EXECUTIVE SUMMARY OF DRAFT EIA REPORT

FOR

Proposed Pahanda Riverbed Sand Mining Project

Address of Applied land	Land Khasra	Area of applied lease (Ha)	Total Cluster Area
Village –Pahanda Tehsil – Lavan District – Balodabazar-Bhatapara	**1212 (Part)**	**9.00**	**9.00 Hect.**

Applicant Name & Address

Name of Applicant	Address
Gurucharan Singh Gumber	**S/o Shri Govind Singh Gumber Village/City - Opp. Dr. Dhir Nursing Home Dayalband/Kotwali, Tehsil & District – Bilaspur (Chhatisgarh) Pin Code - 495001**

Terms of Reference

Name of Applicant	Number and date of Terms of reference
Gurucharan Singh Gumber	**Vide letter no183/SEACCG/Sand mine/2716 Nawa Raipur Atal Nagar, Dated 09/4/2024**

ENVIRONMENTAL CONSULTANT

ULTRA-TECH
Environmental Consultancy & Laboratory
(Lab. Gazetted by MoEF-Govt. of India)

M/s. ULTRA-TECH
ENVIRONMENTAL LABORATORY AND CONSULTANCY

NABET Accredited EIA Consulting Organization
NABET Accreditation Number: NABET/EIA/2023/RA019-Rev 01
Valid Upto - Oct 18,2024

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EXECUTIVE SUMMARY

1.0 Introduction

The proposed project is a project of Mining of Riverbed Sand (lease area– 9.00 Ha of Riverbed Sand) village- Pahanda, tehsil- Lavan, district Balodabazar-Bhatapara, State Chattishgarh. Details of the entire lease are discussed in the further chapters. The lease holder of the area is Gurucharan Singh Gumber having lease area of 9.00Ha. TOR issued in fovour of project proponent whose details is as follow –

Pahanda Sand Mine **–** Vide letter no. 183/S.E.A.C.C.G/ Ret Khadan /2716 Nawa Raipur Atal Nagar, Dated 09/04/2024.

As per MoEF Notification dated 15.01.2016 Appendix – XI (6) 'A cluster shall be formed when the distance between the peripheries of one lease is less than 500 m from the pheriphery of other lease in a homogeneous mineral area'. The proposed Riverbed Sand mining is an individual mine.
According to above, information about the mines coming under B1 category whose ownership and lease details is as follows.

Project Location –

The porposed project of Pahanda Riverbed Sand mine having an area of 9.00 hect.and situated at Village- Pahanda Tahsil- Lavan, District: Balodabazar-Bhatapara, State: Chattishgarh under Khasra No. 1212(Part). Applied production is 1,62,000 cum/yr. The proposed method of mining is open cast semi mechanized mining.

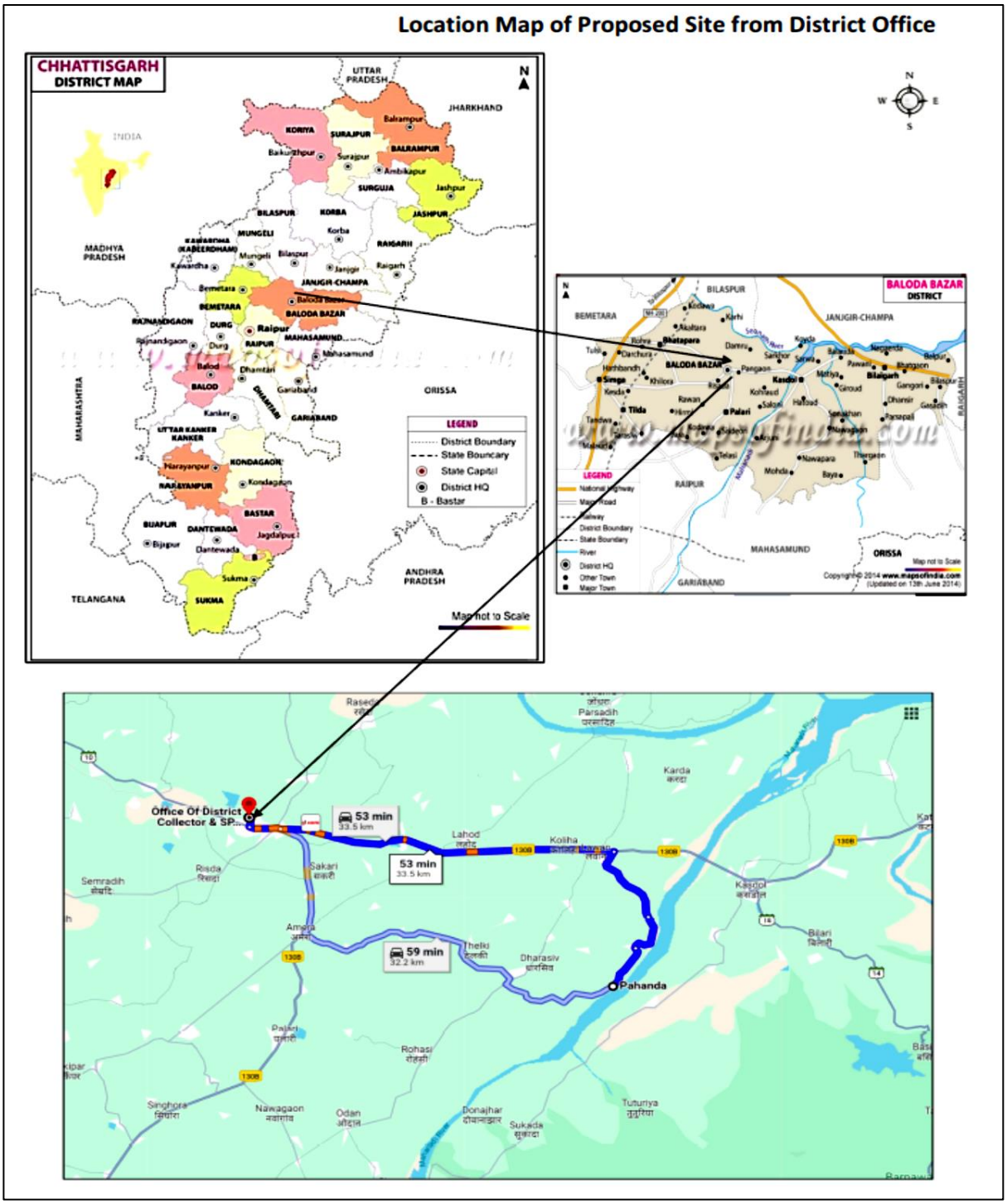

Figure 1: Location map of the Project Site

Table E.1: Environmental Setting of Proposed Riverbed Sand Mining Projects

<table>
<tr><th>Particulars</th><th>Details</th></tr>
<tr><td>Name of the Project</td><td>Pahanda Riverbed Sand Mining Project, Area: 9.00Ha.
(Govt. land)</td></tr>
<tr><td>Location of the Project</td><td>Village- Pahanda, Tehsil- Lavan,
District- Balodabazar-Bhatapara,
State- Chhattisgarh</td></tr>
<tr><td>Geographical Coordinates:</td><td><table>
<tr><th>Pillars</th><th>Latitude(N)</th><th>Longitude(E)</th></tr>
<tr><td>P1</td><td>21°34'18.68"N</td><td>82°21'33.77"E</td></tr>
<tr><td>P2</td><td>21°34'14.57"N</td><td>82°21'40.61"E</td></tr>
<tr><td>P3</td><td>21°34'4.85"N</td><td>82°21'29.28"E</td></tr>
<tr><td>P4</td><td>21°34'8.57"N</td><td>82°21'24.00"E</td></tr>
</table></td></tr>
<tr><td>Size of the Project</td><td>9.00 Ha</td></tr>
<tr><td>Nearest Highway</td><td>NH 130B at 7.95 Km towards north (Balodabazar-Sarangarh Road)
SH 14 at 8.25 km towards north - east (Kasdol-Pithora Road)</td></tr>
<tr><td>Nearest railway station</td><td>Nipania at – 46.0 km, towards west</td></tr>
<tr><td>Nearest Airport</td><td>Bilasa Devi Kevat Airport, Bilaspur–52 km, north-west</td></tr>
<tr><td>Nearest town/City</td><td>Kasdol– 8.00 km, north-east</td></tr>
<tr><td>Densely populated or built-up area</td><td>District Headquarter, Balodabazar – 22 km north-west</td></tr>
<tr><td>Archaeologically important places</td><td>None within 10 km radius</td></tr>
<tr><td>Water Body</td><td><table>
<tr><td>Dam</td><td>-</td><td>12.85 km towards east, Balar dam</td></tr>
<tr><td>Reservoir</td><td>-</td><td>3.35km towards south - west</td></tr>
<tr><td>Irrigation Canal</td><td>-</td><td>1.00 km towards north-west</td></tr>
<tr><td>Water Supply / Irrigation Scheme / Anicut</td><td>-</td><td>Anicut at 500 m towards south-west over Mahanadi river & At 6.30 km towards north-east</td></tr>
<tr><td>Nalla</td><td>-</td><td>Nalla 540 m towards north-east</td></tr>
<tr><td>Tank /Pond</td><td>-</td><td>Village pond at 880 m towards south-east</td></tr>
<tr><td>Road Bridge</td><td>-</td><td>Road bridge over Mahanadi at 8.45 km.towards north-east</td></tr>
</table></td></tr>
<tr><td>Protected areas as per Wildlife Protection Act (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)</td><td>None within 10 km radius</td></tr>
<tr><td>Reserved / Protected Forests</td><td>1. Bharka R.F. : 2.00 Km
2. Muriyadih R.F. : 5.20 Km
3. Ghirghol R.F. : 8.0 Km
4. Rohsi R.F. : 8.0 Km</td></tr>
</table>

Particulars	Details
	5. Dharaseo R.F: 8.0 Km
Defense Installations	None within 10 km radius
Seismicity	Since project site comes under Seismic zone II, which is least active zone for earthquakes as per IS: 1893 (Part 1: 2002).
WildlifeSanctuary	None within 10 km radius
National Park	None within 10 km radius
Biosphere reserves	None within 10 km radius
Important migration routes of birds	None within 10 km radius
Ramsar sites (Wetlands of International Importance	None within 10 km radius
Unique or threatened ecosystems	None within 10 km radius
Important topographical features, including ridges, river valleys, shorelines, and riparian areas	None within 10 km radius
Mangrooves	None within 10 km radius
Physical Sensitive Receptors	None within 10 km radius
Notified Ground Water Zone by CGWA	None within 10 km radius
Critically Environmental polluted Area	None within 10 km radius
Pollution Sources	None within 10 km radius

2.0 Project Description

The proposed project of Pahanda Riverbed Sand Mine having an cluster area of 9.00 Ha is situated at village Pahanda ,tehsil Lavan district Balodabazar-Bhatapara, State Chattishgarh. The proposed method of mining is open cast semi mechanized mining.

Table E-2: Salient Features of the Proposed Mining Project

INFORMATION	DETAILS
Name of the project	Pahanda Riverbed Sand Mine
Village	Pahanda
Tahsil	Lavan
District	Balodabazar-Bhatapara
State	Chhattisgarh
Toposheet No	64 K/6, 64K/7
Name of Leaseholders	Gurucharan Singh Gumber

Addressand Contact details of Lease Holders	S/o. Govind Singh Gumber Village/City Opp. Dr. Dhir Nursing Home Dayalband / Kotwali, Tahsil & District – Bilaspur, Pin code –495001
Name of the Mineral to be mined	Riverbed Sand
Type of land	Govt. Land
Status of Operation (New Project or Existing Project operating since)	New Project
Mine Area	9.00 Ha
Ultimate depth of mining	3 m
Minable Reserve	1,62,000 cum
Production Capacity	1,62,000 cum/yr
LifeofMine	Not applicable as applied area is river bed sand mine where mine pit gets replineshed during moonsoon season.
Quantity of topsoil and Overburden estimated to be removed	Nil. This is ordinary river bed sand. There have no any top soil or overburden.
Depth of Ground Water Table	Average water table intersection of river channels from top surface level across the Mine area is Average 4.08 meter.
Method of Mining	Opencast Semi-Mechanized
No.of working days	240 Days
SeismicZone	Seismic Zone - II

2.1 Mining Methodology

The method of mining is open cast semi-mechanized i.e. ordinery sand will be excavated in layers of 1meter depth to avoid ponding effect and after first layer is excavated; the process will be repeated forthe next layer so on up to a depth of 3 meter in Riverbed. Sand will be gathered in small hips onsuitable areas as instructed for loading purpose. Loading will be done by deploying light capacity andlight weight loaders.

2.2 Water Requirement-

The total water requirement shall be 8.00 KLD for domestic, green belt and sprinkling purpose, which will be sourced from Water Tankers from nearby village. Detail of water requirement is given below:

Table E-3: Water Requirement Details

Sr. No.	Usage	Water Requirement	
1.	Greenbelt Development@ 2.5 L/tree	1800 Trees X 2.5 Lit/day = 4,500 Lit/day or say 5000 Lit/day	5.00 KLD
2.	Dust Suppression @ 0.5 L/Sqm (twice a day)	Haul /Approach road Area = (500 m Length x 3.5 m width = 1750 sqm.) x 0.5 li/sqm = 875 lit /day x 2 time = 1750 L/day or say 2000 L/Day	2.00 KLD
3.	Domestic Purpose @35 lpd/worker	19 workers x 35 lit per day = 665 Lit/Day or say 1000 L/Day	1.00 KLD
		Total ::	**8.00 KLD**

2.3 Power Requirement

Power is not required in operation phase of the proposed project, as diesel equipments will be used. Open cast semi mechanized method will be used for excavation. Therer is no power reqirement for the project as excavators will run on diesel and the excavation will be done only day time.

2.4 Manpower Requirement

The mining project will generate direct & indirect employment. About 19 per day people will get direct employment, and some persons will also be affected indirectly and employed with allied and related industries, such as transportation, maintenance, etc. Following staff & workers are proposed to be employed: -

Table E-4: Manpower Details

S.No.	Category	No. of persons
1	Assistant Manager	1
2	Foreman	1
3	Supervisor staff	1
4	Supervisor cum First Alder (Skilled)	2
5	Semi – Skilled/ skilled Labours	2
6	Unskilled personnel	2
7	Driver and Machine operators	10
Total		**19**

3.0 Description of Environment

The area around the proposed mining site has been surveyed for physical features and existing environmental scenario. The field survey and baseline monitoring has been done from the period of 18th October 2023 to 18th January 2024 (Post monsoon Season).

3.1 Meteorology

The secondary meteorological data of the study period collected from (https://www.nasa.gov.in/). The month wise meteorological data is given in Table E-5.

Table E-5: Meteorological Data of the study area (NASA Power - Raipur)

Period	Wind Speed (m/s)			Temp (°C)			Relative Humidity (%)			Rainfall (mm)			Solar Radiation		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Oct -23	3.66	0.28	1.91	28.4	14.24	21.45	100	53.25	77.37	0	0	0	856.7	0	225.28
Nov -23	5.11	0.23	2.24	27.5	12.21	20.24	100	51.94	82.81	0.71	0	0.01	769.85	0	181.93
Dec -23	7.43	0.38	2.41	26.23	7.38	16.82	100	44.62	80.95	1.92	0	0.04	725.95	0	169.49
Jan - 24	3.69	0.13	2.29	26.35	10.13	17.86	100	44.44	77.62	0.01	0	0	762.23	0	156.36

Source: Weather Summary for 18th October 2023 - 18th January 2024(https://www.nasa.gov.in/)

3.2 Air Environment

The ambient air quality is carried out at 8 locations in and around the project site and studies are carried out as per CPCB standards. It is observed that, all the values are within the prescribed limits as per National Ambient Air Quality Standards (NAAQS), 2009.

3.3 Noise Environment

Noise levels were monitored in eight locations including project within the study area. The noise levels ranged between 53.6 to 58.4 dB (A) during day time and noise levels ranged between 48.3 to 44.1 dB (A) during night time. Over all the monitored noise levels are found to be within the stipulated standards set by CPCB.

3.4 Water Environment

In order to establish the baseline water quality, 4 ground water and 4 surface water samples were collected and analyzed in the study area. The quality of surface water samples was compared with surface water specification IS 2296:1982 and the surface water quality comes under Class B & Class C (Propagation of wildlife and fisheries). The ground water samples were compared with drinking water specification IS 10500:2012 standards.

3.5 Soil Quality

A total of 8 samples in and around the project site are collected and analysed. It has been observed that the pH of the soil quality ranged from 7.0 (S7) to 7.7 (S8) indicating that the soil is slightly alkaline in nature.

Table E- 6: ENVIRONMENTAL BASELINE STUDY

Particullar	Number of Locations	Description
Background Ambient Air Quality Monitoring	Sampling was done at 8 Locations	PM_{10} :-48 to 69 μg/m^3 $PM_{2.5}$:-17to 38 μg/ m^3 SO_2 :- 5 μg/ $m^3$to 13μg/ m^3 NOx:- 9 to 21 μg/ m^3 CO:-0.5 to 1.2 mg/ m^3 SiO_2-0.01 to 0.05 μg/ m^3
Noise Level Monitoring	Monitored at 8 Locations	Noise Level During Day Time :– 53.6 to 58.4 dB (A) Noise Level During Night Time:– 48.3 to 44.1 dB (A)
Water Sampling	Ground water sampling was done at – 4 Locations	pH :- 7.3 to 7.7 ; TDS :- 396 to 540 mg/l ; Total Hardness :- 240 to 320mg/l SO_4 :-54 mg/l to 72 mg/l; Chloride :- 57 mg/l to 92 mg/l; Zn & Fe: - Below detectable limit.
	Sampling:- 4 at Surface water	pH :- 7.2 to 7.6 ; TDS :- 188 mg/l to 580 mg/l; Dissolve oxygen: - 5.5 to 5.9 mg/l. Chloride :- 32 mg/l to 188 mg/l; Calcium :- 22 mg/l to 65 mg/l; Magnesium :- 14 mg/l to 37 mg/l; Total Hardness :- 122 to 316 mg/l ;
Soil Sampling	Sampling was done at 8 Locations	pH :- 7 to 7.7 Nitrogen:- 169 to 199 kg/ha. Phosphorus:– 59 to 81 kg/ha Potassium :– 312 to 393 kg/ha Electric Conductivity:- 286 to 493us/cm

Land Use/Land Cover of the Study Area

The project location is situated is a Village- Pahanda, Tehsil- Lavan,, District: Balodabazar-Bhatapara, State: Chattishgarh. The village area falls on the Survey of India topo sheet 46K/6, 46K/7of SOI (Survey of India), as shown in figure 11.2 shows the land use map and the land cover map of the study area covering a distance of 10 Km. The LULC map in Figure 11.2 shows that the analysis consists of 7 areal classes Water, agriculture, fallow Land, builtup, open land, sand and vegetation. Pahanda village has a total land area of 326.88 hectares. Pahandahas a total population of 72546 people, 36018 of whom are male and 36528

of them are female Pahanda village hasaverage literacy rate is 57.6%, whereas out of total literate population the male literacy is 60.2% and female literacy is 39.8% in Pahandavillage has roughly 14745 homes.

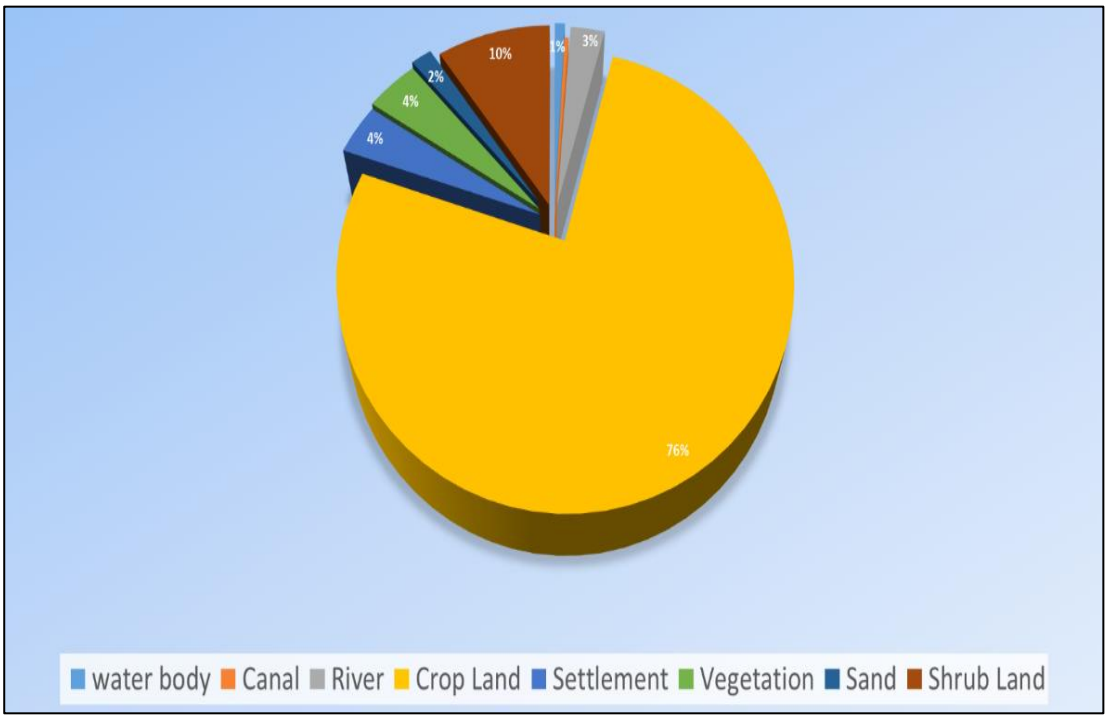

Figure 2: LULC Classification (10 km radius Proposed Project Area) of the project site

3.6 Biological Environment

The ecological study of the area has been conducted within 10 km radius of the project site in order to understand the existing status of flora and fauna to generate baseline information. There are no National Parks or sanctuaries within a 10 km radius of the project site . Following PF are being observed within 10 km surrounding from the project site.

SN	Name of forest block	Type of Forest	Distance (km)
1	Near Bharka	Reserved forest	2.00
2	Near Muriyadih	Reserved forest	5.20
3	Near Ghirghol	Reserved forest	8.00
4	Near Rohasi	Reserved forest	8.00
5	Near Dharaseo	Reserved forest	8.0

3.7 Socio-economic Environment

According to recent censes (2011) Population of study area is (10 Km radius from project site) 72546 in 14745 households. Mail population is 36018 and female population is 36528. Highest population in study area is Kohraod town (3370).

There are 14745 households in the study area and the average size of household is 5 members per household in the study area. The dependent population below 6 years is 11731 (16.2% of the total population) in the study area. The sex ratio of the study area is 1014 females per 1000 males. The sex ratio of the study area is higher as compare to district sex ratio of Baloda Bazar.

4.0 Anticipated Environment Impacts and Environment Management Plan

Land/Soil Environment Impact Mitigation

The mitigation measure of the land environment includes:

- The Riverbed Sand excavated from the lease area will be completely selleable resulting no dumpwithin the lease area
- Due to seminechinised mining operation emission from the Riverbed Sand mines are negligible, there will be no impact on the surrounding soil quality and cropping pattern of the area.
- The propose project falls under the seismic zone –II (Low Hazard Risk Zone). Since this project will not have physical infrastructure to be constructed, no impact of seismicity isenvisaged in this project. Further, this project will not change/alter the seismic behavior of the area.

Air Impact Mitigation

The mitigation measures undertaken in the mine for control of air pollution are:

- Checking of vehicles and machinery to ensure compliance to Indian Emission Standards Transportation vehicles and machinery to be properly and timely maintained and serviced regularly to control the emission of air pollutants in order to maintain the emissions of NOx and SOx within the limits established by CPCB.
- Total 8.00 KLD water required for riverbed sand mines towards dust suppression purpose for which 1 no. of water tanker with 4000 liter capacity will be hired and used for water sprinkling twice in a day in haul roads, dumping site, loading and unloading site of each lease and this will be regularly monitored by the leasemanagement. Water sprinkling on transport road side, stock yard (if any) etc. will be done by tractor mounted water sprinkler.
- Regular impaction and grading of haul roads will be done to clear the accumulation of loose material.

- All the mines workers will be provided with the dust masks.
- Trees can act as efficient biological filters. As this is a small lease, the area available for plantation is very less. However a well planned plantation programme has been proposed for the mining area to arrest the dust pollution within the lease boundary. There is the proposal for continuous plantation along the river bank and both side of the road connecting the cluster.
- Vehicles with valid PUC shall be used for transporting the minerals to avoid the exhaust emission.
- A greenbelt development plan is prepared with local species. The greenbelt will reduce the dust levelsits.
- Regular monitoring of the air quality as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the air quality is within the desired limits prescribed by CPCB.

Noise Impact Mitigation

- No noise polluting work shall be carried out in the night hours
- Provision of PPE's for the workers
- Vehicles to be serviced regularly and maintained properly to avoid any unwanted generation of noise or vibration from them
- Green belt plantation and garden trees will help in reducing the noise, traffic related pollution and heat island effects.
- Proper lubrication, muffling and modernization of equipment shall be used to reduce the noise during operation phase.
- Regular monitoring of the noise levels as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the noise levels are within the limits prescribed by CPCB.

Water Impact Mitigation

- Provision of temporary toilets for laborers.
- Domestic waste water will be treated into septic tank followed by soak pit outside of the proposed cluster project with a safe distance and no wastewater will be allowed to be get discharged into the water body.
- Any areas with loose debris within the lease hold should be planted.
- Ground water table will not be intersected during the mining activity

Biological Impact Mitigation

Impact on Flora

- As it is a mining project of sand from river bed, activities will be confined to core zone only. The project area issurrounded by agricultural land. There is no forest land involved in mine lease area. Thus no direct impact is foreseen on the flora of the forest area because of mining, whereas activities related to mining as transportation of material and passage of workers to and from mining area will have an adverse impact on the road side flora.
- Significant reduction in total chlorophyll content at road side plant species affects the plant species by affecting the plant metabolism. The reduction in chlorophyll concentration corresponds directly to the reduction in plant growth.
- The run-off from the roads may affect the aquatic communities.

Mitigation Measures

- Plantation will be carried out on approach roads and nearby vicinity at river banks areas.
- Native plant species which are stress and pollution tolerant and comparatively well acclimatized should be grown along roadsides for selection of plant species it is necessary to consider certain factors as agro climatic suitability, height and canopy architecture, growth rate and habit and aesthetic effect (foliage, conspicuous and attractive flower color).
- Annual bio-monitoring of roadside plants exposed to vehicular pollution will be done to check the dust load and Air Pollution Tolerance Index (APTI).

Impact on Fauna

The mining, specifically, will have no adverse impact on fauna whereas the operational activities such as human activity, transportation and noise generation may have an adverse impact on fauna.

- Barnawapara Wildlife sanctuary, wild life sanctuary is present within 10 km radius of study area. No major wildlife observed within mine lease area during the survey period. However, South East part of buffer area is known for diverse wild fauna. Considering size of mine and management practice by scientific method of mining with proper Environmental Management Plan including pollution control measures especially for air and noise,which will not cause any adverse impact on the surrounding animals.
- Fencing around the entire mine lease area is recommended in order to restrict the entry of stray animals into the mining area.
- Green belt development will be carried out which will help in arresting dust and minimizing sound level arising from the mining operation.

- Some fauna will move from the area of the road side as a result of habitat loss and physical disturbance.

Mitigation Measures

- All equipment should have sound-control devices no less effective than those provided on the original equipment. Motorized equipment used should be adequately muffled and maintained.
- Use exhaust silencers and optimized acoustical pipe lagging (acoustical wrapping) to minimize compressor noise.
- As the mining site is river so there is no vegetation, thus clearance of vegetation is not required.
- Thus there will be no loss for wildlife.
- Sand extraction in vegetated riparian areas will be avoided.
- Large woody debris in the riparian zone will be left undisturbed or replaced when moved and not be burnt.
- Sand stockpiles and/or vegetative debris will not be stored within the riparian zone
- Operation and storage of heavy equipment within riparian habitat will be restricted.
- Access roads will not encroach into the riparian zones.
- The removal or disturbance of in stream roughness elements during sand extraction activities will be avoided and those that are disturbed will be replaced or restored.

Impacts on Aquatic environment

- Indiscriminate sand mining from active channels of rivers causes many adverse effects on the benthic fauna, which inhabits the bottom sandy substratum. Excessive sand extraction from rivers affects the eco-biology of many terrestrial insects whose initial life history begins in aquatic environments.

Mitigation Measures

- No mining will be carried out during the rainy season to minimize impact on aquatic life.

Socio-Economic Environment Impact Mitigation

The setting up of any kind project would undoubtedly include significant impact on socio-economic and cultural life of the people in the project area. Here, an attempt is made to visualize and discuss such tentative impacts likely to be induced by the project. The likely impacts due to project activity are described below:

- **Positive outcomes**
  - Revenue for the State Govt. in form of taxes and duties.
  - The proposed sand mining project activity does not involve any resettlement and rehabilitation process as the project is freshly designed at representative site where none of the settlement is present.
  - The sand mining project will create local employment to the villagers and they will get employment in non-agricultural season.
  - The proposed sand mining project will create local employment to the villagers and they will get employment and thus their socio-economic condition will be improved.
  - A multiplier effect will be felt on the creation of indirect employment through the local community like labor contract, transport suppliers.
  - The operation of the mining would help to improve socio-economic condition of people in villages through direct and indirect employment, support business, Panchayat fund and separate fund allocated for CSR.

- **Negative outcomes**
  - During mining phase, increase level of dust and other air pollutants may lead to health problems.
  - Vehicular traffic and mining activities may create noise pollution.
  - The mining activity could lead to increased nuisance level from air emissions and noise due to transportation of material and equipment as well as laborers.
  - There would be influx of workers during mining phase which could lead to pressure on key local infrastructure such as Road Transportation.
  - Mining and dragging activities that generate a large amount of dust and suspended particles. Blasting, excavations, handling and loading of aggregate onto storage piles, and vehicle transport of the material, are the main sources of particles in an open pit mine.

5.0 Environmental Monitoring Program

- Environmental monitoring shall be carried out at the locations to assess the environmental health in the post period. A post study monitoring programme is important as it provides useful information on the following aspects.
- It helps to verify the predictions on environmental impacts presented in this study.
- It helps to indicate warnings of the development of any alarming environmental situations, and thus, provides opportunities for adopting appropriate control measures in advance.

Detailed EMP plan during the operation phase is given chapter 6 of EIA report.

6.0 Risk Assessment

The hazards and its risk assessed during the operation phase of the proposed Riverbed Sand mining project are low, medium & high. The project proponents are proposed to implement all the mitigation measures to prevent the impact or consequences of the risk expected to be happened in both the project sites. The level of impact after implementing the mitigation measures will be low/medium in all the hazards identified.

7.0 Emergency Response and Disaster Management Plan

Impact of disaster can be significantly reduced through attempts at preparedness, mitigation, and post-event rehabilitation work. Based on hazard identification in the proposed project, an emergency plan has been prepared and the same plan will be implemented by the project implementing agency with the coordination of District Authorities to minimize the damage. The risk assessment and disaster management plan is detailed in Chapter 7 of the EIA report.

8.0 Project Benefits

Mining is back bone of infra-structure development of country. Proposed project has following benefits as given below:

- Employment for local people
- Revenue for the State Government in form of excise duties, GST, taxes, levies etc.
- Generate business opportunity for the people
- Need based funds will be used for welfare of people in villages
- EMP funds will improve environmental quality.
- The operation of the Riverbed Sand mining would help to improve socio-economic condition of people in villages through separate fund allocated for Need Based Activity.

9.0 Budget for Social Development

The total estimated cost of the project is 59.72 lacs . Rs 1,30,000/- lac will be allocated for Need based activity for causes of village for drinking water, sanitation, education, health.

10.0 Environment Management Plan (EMP)

The detailed Environment Management Plan has been prepared based on the mining activities and the impacts imparting on land/soil, air, noise, water by the activities. The EMP and the cost for the environment protection measures are detailed in Chapter 10 of EIA report.

Expenditure Proposed for Environmental Protection Activities:

S.No.	Particulars	Pahanda Sand Mine	
		Capital Cost in Rs	Recurring Cost in Rs
1	Air Pollution Control	-	72,000
2	Green Belt Development	3,40,000	2,53,000
3	Maintenance of Road	-	1,00,000
4	Facilities for Mine workers	50,000	85,500
	Total ::	**3,90,000**	**5,10,500**
Total Capital Cost in Rs		**3,90,000**	
Total Recurring Cost in Rs		**5,10,500**	
Total Cost of EMP in Rs		**9,00,500**	

11.0 Conclusion

As discussed, it is safe to say that the collection of minor minerals from the proposed lease area is not likely to cause any significant impact on the ecology of the area as the mineral is and waste generated is non-toxic and does not harm the surrounding environment.

Adequate measures will be taken to control the fugitive emissions to be generating during mining operation. Socio-economic condition of the surrounding villages will improve in long run due to involvement of local population and improvement of infrastructure facilities. Green belt development in the statutory boundary, approach roads, schools are proposed with the participation of local people. This proposed plantation in the area will improve the aesthetic look along with betterment of ecology and environment of the locality.