

**EXECUTIVE SUMMARY**  
**OF**  
**“DARRI SAND MINING PROJECT”**

**At**

**Mahanadi River & Area 16.00 Ha**

**Located**

**Village: Darri,**

**Tehsil: Dhamtari,**

**District: Dhamtari,**

**State: Madhya Pradesh**

**Proposed Production Capacity: 3,17,334  
cubic meter per year**

**APPLICANT**

**Amandeep Singh Chhabra**

**R/o: Makan No 39/5, Rest House Para,**

**Sitapur Sarguja,**

**State - Chhattisgarh**

## 1.0 INTRODUCTION

Environmental Impact Assessment (EIA) is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision making tool, which guides the decision makers in taking appropriate decisions for proposed projects. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are taken into account during the project designing.

The present case comes under category ‘B1’ the purview of EIA Notification, MoEF, Govt. of India, New Delhi dated 14th September 2006 and its subsequent amendments thereof and EIA Guidance Manual for Mining (Feb, 2010) of MoEF, Govt. of India. This Draft EIA study has been carried out to assess the environmental, social and economic impacts of the project and formulate action plans to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options.

### 1.1 IDENTIFICATION OF PROJECT PROPONENT

Letter of Intent has been allotted in favor of Amandeep Singh Chhabra (Project Proponent) by Collector office (Khanij Shakha) District – Dhamtari, Chhattisgarh for Darri Sand Mining Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State – Chhattisgarh and Vide No. 1791/Khanij/Nivida/2022 dated 08.12.2022 over an area of 16.00 Ha and the validity of Letter of Intent period is from 08.12.2022. **(Copy of LOI is enclosed as Annexure – I).**

Terms of Reference has been awarded in favor of Shri Amandeep Singh Chhabra (Project Proponent) by State Environment Impact Assessment Authority, Chhattisgarh for Darri Sand Mining Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State – Chhattisgarh and Vide Letter No. 63/S.E.A.C.CH.G. Nava Raipur Atal Nagar, Dated 03.04.2023 over an area of 16.00 Ha. **(Copy of TOR is enclosed as Annexure – II).**

Mining Plan has been allotted in favor of Amandeep Singh Chhabra (Project Proponent) by Collector office (Khanij Shakha) District Uttar Bastar Kanker for Darri Sand Mining Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State –

Chhattisgarh and Vide Letter No. 846-847 / Khanij / Utkh.yo.anu. / Ret / 2022-23 dated 19.12.2022 over an area of 16.00 Ha. (Copy of Mining Plan is enclosed as Annexure – III).

**Table 1.1 Table showing location and area of minor mineral blocks**

S. No.	River	Area	Location
1.	Mahanadi River	16.00 Ha	Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State – Chhattisgarh
<b>Total Area</b>		16.00Ha	

## **1.2 BRIEF DESCRIPTION OF PROJECT**

This is a project for mining by opencast semi-mechanized method with helping of JCB, Hywa, Excavator, Dumper etc. The proposed average production is 3,17,334 cubic meter per year and the estimated project cost is 1.00 Crores. The lessee is Amandeep Singh Chhabra for mining lease of River Bed Mining over an area of 16.00 Ha at Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State – Chhattisgarh.

The life of the mine will be 2 years as per targeted production.

### **1.2.1 Project Nature, Size & Location**

#### **i. Nature**

The proposed project is River Bed Mining project. The method of mining is opencast Semi mechanized method with helping of JCB, Hywa, Excavator, Dumper etc.

#### **ii. Size**

The proposed capacity is 3,17,334 cubic meter per year and the estimated project cost is 1.00 Crores. The lease area is 16.00 Ha.

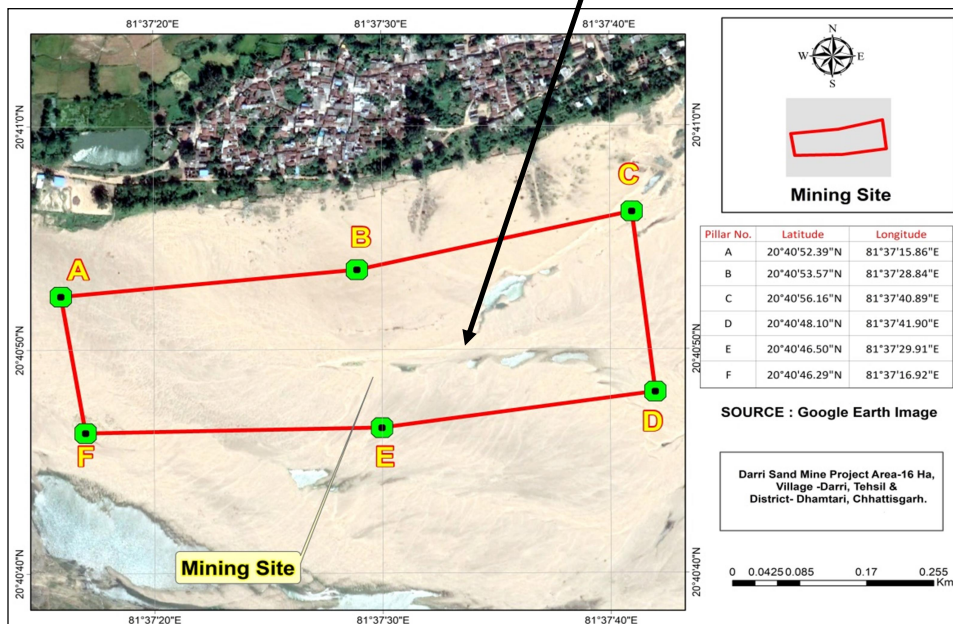
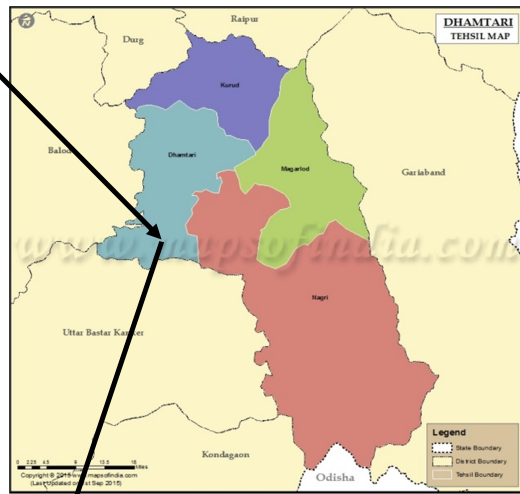
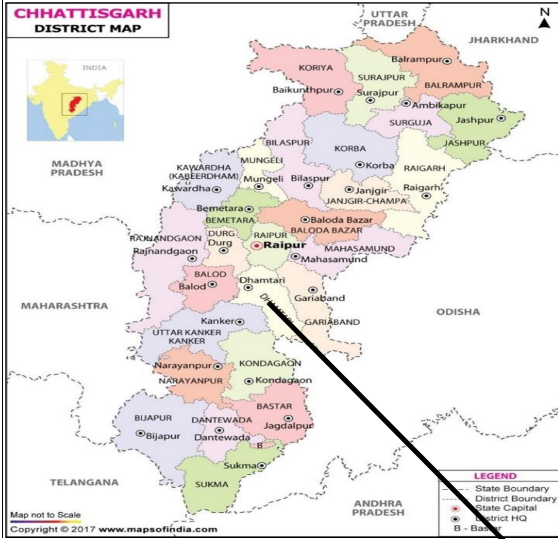
#### **iii. Location**

The mining area is located in Khasra No. 759, Downstream Mahanadi, Village – Darri, Tehsil & District – Dhamtari and State – Chhattisgarh.

### **Table No. 1.1 Latitude & Longitude of Lease Area**

<b>Pillar No.</b>	<b>Latitude</b>	<b>Longitude</b>
A	20°40'52.39"N	81°37'15.86"E
B	20°40'53.57"N	81°37'28.84"E
C	20°40'56.16"N	81°37'40.89"E
D	20°40'48.10"N	81°37'41.90"E
E	20°40'46.50"N	81°37'29.91"E
F	20°40'46.29"N	81°37'16.92"E

**Figure – 1.1 – Location map of proposed project site**



**Table No. 1.2 Salient Features of Project**

Project Name	Darri Sand Quarry
Location of mine	Village : Darri Tehsil : Dhamtari District : Dhamtari State: Chhattisgarh
Toposheet number	64 H/10
Minerals of mine	Sand
Total Mineable reserves	6,34,668 m <sup>3</sup>
Life of mine	2 years
Proposed average production of mine	3,17,334 m <sup>3</sup> /Year
Method of mining	Opencast Semi Mechanized
No of working days	240 days
Water demand	Total water requirement is about 9.24 KLD = 1.58 KLD (Drinking & Domestic Uses) + 5.66 KLD (Plantation) + 2.0 KLD (Dust Suppression).
Sources of water	Water Tanker
Man power	35
Seismic zone	Zone II
Project Cost	1.00 Crores
EMP Cost	Capital Cost – 11,82,500/- Recurring Cost – 5,29,500/-
PUC	264.445
No. of Trees	16,000

**1.2 GREEN BET PLANT**

Plantation programme will be carried out side boundary limit of lease area on the both the banks of Mahanadi River in consultation with Soil Conservation Department. Year-wise plantation programme for first five years is given mentioned below:

**Table 1. Progressive Afforestation during proposal period**

क्र .	प्रस्तावित वरक्षरोपन हेतु नियत स्थान	पौधों की प्रजातियाँ	मात्रा (संख्या मे )
-------	--------------------------------------	---------------------	---------------------

1.	नदी के किनारे पर ( नदी तट से 1 से 6 पंक्तियों मे )	1-3 पंक्ति – खस, नागर, मोथा एवं स्थानीय घास 4-5 पंक्ति कतंग बांस 6 – पंक्ति – करंज , जामुन, लसोढा, डेनचा, एवं अन्य फलदार वरक्ष	2,000
2.	परिवहन मार्ग	खमेर चिरोल करंज जंगल जलेबी कदम कनक	6,000
3.	आवंटित क्षेत्र के आसपास के ग्राम मे तथा ग्रामवासियों के वितरण हेतु	आम बेर अमल सीताफल नींबू बेल एवं अन्य स्थानीय फलदार पौधों की प्रजातियाँ	8,000
<b>योग</b>			<b>16,000</b>

The following characteristics should be taken into consideration while selecting plant species for green belt development and tree plantation.

- They should be fast growing and tall trees.
- They should be perennial and evergreen.
- They should have thick canopy cover.
- Plantation should be done in appropriate alternate rows around the proposed site to prevent lateral pollution dispersion.
- The trees should maintain regional ecological balance and conform to soil and hydrological conditions. Indigenous species should be preferred.

### **1.3 BASE LINE DATA**

This section contains the description of baseline studies of the 10 Km radius of the area surrounding “River Bed Mining Project”. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

Environmental data has been collected in relation to propose mining for:-

- (a) Land
- (b) Water
- (c) Air
- (d) Biological

- (e) Noise
- (f) Socio-economic

#### **1.4 AMBIENT AIR QUALITY**

The results of AAQ are given in Annexure, the results when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Residential, Rural and Industrial Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

The minimum and maximum level of PM<sub>10</sub> recorded within the study area was in the range of 54.8µg/m<sup>3</sup> to 81.9µg/m<sup>3</sup> with the 98<sup>th</sup> percentile ranging between 71.6µg/m<sup>3</sup> to 80.9µg/m<sup>3</sup>. The 24 hourly average values of PM<sub>10</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 100 µg/m<sup>3</sup> for PM<sub>10</sub> in industrial, residential, rural and other area.

PM<sub>2.5</sub> recorded within the study area was in the range of 26.9 µg/m<sup>3</sup> to 43.4 µg/m<sup>3</sup> with the 98<sup>th</sup> percentile ranging between 36.3µg/m<sup>3</sup> to 42.8 µg/m<sup>3</sup> were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 60µg/m<sup>3</sup> for PM<sub>2.5</sub> for industrial, residential, rural and other areas.

The minimum and maximum level of SO<sub>2</sub> recorded within the study area was in the range of 4.6to 7.3µg/m<sup>3</sup> with the 98<sup>th</sup> percentile ranging between 6.3 µg/m<sup>3</sup> to 7.2 µg/m<sup>3</sup>. The 24 hourly average values of SO<sub>2</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and it was found that all sampling stations recorded values are below the applicable limits 80 µg/m<sup>3</sup> for industrial, residential, rural and other area.

The minimum and maximum level of NO<sub>x</sub> recorded within the study area was in the range of 6.1µg/m<sup>3</sup> to 12.8 µg/m<sup>3</sup> with the 98<sup>th</sup> percentile ranging between 10.9µg/m<sup>3</sup> to 12.4 µg/m<sup>3</sup>. The 24 hourly average values of NO<sub>2</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and it was found that all sampling stations recorded values are below the applicable limits 80 µg/m<sup>3</sup> for industrial, residential, rural and other area.



### **1.5 NOISE ENVIRONMENT**

The values of noise observed in some of the areas are primarily owing to vehicular traffic and other anthropogenic activities. Assessment of hourly night time Leq (Ln) varies from 37.5 to 39.8 dB (A) and the hourly daytime Leq (Ld) varies from 48.8 to 49.3 dB (A) within the study area.

### **1.6 WATER ENVIRONMENT**

The water quality in the impact zone was assessed through physico- chemical and bacteriological analysis of ground and surface water samples. The results have been compared with the drinking water quality standards specified in IS: 10500. It was observed that all the physico chemical parameters and heavy metals from surface and ground water samples are below stipulated drinking water standards.

All the ground water samples analyzed can be considered fit for drinking purpose in the absence of alternate sources.

Comparing the values of pH, DO, BOD and total Coliforms with ‘Use based classification of surface waters’ published by Central Pollution Control Board; it can be seen that all the analyzed surface waters can be compared with class “C” and can be used as “Drinking water source after conventional treatment and disinfection.”.

### **1.7 SOIL ANALYSIS REPORT**

Physical characteristics of soil were characterized through specific parameters viz bulk density, porosity, water holding capacity, pH, electrical conductivity and texture. Soil pH plays an important role in the availability of nutrients. Soil microbial activity as well as solubility of metal ions is also dependent on pH. In the study area, variations in the pH of the soil were found to be slightly alkaline (7.05 to 7.7).

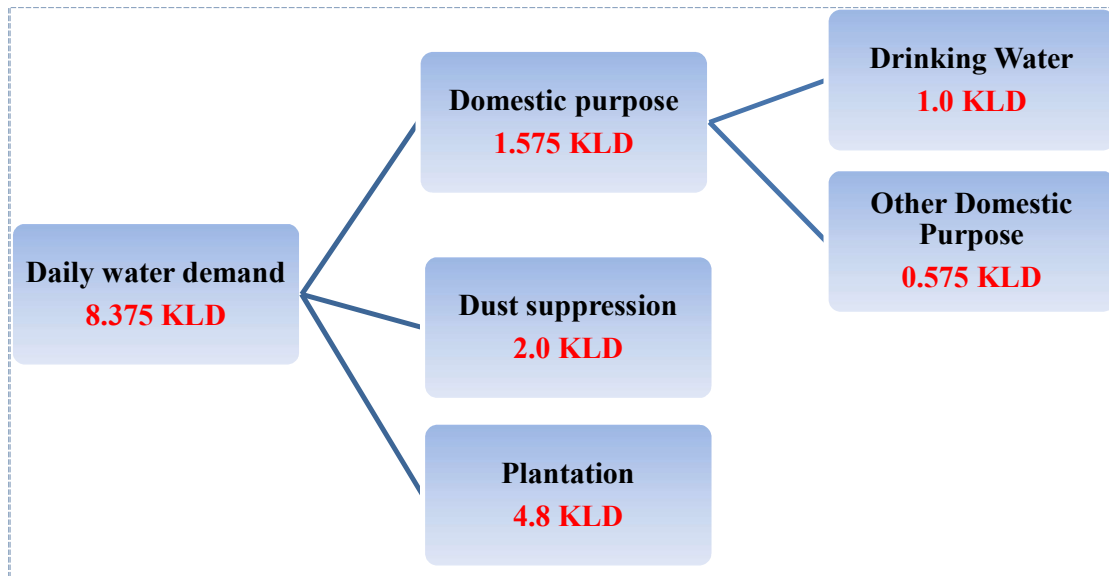
The soils with low bulk density have favorable physical condition where as those with high bulk density exhibit poor physical conditions for agriculture crops.

### **1.8 BIOLOGICAL ENVIRONMENT**

The lease area as well as buffer zone area reveals no endangered and endemic species of flora and fauna in the area.

### **1.9 WATER REQUIREMENT**

Water requirement for the proposed project will be provided for the workers for drinking & domestic purpose. Water will also be provided for dust suppression. Fresh water will be only used for drinking purpose. The break up for water requirement is given below:



The water will be supplied from available sources from Water Tanker.

### **1.11 SOCIO-ECONOMICS**

The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement. No public buildings, places, monuments etc exist within the lease area or in the vicinity. The mining operation will not disturb/ relocate any village or need resettlement. Thus no adverse impact is anticipated.

The impact of mining activity in the area is positive on the socio-economic environment of the region. Minor Mineral Block 06 is providing employment to local population and it will give preference to the local people whenever there is requirement of man power.

### **1.12 OCCUPATIONAL HAZARDS AND SAFETY**

Occupational safety and health is very closely related to productivity and good employer-employee relationship. The factors of occupational health in River bed Mining project are mainly dust and land degradation. Safety of employees during operation and maintenance etc. shall be as per Mines rules and regulations.

To avoid any adverse effect on the health of workers due to various pollutants, sufficient measures relating to safety and health will also be practiced:

- Provision of rest shelters for mine workers with amenities like drinking water etc.
- All safety measures like use of safety appliances, such as dust masks, helmets, shoes, safety awareness programs, awards, posters, slogans related to safety etc.
- Training of employees for use of safety appliances and first aid in vocational training center.
- Regular maintenance and testing of all equipment as per manufacturers’ guidelines.
- Periodical Medical Examination (PME) of all workers by a medical Officer
- First Aid facility is provided at the mine site.
- Close surveillance of the factors in working environment and work practices which may affect environment and worker’s health.
- Working of mine as per approved mining plan and environmental plans.

### **1.13 ENVIRONMENTAL MANAGEMENT PLAN**

The mining activities involve, excavation, loading, haulage and transportation of mineral. These activities lead to generation of air borne dust, which can cause air pollution in and around the mining lease area, if appropriate control measures are not taken. Similarly mining causes Land Degradation, Noise and Water Pollution etc. in the area.

In order to minimize impacts of mining on different environmental parameters and to keep air and water quality within prescribed limits of CPCB, a rapid Environmental Management Plan (EMP) is prepared to strictly follow it. This helps in resolving all environmental and ecological issues due to mining in the area. The environmental management plan includes all measures and safety precautions necessary for safe mining along with rehabilitation measures for mined out areas.

<b>ANNUAL EMP COST</b>			
<b>S NO.</b>	<b>Particulars</b>	<b>Budget Provisions (Rs)</b>	
		<b>Capital</b>	<b>Recurring</b>
1	Overhead water sprinkling facility with solar pump for outgoing and incoming transportation vehicles for haul and transportation.	1,00,000	10,000
2	Cost of Water own(4000 liter capacity) 2 tanker x 200 Rs./per day X 240 days	Nil	96,000
3	Prepare & Maintenance of approach road (Max. Road length 140m , Width 6.0m) 140m @ 600Rs./Meter	84,000	20,000

4	Monitoring twice a year (Air , Water & Noise twice a year)	Nil	40,000
5	Plantation (16000 plants will be planted & Distribution during the first year) = 16000 Per year x 50/sapling	8,00,000	2,50,000
6	Grazing Land	40,000	10,000
<b>Labour Welfare</b>			
7	Drinking Water Facility & Temporary rest shelter (15 x 15 feet)	40,000	4,000
8	Separate toilets for Male & Female No. of 2	25,000	20,000
9	Occupational health Survey 35 Labour @ 500 Rs. = 17,500 Rs./twice per year @500 x 2 x 35	Nil	35,000
10	PPES to Work(Helmet shoes, gloves, goggle etc.) , 35 labor @1200 Rs.	42,000	6,000
11	First Aid Kits , Number of kits 5	5,000	5,000
12	Fire Safety (1 nos.) , @ 30,000	30,000	2,500
<b>Solid Waste Management</b>			
a.	Bins 2 Nos.	1500	5,000
b.	Pit and Composed	5000	
c.	Transport of Dry Waste	5000	
13	Vehicle Maintenance + PUC Certification	Nil	25,000
15	Signage and Caution Board	5,000	1,000
	<b>Total EMP Cost</b>	<b>11,82,500</b>	<b>5,29,500</b>

### 1.15 CONCLUSION

As discussed, it is safe to say that the project is not likely to cause any significant impact on the ecology of the area, as adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigates technique, as well as to control the pollutants released from the premises of the Proposed Mine.

\*\*\*\*\*