

PRE-FEASIBILITY REPORT

OF

“ORDINARY SAND QUARRY”

In Patta land

EXTENT – 7-00 Acres (2.832 Ha)

At Sy. No. Sy. No. 6/2A & 8 of

Shirol village,

Naragund Taluk,

Gadag District,

Karnataka

PRE-FEASIBILITY REPORT

1. EXECUTIVE SUMMARY:

Name of the project	"ORDINARY SAND QUARRY" of Sri. Yallappa Sharanappa Navalagunda.
Name of the Applicant	Sri. Yallappa Sharanappa Navalagunda, Halakere Village and Post, Navalagunda Taluk, Gadag District, Karnataka.
Location	Sy. No. Sy. No. 6/2A & 8 of Shirol village, Naragund Taluk, Gadag District, Karnataka.
production capacity	65,314 tonnes per annum.
Mining method	Semi Mechanized Method
Source of water	5.4 KLD of Potable water will be sourced through Bore wells of nearby village for 14 workers
Extent of Sand Block area	2.832 Ha

1.1 PROJECT DESCRIPTION

Site Description

The proposed "Ordinary Sand Quarry in patta land at Sy. No. 6/2A & 8 of Shirol Village, Naragund Taluk, Gadag District over an extent of 7-00 Acres (2.832 Hectares).

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 5.4 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 license/ letter of intent should be given:

The sand Blocks have been identified by the **District Sand Monitoring Committee** for extraction of ordinary sand & the Public Works Department shall Tender / Auction for the disposal of sand blocks as per **Notification No. HEBHEVEE /GABHUEE/GAJIKA/AADISUCHANE/2018-19.**

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.

In view of the tremendous growth in Construction & infrastructure it has been proposed to excavate sand from Shirol Ordinary Sand Quarry which has found to have high deposits of sand.

2.2 Demand- Supply Gap:

There is a good demand for sand for construction purpose.

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 sand excavation on the sand block of Gadag district in an area of Quarrying plan, in patta land at Sy. No. 6/2A & 8 of Shirol Village, Nargund Taluk, Gadag District over an extent of 7-00 Acres (2.832 Hectares).

LOCATION

Shirol Ordinary Sand Quarry plan, in patta land at Sy. No. 6/2A & 8 of Shirol Village, Nargund Taluk, Gadag District over an extent of 7-00 Acres (2.832 Hectares)

3.2 SIZE OR MAGNITUDE OF OPERATION

It is proposed to excavate sand block from Shirol Ordinary Sand Quarry of 65,314 tonnes per annum. The period of extraction of sand will be 3 year.

3.3 PROJECT DESCRIPTION WITH PROCESS DETAILS

3.3.1 MODE OF WORKING:

An open cast quarrying by Semi-Mechanized method is adopted for extraction of the ordinary sand. An approach road connecting to each individual block will be made separately and the same road will be used for transport. The mine face will be inclined towards the periphery for safety. Water shall be sprinkled on 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.

3.3.2 DEVELOPMENT AND PRODUCTION PROGRAMME

All the operations are carried out by semi-mechanized method using excavator & no drilling & blasting was engaged. The working period for mining will be restricted to 250 days. There is no generation of O/B & waste.

Year wise ordinary sand development & production are given below.

OF 7-00 ACRES (2.832 HECTARES)

<u>PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 1st YEAR (2018-19)</u>				
PLAN AREA <i>Sq. m.</i>	AVERAGE DEPTH OF THE BLOCK <i>in m.</i>	TOTAL VOLUME <i>In Cu. m.</i>	BULK DENSITY <i>in Ton/cu.m.</i>	TOTAL QUANTITY <i>in Tonnes.</i>
7,684	5.0	38,420	1.7	65,314
<u>PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 2nd YEAR (2019-20)</u>				
PLAN AREA <i>Sq. m.</i>	AVERAGE DEPTH OF THE BLOCK <i>in m.</i>	TOTAL VOLUME <i>In Cu. m.</i>	BULK DENSITY <i>in Ton/cu.m.</i>	TOTAL QUANTITY <i>in Tonnes.</i>
7,684	5.0	38,420	1.7	65,314
<u>PRODUCTION & DEVELOPMENT PLAN PROPOSAL FOR 1st YEAR (2020-21)</u>				
PLAN AREA <i>Sq. m.</i>	AVERAGE DEPTH OF THE BLOCK <i>in m.</i>	TOTAL VOLUME <i>In Cu. m.</i>	BULK DENSITY <i>in Ton/cu.m.</i>	TOTAL QUANTITY <i>in Tonnes.</i>
7,684	5.0	38,420	1.7	65,314

3.3.3 Life of the Mine:

At the given rate of proposed saleable Ordinary sand production of 65,314 TPA. The rejects in the form of pebbles and clay will be back filled in the extracted area as reclamation.

3.3.4 WATER REQUIREMENT

The proposed Mining activity requires 5.4 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 5.0 m.

Water Requirement calculation		
Total No of Employees	14	Nos.
Domesic water requirement	0.6	KLD
Waste water generation @ 0.8*domestic	0.5	KLD
Length of approach road	0.35	km
Water requirement for dust suppression @10KLD/km	3.5	KLD
Total Saplings proposed	250	Nos.
Water requirement for plantation @ 5lpd/sapling	1.25	KLD
Total water requirement	5.4	KLD

3.3.5 Waste Disposal

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

3.3.6 Ultimate pit limit:

The ultimate pit limit in this case is up to 7.5 meters from license boundary which is also known as green belt. Hence the mining is continued up to distance of 7.5 m from the boundary.

3.3.7 Programme of afforestation:

It is proposed to develop green belt in a 7.5 m buffer zone strip of the portion of the license boundary. It is proposed to carry out afforestation by planting 250 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 83 – 1.00 Kms(S) (Kannur to Holealur Road)
Rail	Holealur Railway Station – 10.80 Kms (E)

4.2 LAND USE

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

4.3 TOPOGRAPHY(ALONG WITH MAP):

- The applied area is located in Patta land.
- The terrain is flat terrain sloping North-East.
- No major roads pass through the License area.
- No human settlements within or in the vicinity of the license area. The nearest village Shirol village is at a distance of 0.30 km.
- The drainage pattern of the buffer zone is dendritic to sub- dendritic in nature. Generally the quarrying will be continued during the non- monsoon period.
- The highest elevation is in the Northern side and lowest elevation in the Southern side of the Block i.e. 544 and 543 m RL respectively with reference to a Temporary Bench mark at South-East Corner at 543.1 m RL. The difference in altitude is 1 m. Temporary Bench mark established with an RL of 543.1 m at South -East corner.

4.4 SOIL QUALITY

The land is rugged sandy and barren area having thick sand cover.

4.5 CLIMATIC DATA

The district falls under semi-arid tract of the state and it is categorized as draught Mundargi 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 5.0 m. Hence the ground water depletion will not occur due to the proposed sand mining.

4.7 HYDROLOGY

It is open quarrying sand mining only. The depth of mining shall be restricted to 5.0 m. Hence there will not be any significant change in Hydrology.

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:

The Ordinary sand is well exposed right on the surface, Quarrying will be continued from the North of the license area to South of the license area. An open cast quarrying by semi-mechanized method will be adopted to operate the quarry. Annual production will be 65,314 Tonnes/Annum for three Year. The Hitachi EX 200 and JCB 4DX Eco Excellence will be used for digging and loading activities. No drilling is required as material is non compact in nature and easily diggable by using excavator.

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. The ultimate pit limit is up to 7.5 meters from license boundary this is also known as safe zone/green belt. Hence the mining is continued up to distance of 7.5 m from the boundary

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

Estimated project cost is 218 lakhs. It is economically viable as it is quarrying of patta land.

Cost of project for 5 years	Rs.
Wages of Employees for 5 years (@Rs.300/head)	31,50,000
Machineries*	30,00,000
Water Requirement (@Rs.100/KLD)	4,03,500
Environmental Monitoring (@Rs.12,500/Quarterly)	1,50,000
Occupational Health and safety (@Rs. 1000/Head/Quarterly)	1,68,000
Afforestation (@Rs. 1000/Sapling)	7,50,000
Royalty (@Rs. 60/Ton)	117,56,520
Fencing	16,44,200
Drains	1,80,000
Fire protection	1,50,000
CSR Activities	3,00,000
Miscellaneous	1,50,000
Total	218,02,220

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 14 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.