பா	ச	பு	...	8-4	6	1 38	0 78-5	1 09	530 ப. ராமசாமி.
									3 32-5	4 60	
596	...	596	ச	பு	...	8-4	6	1 38	1 32.5	1 83	531 எ. ராமசாமி.
597	1	597-பா	ச	பு	...	8-3	5	2 00	1 07-5	2 16	999 நா. கந்தப்பன் மற்றும் மூன்று பேர்களும். *
	2	-பா	ச	பு	...	8-3	5	2 00	0 49-0	0 98	532 ப. நாச்சப்ப கவுண்டர்.
	3	-பா	ச	பு	...	8-3	5	2 00	0 52-5	1 05	533 சி. ராசப்ப கவுண்டர்.
	4	-பா	ச	பு	...	8-3	5	2 00	0 98.0	1 96	717 தி. தங்கம் மன் (1), ர. பழனியப் பன் (2).
	5	-பா	ச	பு	...	8-3	5	2 00	1 06-0	2 12	597 வேலப்ப கவுண்டர்.
									4 13.0	8 27	

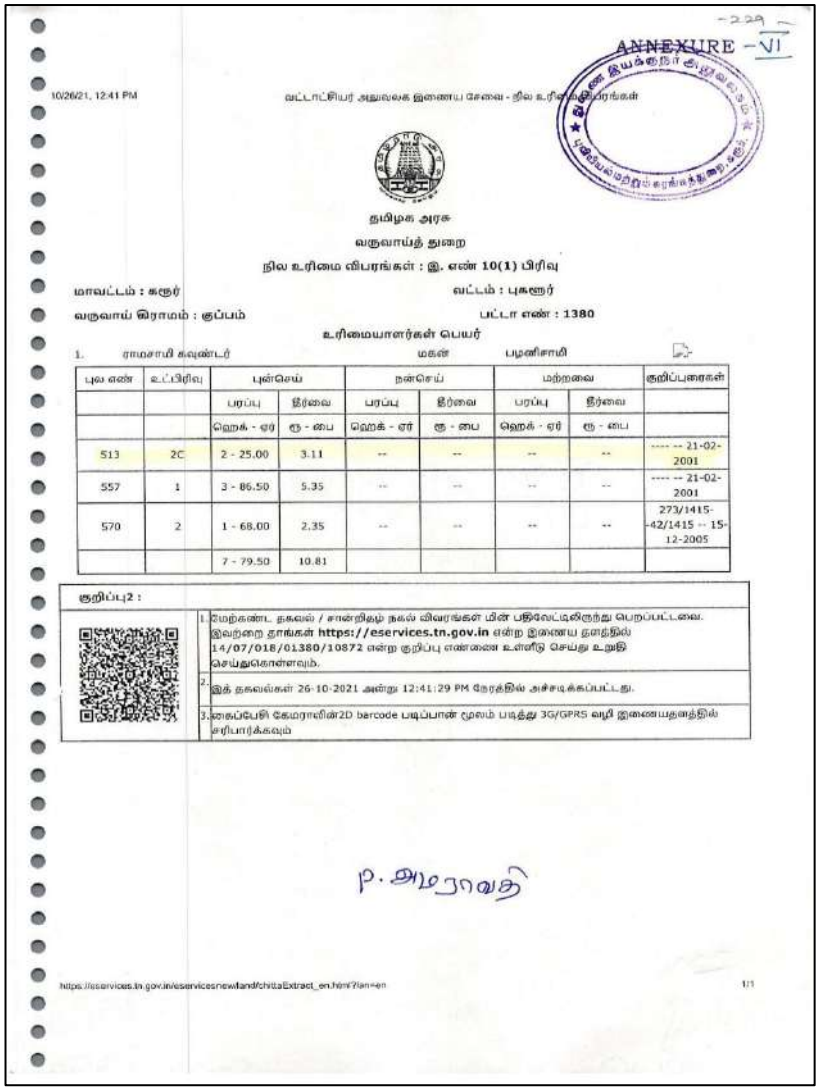
* - விளைப்பட்டியலைப் பார்க்கவும்.

கிராம நிர்வாக அலுவலர்
18, குப்பம் கிராமம்
புலவர் வட்டம்
கரூர் மாவட்டம்

P. அமராவதி

Dr. S. KARUPPANNAN, M.Sc., B.L.
RGP/MAS/263/2014/A

A Register Document



ANNEXURE - VI

10/26/21, 12:41 PM வட்டாட்சியர் அலுவலக இணைய சேவை - நில உரிமை விபரங்கள்

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : கரூர் வட்டம் : புகளூர்

வருவாய் கிராமம் : குப்பம் பட்டா எண் : 1380

உரிமையாளர்கள் பெயர்

1. ராமசாமி கவுண்டர் மகன் பழனிசாமி

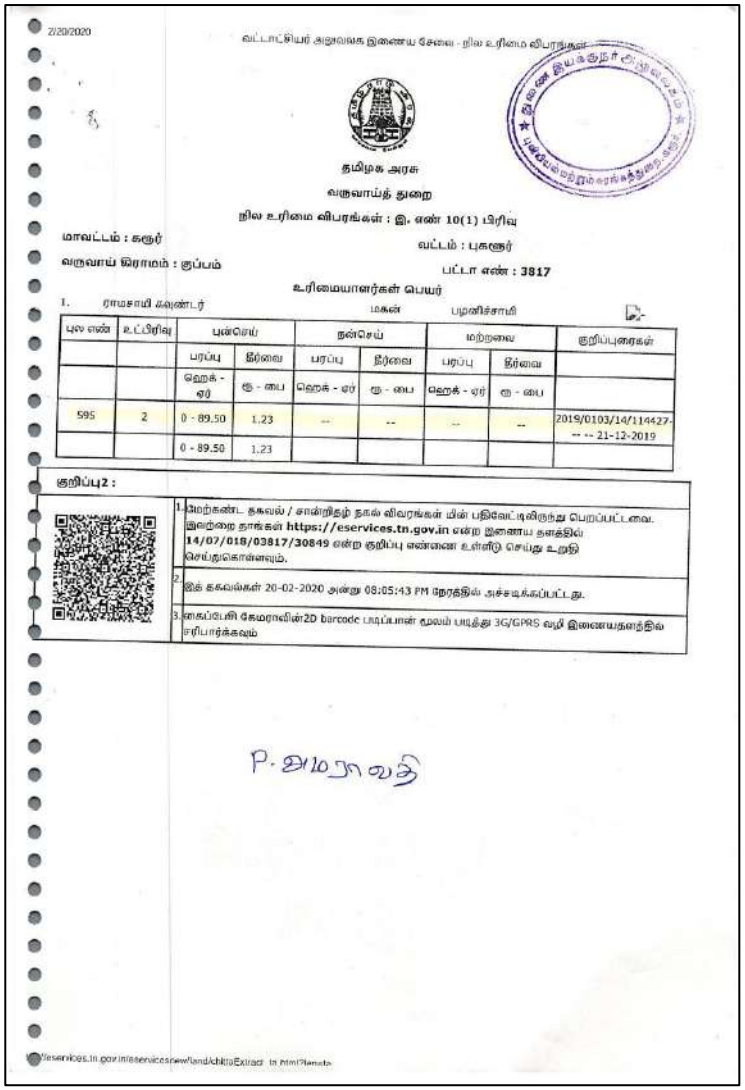
புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	நீர்வை	பரப்பு	நீர்வை	பரப்பு	நீர்வை	
		ஹெக் - ஏர்	ரு - பை	ஹெக் - ஏர்	ரு - பை	ஹெக் - ஏர்	ரு - பை	
513	2C	2 - 25.00	3.11	--	--	--	--	---- -- 21-02-2001
557	1	3 - 86.50	5.35	--	--	--	--	---- -- 21-02-2001
570	2	1 - 68.00	2.35	--	--	--	--	273/1415-42/1415 -- 15-12-2005
		7 - 79.50	10.81					

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **14/07/018/01380/10872** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 26-10-2021 அன்று 12:41:29 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

P. அமராவதி

https://eservices.tn.gov.in/eservicesnew/land/chittaExtract_en.html?lan=en 1/1



2/20/2020 வட்டாட்சியர் அலுவலக இணைய சேவை - நில உரிமை விபரங்கள்

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : கரூர் வட்டம் : புகளூர்

வருவாய் கிராமம் : குப்பம் பட்டா எண் : 3817

உரிமையாளர்கள் பெயர்

1. ராமசாமி கவுண்டர் மகன் பழனிச்சாமி

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	நீர்வை	பரப்பு	நீர்வை	பரப்பு	நீர்வை	
		ஹெக் - ஏர்	ரு - பை	ஹெக் - ஏர்	ரு - பை	ஹெக் - ஏர்	ரு - பை	
595	2	0 - 89.50	1.23	--	--	--	--	2019/0103/14/114427 -- -- 21-12-2019
		0 - 89.50	1.23					

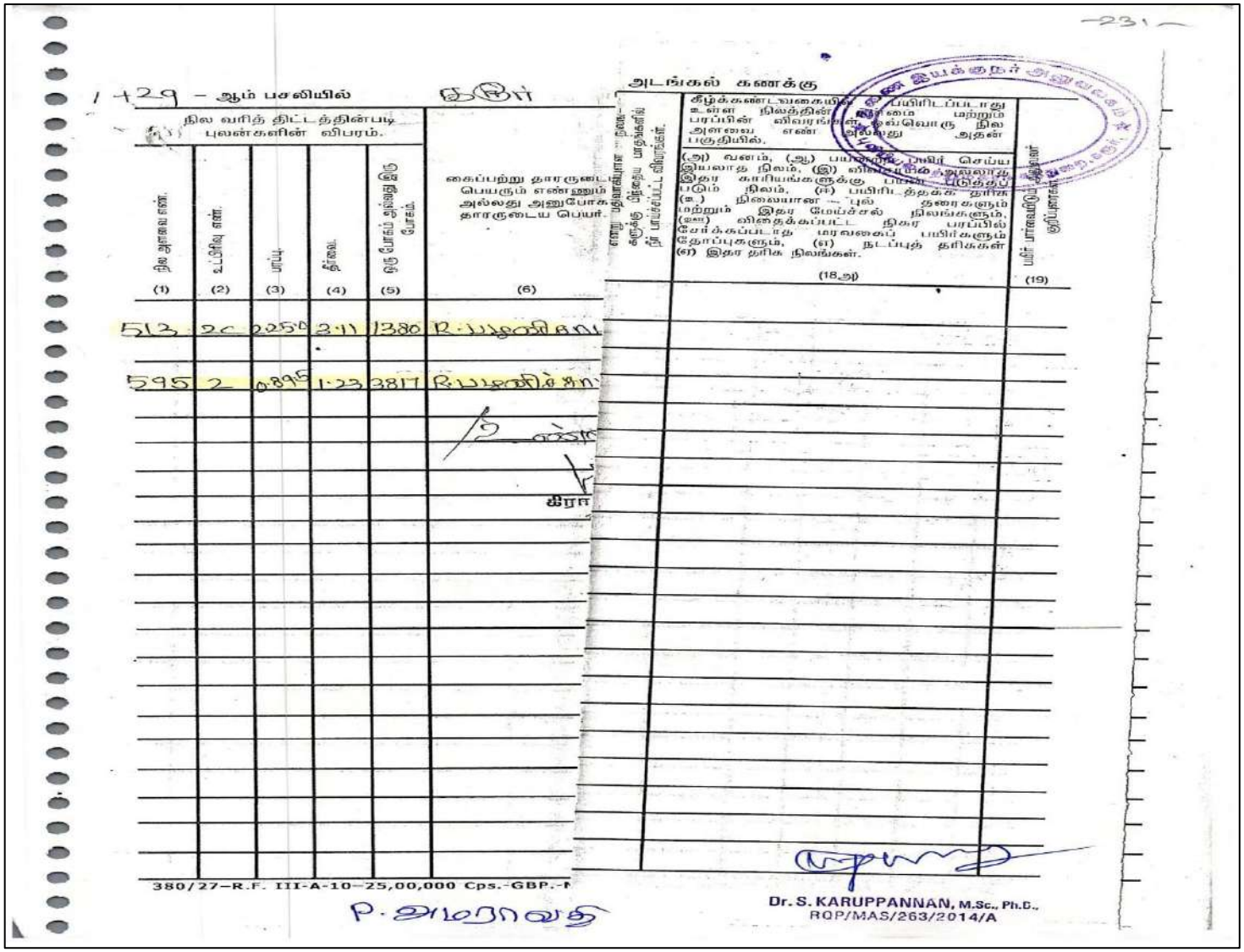
குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **14/07/018/03817/30849** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-02-2020 அன்று 08:05:43 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

P. அமராவதி

https://eservices.tn.gov.in/eservicesnew/land/chittaExtract_ta.html?lan=ta

Copy of patta chitta documents



Adangal Document