

PRE-FEASIBILITY REPORT

OF

“MADALLI SAND MINING BLOCK NO- 1”

EXTENT -3-20 Acres (1.416 Ha)

ADJACENT TO

SY. NO- 150,151,173,175 & 176

IN

MADALLI - VILLAGE,

SHIRAHATTI – TALUK,

GADAG – DISTRICT

PRE-FEASIBILITY REPORT

1. EXECUTIVE SUMMARY:

Name of the project	Madalli Sand Mining Block NO- 1 Open Quarrying Excavation Sand Block.
Name of the Applicant	Smt. Sujata Ningappa Doddamani W/o Ningappa Doddamani Mulgunda Road, Behind Kutira Hotel,
Location	Adjacent to Sy. NO- 150,151,173,175 & 176 in Madalli - Village, Shirahatti – Taluk, Gadag – District
Maximum production capacity	2,000 tons/annum
Mining method	Semi Mechanized Open quarrying excavation
Source of water	6.14 KLD of Potable water will be sourced through Bore wells of nearby village for 5 workers
Extent of Sand Block area	1.416 Ha

1.1 PROJECT DESCRIPTION

Site Description

The proposed Madalli Sand Mining Block No- 1 is adjacent to Sy. NO- 150,151,173,175 & 176 in Madalli - Village, Shirahatti – Taluk, Gadag – District. The Madalli Sand Mining Block NO- 1 is proposed for ordinary sand Quarrying over an extent of 3-20 Acres (1.416 Ha)

Choice of Fuel

No fuel will be used in the proposed mining activity.

Common Facilities

The common facilities such as resting hut & Drinking water facility and first aid box will be provided near the site.

Source & Availability of water

Total water requirement will be 6.14 KLD. Water is basically required for domestic purpose only. Water will be sourced from the Borewell of nearby village.

Pollution Control Measures

Dust is the likely pollutant generated during vehicular movement. However the proposed mining operation will be carried out as per MOEF circulars. Hence there will not be any fugitive dust due to the mining operations. This will be controlled by avoiding overloading of trucks consequently spillage and by controlling speed of trucks.

2. INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 Identification of project and project proponent. In case of mining project, a copy of mining lease/ letter of intent should be given:

Department of Mines and Geology Permission letter No. GABHUE/HEBHUV/GADAGA/SA. MA. THA. AM. LETTER /2018-19/289.

2.1 Need for the project and importance to the region:

Sand is an extremely needful material for the construction. Different types of sands are used for construction like pit sand, river sand and sea sand. Sand which is used in the construction purpose must be clean, free from waste stones and impurities. River sand is procured from river streams and banks and is fine in quality unlike pit sand. This type of sand has rounded grains generally in white-grey colour. River sand has many uses in the construction purpose such as plastering etc. The source of river sand will be river bed so it can be made available only from mining.

In view of the tremendous growth in Construction & infrastructure it has been proposed to excavate Madalli Nala bed from Madalli Sand Mining Block No- 1 which has found to have high deposits of Nala sand.

2.2 Demand- Supply Gap:

There is a good demand for River sand as River sand is much more superior for construction purpose than any other sand used for construction.

2.3 Imports vs. Indigenous production:

Not applicable.

2.4 Export Possibility:

Not applicable

2.5 Domestic/ export Markets:

The materials will be sold in nearby Local market for construction and other infrastructure projects.

2.6 Employment Generation

This project will lead to indirect employment opportunities. Local people will be benefitted with the sand excavation, sand transportation, in trade and other ancillary services. Employment in these sectors will be primarily temporary or contractual and involvement of unskilled labor will be more.

3. PROJECT DESCRIPTION

3.1 TYPE OF THE PROJECT

The proposed project is open quarrying river sand excavation on the sand block of Gadag district in an area of Madalli Sand Block No- 1 over an extent of 3-20 acres

3.2 LOCATION

Madalli Sand Mining Block No- 1 sand adjacent to Sy. NO- 150,151,173,175 & 176 in Madalli - Village, Shirahatti – Taluk, Gadag – District

3.3 SIZE OR MAGNITUDE OF OPERATION

It is proposed to excavate sand block from Madalli Sand Mining Block No- 1 of 2,000 tons/annum from the blocks. The period of extraction of sand will be 5 years.

3.4 PROJECT DESCRIPTION WITH PROCESS DETAILS

3.4.1 MODE OF WORKING:

An open cast quarrying by Manual method is adopted for extraction of the ordinary sand. An approach road connecting to each individual block of the Block will be made separately and the same road will be used for transport. The area where significant quantity of water present

mining activity will be avoided there. Mining work shall be carried out in one bench of 0.5- to 1m deep from surface level of river bed. The mine face will be inclined towards the periphery for safety. Water shall be sprinkled on River Sand to suppress any dust that may be raised during digging and loading operations. Extraction and loading of mineral into trucks shall be carried out mechanically. Silt extracted if any shall also be loaded mechanically and stacked separate.

3.4.2 DEVELOPMENT AND PRODUCTION PROGRAMME

The mining shall be done Semi Mechanized. The working period for mining will be restricted to 180 days (6 months) and during rainy season no mining shall be undertaken. The mining operations in the lease area would be confined to day light hours from 9.00 am to 5.00 pm. Mining of sand shall also take cognizance of the location of the active channel bank. It shall be located sufficiently away preferably more than 3 m away (inwards) safety zone from the bank to minimize effects on river bank erosion and avoid consequent channel migration. There after a haul road, 4 m wide will be made along the side. Trucks / Tractor, Trolleys will be used for the mineral transportation. There is no generation of O/B & waste. It shall also be ensured that mining will not be carried out below water table.

Year wise ordinary sand development & production are given below.

PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 1st YEAR (PROVED)				
<i>PLAN AREA In sq. m.</i>	<i>RANGE OF DEPTH OF THE BLOCK in m.</i>	<i>TOTAL VOLUME In Cu. m.</i>	<i>BULK DENSITY Cu.m/Ton</i>	<i>TOTAL QUANTITY IN TONNES</i>
13,900	0.5 to 1.0	1176.47	1.7	2,000
PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 2nd YEAR (PROVED)				
<i>PLAN AREA In sq. m.</i>	<i>RANGE OF DEPTH OF THE BLOCK in m.</i>	<i>TOTAL VOLUME In Cu. m.</i>	<i>BULK DENSITY Cu.m/Ton</i>	<i>TOTAL QUANTITY IN TONNES</i>
13,900	0.5 to 1.0	1176.47	1.7	2,000
PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 3rd YEAR (PROVED)				
<i>PLAN AREA In sq. m.</i>	<i>RANGE OF DEPTH OF THE BLOCK in m.</i>	<i>TOTAL VOLUME In Cu. m.</i>	<i>BULK DENSITY Cu.m/Ton</i>	<i>TOTAL QUANTITY IN TONNES</i>
13,900	0.5 to 1.0	1176.47	1.7	2,000
PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 4TH YEAR (PROVED)				
<i>PLAN AREA In sq. m.</i>	<i>RANGE OF DEPTH OF THE BLOCK in m.</i>	<i>TOTAL VOLUME In Cu. m.</i>	<i>BULK DENSITY Cu.m/Ton</i>	<i>TOTAL QUANTITY IN TONNES</i>
13,900	0.5 to 1.0	1176.47	1.7	2,000

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13,900	0.5 to 1.0	1176.47	1.7	2,000
PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 5TH YEAR (PROVED)				
<i>PLAN AREA In sq. m.</i>	<i>RANGE OF DEPTH OF THE BLOCK in m.</i>	<i>TOTAL VOLUME In Cu. m.</i>	<i>BULK DENSITY Cu.m/Ton</i>	<i>TOTAL QUANTITY IN TONNES</i>
13,900	0.5 to 1.0	1176.47	1.7	2,000

3.4.3 Life of the Mine:

At the given rate of proposed saleable Ordinary sand production of 2,000 tons/annum from the block. The rejects in the form of pebbles and clay will be back filled in the extracted area as reclamation.

3.4.4 WATER REQUIREMENT

The proposed Mining activity requires 6.14 KLD of water. This includes water for domestic purpose. Water required will be sourced from bore wells available in surrounding village The depth of mining shall be restricted to 0.3 to 1.0 m/water level, whichever is less. Hence there will not be any significant impact on hydrology of the river.

Water Requirement calculation		
Total No of Employees	5	Nos.
Domesic water requirement	0.22	KLD
Waste water generation @ 0.8*domestic	0.17	KLD
Length of approach road	0.50	km
Water requirement for dust suppression @10KLD/km	5	KLD
Total Saplings proposed	150	Nos.
Water requirement for plantation @ 5lpd/sapling	0.75	KLD
Total water requirement	6.14	KLD

3.4.5 Waste Disposal

During the plan period, waste will be removed/ excavated, these mineral rejects like shingle and pebbles at river bed will be dumped back in the worked out areas as a part of reclamation.

3.4.6 Ultimate pit limit:

Ultimate pit limit 0.3 to 1.0 meters is with a slope of 30°.

3.4.7 Programme of afforestation:

It is proposed to develop green belt along approach roads and banks of stream /river. Every year it is proposed to carry out afforestation by planting 150 saplings per annum. The species chosen for green belt are fast growing with good canopy & dense leaf density, eco friendly commercial/spices & ornamental plants to give good aesthetic look.

4.1 Site Connectivity:

Componen	Description
Road	SH 45 - 10.7 Kms (E) (Mundaragi to Huvina Hadagali Road)
Rail	Kundgol Railway Station -17.99 Kms (E)

4.2 LAND USE

The Sand block area is open surface excavation on Madalli Nala bed. The land use will be converted to mining area.

4.3 TOPOGRAPHY(ALONG WITH MAP):

The topography of the area in essence is almost flat with very slight undulation due west consisting of small ordinary sand bars. The subject area falls within the Madalli Nala which flows in East to West direction and joins to Tungabhadra River Bed confining to a part of Madalli Village. The notified quarrying lease area is extended over a length of 1020 mtrs with average width of 14 mtrs. The highest elevation is 626 mtrs & lowest elevation is 624 mtrs above the MSL with in the sand block. .

4.4 SOIL QUALITY

The land is rugged sandy and barren area having thick sand cover. The area is not having top soil or fertile soil.

4.5 CLIMATIC DATA

The district falls under semi-arid tract of the state and it is categorized as draught prone. And normal rainfall is 613 mm. The north-east monsoon contributes nearly 24.8% and prevails from October to early December. And about 54.7% precipitation takes place during south –west monsoon period from June to September. And remaining 20.5% takes place during rest of the year. In the district from December to February month is winter season, During April to May temperature reaches up to 42°C and December and January temperature will go down up to 16°C. The standard deviation of rainfall in the district

varies from 1.3 to 263.5mm from west to east. The average standard deviation for the district is about 146 mm. South West monsoon is dominant followed by northeast monsoon

4.6 FLUCTUATION OF WATER TABLE:

The sand mining will be limited to 0.3 to 1.0 m which is in accordance with MoEF stipulations / Karnataka Minor Mineral Concession (Amendment) Rules, 2013. Hence the ground water depletion will not occur due to the proposed sand mining.

4.7 HYDROLOGY OF RIVER

It is open quarrying surface sand mining only. Due to excavation the river-bed becomes flattish. Then the river will be free from over siltation, which may be a reason to the regional hydrodynamics. The depth of mining shall be restricted to 0.3 to 1.0m /water level, whichever is less. Hence there will not be any significant change in Hydrology of the river.

5.0 PLANNING BRIEF:

5.1 PLANNING CONCEPT

The mining operations will be taken as per the Approved Quarry Plan.

5.2 POPULATION PROJECTION

No population projection is anticipated as the proposed mining operations require less number of labours. Unskilled labour required for the mining operations will be absorbed from the nearby villages.

5.3 ENITIES / FACILITIES

Temporary Rest hut and drinking water facilities and first aid box will be provided.

6.0 PROPOSED INFRASTRUCTURE

6.1 MINING AREA:

Mining is proposed to be carried out by Semi Mechanized open quarrying excavation method. JCB / Excavater/ wheel loader will be utilized for excavation.

6.2 RESIDENTIAL AREA (NON PROCESSING AREA)

No residential area is proposed nearby Sand block area.

6.3 DRINKING WATER MANAGEMENT

Water required for the Domestic purposes will be arranged from the bore wells of nearby village.

6.4 INDUSTRIAL WASTE MANAGEMENT

No waste water generation from mining operations.

7.0 REHABILITATION AND RESETTLEMENT (R & R PLAN)

Not applicable.

8.0 PROJECT SCHEDULE & COST ESTIMATES

i) Likely date of start of construction and likely date of completion (Time schedule for the project to be given):

Quarrying will start within a month after getting EC clearance depending on the seasons as no mining operations are proposed during rainy season. The ultimate pit limit is up to 0.3 to 1.0meters.

ii) Estimated project cost along with analysis in terms of economic viability of the project:

Estimated project cost is 72 lakhs. It is economically viable as it is quarrying of River Sand.

Cost of project for 5 years	Rs.
Wages of Employees for 5 year	29,62,000
machinaries	20,00,000
Water Requirement	2,90,000
Environmental Monitoring	2,50,000
Occupational Health and safety	1,30,000
CSR	818000
Afforestation	5,00,000
Miscellaneous & Others	2,50,000
Total	72,00,000

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATION)

- i) Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area:

The Project will bring economic benefits to the state. The mining operations shall be providing employment to approximately 5 persons directly in the excavation and transportation of sand. Most of the local people are likely to be benefited. This project operation will provide livelihood to the poorest section of the society. Mining is expected to have positive impact on socio-economic life of people living in nearby villages.