

# MINING PLAN FOR PULLAMADAI-II SAND QUARRY

Approved under Rule 12 of 1988, Mines Minerals Conservation and Development Rules, 1988 & under section 10(1) of M.C.A. Act 1957, Tamil Nadu, Government Order, 1998

Scale: Horizontal = 1:2000 Vertical = 1:1000

## LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT : 4.86 H. Ha.  
S.P.NO : 102/79  
VILLAGE : PULLAMADAI-II  
TALUK : KULMANGALAM  
DISTRICT : KAMARATHUR  
STATE : TAMIL NADU

For

### APPLICANT

THE EXECUTIVE ENGINEER,  
Public Works Department,  
Water Resources Department,  
Mining and Monitoring Division,  
Madurai

### PREPARED BY

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R. Rajasekar, Proprietor, GOLDEN MINING,  
No.44 Chinnai nagar,  
Perambalur - 626 105

Executive Engineer,  
Public Works Department,  
Water Resources Department,  
Mining and Metallurgy Division,  
Muzrai.



**CONSENT LETTER FROM THE APPLICANT**

The Mining Plan in respect of Sand quarry over an extent of 4.8810 Ha of Government land (Muddakota Road) in S.F.No. 523 (P) of Perumathal - B Village, R.S.Mangalam Taluk, Kannur taluqa, District, Tamil Nadu State has been prepared by

R. Rajanikanth Reddy

ROP/CSN/264/2013/A

I request the Assistant Director, Department of Geology and Mining, Kannur taluqa District to make further correspondence regarding of the Mining Plan with the said Recognized (Qualified) Person on the following address:-

R. Rajanikanth M.Sc.,

ROP/CSN/264/2013/A

Golden Mining Solutions,

NeGA, Chelvarajapur, Perumathal (P.O),

Talukodan (T.R.), Cannanore 606 106

Cell: 9870110345, 9822200862

E-mail: rajanikanth1963@gmail.com

(r.rajnikanth@gmail.com)

I hereby undertake that all modifications as made in the Mining Plan by the Recognized (Qualified) Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the Applicant

Executive Engineer,  
PWA, MRO.

Mining and Metallurgy Division,  
Muzrai.

Place: Muzrai  
Date: 06-06-2019.

Executive Engineer PWA/MRO,  
Muzrai.


Executive Engineer,  
Public Works Department,  
Water Resources Department,  
Mining and Monitoring Division,  
Madurai.



**DECLARATION**

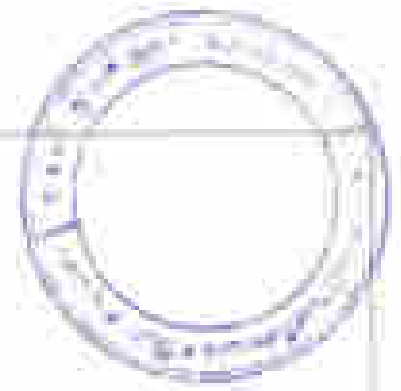
The Mining Plan in respect of 6000 square feet (an extent of 4.88.0 Hia of Government land (Kattakulam Survey) in S.P.No.522 (A) of Palanichandi - II Village, R.E. Shripulath Taluk, Namakkal District, and Tamil Nadu State has been prepared with my consultation and I have authorized the contractor and agree to implement the same in accordance with the Mining laws.

Signature of the Applicant:

  
Executive Engineer,  
P.W.D., W.R.D.,  
Mining and Monitoring Division,  
Madurai.

Place: Madurai.  
Date: 25.08.19.

  
Executive Engineer P.W.D.,  
W.R.D. Division,  
Madurai.



**R. RAJASEKAR M.Sc.**  
 HQP/CNN/264/2015/A  
 Quality Mining Solutions,  
 No.4A, Chettiar Nagar, Perambalur (P.O.),  
 Thiruvananthapuram (T.N.), Coimbatore- 641 105  
 Cell: 98701 10245, 9882304402  
 Email: rajasekarqms123@gmail.com  
 rajasekarqms@gmail.com

**CERTIFICATE**

This is to certify that, the provisions of Rule 12 of Draft Mine Mineral Conservation and Development Rules, 2010 & as per amendment rules 41 & 42 under Tamil Nadu Mine Mineral Conservation Rules, 1959 have been observed in the preparation of Mining Plan for the grant of Sand quarry lease over an extent of 4.88.0 Ha of Government land (Kottakkoral River) in S.P.No. 222 (H) of Pallamada - II Village, K.S.Mangalam Taluk, Kanniyakumari District, Tamil Nadu State has been prepared for.

**The Executive Engineer,**  
 Public Works Department,  
 Water Resources Department,  
 Mining and Rehabilitation Division,  
 Madurai.

However, specific permission / exemptions / relaxations and approvals are required, the applicant will approach the concerned authorities of State and Central Governments for granting such permissions etc.

It is also certified that information furnished in the above mining plan are true and correct to the best of my knowledge.

Certified

  
**R. Rajasekar M.Sc.**

HQP/CNN/264/2015/A  
**R. Rajasekar, M.Sc.**  
 Registered  
 Reg. No. RMP/1908/012/A

Place: Perambalur  
 Date:

  
**R. Rajasekar M.Sc.**  
 Registered  
 Reg. No. RMP/1908/012/A

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*[Signature]*  
/ Director General, PWD/MCO,  
M & M Division,  
Mumbai-2.

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 for Electrical Engineering Department,  
 M & M Division,  
 Mysuru-2.

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 Executive Engineer, M&A  
 M & A Officer  
 Madurai

## MINING PLAN FOR MINOR MINERALS

### LAND

Over an extent of 4,00,0 Hectares of Government land (Kattakuruvu Block) in S.P.No. 571 (A) of Palamuru - II Village, R.R. Mangalam Taluk, S. P. Ananthapur District, Tamil Nadu.

(Project under the II of Minor Mineral Conservation and Development Rules, 2011 and the amendments thereto & II under Small Area Minor Mineral Conservation Rules, 1999)

### 1. INTRODUCTION

1. The present mining plan & Environmental Management Plan is prepared by The Executive Engineer, Public Works Department, Water Resources Department, Mining and Quarrying Division, Madurai.
2. Traditionally Public Works Department creates, maintains and protects all irrigation systems including the dykes. Periodical maintenance including silt-cleaning of the drains/river is carried out to maintain the functional efficiency including the carrying capacity of the river. But as river flood protection works are carried out by increasing top level of land and protecting the sides of land with vegetation.
3. The silt-cleaning was never carried out in river due to the silt constraints. Therefore, prolonged siltation in dykes and more, the level of the floor of riverbed has increased and reduced the carrying capacity.
4. Whenever floods and consequent damages occurred, it was resorted to increase the land level to restore the carrying capacity of river. It was never thought of re-siting the river due to the enormous cost; it requires and the problem of ways and means to dispose the de-silted mud. Consequence of this change in river regime and reduction in carrying capacity of the Kattakuruvu River, the floods in the river, about the flow of water resulting in land erosion and consequent breaches, which lead to loss of property and lives.
5. Solution to the above problem is to de-silt the dykes in the Kattakuruvu Block by expending huge amount. Alternatively, the economical solution to this problem is to raise the sand to remove the silt. This option would yield the net revenue to the state and get apart from making available the important construction material for infrastructure development at a reasonable price to the common people.

*(Signature)*  
Executive Engineer, PWD  
M & M Division  
Madurai.





- 6. As per G.O. No. 45/Industries (S&M), Department, dated 25.09.2002 committee had been constituted to examine a survey of sand and gravel beds in the state with reference to sand quarry. The committee observed that, even though several rules on sand mining exist, illegal quarrying of sand is out of control. Attempts for regulating sand mining is varied with different regulations with the State Geology and Mining Department, Revenue Department and Public Works Department. Hence, implementation and monitoring of rules and regulations regarding sand quarrying are not effective. The urgent task of sand mining regulation, should be entrusted to a Single Agency.
- 7. The Government issued an order vide G.O. No. 90, Industries (S&M), Department, D.O. No. 16/2003 to regulate sand quarries in Tamil Nadu by Public Works department. Accordingly, sand quarrying operations are being carried out from October 2003 in districts of the Tamil Nadu. Hence this project of mining of sand for maintenance the functional efficiency of Kottakulam River and its carrying capacity.
- 8. The applicant proposed to sand quarry in Government land (Kottakulam River survey land No. 523 (P) over an extent of 488.0 Ha in Kottakulam River at Pullamadal - B Village, R.S. Mangalam Taluk and Namakkal District for a period of three years only. The upstream level is 8.600 m and downstream level is 8.074 m. The consented sand is used for domestic purpose and other infrastructure development work in and around the district.
- 9. The application was processed by the District Collector Namakkal District and passed an order vide No. 1419/GBM/2018, Dated: 21.06.2018 in which an approved mining plan and Environmental Clearance from the State Level Environment Impact Assessment Authority (SEIAA), Chennai.
- 10. Geological Reserves is estimated at 2,52,216 m<sup>3</sup> of sand and Miscellaneous Reserves is estimated at 54,000 m<sup>3</sup> of sand as indicated in the precise area letter and relevant mining laws in force.
- 11. The proposed quantity of sand is estimated about 34,000 m<sup>3</sup> for the period of three years.
- 12. Environmental assessment:
  - 1. The area does not attract the Forest Conservation Act, 1980 as

  
 Executive Engineer, M&S  
 M & S District  
 Madurai-2.



- (i) There is no forest around 10 Km radius.
- (ii) There is no concrete boundary around 10 Km radius.
- (iii) There is no wild life animal sanctuary within 10 Km radius from the project site area under the Wildlife (Protection) Act, 1972.
- (iv) The area applied for lease is 10 Km away from the interstate boundary, protected area, under wild life protection ACT 1972, critically polluted areas as identified by CPCB and notified Eco sensitive areas.

Therefore, the project needs clearance only from State Level Environmental Impact Assessment Authority (SEIAA), under B2 Category.

**2.0 EXECUTIVE SUMMARY :**

The area applied for lease is a Government land (Korhikolal Over) in Survey Field No. 524 (P) in Tapanpuria - II Village, R.S. Mangalim Taluk and Murambaipattana District.

- a. Village Panchayat - Tapanpuria - II
- b. Positional Detail - R.S. Mangalim
- c. The total available reserves = 20,000 m<sup>3</sup> of Sand.
- d. The proposed quantity of reserves  
Level of production to be mined = 28,800 m<sup>3</sup> of Sand for a Period of Three years.
- e. Proposed for Normal mining quantity = 28,800 m<sup>3</sup> (100%)
- f. Sand extent of the area = 4.250 Ha.
- g. Proposed Period of mining = Three years.
- h. Required Depth of mining = 1.0 m (Avg) below the theoretical floor level level.
- i. Height Of Banks = 2.200 m (Avg)
- j. Method of mining, level of mechanization  
Manual mining method is proposed without drilling and blasting.
- k. Type of machines used in the quarry  
It is a normal mining operation, hence no machines are proposed for this quarrying operation.
- l. No trees are uprooted due to mining operations.

*[Signature]*  
 Ecotek Engineering Pvt. Ltd.  
 M & M Colony  
 Madurai



m. The same applied for being is (item) 4-380 for which is indicated by it carries. The Centers are designed as 1 to 8 chart also that is (item) 4-380 for which is indicated by it carries. The boundaries for the boundaries are listed below.

**Table - I**

**Palaamdal - II Village (Tapest No. 55-27-14)**

Boundary/Centre's	Coordinates		Boundary/ Centre
	Latitude	Longitude	
1	00°47'46"N	78°02'14"E	1-2 = 150 m
2	00°48'12"N	78°02'34"E	2-3 = 225 m
3	00°48'14"N	78°02'14"E	3-4 = 200 m
4	00°48'20"N	78°02'34"E	4-5 = 150 m
5	00°48'14"N	78°02'14"E	5-6 = 225 m
6	00°48'12"N	78°02'34"E	6-7 = 200 m
7	00°48'14"N	78°02'14"E	7-8 = 225 m
8	00°48'14"N	78°02'34"E	8-1 = 150 m

- a. Around 20 employees are proposed to be deployed for the quarrying operations.
- b. Total Cost of the project Rs. 37.35.940/-

**3.0 GENERAL INFORMATION**

3.1.a	Name of the Applicant	The Executive Engineer,
3.1.b	Address of the Applicant with phone No and e-mail id if any	Public Works Department, Water Resources Department, Mining and Mining Engineering Division, Nagpur. Pincode - 481 021 Cell No. 9625010010 Email: nshindia@mp.gov.in
3.1.c	Status of the Applicant:	Inducted (The Applicant is an Executive Engineer, on behalf of Public Works Department, Government of Madhya Pradesh)
3.2.a	Address which the applicant intends to mine	None
3.2.b	Phone and communication letter No.	Please see communication letter received from District Collector, Nagpur (signature letter vide No. No.

*(Signature)*  
Executive Engineer, M & M, Nagpur  
M & M, Nagpur  
Madhya Pradesh



		1419/GM&G/2014 Dated: 21.06.2014
2.2c	Period of permission / lease granted	The subject is for a period of <b>three years only</b>
2.2d	Name and Address of the RQP preparing Mining Plan	M. Rajasekar M. S. RQP/GM&G/2014/2013/1A, Golden Mining Solutions, No-44, Chandra Nagar, Periyadani P. O, Thirthahalli (T.3C), Coorg District- 576105 CoE: 0870110245, 0852309563 E-mail: rajasekar@goldenmining.com, rajasekar@gspl.com

**4.0 LOCATION**

a)	Details of the area (WSN location map)	The quarry lease applied area falls in the Kettiakkara: Block, Pulliamoddi - II Village, R.R.Mangalam Taluk & Ramnathapuram District. Please refer the location map enclosed as plate No.1.
	i) District, Taluk and village	Ramnathapuram District, R.R.Mangalam Taluk and Pulliamoddi - II Village.
	ii) Survey Number	223/25
	iii) Extent in hectares	0.88.0 Ha.
	Classification of the area (R/W or Govt. Property / other)	It is a Government (Other Government) Land.
b)	Ownership Occupancy of the applied area (Hereditary right)	It is a Government Land maintained by Public Works Department.
c)	Elevation (in mts), latitude and longitude	Elevation (in mts) is 25-6/14, Latitude (in mts, N) is 12°41'20.60"N Longitude (in mts, E) is 75°52'38.11"E

*(Signature)*  
 M. S. RQP  
 M&G  
 Mysore



c) Existence of public road / Railway line, if any nearby and approximate distance :

There is an existing road running parallel to the bank of the river which leads to Sagara - Kinnarasagara on Northern side of the area.

The nearest Railway station is Kinnarasagara which connects the line between Madurai - Mysore about 20 Km on the Northern side of the area.

**PART - A**

**5.0 GEOLOGY AND MINERAL RESERVES**

**5.1. Brief description of the Topography and general Geology of the area (with plan):**

The main applied area is Kottabekuru River exhibits almost plain topography covered with Sand which is formed by the continuous mechanical action of shore erosion of weathered particles transported and deposited. The altitude of the area is 0.475 m (Maximum from MSL); the slope of the area is gentle towards Eastern side. Please refer the Topography, Geological plans and sections (Plate No -VI & VII).

**5.2. Details of exploration already carried out if any:**

The auger drilling was carried out. The Sand formation is clearly visible right from the surface.

**5.3: Estimation of reserves:**

The Geological plans denoting the commercially viable sand body have been prepared in 1:2000 scales. (Plate No. VI)

The Mean Levels (ML) taken for the reserve calculation.

Totally ten sections have been drawn one along the length side of the area (X-Y) and another nine sections are drawn A1-A2 to A9-A10 sections along the width side of the area to cover the area consider for same in the scale of Horizontal: 1:2000 & Vertical: 1:200. Please refer (Plate No. VII)

The cross sectional area for the proved depth possibilities of S.C in has been worked out for the section. The area worked out sufficing for its length of influence are the longer ones gives the volume for sand in the cross sectional area. The sum total of the in-situ reserves available within the individual cross sectional area gives the Geological reserves of the main applied area.

As the quantity of Sand in the terms of cubic meter. The Geological Reserves, Marketable Reserves are given only in terms of Cubic meter. Please refer Geological Plan and Section shown in (Plate No. VI & VII)

*(Signature)*  
M & M Desai  
Manager



Geological profiles with Geological sections on a scale of Horizontal 1:20,000 vertical 1:200.

The geological Resources calculated up to a depth of theoretical river bed level. The resources in given below.

**Table - II**  
**GEOLOGICAL RESOURCES OF SHOALS**  
**(ABOVE THE THEORETICAL RIVER BED LEVEL)**

S.No	Dist	Area (sq)	Mean Area (sq)	Distance (m)	Geological Resources of Shoals (cu)
1	Old	35.63			
2	60m	12,102	14,291	60	1437,472
3	100m	21.36	18,468	60	738,650
4	150m	21.32	22,663	50	1130,250
5	200m	24.62	18,316	50	1275,794
6	250m	15.34	22,371	50	1128,556
7	300m	11,197	14,608	50	723,427
8	350m	34.5	24,248	50	1212,413
9	400m	17,624	26,232	50	1302,588
10	TRIANGULAR AREA				319,000
<b>TOTAL</b>					<b>9298,763</b>
<b>TOTAL (ROUND OFF)</b>					<b>9,298</b>

**Table - III**  
**GEOLOGICAL RESOURCES OF SILT**

Area in (sq)	Depth in (m)	Volume in (cu) (Area X Depth)	Geological Resources of Silt (cu)
4,28,305	0.5	21,415	21,415
<b>Total</b>			<b>2,14,000</b>

Sd/- **Siddalingaiah**  
 Sd/- **Siddalingaiah** PWD/WRD,  
 W & S Division,  
 Bangalore.



Table - IV

GEOLOGICAL RESOURCES OF SAND (BELOW THE THEORETICAL RIVER BED LEVEL)			
Area in (ha)	Depth in (m)	Volume in (m <sup>3</sup> ) (Area X Depth)	Geological Resources in (m <sup>3</sup> )
4,18,00	5	2,44,000	2,44,000
Total			2,44,000

Average Height of Shoals	= 9,296 m <sup>2</sup> - 48,800 m <sup>3</sup>
	= 0.1900 m <sup>3</sup>
Geological Resources of Shoals	= 8,236 m <sup>3</sup>
Geological Resources of Sand Below the Theoretical river bed level	= 2,44,000 m <sup>3</sup>
<b>Total Geological Resources Of Sand Including Shoals</b>	<b>= 2,53,296 m<sup>3</sup></b>

#### Recoverable resources

There is no material is anticipated in the quarrying operation. The Mineable resource is restricted up to a depth 1.0 m (below theoretical) river bed level. The area bar lease has been applied after leaving the 50 m safety distance on both sides of the bank. Mineable Resources are estimated in area calculation method.

*(Signature)*  
Executive Engineer (PWD) P.O.  
U.S. & Chaman.  
District-2.



**Table - V**  
**MINEABLE RESERVES OF SANDS**  
**(ABOVE THE THEORETICAL RIVER BED LEVEL)**

Stn.	ESS	Area (m <sup>2</sup> )	Mean Area (m <sup>2</sup> )	Classifier (m)	Mineable Reserves of Sands (m <sup>3</sup> )
1	0m	35.63			
2	50m	12.955	24.291	60	1487.675
3	100m	21.98	18.466	40	738.650
4	150m	21.27	22.400	50	1119.070
5	200m	24.802	25.316	30	1275.274
6	250m	19.24	21.571	30	1128.580
7	300m	12.997	18.666	30	733.437
8	350m	24.5	24.248	50	1212.410
9	400m	17.604	26.082	50	1300.980
(ii)		TRIANGULAR AREA			179.000
<b>TOTAL</b>					<b>9298.163</b>
<b>TOTAL (ROUND OFF)</b>					<b>9.298</b>

**Table - VI**  
**MINEABLE RESERVES OF SILT**

Area in (Ha)	Depth (m)	Volume (m <sup>3</sup> ) (Area X Depth)	Mineable Reserves at 50% (m <sup>3</sup> )
4.887	0.5	24,400	24,400
<b>Total</b>			<b>24,400</b>

  
 Engineer  
 H & M Division  
 Bangalore





**Table - VII**  
**MINABLE RESERVES OF SAND**  
**(BELOW THE THEORETICAL RIVER BED LEVEL)**

Area (Ha)	Depth (m)	Volume (m <sup>3</sup> ) (Area X Depth)	Minable Reserves of Sand (m <sup>3</sup> )
488.0	1	48,800	48,800
<b>Total</b>			<b>48,800</b>

Minable Reserves Of Sand = 48,800 m<sup>3</sup>  
Minable Reserves of Sand below the theoretical  
river bed level = 48,800 m<sup>3</sup>  
**Total Minable Reserves Of Sand including  
Shale = 58,098 m<sup>3</sup>**  
(Please refer Page No-VI & Annexure-V)

### 6.0 MINING

#### 6.1. Method of mining (open cast / underground):

The sand is directly loaded into bullock cart. The sand either continuously or discontinuously in the length and breadth of the river. The sand on the river bed causes huge silt and drains along the length and breadth of the river. Hence, by deploying the manual workers to directly load the sand from river bed into the bullock cart, which is 4 to 5 feet height, is not feasible now. Person operating quarry possess good knowledge of the Theoretical river bed level.

*No drilling or blasting is proposed for this type of sand quarrying. It is a conventional eco-friendly quarrying operation.*

The sand will be loaded by manually. After that the loaded bullock cart are allowed to go out after covering the sand load properly with tarpaulin to avoid any spillage.

#### 6.2. Mode of working (mechanized, semi-mechanized, manual):

The quarrying operation is being carried out in manual mining method. Mining activities is being carried out in a manner so that there is no obstruction to the movement of water flow.

The sand is being loaded directly to the bullock cart for transportation to the nearby customers. Initially to approach the quarrying site a temporary road was



ground by using sand mixed with 10% degradable cow-dung manure and a grid around the sand quarrying site to raise the vehicle easily. During seasonal the approach road and grid, necessary obligatory pipes provided wherever necessary. No tree shall be removed in or destruction.

However, movement of bulldozer and other mineral loading will be towards both sides through approach roads connecting to the roads. Lease area already has approach roads, well connected to main highways. No processing of mineral is being done within the lease area.

**Table - VIII**  
**List of equipment required for the quarrying operation**

S.L.No.	Name of the equipment	Capacity	No.
1	Bulldozer	1.18 cum	70 Nos (lit. Monthly)
2	Wheel Loader	1000 cbr	2 Nos.

**6.3: Proposed bench height & width:**

The bench height is 1.0 m vertical bench the width of 11.4 m (Avg).

**6.4: Indicate the overburden / mineral production expected; pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.)**

The pit is deposited over sand. The pit is to excavate upto to a depth of 1.0 m (Avg) below theoretical clay bed level. The application proposed to excavate up to a depth of 1.0 m (Avg) below theoretical clay bed level for a period of Three years only.

**Table - IX**  
**Year Wise Production Table**

Year	Pit No.	Overburden	ISOM (sq. Meters)	Calculated (sq. Meters)	Mineral (cu. m)	Mineral (cbr)	Mineral (cbr)	Qty to be produced (cu. m)
I	1	2154	16366	14366	80	80	80	10.42
II	1	2155	16366	14366	80	80	80	10.42
III	1	2154	16366	14366	80	80	80	10.42
<b>Grand Total</b>		<b>24,400</b>	<b>66,058</b>	<b>58,058</b>	<b>240</b>	<b>240</b>	<b>240</b>	<b>30.42</b>

The application has obtained permission to quarry sand for a period of Three years only.

**Engineer (Public Works)**  
 M & M Design  
 Mysuru-2.



**6.5 Machinery to be used:**

**a) For mining:**

The manual mining method has been adopted for this quarrying operation.

**b) Loading equipment:**

The sand loaded by manually into the bullock cart.

**c) Transportation (includes within the mine and mine to destination):**

The excavated sand has been directly to the nearby customer's site.

**6.6 Disposal of overburden / waste:**

There are no waste is dumped on both side of the river banks.

**6.7. Brief note on conceptual mining plan for the entire lease period based on the geological, mining and environmental considerations:**

Conceptual mining plan is prepared based upon topography, Geological plan and section with an object of three years estimate. Development of lay out, selection of ultimate pit limits etc.

The ultimate pit dimensions of the quarry are given below

**Table - X**

**Conceptual Table**

Description:	L (m)	W (m)	Depth (m) (Avg)
	(Avg)	(Avg)	(Below the horizontal floor level (m))
Conceptual	435	111.4	1.0

It is an Eco friendly Quarrying operation without drilling and blasting.

**1.0 BLASTING**

The quarrying operation is being carried out by open cast method in conjunction with conventional method of manual mining. It is a conventional Eco friendly quarrying proposed without drilling and blasting.

**2.0 WATER CHARGE**

6.1	Depth of water table (based on nearby wells and water holes)	The water table in this area is 4.5 m below ground level as observed in nearby villages.
6.2	Streamlines and places where the mine water is finally proposed to be discharged	There is no such type of activities anticipated in this quarrying operation.



**9.0 OTHER PERMANENT STRUCTURES like shown in the form**

9.1	Habitations / village settlement	There is no habitation / settlement within the radius of 500 m.
9.2	Power lines (HT/LT)	There is no HT or LT line located within the radius of 50 m.
9.3	Water bodies (river, Pond, lake, canal, channel etc.)	The least notified area lies in the Kottakosur River basin; there is no other major water bodies (the pond, lake, within the radius of 500 m.
9.4	Archaeological / historical monuments	There is no Archaeological / historical monuments within 500 m radius from the area.
9.5	Road (NH, SH, rd road)	The National Highway (NH-219) Doddabeta - Kammathipattana which is about 1 km on the western side of the area. The State Highway (SH-39A) Hoyalgudi - R.S.Mangaluru which is about 3.7 Km on Southwestern side of the area.
9.6	Places of worship	There is no place of worship within the Radius of 500 m.
9.7	Reserved Forest / Forest / sancti forest / wildlife sanctuary etc.	There are no Reserved Forests, sancti forest within the radius of 500 m. There is no wild life sanctuary within the radius of 10 km.

*[Signature]*  
Elected Engineer, PWD (NH),  
M & M Division,  
Phase 2



**10.6 EMPLOYMENT POTENTIAL & WELFARE MEASURES**

**10.6.1 Employment potential (skilled, unskilled) :**

**Table - XI**

**Employment Requirement**

<b>Skilled :</b>			
S.No	Description	No.	
1	PWS Assistant Engineer	1	
2	Tribesman Assistant	1	
<b>Total</b>		<b>2</b>	
<b>Un-skilled</b>			
1	Tram Slip Taker	2	
4	Traffic Regulator	Entrance	2
		Exit	2
		Quarrying	2
		Site	
5	Loading Watcher	2	
6	Office Helper	1	
7	Track Maintainer	0	
8	Watchman (Three Shifts)	0	
<b>Total</b>		<b>24</b>	
<b>Grand Total</b>		<b>26</b>	

Allowing for 10% absenteeism, the No. of men of skill will be around 25.

It is ensured that the labour will not deploy less than 18 years. No child labour will engage or recruited for any kind of quarrying operation; all the labours engaged in quarrying operation will be insured till the end of life of quarry.

**10.6.2 Welfare measures**

a) Drinking water	Packaged Drinking water will be brought from the authorized water suppliers in Old R.H.Mungahalli which is about 4.5 km on the Southwestern side of the area.
b) Sanitary facilities	Hygienic Sanitary facilities will be constructed with in the quarrying area as semi-permanent structures.
c) First Aid facility	First aid kit's are kept in Mines office room. If any accident happens first aid will be given on site and the injured person will be taken to the hospital immediately. Hospital is available at R.H.Mungahalli which is about 4.5 km on the Southwestern side of



	<p>the area. The competent staff members will be in charge of first aid.</p>
G) Labour's Health	<p>In the Eco friendly operation, every opportunity for killing or blunting is avoided, with the use of the laser prepared, hence labour's health is not affected in any manner; however, periodically medical checkup will be conducted to all the workers to ascertain any need.</p>
H) Precautionary safety measures to the labour	<p>All the quarry workers will be provided with safety helmets, More Goggles, Ear plugs, ear muffs, Dust mask, reflector jackets and Safety Shoes as personal protective device as per the specification of Employer of Mine Safety. Besides also conducting periodically medical checkups for all workers for any other health related problems, proper training and induction will be given to quarrying personnel to create awareness of Eco friendly quarrying operations.</p>

*(Signature)*  
Executive Engineer, HUDA, M & T Division,  
Bidar-2.

**PART - B**

**11.0 ENVIRONMENT MANAGEMENT PLAN**

11.1	Existing land use pattern	It is a barren land. The land is not used for flow of water during rains and flood seasons.																				
11.2	Water regime	Ground water is about 4-6 m depth. The water table is situated up to 1/0 m below the natural free bed level. Hence the quarry operation will not be affected by the ground water.																				
11.3	Flora and fauna	The main trees are <i>Adhi Patra</i> , <i>Kamra</i> , etc. There is no wild life, bird sanctuary, reserve or sacred forest near the area applied for quarrying lease. No flora of botanical interest or fauna of zoological interest is found.																				
11.4	Climate conditions	Both the North East and South West monsoon seasons here and the summer are the wet winter is cool. During April and May the temperature may goes up to 40°C and during winter the temperature does fall below 20°C. The annual rainfall is around 1200mm.																				
11.5	Human settlement	<p>There are few villages located in 3.0 Km radius from the lease applied area the details of the areas are given below.</p> <p align="center"><b>Table - XII</b></p> <table border="1" data-bbox="718 1500 1436 1814"> <thead> <tr> <th>S.No.</th> <th>Name of the Village</th> <th>Approximate Distance &amp; Direction from lease applied area</th> <th>Approximate Population</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Mahabubnagar</td> <td>25.1 Km</td> <td>100</td> </tr> <tr> <td>2.</td> <td>Manjil</td> <td>29.2 Km</td> <td>200</td> </tr> <tr> <td>3.</td> <td>Kullamilli</td> <td>30.5 Km</td> <td>150</td> </tr> <tr> <td>4.</td> <td>Chinnaru pattanam</td> <td>32.1 Km</td> <td>200</td> </tr> </tbody> </table>	S.No.	Name of the Village	Approximate Distance & Direction from lease applied area	Approximate Population	1.	Mahabubnagar	25.1 Km	100	2.	Manjil	29.2 Km	200	3.	Kullamilli	30.5 Km	150	4.	Chinnaru pattanam	32.1 Km	200
S.No.	Name of the Village	Approximate Distance & Direction from lease applied area	Approximate Population																			
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2.	Manjil	29.2 Km	200																			
3.	Kullamilli	30.5 Km	150																			
4.	Chinnaru pattanam	32.1 Km	200																			
11.6	Plan for air, dust suppression	In this 500 Family quarrying operation only manual mining method are proposed without drilling and blasting. Hence the air quality will not																				



  
 S. Srinivas  
 Executive Engineer, PWD/MHO,  
 M & M Division,  
 Bangalore-5.



		<p>effect due to the quarrying operation, water will be supplied in the form of fire periodically to suppress dust. Ambient Air Quality monitoring will be carried out to check the quality of air and around the Quarry. Data for dust suspension will be extract from the existing roadside nearby road. During transportation the Road will be fully covered by Tarpsheet to prevent dust and spillage. The estimated budget for Air Quality sampling would be around <b>Rs. 90,000/-</b>.</p>
11.7	Plan the noise level control	<p>This Eco-Friendly quarrying operation does not involve any blasting and drilling methods, hence noise will be minimal and this is only due to the movement of bullock cart. Periodically Noise level monitoring will be carried out to check the Noise level in and around the Quarry. The estimated budget for Noise level monitoring would be around <b>Rs. 25,000/-</b>.</p>
11.8	Environmental Impact assessment statement describing impact of mining on the next Three years	<p>The life span of the quarry is proposed for the period of Three years only, the Proposed quarrying for a small production of Sand does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and land is concerned.</p>
11.9	Proposal for waste management	<p>There are all wastage is dumped on both side of the fire line.</p>
11.10	Proposal for reclamation of land affected during mining activities and at the end of mining (filling / leveling etc.)	<p>The quarry operation is restricted up to a depth of 1.5m below the theoretical water table level, after removing the Sand there is no proposal for backfilling or reclamation. The quarried-cum lined will used for fire line of water during rainy and flood season, to avoid problem for lowering the level will be leveled naturally.</p>

For **Sanjay K. Singh**  
 Executive Engineer - PWD/CMA,  
 M & M Division,  
 Jaipur-3.





11.11	Program: of allocation (indicate colour, number, name of species to be allocated)	After the completion of the quarrying operations, the allocation is not proposed inside the quarry lease area, the applicant wishes to plant native species like pinnac, baobab, etc. in the nearby villages and villages. Post after consultation with the competent parastatal authorities. It is proposed to plant around 500 trees. The estimate cost for afforestation and its maintenance is around Rs. 1,00,000/-.
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**11.12 PROPOSED FINANCIAL ESTIMATE / BUDGET FOR (RMP) ENVIRONMENT MANAGEMENT:**

**11.12. A. PROJECT COST / INVESTMENT:**

- i) Land cost :  
It's a Government Land lease on cost is involved.
- ii) Machinery to be used:  
The machineries are proposed for this sand quarrying operation. The sand is directly loaded from above the river bed to bullock cart by manual labours.  
Rs. 20,000/- which includes shovels, baskets, etc.
- iii) Refilling / Fencing :  
There is no proposal for building and fencing, hence no cost is involved.
- iv) Labour shed :  
The labours are from nearby local villages. Hence no cost is involved. Anyhow rest shelter will be constructed as semi-permanent structure of the cost of Rs. 1,00,000/-
- v) Sanitary facility :  
Sanitary facility will be constructed as semi-permanent structure, the cost will be around Rs. 1,00,000/-

**11.12. B. EXPENDITURE:**

- i) Drinking water facility for the labours:  
Drinking water facility at the cost of Rs. 1,500/- month for a period of Three years, the cost will be around Rs. 54,000/-
- ii) Sanitary arrangement:  
Sanitary arrangements at the cost of Rs. 1500/- month the cost will be around Rs. 54,000/- for a period of Three years.

  
 For: **Environment Officer (RMP)**  
**M.S. & D. Division**  
**Bangalore-2.**



**(ii) Safety kits:**

Rs.50,000 will be spent for the safety kits such as Helmet, Goggles, Ear plugs, Ear muffs, Safety shoes and Reflector jackets.

**(iii) Water sprinkling (if necessary) :**

Water sprinkling on road made for dust suppression; the cost will be around Rs. 1,30,000/- for a period of three years.

**(iv) Afforestation etc. :**

No Afforestation is proposed within the lease applied area. plantation will be carried out on the river bank, nearby villages and village roads after consultation with the panchayat authorities. The cost estimate is around Rs.1,00,000/- in which includes Rs.50,000 for sapling & Rs.50,000 for maintenance.

**11.12.C. BUDGET FOR CSR (Corporate Social Responsibility)**

The proposed financial estimate budget for CSR would be around Rs. 17,42,940 (Rs.20 per ton) of the work cost from the equity which will be handed over to the panchayat authority for panchayat development & Social forest program.

**A) Estimated operational Cost of the project:**

i) Site execution (ROWIN)	+Rs.	20,000/-
ii) Run of water	+Rs.	1,00,000/-
iii) Drinking Water	+Rs.	54,000/-
iv) Safety Kits	+Rs.	50,000/-
v) Sanitary facility	+Rs.	1,00,000/-
vi) Summary Administration	+Rs.	54,000/-
vii) Formation of Bio-Degradable Pathways	+Rs.	10,00,000/-
<b>Total</b>	<b>+Rs.</b>	<b>12,78,000/-</b>

**B) Estimated EMP Cost of the project:**

i) Air Quality Sampling	+Rs.	20,000/-
ii) Water Quality Sampling	+Rs.	25,000/-
iii) Noise Level Monitoring	+Rs.	25,000/-
iv) Ground vibration test	+Rs.	25,000/-
v) Water Sprinkling	+Rs.	1,50,000/-
vi) Administration	+Rs.	1,00,000/-
vii) Baseline studies	+Rs.	2,40,000
<b>Total</b>	<b>+Rs.</b>	<b>6,15,000/-</b>

Executive Engineer, PWD/RO,  
H & UD/Sec  
Maddur-2



Cost towards CSR	= Rs. 17,40,940/-
Estimated operational cost of project	= Rs. 15,75,000/-
Estimated EMP Cost	= Rs. 4,13,000/-
<b>Total Cost</b>	<b>= Rs. 37,28,940/-</b>

(The project cost including EMP Cost is about) Rupees thirty seven lakhs thirty five thousand nine hundred forty only)

**12.0 MINE CLOSURE PLAN**

12.1. Steps proposed for phased restoration, reclamation of already mined out areas:

It's a new quarrying project in quarried out areas within the lease applied area.

12.2. Measures to be undertaken on mine closure as per Act & Rules)

This Eco - Friendly quarrying for a depth of 1.12 m (Avg) below the ground level (not level) does not require any backfill, Reclamation and Rehabilitation; any time the closure plan will be prepared after removing the quarry quarry. Leveling the floor will be leveled naturally.

12.3. Mitigation measure to be undertaken for safety and restoration / reclamation of the already mined out area)

This is a fresh sand quarry.

*(Signature)*  
 For Executive Engineer, Urdhva  
 M & C Division  
 Shimoga



**12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT**

- (ii) Permission will be obtained from the District Mines Office to extract the sand from the Boundary Areas and for signs.
- (iii) Care and precautionary measures will be taken for the safety of workers under the Mines and Minerals Act.
- (iv) The applicant will endeavor every attempt to quarry the sand economically without any wastage and to improve the environment and ecology.

Prepared by

B. Balasubrahmanyam

RO/CCN/164/2015/A

B. Balasubrahmanyam

Recognized Qualified Person

Reg. No. 164 / CCN / 2015 / A

Place : Belgaum

Date : / /

ಇದರಲ್ಲಿ ವಿವರಿಸಿರುವಂತೆ ಮರಳು ತೆಗೆಯುವುದಕ್ಕೆ ಅನುಮತಿ ನೀಡುವುದಾಗಿ ತಿಳಿಸಲಾಗಿದೆ. ಈ ಅನುಮತಿ ಮರಳು ತೆಗೆಯುವುದಕ್ಕೆ ಮಾತ್ರವೇ ಅನ್ವಯಿಸುತ್ತದೆ ಮತ್ತು ಅನುಮತಿಯು ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಮರಳು ತೆಗೆಯುವುದಕ್ಕೆ ಅನುಮತಿ ನೀಡುವುದಾಗಿ ತಿಳಿಸಲಾಗಿದೆ. ಈ ಅನುಮತಿ ಮರಳು ತೆಗೆಯುವುದಕ್ಕೆ ಮಾತ್ರವೇ ಅನ್ವಯಿಸುತ್ತದೆ ಮತ್ತು ಅನುಮತಿಯು ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಮರಳು ತೆಗೆಯುವುದಕ್ಕೆ ಅನುಮತಿ ನೀಡುವುದಾಗಿ ತಿಳಿಸಲಾಗಿದೆ.

*(Handwritten signature)*

This Mining Plan is approved SUBJECT to the stipulations included in the Mining Plan Approval No. 164/CCN/2015/A Date: 27/08/15

*(Handwritten signature)*  
 Sr. Executive Engineer (Mines) & S.M. Division  
 Belgaum



ಇವರಿಗೆ

ಶ್ರೀ ರವಿಚಂದ್ರ ಎಸ್. ಎಸ್. ಶರ್ಮ  
ಆರ್. ಆರ್. ಎಸ್. ಕೌನ್ಸಿಲರ್,  
ಶಿವಮೊಗ್ಗ.

ಇವರಿಗೆ

ಸಿ. ಎಸ್. ಸುಬ್ರಹ್ಮಣ್ಯಂ,  
ಕೃಷಿ ಇಲಾಖೆ, ಸಿ. ಆರ್. ಡಿ. ಆರ್.  
ಕಛೇರಿ,  
ಬೆಂಗಳೂರು.

ಕೃಷಿ ಇಲಾಖೆಯ ನಿರ್ದೇಶನ ದಿನಾಂಕ 17.09.2018

ಪ್ರತಿ,

**ದಿಳಿ:** ಹಿರಿಯರು ಅಧಿಕಾರಿ - ಶಿವಮೊಗ್ಗ ಜಿಲ್ಲಾ  
ಸಂರಕ್ಷಣಾ ಇಲಾಖೆ - ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10  
ಎ. ಕಡಲೆ ಜಿಲ್ಲೆಯ ಅಧಿಕಾರಿ ದುರಂತ ಭವನ ಸಂಕೀರ್ಣ  
ಸಂಕೀರ್ಣ ಇಲಾಖೆ - ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10  
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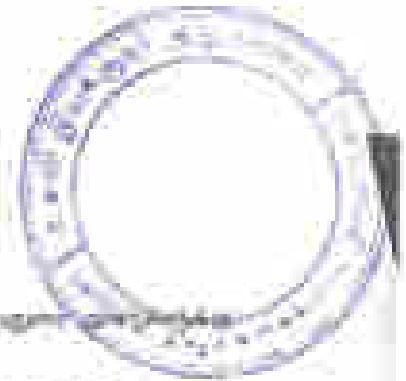
**ಬಿಡಿ:** 1. ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10  
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2. ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10

ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10 17.09.2018

ಶಿವಮೊಗ್ಗ ಜಿಲ್ಲಾ ಸಂರಕ್ಷಣಾ ಇಲಾಖೆ - ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10  
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ಶಿವಮೊಗ್ಗ ಜಿಲ್ಲಾ ಸಂರಕ್ಷಣಾ ಇಲಾಖೆ, ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10  
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ಶ್ರೀ  
ಶಿವಮೊಗ್ಗ ಜಿಲ್ಲಾ ಸಂರಕ್ಷಣಾ ಇಲಾಖೆ  
ಸಿ. ಆರ್. ಡಿ. ಆರ್. - 11 ಕೆ.ಎಂ. - ಎಸ್. 10



ಇದರಲ್ಲಿಯೂ, ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು ಕಾರ್ಯನಿರತರಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.

ಮೇಲಿನ ವಿಷಯಗಳನ್ನು ಕಡ್ಡಾಯವಾಗಿ ಪಾಲಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ. ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು ಕಾರ್ಯನಿರತರಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ. ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು ಕಾರ್ಯನಿರತರಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.

**ಸೂಚನೆ:**

- 1. ಇದರಲ್ಲಿನ ವಿಷಯಗಳನ್ನು 1 ತಿಂಗಳಲ್ಲಿ ಉಪಯುಕ್ತವಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.
- 2. ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು 15 ತಿಂಗಳಲ್ಲಿ ಉಪಯುಕ್ತವಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.
- 3. ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು 15 ತಿಂಗಳಲ್ಲಿ ಉಪಯುಕ್ತವಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.
- 4. ಇಂತಹ ದುರಸ್ತಿ ಕೆಲಸಗಳನ್ನು 15 ತಿಂಗಳಲ್ಲಿ ಉಪಯುಕ್ತವಾಗಿ ನಡೆಸುವಂತೆ ಸೂಕ್ತ ಅನುಕ್ರಮಣಿಕೆ ಮತ್ತು ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ರೂಪಿಸುವಂತೆ ಸೂಚಿಸಲಾಗಿದೆ.

ಇ.ಜಿ.ಎ.ಇ.  
ಅಧಿಕಾರಿ, ಮಹಾನಗರ ಪಂಚಾಯತ್, ಬೆಂಗಳೂರು

ಇ.ಜಿ.ಎ.ಇ.  
ಅಧಿಕಾರಿ, ಮಹಾನಗರ ಪಂಚಾಯತ್, ಬೆಂಗಳೂರು

19.03.2017

  
ಅಧಿಕಾರಿ, ಮಹಾನಗರ ಪಂಚಾಯತ್, ಬೆಂಗಳೂರು



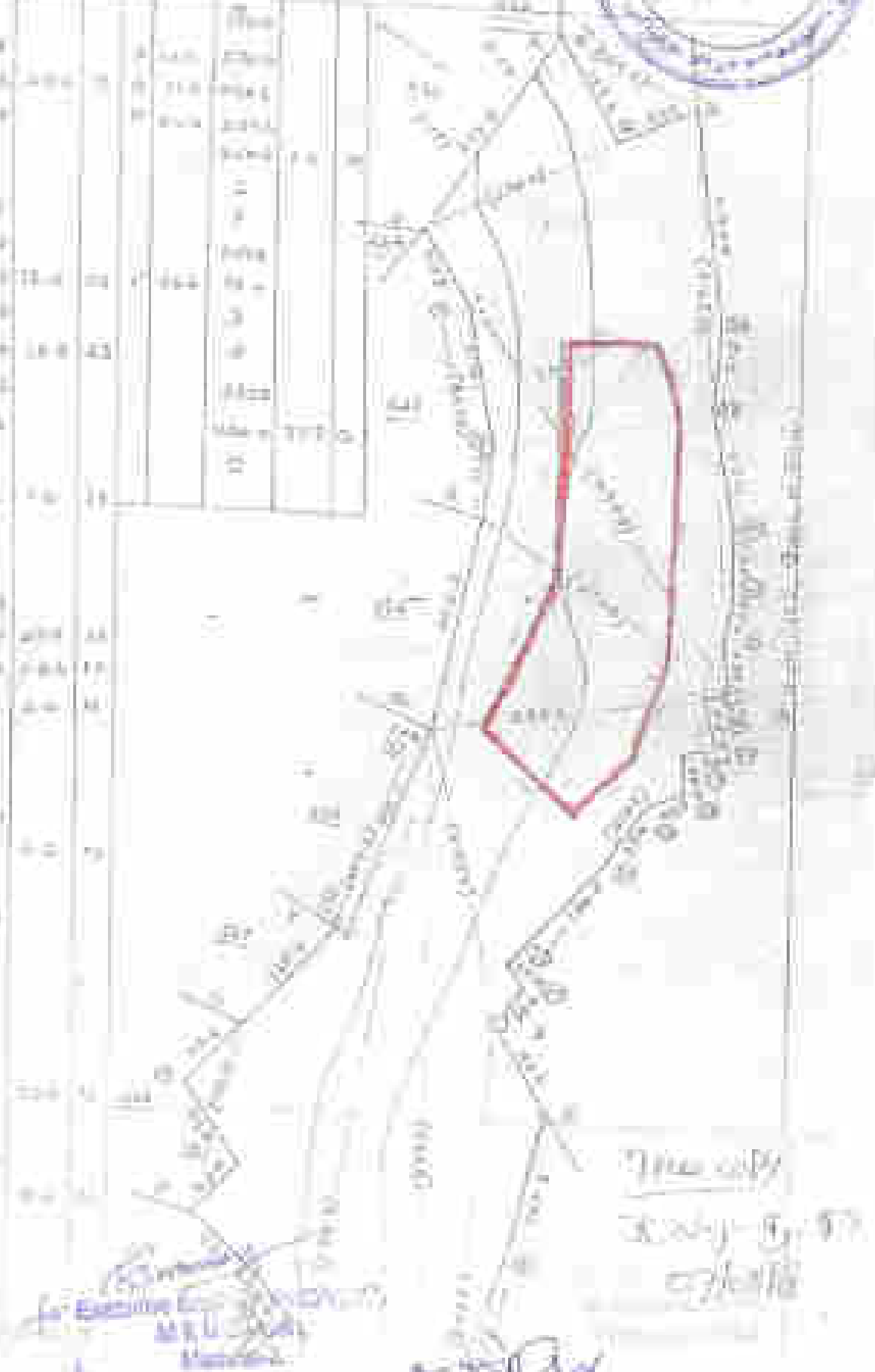
  
**R. RAJASEKAR, M.S.**  
Recognized Qualified Person  
Reg.No.RQP/CNS/264/2015/A

  
**ESQ/MS/Engineer (M&I) (M&I) Division**  
M&I Division  
M&I Division



ALL DIMENSIONS  
IN METERS

Sl. No.	Area (sq. m)	Area (sq. ft)	Area (sq. yd)
1	1000	10764	1277
2	1000	10764	1277
3	1000	10764	1277
4	1000	10764	1277
5	1000	10764	1277
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8	1000	10764	1277
9	1000	10764	1277
10	1000	10764	1277
11	1000	10764	1277
12	1000	10764	1277
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14	1000	10764	1277
15	1000	10764	1277
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40	1000	10764	1277
41	1000	10764	1277
42	1000	10764	1277
43	1000	10764	1277
44	1000	10764	1277
45	1000	10764	1277
46	1000	10764	1277
47	1000	10764	1277
48	1000	10764	1277
49	1000	10764	1277
50	1000	10764	1277



LEASE APPLIED AREA 

**B. RAJASEKAR, M.A.**  
Practising Qualified Person  
Fic No. RUP/CH/264/2015A

This copy  
is only for  
reference



LEASE APPLIED AREA



*R. Rajasekar*  
**R. RAJASEKAR, M.Sc.**  
Registered Qualified Person  
No RQP/CNII/264/2015/A

*M. S. ...*  
**M. S. ...**  
...





Particulars					No. of votes	Total	Percentage	Remarks
No.	Name of the candidate	Party	Symbol	Area				
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True copy  
 10/10/2018  
 10/10/2018

*[Signature]*  
 Election Officer  
 M. N. CHINNIA  
 10/10/2018

*[Signature]*  
 R. RAJASEKAR, M.Sc.  
 Recognized Qualified Person  
 Reg. No. RQP/CEN/264/2018/A

## RESERVE ESTIMATION OF SAND BROALS

ANNEXURE-4



CS - 0m					
EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY (CUM)
8.755	8.8	0.045			
8.768	8.8	0.032	0.078	35	26.730
8.78	8.8	0.020	0.034	35	14.840
TOTAL					41.570

CS - 50m					
EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY (CUM)
8.817	8.84	0.027			
8.812	8.84	0.027	0.175	34	5.798
8.85	8.84	0.010	0.101	32	3.235
TOTAL					9.033

CS - 100m					
EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY (CUM)
8.745	8.45	0.295			
8.771	8.45	0.321	0.225	35	7.875
8.734	8.45	0.284	0.206	35	7.210
TOTAL					15.085

CS - 150m					
EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY (CUM)
8.638	8.42	0.218			
8.651	8.42	0.231	0.190	35	6.645
8.642	8.42	0.222	0.156	35	6.465
TOTAL					13.110

CS - 200m					
EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY (CUM)
8.587	8.25	0.337			
8.615	8.25	0.365	0.262	35	9.170
8.675	8.25	0.425	0.270	35	9.725
TOTAL					18.895



**CR @ 250%**

EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY IN m <sup>3</sup>
8.481	8.2	0.281			
8.37	8.2	0.190	0.190	11	2.091
8.42	8.2	0.220	0.220	50	11.000
8.312	8.2	0.112	0.110	50	10.000
8.170	8.2	0.030	0.044	11	4.094
<b>TOTAL</b>					<b>18.340</b>

**CR @ 500%**

EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY IN m <sup>3</sup>
8.206	8.24	0.036			
8.26	8.24	0.020	0.028	38	3.372
8.465	8.24	0.225	0.172	50	8.625
8.372	8.24	0.132	0.100	38	3.525
8.232	8.24	0.012	0.022	7	0.924
<b>TOTAL</b>					<b>10.997</b>

**CR @ 350%**

EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY IN m <sup>3</sup>
8.405	8.25	0.155			
8.290	8.18	0.110	0.201	38	11.624
8.420	8.18	0.240	0.211	50	10.550
8.500	8.18	0.320	0.301	41	12.371
<b>TOTAL</b>					<b>24.500</b>

**CR @ 400%**

EXISTING LEVEL (m)	THEORETICAL BED LEVEL (m)	DIFFERENCE (m)	MEAN DIFF (m)	DIST (m)	QTY IN m <sup>3</sup>
8.289	8.12	0.169			
8.361	8.12	0.241	0.175	14	3.225
8.009	8.12	-0.111	0.222	50	11.100
8.405	8.12	0.285	0.211	13	3.024
<b>TOTAL</b>					<b>17.404</b>

  
 Sr. Executive Engineer - WORKS,  
 M & S Division,  
 Madhav-2



**MINEABLE RESOURCE OF SAND BIVALVE**

S.No	CSL	AREA (sqm)	WEAR AREA (sqm)	DISTANCE (m)	QTY IN M3
1	0m	25.41			
2	00m	12.353	24.201	50	1407.475
3	100m	22.78	16.444	50	138.520
4	150m	21.02	22.605	50	130.250
5	200m	24.802	28.376	50	121.714
6	250m	15.34	22.371	50	128.350
7	300m	13.985	11.400	50	75.437
8	350m	34.3	24.244	50	127.473
9	400m	17.894	22.052	50	130.388
10		TRIANGULAR AREA			375.000
<b>TOTAL</b>					<b>9298.782</b>
<b>TOTAL (BOUNDARY)</b>					<b>9298</b>

  
**R. RAJASEKAR, M.Sc.**  
 Recognized Qualified Person  
 Reg. No. RQP/CHN/264/2015/A

  
**M. S. D. Srinivas**  
 Executive Engineer/PWD/WRD,  
 M & H Division,  
 Mysuru-2

भारत सरकार / GOVERNMENT OF INDIA  
 कोयला विभाग / MINISTRY OF MINES  
 भारतीय कोयला बोर्ड / INDIAN BUREAU OF MINES

आवेदन क्र. 40



25.10.2012

भारत सरकार कोयला विभाग द्वारा जारी किया गया है  
 भारत कोयला बोर्ड द्वारा जारी किया गया है  
**CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON**  
 (Under Rule 22G of Mineral Concession Rules, 1950)

श्री कोयला विभाग कोयला विभाग के द्वारा जारी यह प्रमाण पत्र, आयोग द्वारा जारी किया गया है - कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है।

Shri. B. Ramaswami Reddy, Rajamahendravaram V, No. 44, Group A Nagar, Paravuram P.O. Tirumala Taluk, District - 505 025. whose Photograph and signature is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby RECOGNISED under Rule 22G of the Mineral Concession Rules, 1950 as a Qualified Person to prepare Mining Plans.

आवेदन क्रमांक 40  
 The application number is

HEE-CHANDRABOTLA

यह प्रमाण पत्र 27.04.2015 तक वैध रहेगा।  
 This recognition is valid for a period of 17 years ending on 27.04.2015.

कोयला विभाग कोयला विभाग के द्वारा जारी यह प्रमाण पत्र, आयोग द्वारा जारी किया गया है - कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है, कोयला विभाग कोयला विभाग द्वारा जारी किया गया है।

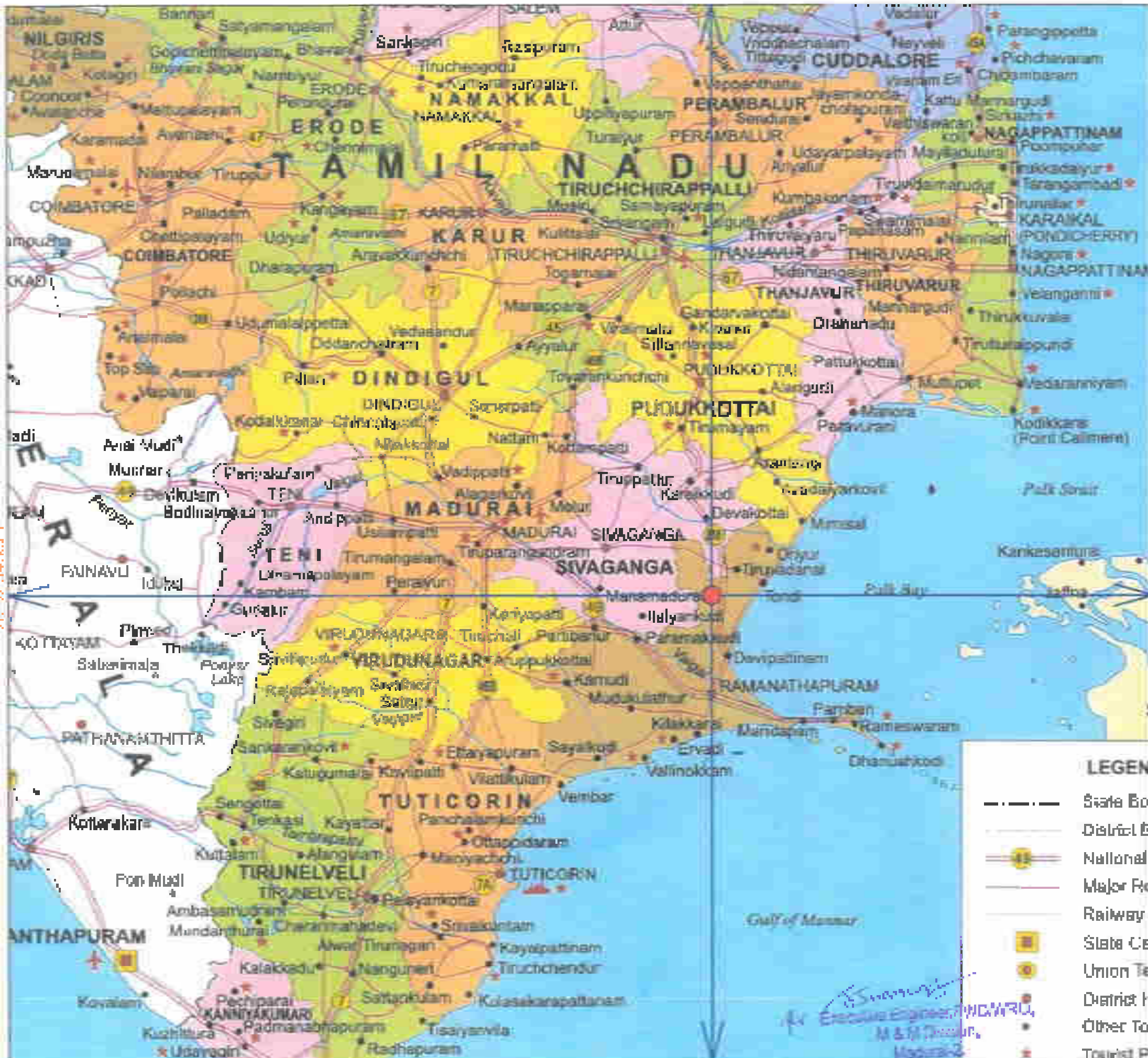
This certificate will be valid only when it is used in the event of submitting the mining information documents to the Mining Plan submitted by him.

कोयला विभाग  
 कोयला विभाग

भारत कोयला बोर्ड / Regional Controller of Mines  
 कोयला विभाग / Indian Bureau of Mines  
 कोयला विभाग / Chandrabotla Region

भारत कोयला बोर्ड  
 CHANDRABOTLA REGION  
 & M. Chandrabotla  
 Madhavaram

09°40'20.66" N



09°40'06.80" N

PLATE NO-1



**APPLICANT:**  
 THE EXECUTIVE ENGINEER,  
 P.W.D.,  
 MINING AND MONITORS DIVISION,  
 MADURAI.

**LOCATION:**  
 S.F.NO : 283/4,  
 EXTENT : 4.89.6 Ha.  
 VILLAGE : TOTTAMADAI-E,  
 TALUK : K.B.MANDALAM,  
 DISTRICT : KANNIYAKUMAR.

**INDEX**  
 QUARRY LEASE APPLIED AREA : ●  
 TOPO SHEET NO : 56 K/14.  
 LATITUDE : 09°19'06.80"N to 09°40'20.66" N  
 LONGITUDE : 78°52'41.20"E to 78°52'38.81"E

LEGEND	
— — — — —	State Boundary
— — — — —	District Boundary
—●—●—●—●—	National Highway with no
—●—●—●—●—	Major Roads
—●—●—●—●—	Railway Line
■	State Capital
●	Union Territory Capital
●	District Headquarters
●	Other Towns
●	Tourist Places
+	Airport
●	Station

LEGEND	
— — — — —	State Boundary
— — — — —	District Boundary
—●—●—●—●—	National Highway with no
—●—●—●—●—	Major Roads
—●—●—●—●—	Railway Line
■	State Capital
●	Union Territory Capital
●	District Headquarters
●	Other Towns
●	Tourist Places

**LOCATION PLAN**  
 NOT TO SCALE

**PREPARED BY**  
 THE PLANS AND SECTIONS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVERNMENT

*(Signature)*  
 Executive Engineer, P.W.D.,  
 M & M Division,  
 Madurai-2

*(Signature)*  
 L. RAJASEKARAN S.C.,  
 RECORDED & INDEXED PERSON  
 TQ/PCNH/264/2015/A



**PLATE NO-II**

**APPLICANT:**  
 M.P. EXECUTIVE ENGINEER,  
 P.W.D.,  
 PUNING AND MONITORING DIVISION,  
 MADURAI.

**LOCALITY:**  
 S.F. NO. 70/10,  
 EXTENT : 4-80.0 HA.  
 VILLAGE : PELLAKANTHUR,  
 TALUK : K. S. MANGALURU,  
 DISTRICT : KANNUR DISTRICT.

**INDEX**

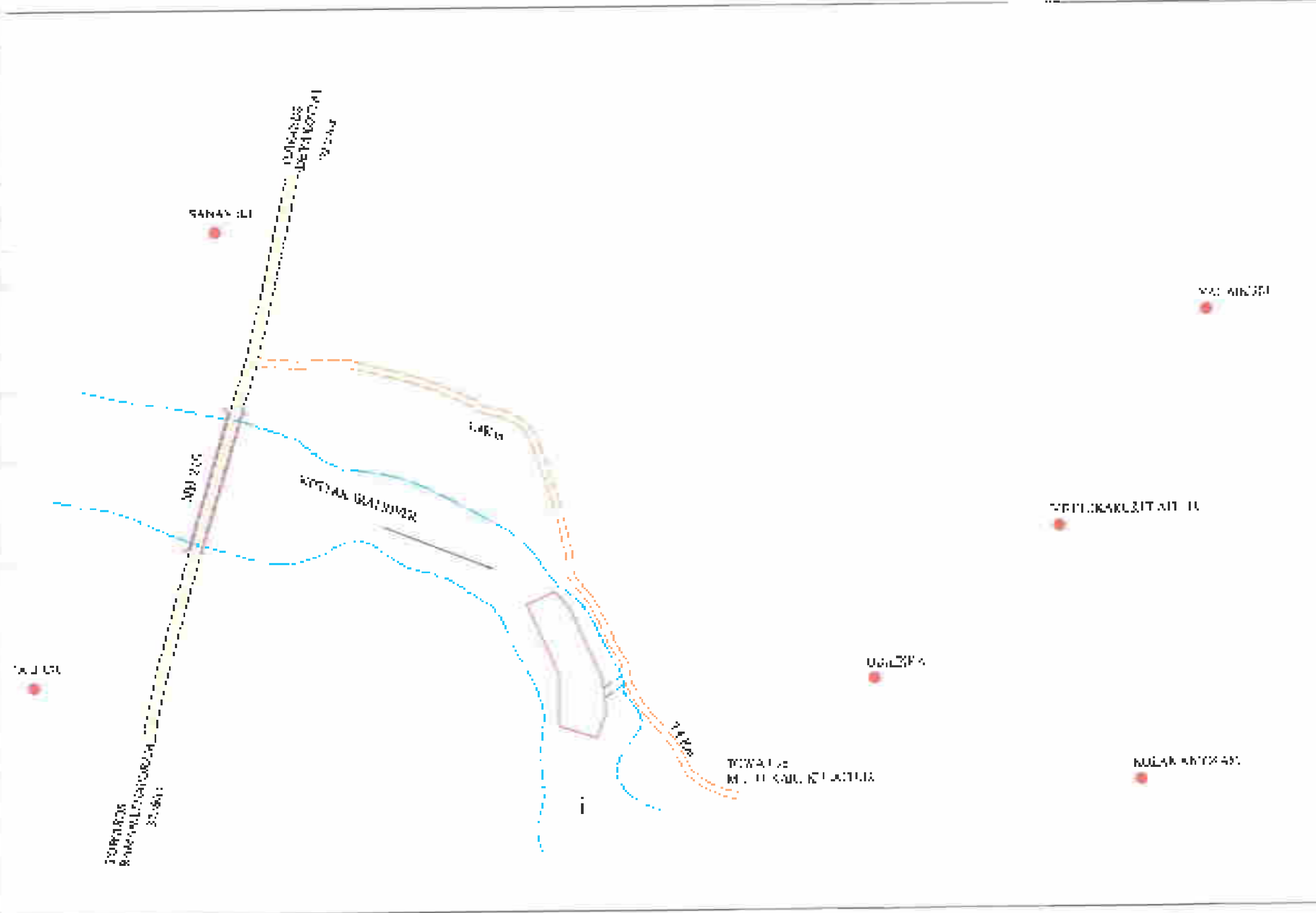
G.L.A BOUNDARY	
APPROACH ROAD	
NH-210	
FANCHAYAT ROAD	
STREAM/CHANNEL	
HABITATIONS	

**KEY PLAN**

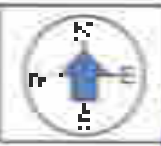
**NORTH SCALE**

**REMARKS:**  
 THE PLANS AND SECTIONS SHOULD  
 BE BASED ON THE ABOVE MAP ATTACHED  
 TO THIS STATE GOVERNMENT.

*[Signature]*  
 R. S. MANGALURU,  
 EXECUTIVE ENGINEER,  
 PUNING AND MONITORING DIVISION



*[Signature]*  
 Executive Engineer, P.W.D.,  
 M & M Division,  
 Madurai.



MAP NO:11

**APPLICANT:**  
THE EXECUTIVE ENGINEER,  
PWD/WRD,  
MINES AND SURVEYING DIVISION,  
MADRURAI.

**LOCATION:**  
S.K.NO : 523(F),  
EXTENT : 4.26 HECT.,  
VILLAGE : MUTTAMADAI-P,  
BLOCK : U.S.MANGALAM,  
DISTRICT : RAMESWATHURAM.

**INDEX**

TOPO SHEET NO : 58-K/14,  
LATITUDE : 09°42'56.80"N to 09°47'20.60"N  
LONGITUDE : 78°52'31.20"E to 78°52'08.81"E

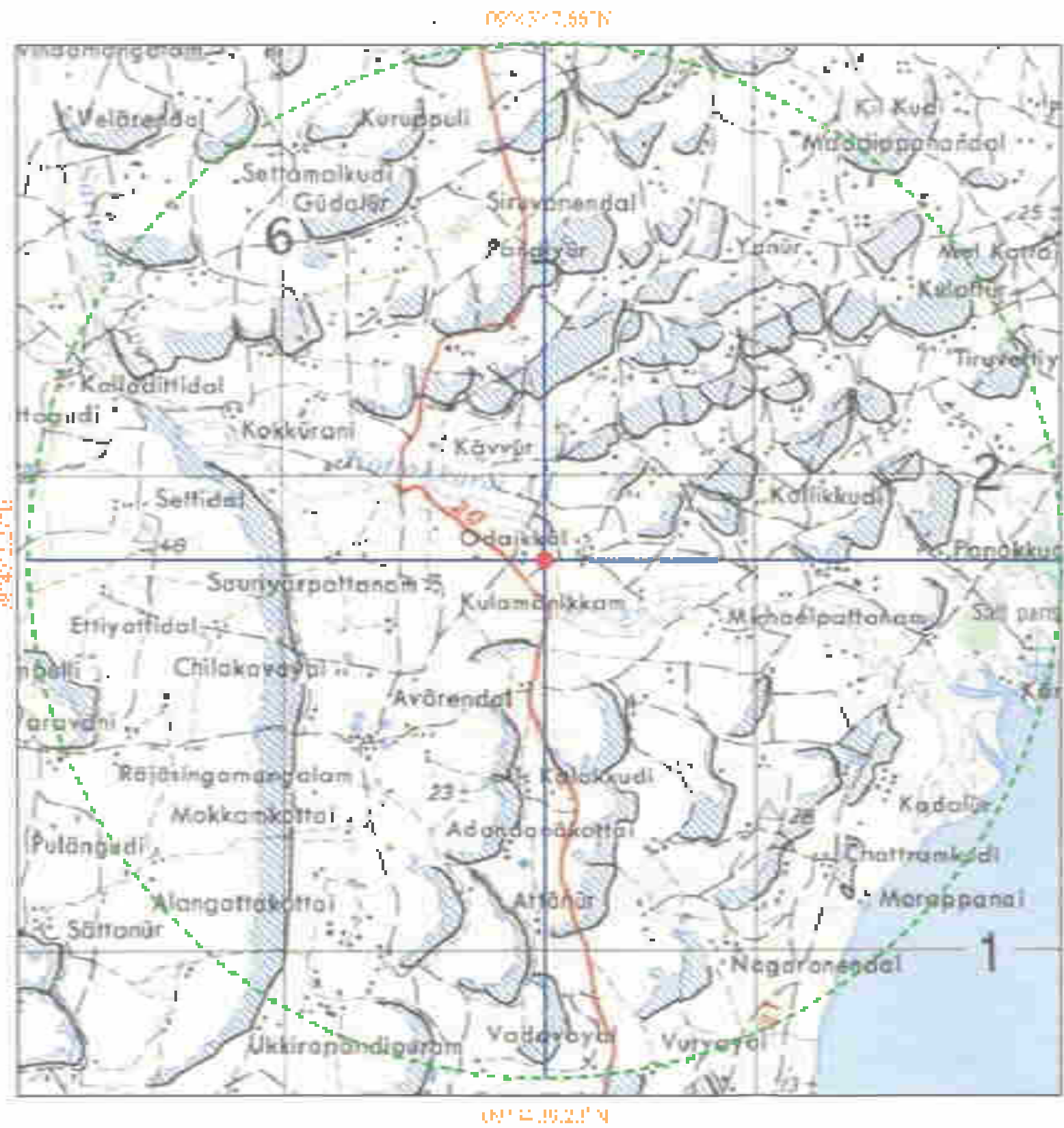
- Q.L.A BOUNDARY
- 10KM RADIUS



**TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10KM RADIUS SCALE- 1:1,00,000**

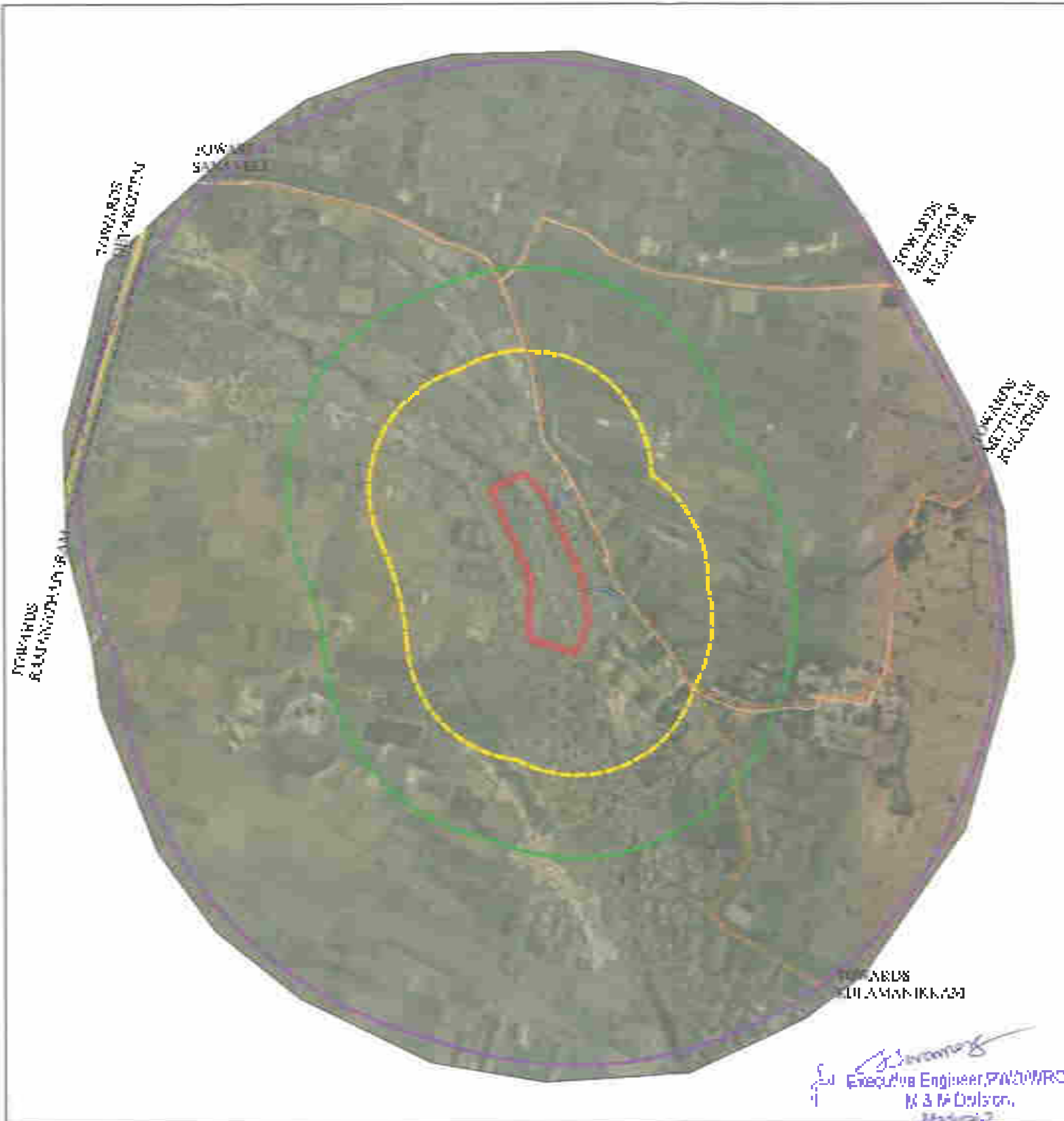
**PREPARED BY**  
THE PLANS AND STATIONS PREPARED  
BASED ON THE LEASE MAP  
AUTHENTICATED BY THE STATE  
GOVERNMENT

*K. Ramesh*  
K. RAMESH, M.Sc.,  
REGULATED STAMPED PERSON  
MADRURAI/26/30/2024



*S. Manoj*  
S. Manoj  
EXECUTIVE ENGINEER, PWD/WRD,  
M & S Division,  
MADRURAI-2.





**PLAN NO-IV**

**APPLICANT**  
 THE EXECUTIVE ENGINEER,  
 PWD/WRO,  
 MIBHO AND PONDURIBITHI SECT,  
 MADURAI.

**LOCATION:**  
 S.P.NO : 523PI,  
 EXTENT : 4.85.5 HA,  
 VILLAGE : PULLEBADA II,  
 TALUK : R.S.MANGALAY,  
 DISTRICT : KAMANTHAPURAM.

**INDEX**

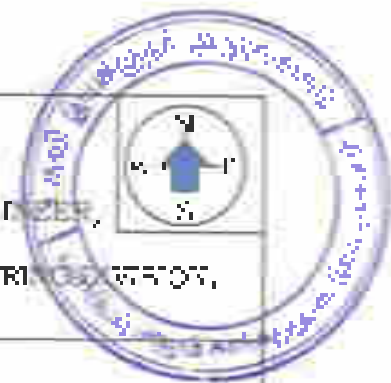
Q.L.A BOUNDARY	
200m Q.L.A	
500m Q.L.A	
1Km Q.L.A	
APPROACH ROAD	
NATIONAL HIGHWAY	
PAVEMENT ROAD	

**SATELLITE IMAGE**  
 SCALE : 1:5000

**PREPARED BY**  
 THE PLANS AND SECTIONS  
 PREPARED BASED ON THE  
 LEASE MAP AUTHENTICATED  
 BY THE FIELD GOVERNMENT

*[Signature]*  
 Executive Engineer, PWD/WRO,  
 M & P Division,  
 Madurai.

*[Signature]*  
 R. RAJASEKARAN S.,  
 REGISTERED QUALIFIED PERSON  
 NO.1081/2017/2018/2019



**PLATE NO. 11**

**APPLICANT:**  
THE EXECUTIVE ENGINEER,  
T.M.D. (R.O.)  
MINDS AND MOUNTAINS SECTION,  
MADRAS.

**LOCATION:**

SUBNO : 209H,  
EXTENT : 436.0 Ha.,  
VILLAGE : PULLANADAI,  
TALUK : R.S. MADURAI,  
DISTRICT : NAMAKKAL.

**INDEX**

C.L.A. BOUNDARY	
300m RADIUS	
500m RADIUS	
1km RADIUS	
APPROACH ROAD	
PANCHAYAT ROAD	
NATIONAL HIGHWAY	
TREES	
WIND DIRECTION	
BARREN LAND	
SEASONAL AGRICULTURAL LAND	
STREAM/RIVER/CHANNEL	
HABITATION	
BRIDGE	
WELL	
VILLAGE BOUNDARY	

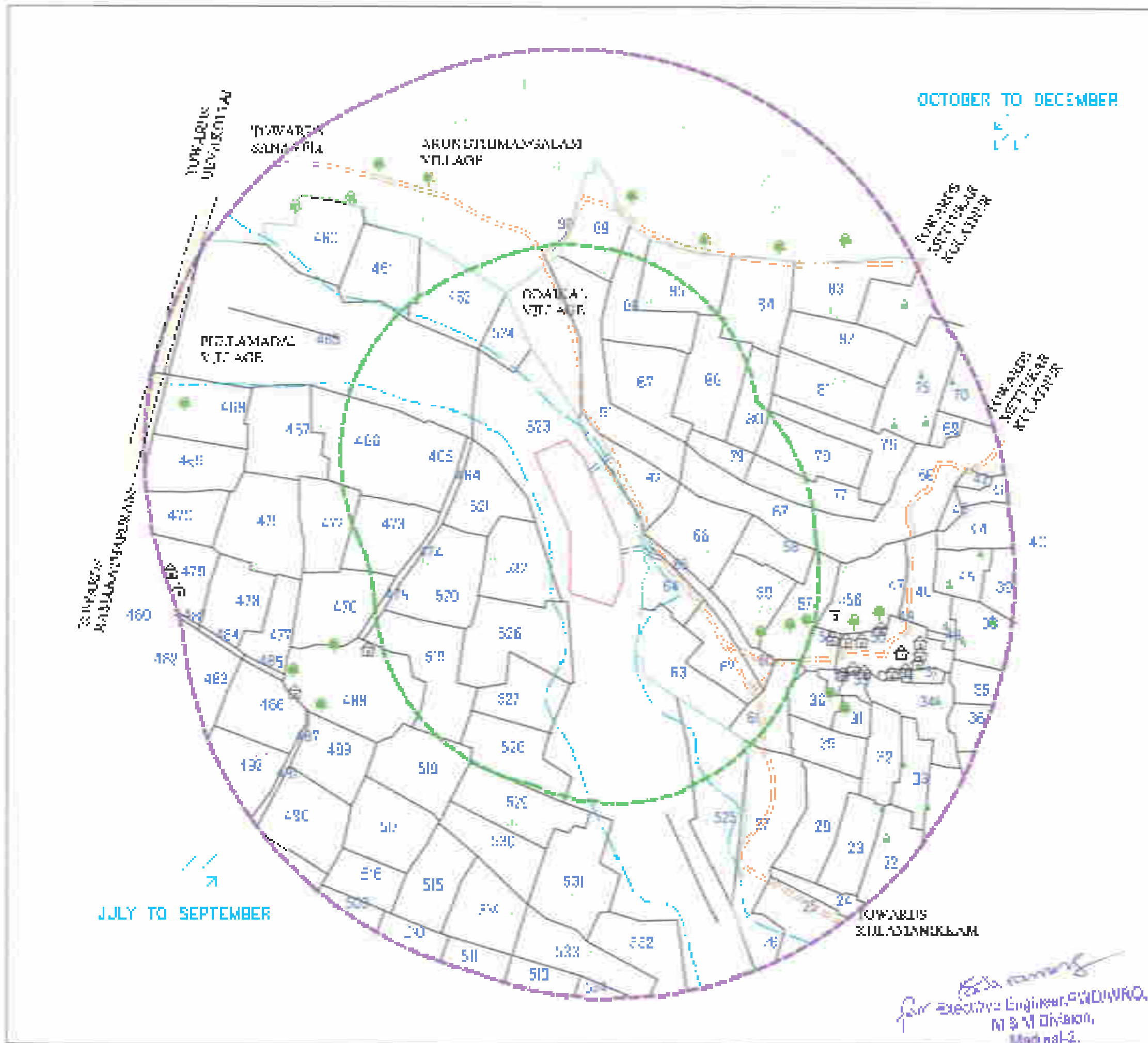
**ENVIRONMENT MANAGEMENT PLAN**  
SCALE: 1:10000

**COMPAILED BY**

THE PLANS AND SECTIONS PREPARED  
HEREON ON THE TRAIL MAP  
APPROVED BY THE STATE  
GOVERNMENT

*For Executive Engineer, M.D. (R.O.)  
M & M Division,  
Madurai-2.*

*[Signature]*  
ENGINEER IN CHARGE,  
REGULATED QUALITY PERSON  
REGISTRATION NO. 10151



3000 N  
3000 E

3000

3000

3000

3000

3000 N  
3000 E



Starting  
Level - 1224m  
Level - 1184.4m

3000 N

3000

3000

3000

3000

3000 N

3000 N

3000

3000

3000

3000

3000 N

3000 N

3000

3000

3000

3000

3000 N

3000 N

3000

3000

3000

3000

3000 N

S.No	LOT NO	LONGITUDE
1	28-07-3-1	28-52-44-09 E
2	28-07-3-2	28-52-46-24 E
3	28-07-3-3	28-52-48-40 E
4	28-07-3-4	28-52-50-56 E
5	28-07-3-5	28-52-53-12 E
6	28-07-3-6	28-52-55-28 E
7	28-07-3-7	28-52-57-44 E
8	28-07-3-8	28-52-59-60 E

MESURUREMENTS

523 (P)

INSPECTOR  
*[Signature]*  
Executive Engineer, PWD  
M & M Division,  
Madurai.

3000 N

3000

3000

3000

3000

3000 N

STATE GOVT

APPLICANT:  
LADIES CO-OPRY SOCIETY LTD,  
PETHCOTTAI,  
KANNIYAKUMARI DISTRICT,  
MADRAS STATE

LOCALITY:  
SITE No - 653/4  
NUMBER - 453/4 H,  
VILLAGE - THULICANNAM,  
TALUK - P. M. S. TALUK,  
DISTRICT - KANNIYAKUMARI.

BOUNDARY	GREEN
TRANGULAR AREA	ORANGE
RESERVED	RED
ROADWAY	BLUE
WATER	PINK
WELL	PURPLE
STARTING POINT	STAR
ENDING POINT	CROSS

QUARTERLY SITING & SURVEYING IN ALL  
TOWNSHIP TOWNS  
SCALE - 1:2000

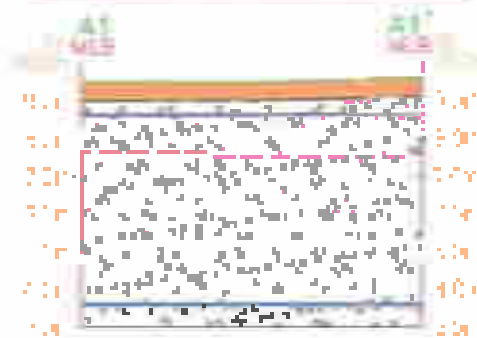
THIS PLAN AND SPECIFICATION PREPARED  
BASED ON THE TRIANGULAR MAP  
ACCOMPANED BY THE STATE  
GOVERNMENT

*[Signature]*  
INSPECTOR,  
PROCESSES DIVISION,  
PUDUCHERI.

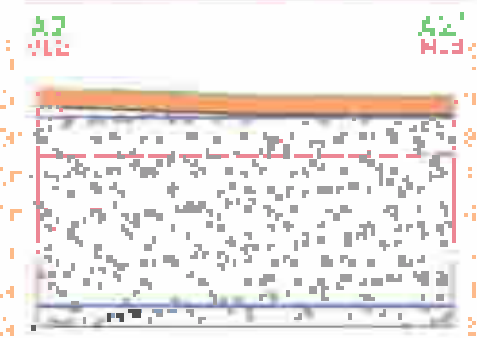




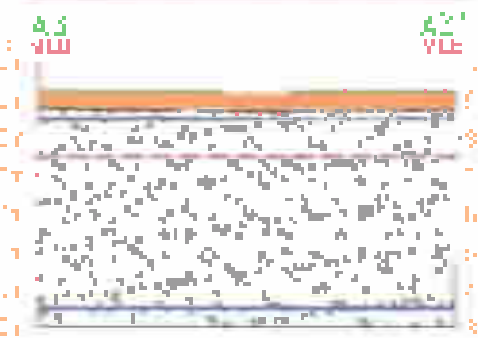
SECTION ALONG A1-A1'



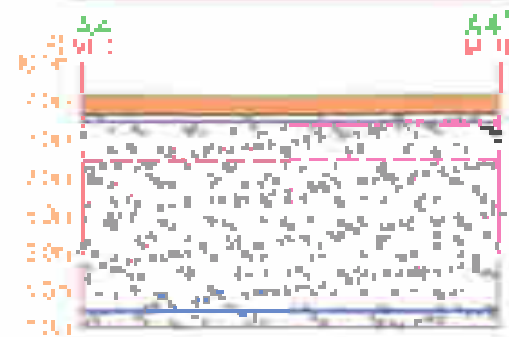
SECTION ALONG A2-A2'



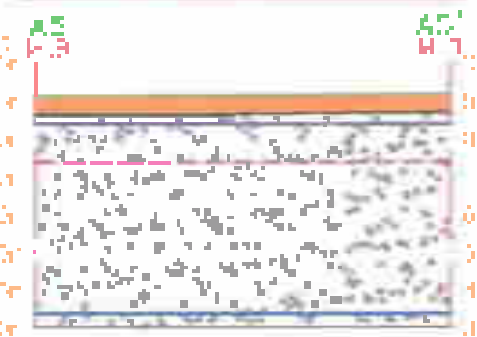
SECTION ALONG A3-A3'



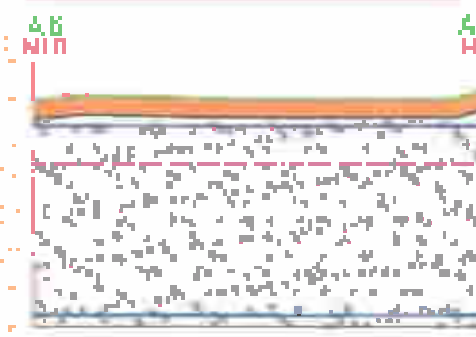
SECTION ALONG A4-A4'



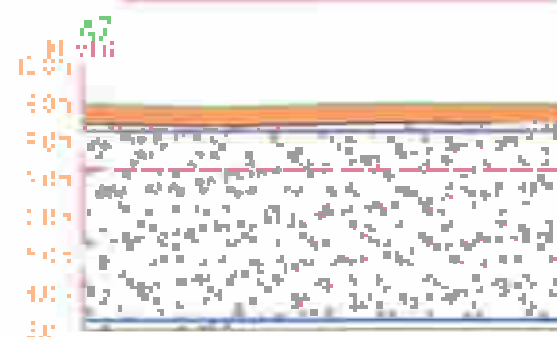
SECTION ALONG A5-A5'



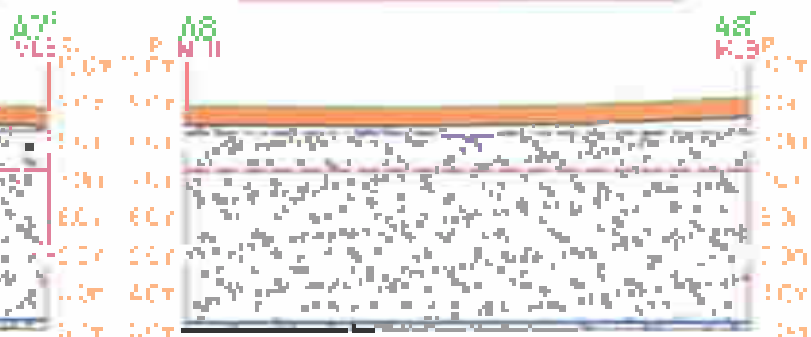
SECTION ALONG A6-A6'



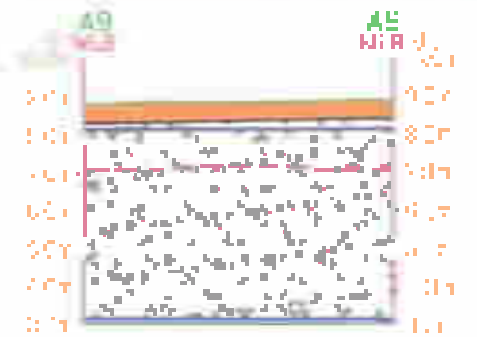
SECTION ALONG A7-A7'



SECTION ALONG A8-A8'



SECTION ALONG A9-A9'



QUARRY FACE DIMENSIONS (M)	
LENGTH OF QUARRY FACE (M)	300.00
BREADTH OF QUARRY FACE (M)	150.00
DEPTH OF QUARRY FACE (M)	
DEPTH OF QUARRY FACE (M)	10.00
DEPTH OF QUARRY FACE (M)	10.00
DEPTH OF QUARRY FACE (M)	10.00

FINISHED QUARRY FACE DIMENSIONS (M)	
LENGTH OF FINISHED QUARRY FACE (M)	300.00
BREADTH OF FINISHED QUARRY FACE (M)	150.00
DEPTH OF FINISHED QUARRY FACE (M)	
DEPTH OF FINISHED QUARRY FACE (M)	10.00
DEPTH OF FINISHED QUARRY FACE (M)	10.00
DEPTH OF FINISHED QUARRY FACE (M)	10.00

SECTION ALONG X-Y

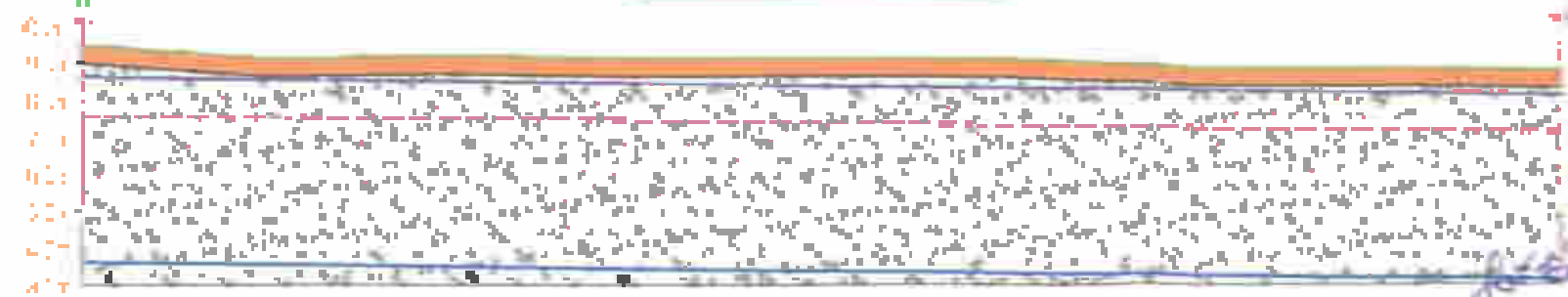


PLATE NO VI

**APPLICANT:**  
THE EXECUTIVE ENGINEER,  
PWD/W&E,  
MINING AND MONITORING DIVISION,  
MADURAI DISTRICT.

**LOCATION:**  
BLOCK : SAKKUP,  
EXTENT : 4.68.0 Ha,  
VILLAGE : PULIYANDURAI,  
TALUK : K.S.BANGALAM,  
DISTRICT : RAMANATHAPURAM.

**INDEX**

- QUARRY LEASE APPLIED AREA [---]
- FINAL CON. SURF. LEVEL [---]
- DEPTH OF ESTIMATION [---]
- PRO. SURF. ESTIMATION [---]
- GRADE SURFACE [---]
- SAND [---]
- GIT [---]

**QUARRY LEASE SURVEY & TOPOGRAPHICAL STATISTICAL SECTION SCALE SECTION FOR 1:1000, 1:500 & 1:250**

**PREPARED BY**  
THE PLANS AND SECTIONS  
PREPARED BASED ON THE LEASE  
MAP AUTHENTICATED BY THE  
STATE GOVERNMENT

*[Signature]*  
R. RAMANARAO,  
RECOGNIZED QUALIFIED PERSON  
RQP/CHN/264/2015/A  
M & M Division  
Madurai-2.